Guardians of Market Integrity: Political Institutions, Regulatory Independence, and Stock Market Development

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Lucas Alan Lockhart

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Dedication

To my wife Emily. Without her love and patience, this would never have been possible. I am better scholar, husband, son, brother, and friend because of her steadfast support and optimism.

Abstract

Prior approaches to the politics of stock market development associate consensual political institutions with the stagnation rather than the growth of equity markets. Other research suggests that independent regulatory agencies will almost invariably be captured by industry interests thereby lessening their ability to protect minority shareholders and retail investors. This paper challenges both of these assertions. While politicians do have difficulty credibly committing to investor protection and market integrity, more numerous veto players, proportional elections, and regulatory independence can at least partially ameliorate their credibility problems. Using preexisting measures of political institutions as well as an original dataset of public and private securities market regulatory organizations, I find that consensualism and regulators' political independence are positively related to stock market size and performance. Furthermore, regulatory independence appears to be especially important for stock market development when consensual political institutions are absent.

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Chapter 1

Introduction

Despite chronic political instabilities and stubborn energy shortages, the Bangladesh economy was on relatively solid footing in the first decade of the 2000s. A booming garment industry and a steady stream of remittances pumped cash into the nation's economy and banking system. Aided by lax regulatory supervision, loose monetary policy, and unprofessional management, commercial banks began investing an increasing percentage of their swelling deposits in the country's stock markets. As equity prices soared and inflation ate away at the real value of their deposits, ordinary Bangladeshis followed the banks and entered the stock market in unprecedented numbers. After numbering a mere half million in 2007, retail brokerage accounts increased to over 3.5 million by 2010. What had begun as a rational response to higher inflation was growing into a speculative bubble the scale of which is difficult to exaggerate.

Between 2000 and 2010, Bangladesh's stock market capitalization as a percentage of financial system assets increased from less than five percent to just over 30 percent. During the same period, share turnover as percentage of market capitalization experienced a roughly fivefold increase. The tremors in the bull market were first felt in October 2009 with the initial public offering of the nation's largest telecommunications provider. Despite pushing the country's main benchmark market index to a 13-year-high on the day of the IPO and contributing to a single-day 22 percent increase in November, the market swung violently as the New Year approached. Panicked investors threatened hunger strike and authorities realized that something had to be done. The initial response

was poorly coordinated and half-hearted. Throughout 2010 the country's Securities and Exchange Commission issued 81 notifications, circulars, and directives aimed at calming volatility and popping the speculative bubble. However, these actions were largely ineffective, and the regulator gained only a "record of changing [its] own decision within an hour of making it… its members made some very sensitive decisions whimsically"(Ullah et. al 2012). The nation's largest benchmark index was unaffected by these indecisive regulatory measures and rose 95 percent during the year to reach an all-time peak on December 5, 2010. Citing the Securities and Exchange Commission's failure and recognizing that the economy was dangerously overheating, the Central Bank of Bangladesh initiated a policy of monetary tightening. They announced aggressive interest rate hikes, raised banks' minimum cash reserve ratios, and promised to more aggressively enforce limitations on banks' stock market investment activities. In the words of *The Economist*, the market response to these counter-cyclical policies led "fresh innocents to the slaughter."

After years of obscuring the true extent of their stock investments and struggling to generate the cash needed to cover higher reserve requirements, banks began liquidating their equity investments. The country's 3.5 million retail investors followed suit. Many had borrowed considerable sums to enter the market during the boom and now struggled to cover margin calls. The real panic took hold on December 13, 2010 when the country's benchmark index dropped three percent in one day. After briefly stabilizing, the Dhaka Exchange's general index declined an additional seven percent on December 19 marking the largest single day price reduction in the exchange's 55-year history (Jewel 2012).

Riots broke out in the streets outside the exchange with protestors starting tire fires and engaging in running battles with police. Instead of closing bells, rocks, batons, and the screeching of police sirens brought numerous trading sessions to a halt. In just the first six weeks of the correction, the country's stock index had lost just under half of its value. An additional 30 percent drop in February and a 25 percent drop in May of 2011 further punished investors (Mansur 2014).

Authorities quickly understood that this was more than a mere market correction: it was a full blown political crisis. Upcoming subnational elections and protestors calls for the prime minister and finance secretary's resignation forced the government's hand. Under public and political pressure, the Bank of Bangladesh reversed its monetary tightening, and the government ordered state owned financial institutions to pump cash into fledgling securities markets. A government probe was launched, and its findings were scathing. Not only had the stock market crashed, but investors had been "scammed." Deliberate price manipulations had enriched scores of fraudulent brokers and politically connected issuers while exacerbating volatility and decline. One of the probe's authors, former central banker Khondkar Ibrahim Khaled, stated, "*All* the institutions that have anything to do with the stock market were responsible for the debacle" (Jewel 2012; emphasis added). In the days following the investigation, the chairman of the Securities and Exchange Commission resigned in disgrace along with several board members who had been directly implicated in illegal market manipulation. Dozens of market intermediaries were indicted, and others were expelled from the profession. Shortcomings in exchange governance, widespread accounting and auditing

irregularities among issuers, and rampant insider trading were all exposed. Yet despite these troubling revelations, the government heavily censored its investigative report when it became clear that "senior members of both Prime Minister Sheikh Hasina's Awami League and the opposition Bangladesh Nationalist Party (BNP), along with businessmen members of the parties, were involved in the sell-off at the peak of the market…"(Chowdhury 2011).

While being more than willing to protect its allies among the corporate and political elite, the government was quick to point the finger at its regulatory agents. The report depicted the Securities and Exchange Commission as being especially incompetent. The country's press core piled on and claimed that the Commission's decisions "relating to the splitting of share's face value, companies' listing, changing of margin loan ratio, pre-IPO placement, direct listing, monitoring and supervision, portfolio management and book building method triggered a situation of unrest in the market." (*Financial Express 2010*). The Commission was further chided for its frequently changing and inconsistent policies. The probe pulled no punches: "In most cases the securities regulator remained reluctant or took weak measures in containing irregularities that occurred during the bullish trend of the market. There was no effective indication in regulatory measures so that the market could be an equal field for all or the manipulations would be contained for the sake of all stakeholders" (Khaled 2011). Not all of these shortcomings should be laid at the feet of Commission officials. The Commission continually fell victim to a lack of political support and woefully inadequate funding. Its ability to hire expert personnel and maintain adequate staffing was especially hindered. In

the years running up to the crisis, the Commission had no chartered accountants and only one securities lawyer (*The Economist* 2012). Critics continue to criticize its lack of resources and politicization. Or as one prominent Bangladeshi economist complains, "What is questionable is the fact that the SEC is looking for recommendations from the same associations and institutions about whom there are allegations of market manipulation…most manipulators are leading ruling party members themselves" (Chowdhury 2011).

As I will argue in the upcoming chapters, the Bangladesh Securities and Exchange Commission's lack of political insulation and its incompetence are inextricably linked. For instance, the terms and conditions of employment for Commission staff and outside consultants can only be altered with explicit government approval. As a result, blame for the Commission's inability to retain even a single corporate accountant or a sufficient number of securities lawyers lies with the government as much as with the commissioners. Efforts by the Commission to redirect regulatory resources to stock market regulation and away from other activities were also circumscribed by politicians. The Commission's organization, funding levels, and budget *allocations* are all subject to government veto before they can be adopted or changed. Charges that the SEC's rulemaking and enforcement were politicized should also be unsurprising given the Commission's legislative framework. In the BSEC statute of 1993, there is no formal statement of the Commission's political independence or organizational autonomy; the government can remove commissioners under the vague pretext that the "continuation of [their] service will go against the public interest;" and most notably, the government can

issue legally binding directions to the Commission regarding rulemaking and enforcement. Commission personnel were far from blameless, but their exposed political position undoubtedly contributed to their indecisive and ham-handed responses to the crisis. In the end, the Stock Market Scam of 2010-11 was not just a regulatory failure, but a political failure as well.

This raises the question: how would events have unfolded differently had the BSEC been more independent? Although commentators can only speculate, there is reason to believe that the 2010-2011 crash may have been less severe. With the freedom to hire outside advisers and consultants under attractive conditions, the commissioners could have supplemented their lack of legal and accounting expertise. Greater organizational and budgetary autonomy would have allowed scarce resources to be more quickly reallocated to stock market surveillance and the regulation of an increasingly opportunistic broker-dealer industry. Most importantly, an explicit guarantee of independence, protection from politically motivated dismissal, and full policy making discretion could have had two complementary effects. Assuming that any lack of discretion or independence is anathema to policy minded experts, greater agency independence could have attracted more qualified commissioners.[1] Second, greater independence would have given the Commission wider latitude to confront, with less fear of reprisal, the politically connected issuers and financial intermediaries who stood at the

[1] These assertions build upon the work of Gailmard and Patty who argue that added discretion and independence strengthens incentives for commissioners to invest in expertise and collect information. Without the ability to make real decisions, regulators and other bureaucrats have little incentive to become informed. For similar reasons, politicized organizations may repel experts interested in 'making good policy,' while remaining attractive to uninformed cronies and partisans (Gailmard and Patty 2007 & 2013).

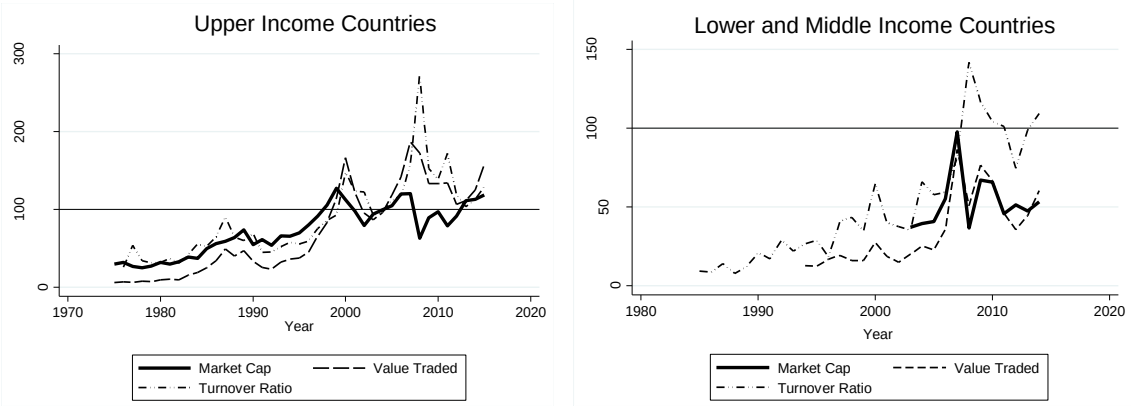
center of the Scam. In sum, greater political insulation may not have prevented the crisis, but it would have likely made it less severe and the response more technically sound, consistent, and politically evenhanded.

While the events in Bangladesh are unique in terms of their violence and destruction, in other ways they are unremarkable. They are a historical echo that once again belies any claim that "this time is different" (Reinhart and Rogoff 2010). The Great Stock Market Scam of 2010-11 is only the latest example of politicians' lack of credible commitment to minority shareholder protection (MSP) and market integrity. Governments almost universally claim that they will respect investors' rights and shield them from the powerful interests that populate the corporate and financial landscape. Yet across time, culture, legal tradition, and level of development, the confluence of regulatory failure, irrational exuberance, and special interest influence have revealed these commitments to be fragile at best and outright shams at worst. Even if crises and scandal are largely avoided, investor protections may still be eroded bit by bit as legislation passed in the name of transparency or fairness is implemented in ways that allow for more insidious forms of shareholder expropriation and market manipulation.

This is not to say that governments and their regulatory agents always fail and shareholders are always exploited. In fact, global trends suggest that investors are increasingly confident in their rights, and this confidence is manifested in the growing size, liquidity, and efficiency of stock markets. Throughout the world, stock market capitalization as a percentage of GDP, value traded as a percentage of GDP, and share

turnover have all increased by at least four fold over the last four decades. These increases are consistent across upper, middle, and lower income countries (see Figure 1.1 below).

Figure 1.1
(Global Stock Market Development Trends)



Despite this general trend, there remains remarkable variation both across countries and within countries overtime with regards to shareholders' faith in their rights and stock market development more generally. Within North America, Western Europe, Japan, and South Korea where property rights are secure and stock markets are uniformly more developed, market capitalization to GDP's between and within country standard deviations are still 39 and 36 percent respectively over the 1988-2012 period. Variation in market capitalization across the rest of the world is similar with between and within country standard deviations of 45 and 30 percent respectively. In sum, even as the policy promises of the 'average' politician become more investor friendly, the strength of these promises remains uneven across countries and over time. The goal of this dissertation is to explain this variation in strength. More exactly, it asks: once politicians make

commitments to investor protection and equity market development, what political conditions will lend their commitments greater or lesser credibility? I will argue that politically independent regulatory organizations and consensual political institutions will both be credibility enhancing. As a result, variations in the political insulation of regulatory actors, the number of policy making veto players, and the increasing proportionality of electoral institutions should all be consistently associated with increases in stock market development and performance.

Before delving into this argument further, questions remain: why would politicians commit to investor protection and stock market development in the first place? Why would politicians commit to economic institutions that come with certain risks, but uncertain benefits? Stock market crashes can endanger incumbents' hold on power or force them to confront their allies within the corporate community. Poor stock market performance and a lack of market integrity can undermine the political feasibility of multi-pillar pension reforms as well as weaken the political sustainability of systems that are already (partially) privatized (Kritzer, Kay, and Sihna 2011). Furthermore, stock market development's macroeconomic benefits are far from immediate, and its distributive effects can threaten core constituencies on both the left and right. Despite these risks, stock markets exist in nearly every country on earth and politicians' almost always pay at least some lip service toward protecting equity investors. The question is why?

Politics, Power, and Exchange Development

Especially in Anglo-American countries, proponents of equity based finance argue that exchanges can be the key to solving the principal agent problems that emerge when corporate ownership is separated from control. By definition, minority shareholders (i.e. non-controlling) lack the equity stakes necessary to influence management as individuals. In addition, their large numbers and diverse financial holdings create significant collective action problems with regards to monitoring and sanctioning poorly performing board directors or senior managers. Coordination costs are significant; the potential benefits of monitoring are small; and freeriding on the efforts of other shareholders is always a temptation. So what is to prevent managers and boards from shirking their duties or exploiting shareholders who are too disorganized to monitor or punish them? If shares are freely transferrable and markets sufficiently liquid, dissatisfied shareholders can exercise "exit" by selling their shares. To the degree that this "Wall Street Walk" reduces companies' stock prices, their costs of equity capital increase, and their managers are left more vulnerable to takeover. Senior executives--who want to maintain their control of the firm and maximize equity based compensation--will respond to price drops by changing company policies in ways that please shareholders and increase their firms' stock price. In sum, even when shareholders lack the individual economic power to pressure managers and/or have difficultly coordinating with others, stock prices can disseminate valuable information on managerial performance and serve as a powerful disciplinary force.

Econometric evidence suggests that there is some merit to this story. To the extent stock markets directly promote more efficient firm governance and provide entrepreneurs with needed financing, they should promote economic growth. In a survey on the cross-national empirical finance literature, Paşalı (2013) finds that depending upon the study

> "the effect of stock market liquidity on economic growth is significantly positive and ranges between 0.5 and 1.14 percent in response to a 10 percentage point increase in a stock market proxy. Stock market liquidity is found to be more robustly (both statistically and economically) associated with economic growth than is stock market capitalization"(7).

Despite this evidence, many commentators suggest that these positive effects come with costs that may be even more significant. Rather than engines of economic growth, stock markets are often maligned as promoting unproductive speculation, damaging short-termism, employment volatility, economic inequality, and crisis.

This critique is implicitly adopted by politicians and business elites in continental Europe and East Asia who point to the historical success of more bank-based financial systems. The bank-led blockholder model is said to have several clear advantages over more market based forms of corporate governance and finance. First, concentrated and/or controlling shareholders will have both the incentives and the sophistication needed to closely monitor managerial performance thereby ameliorating the principal agent-problems that plague corporate firms. Second, "patient capital" gives managers greater

freedom to adopt a longer-term perspective and pursue higher-end production strategies that rely on firm and industry specific investments, high-paid skilled labor, and interfirm coordination (Hall and Soskice 2001). More patient bank-based financial systems are also associated with more egalitarian distributions of income, generous welfare states, and reduced employment risk (Gourevitch and Shinn 2005; Jackson and Vitols 2001; Estevez Abe 2001). In developing and/or non-democratic countries, concentrated shareholding and bank financing characterize the large and diversified business groups that dominate economic production. These groups are often seen as the best way to protect firms from the negative effects of political uncertainty, institutional weakness, and scare credit (Khanna and Yafeh 2007; Schneider 2009).

Controversy over the virtues and vices of stock market versus bank-blockholder financial systems will continue because both models expose shareholders and other stakeholders to the greed and malfeasance of corporate insiders. While market-based systems may leave shareholders and other stakeholders vulnerable to entrenched professional managers, bank-based blockholding systems leave them vulnerable to expropriation at the hands of controlling owners and/or founding families. Although yielding valuable insights regarding the distributive consequences of corporate finance

and governance, viewing these issues solely in terms of Anglo-American versus Rhenish capitalism or liberal versus coordinated market economies is incomplete. Such a framework has little to offer in terms of explaining why stock markets have diffused across nearly every corner of the globe, or why they have thrived in some developing nations while stagnating in others. A more historical approach suggests that commitments to stock market development are often deeply embedded within explicitly political projects such as colonial expansion, post-colonial independence, coalition building, and state-led economic development.

State Sources of Developmental Commitment

Like the bond markets that emerged as the result of *state* borrowing, equity markets first emerged in Europe as the result of *state-led mercantilist* colonial expansion. The Dutch and British East India companies are only the most famous of a larger number of colonial enterprises that spurred secondary securities markets in Amsterdam and London. Colonial administrators also promoted exchanges in Egypt, South Africa, India, Argentina, Chile, Peru, Brazil, Venezuela, Mexico, Korea, Indonesia, China, and Sri Lanka. These markets were explicitly designed to serve the financial needs of merchant,

banking, mining, railroad, and plantation elites as they extracted wealth on behalf of European metropoles.

Ironically, post-colonial economic nationalism was another key driver exchange establishment and growth. Although some colonial era exchanges were abolished or withered away in the wake of communist revolution or widespread nationalization, others remained tools of newly independent state elites. Or as Kathryn Lavelle argues, many governments "moved to establish a national stock exchange regardless of its institutional compatibility with broader developmental goals…the exchanges were promoted as symbols of nationhood and were connected to the state's economic prestige in the same way…battleships symbolized military might"(55). Although projects of national vanity in some nations, they were valuable tools of economic indigenization in others. Exchanges in India, Indonesia, Malaysia, Kenya, Morocco, and Nigeria were either established or underwent significant growth due to state restrictions on foreign ownership and mandatory listings of transnational corporations (Lavelle 53-56).

The urgency of mass privatization in the former Soviet Union, neo-liberal reforms in Western Europe, and the abandonment of state dominated industrialization in the global south also spurred stock market establishment and growth. The desire for

efficiency in newly liberalized corporate sectors was obviously a key consideration, but privatization programs were also designed to send explicitly political signals to investors and the public. Or as Perotti and Oijen (1999) argue, "a sustained privatization program represents a major political test which gradually resolves uncertainty over political commitment to a market-oriented policy as well as to regulatory and private property rights…In particular, successful privatization… broadens the appeal and confidence in equity investment" (1-2). Particularly in countries where both investors and governments have little experience with stock markets, privatization is a clear opportunity for politicians, regulators, and exchange officials to demonstrate their commitments to investor protection and market integrity. The political benefits may not end there. Biais and Perrotti (2002) argue that privatization and stock market development may be pursued for explicitly partisan ends. They argue,

> strategic privatization can build political support for right-wing parties … even when median-class voters are likely to support the redistributive policies of the left, once they are allocated a significant amount of shares in the privatized firm, their preferences can shift towards right-wing, market-oriented policies. This is not the result of gratitude: rather, their shareholdings make them averse to elect politicians whose redistributive policies would reduce the value of their investment (240-41).

In short, economic growth and good corporate governance are sometimes only secondary concerns; politicians may commit to equity market development as a means to win elections and prevent redistribution.

Similarly "Machiavellian" motivations may be at work in the single-party regimes of China, Vietnam, Laos, and Cambodia. Although true privatization has proceeded slowly, they have all established stock markets either independently (China, Vietnam) or as joint ventures with foreign exchanges (Cambodia, Laos). Their aims are similar: diffuse non-controlling equity stakes of state-owned enterprises among the general population and introduce greater efficiency and transparency into their corporate sectors. Since their hold on power depends upon their ability to deliver superior economic performance, their embrace of equity markets is as much as product of political calculation as it is a desire for modernization.

Although the exigencies of post-colonial and post-Soviet transition have faded, stock market development and commitments to investor protection remain key components of state strategies for economic independence and development. Particularly in East Asia where memories of the 1994 financial crisis are still raw, countries have sought to develop domestic equity markets and shareholder bases as a way to reduce their dependence upon foreign bondholders, volatile international portfolio flows, and short-term loans from opaque and less than competitive local banking sectors (Cameron 154). Overall, countries have come to recognize the benefits of equity over debt because the latter "requires regulator payment regardless of the borrower's economic circumstances…an equity contract involves risk sharing—large payouts for shareholders when times are good and little to nothing when times are bad…variations in profits and dividends are pro-cyclical and tend to stabilize the balance of payments" (Henry and Lorentzen 182). In short, states may commit to stock markets development as a way to

free domestic firms from the rigid grip of foreign bond holders and the high priced debt of local bankers.

Even in the highly internationalized and financially advanced economies of the United Kingdom and France, political and economic elites often view stock exchanges as distinctly *national* assets that are the key to international competitiveness. In 2006, the UK's Chancellor Gordon Brown created the High-Level City Group that was tasked with improving the City of London's global reach and reputation. A central focus of the Group's activities was the development of the country's securities markets and the regulations that supported them. In a press release regarding the Group's work, Ed Balls, then Economic Secretary to the Treasury, stated, "If we get key decisions right, *as we are doing with regulation of exchanges*, and continue to attract the best talent from around the world, I believe that we can entrench London as the key financial centre of the 21st century" (emphasis added). Similarly nationalist sentiments were expressed by French politicians and business leaders in their failed attempt to prevent the NYSE from acquiring the Paris Bourse's parent company Euronext. The French Socialist Party called on the government to "immediately take … responsible action by opposing the merger in such a way that economic patriotism, be it French or European, does not remain a mere slogan" (*AFP*, December 20, 2006). This attitude was echoed across the political spectrum. Axel Miller, CEO of the Franco-Belgian bank Dexia, complained after the merger that "the finance ministers should have taken care of this matter …The stock exchange is a vital instrument for growth and employment, and for the market economy

at large. The failure to preserve it reveals the current political void" (*Les Echos*, December 18, 2006).

To summarize, stock exchanges and the investor protections that allow them to thrive are about far more than solving principal agent problems within the firm or promoting economic growth. In the 19th and early 20th centuries, they were used to marshal financial resources for colonial expansion and extraction. Following WWII, post-colonial governments viewed stock markets as valuable tools with which to indigenize corporate ownership. More recently, the establishment of exchanges and investor protections were utilized to facilitate highly politicized processes of privatization and to signal governments' dedication to economic modernization and reform.

Despite increases in cross-border listings, the emergence of global exchange companies, and increased international portfolio flows, battles over investor protection, exchange governance, and stock market development remain largely domestic. Investors continue to exhibit a strong bias in favor of equities issued by local and domestic companies. Many stock markets continue to enjoy political support in the name of "economic patriotism" (Wójcik 2011; Clift and Woll 2012). In countries with multi-pillar retirement systems, regulators often place a hard cap on foreign equity ownership or require that a minimum percentage of pension assets be held in domestic stocks (OECD 2015).

Dissertation Goals and Dependent Variables

Although commitments to stock market development are nearly universal, some exchanges receive more political and regulatory support than others. Furthermore, not all home biased investors are rewarded for their national loyalty with strong and consistently enforced shareholder protections and market integrity. As a result, the actual role that stock exchanges play in corporate finance ranges from purely symbolic to indispensable. The goal of this dissertation is to explain this variation. Like previous approaches, I will emphasize the role of political institutions in solidifying politicians' commitments to investor protection and market integrity. Unlike past research, I will not subsume public and private regulators under the broader concept of regulation. They will be treated as important actors in their own right capable of making unique contributions to stock market development.

Different political and regulatory institutions will make politicians' commitments to MSP and market integrity more or less credible. When retail investors and minority shareholders believe politicians' commitments, they will invest more and equity markets will become more developed. But what exactly constitutes development? I settle upon four different measures all of which speak to some different aspect of the concept. My most encompassing measure of equity market development is the stock market capitalization of domestically listed companies as a percentage of GDP. Also known as equity share, it is an indirect and imperfect measure. However, past literature consistently identifies equity share as a reliable reflection of investor confidence in the overall

functioning of financial markets and in the legal and regulatory system's capacity to protect their rights. It is also a rough indicator of the intensity of the general populace's participation in stock markets. My second measure is annual percentage price growth in national benchmark stock indices as compiled by Standard and Poor. These composite indices of investment grade equities are the broadest available measure of country level stock market performance, and they are the standard by which investors judge the performance of their own portfolios. Price growth in benchmark indices can be viewed as a market-wide average of *changes* in investor sentiment regarding the value of individual companies' equity securities. Unlike equity share that is of greatest interest to academic audiences, the performance of benchmark indices are widely reported in the media.

Closely related to index price growth is index price volatility. More specifically, I utilize the relative standard deviation of national composite index prices. While volatility is not bad in and of itself, the large spikes in volatility that often accompany financial crisis or bear markets may reflect a lack of liquidity, poor information, ineffective price discovery, and/or speculative herd behavior. Particularly during crisis, containing equity market volatility is often the top priority of securities market regulators and finance ministers. A failure to do so can scare away the risk averse, undermine investor confidence, and lead to overly aggressive policy responses that can repress stock market development for decades.

My final indicator of equity market development is the degree to which corporate elites have a realistic grasp of the formal level of minority shareholder protections within

their regulatory jurisdiction. Although not a measure of stock market development per se, accuracy in senior executive perceptions of MSP strength may indicate that investor protections are consistently enforced and have substantive meaning to market actors. If the 'average' executive has a poor understanding of the strength of investor protection, it is likely that these rules have little impact on how corporate insiders treat non-controlling shareholders. Overall, the accuracy of executive opinions regarding MSP should be a good indicator of the degree to which pro-shareholder norms have diffused across business elites.

To sum up, I will argue that political and regulatory institutions are the basis of politicians' policy credibility and of stock market development more generally. While institutions' impact on equity market size is important, their influence goes well beyond it. If politicians commitments to MSP and market integrity are credible, stock markets will not only be larger, they may be better performing and less susceptible to damaging bouts of volatility. In addition, if regulators consistently and impartially implement MSP, they will be transformed from an abstract set of rules that corporate insiders can safely ignore into something that inspires considerable conflict among investors, politicians, and business elites.

Argument Summarized

As the previous section made clear, politicians may have explicitly political reasons to protect investors and promote stock market development. But as the scenes from Bangladesh so dramatically highlight, they often have difficulty following through

on their regulatory promises. Equity markets and shareholder-centered corporate governance have important distributive consequences that can awaken powerful anti-investor constituencies. More specifically, *controlling* shareholders, senior executives, and incumbent firms may all lose when minority shareholder protections (MSP) and market integrity are strong and consistently implemented. I argue that since these groups can more easily engage in collective action, are politically sophisticated, and possess greater expertise as compared to politicians and minority shareholders, their anti-MSP/integrity lobbying efforts will be particularly effective in undermining politicians' regulatory commitments. The existence of potentially powerful anti-MSP constituencies across the political spectrum also means that neither the political left nor right will be inherently better at resisting anti-investor mobilization.

Crisis and corporate scandal may temporarily undermine the lobbying power of corporate insiders (i.e. controlling/block shareholders and senior executives), facilitate the collective action of small investors, and create powerful electoral incentives for politicians to renew their pro-investor policy commitments. However, these post-crisis commitments may last only as long as issues of financial regulation and corporate governance remain politically salient. As the memory of crisis or scandal fades and minority shareholders demobilize, politicians will lose interest in corporate governance issues at the precise time when important questions of policy implementation move onto the regulatory agenda. As a result, political commitments to MSP and market integrity may not only be non-credible due to corporate insiders' lobbying activities, but these commitments' cyclical nature may also make them time inconsistent.

Despite all these political forces aligned against commitments to stock market development, I argue that political and regulatory institutions may go some way toward making politicians' pro-investor policy promises more credible. For the reasons highlighted by Lijphart (1999) and Tsebelis (2002), consensual political institutions (e.g. more veto players and proportional elections) should reduce the frequency and scale of regulatory policy change. More numerous veto players may also dilute the lobbying efforts of corporate insiders and make anti-investor policy collusion more costly (Gehlbach and Malesky 2010; Andrews and Montinola 2004). Proportional elections can have additional benefits in terms of facilitating the adoption of controversial pro-shareholder regulatory reforms. More specifically, they should more consistently give shareholders and retail investors political representation, facilitate side payments to the losers of financial reforms, and create a more favorable bargaining environment by removing the specter of "winner-take-all" elections.

In countries where consensual political institutions are absent, politicians' commitments to MSP and market integrity will be particularly non-credible. A lack of veto players and majoritarian elections can undermine the stability of regulatory policies and lead to policy incoherence as new regulatory priorities are adopted each time a new incumbent takes office. The wide representational swings associated with majoritarian elections make the electoral and policy bargaining environments more zero-sum. It is in these non-consensual political contexts where the delegation of financial policy discretion to politically independent regulatory agents will assume its greatest importance in the eyes of minority shareholders. Knowing that political institutions will do little to

constrain politicians' policy whims or strengthen their commitments, small investors will be more closely attuned to the level of political independence enjoyed by regulatory organizations both public and private.

Delegation to politically insulated regulatory agents should have a number of advantages for credibility seeking politicians. These advantages will most clearly emerge when a lack of veto players and majoritarian electoral competition make politicians' regulatory policy commitments particularly weak. Regulatory agencies are specifically designed to maintain policy specialization and continuously monitor industry conditions regardless of political saliency. This specialization is essential in regulatory debates where expertise and information are decisive power resources. Their isolation from electoral accountability and protection from politically motivated dismissal should extend their time horizons beyond the next election, limit those forms of regulatory capture that operate through politicians, decouple regulatory policy change from incumbent turnover, create incentives for the acquisition of expertise, and make policy implementation more impartial. Like consensual political institutions, delegation to independent regulators can also diminish the waves of deregulation and re-regulation that emerge due to booms and busts in asset values.

I am *not* saying that regulatory agencies are purely publically interested angels who produce perfectly neutral policies. Regulators will bring their own policy preferences, career concerns, and ideological leanings into the organizations they serve. Furthermore, they will never be completely immune from political interference or

industry capture. Formal independence should not be viewed as a magical elixir that confers absolute technical detachment or political evenhandedness. Independence is not all or nothing. Instead, various statutory features of independence (e.g. term-lengths, budget autonomy, dismissal language, appointment/dismissal procedures) serve only to raise the costs faced by politicians seeking to influence regulators. To the extent industry capture requires the active participation of regulators' political principals, formal independence will mitigate but not eliminate industry pressure as prosecuted by industry's political allies. Like all bureaucratic organizations, independent regulators have their flaws and biases. But as I will demonstrate, they are superior to the alternative: stock market regulation conducted by finance ministries and/or more politicized executive bureaucracies.

Similar to independent public regulators, *private* self-regulatory organizations (SROs) such as stock exchanges or associations of broker-dealers should also be better positioned than politicians to conduct the day to day tasks of securities market and corporate governance regulation. In comparison to public regulators, they are even closer to market participants and enjoy tacit knowledge of industry practices. They are also likely to be more flexible in the face of rapid innovation and possess greater legitimacy in the eyes of industry actors. By definition, self-regulatory organizations are captured by the financial industry because they are a part of the financial industry. As a result, there is an ever-present danger that their regulatory activities will be anti-competitive, overly permissive, or opportunistic vis-à-vis the interests of financial service consumers. However, a situation in which exchange governance is directly conducted by political

officials would likely be even worse for investors. Despite the risks of private self-regulation, there is little to be gained by directly injecting politicians' credibility problems into the day-to-day operation of securities market infrastructures.

Although political consensualism and delegation to public and private regulators should enhance politicians' credibility during normal times, how do these institutions perform in times of high uncertainty? I will argue that these institutions will continue to have beneficial effects even in times of systemic crisis. A larger number veto players increases the chances that at least one player will represent the interests of equity investors as policy responses are crafted. Regulatory independence should better ensure that corporate insiders and their political allies do not exploit the confusion of crisis conditions to expropriate minority shareholders, manipulate markets, or shift a disproportionate share of losses onto retail investors. However, these benefits of credibility are not without costs. As veto players become more numerous, regulators more independent, and exchange governance less politicized, coordination costs will increase and bargaining over mutually acceptable policy solutions and market interventions will be more intensive and protracted. This delay and added negotiation may exacerbate market volatility in the short term even as the credibility effects of veto players and regulatory independence prevent catastrophic drops in stock prices. Although the benefits of consensualism and independence outweigh the costs even in times of crisis, periods of market turmoil nevertheless highlight these institutions shortcomings.

Plan of Dissertation

In order to test these claims, I constructed two novel datasets that will be utilized in the upcoming chapters. The first is used to produce a yearly latent measure of formal public regulatory independence for over 100 countries dating back to 1975. The second dataset features information on the following features of exchange and securities industry governance: state ownership of stock exchanges; the presence of regulators, politicians, and their appointees on stock exchange boards; the existence of statutory frameworks that encourage industry self-regulation; and the existence of officially recognized self-regulatory organizations. This information is then used to develop a yearly index measure of depoliticized exchange governance and self-regulation. By "depoliticized" I do not mean that securities industry governance is somehow outside of political debate, interest group struggle, or public oversight. More modestly, fully "depoliticized" exchange governance and self-regulation is defined as a situation in which the operation and management of exchange infrastructures is free from the direct participation of public officials and therefore fully private. Furthermore, securities legislation formally delegates important regulatory power to industry controlled self-regulatory organizations. I label this latent "depoliticized self-regulation" index *DSRO*. As with public regulators, *DSRO* covers over 100 countries and dates back to 1975. These two measures, in conjunction with preexisting measures of political institutions and macroeconomic controls, are included in a series of cross-sectional time series regressions. The goal of these empirical models will be to determine regulatory independence and *DSRO*'s association with stock market size, performance, and volatility

The remainder of this dissertation will proceed as follows. The second chapter will review the well-developed literature on delegation, regulatory capitalism, and financial development. It will also emphasize the endemic nature of commitment problems in financial policymaking and regulation. Furthermore, the chapter will explain why both political institutions and delegation to regulatory agencies or SROs can help to solidify politicians' policy commitments to investor protection and securities market integrity. Possible objections to my theoretical framework will be addressed, and the theoretical propositions that will be evaluated in following chapters will be specified.

The third chapter will present a series of empirical models designed to evaluate whether consensual political institutions and public regulatory independence does in fact enhance politicians' credibility with regard to investor protection and market integrity. Under the assumption that greater credibility will lead to greater stock market development, I estimate the strength of association between veto players, electoral institutions, and public regulator independence on the one hand, and stock market size and performance on the other. The third chapter also evaluates the conditions under which regulatory agency independence will be more or less important. Since consensual political institutions appear to lessen politicians' credibility problems, I investigate whether the effects of regulatory independence on stock market development and performance diminish as political institutions grow more consensual. In line with expectations, I find a substitutive relationship between credibility enhancing regulatory institutions and credibility enhancing political institutions. This suggests that one will be more essential to stock market development if the other is lacking. Stated differently, if

political institutions create an environment in which politicians are already credible guardians of MSP, shielding regulators from their influence will have fewer added benefits in terms of stock market development.

Given that the balance of interest group mobilization is so influential in terms of politicians' regulatory commitments, Chapter 3 also investigates whether credibility enhancing political and regulatory institutions are more important when anti-MSP interests are particularly powerful. Although a direct measure of interest group mobilization would be ideal, the lack of such a measure forced me to rely on an alternative proxy for asymmetries in lobbying power. In line with the work of Rajan and Zingales (2003), I assume that underdeveloped credit markets are highly effective barriers to entry. When credit is scarce, anti-MSP incumbent firms will be larger, fewer in number, richer due to large economic rents, and better connected with politicians. Credit market underdevelopment should also lessen ordinary citizens' knowledge of and political stake in the formal financial system. For both of these reasons, the supply of credit as a percentage of GDP can be a crude though still meaningful proxy of corporate insiders' lobbying advantages. If these lobbying advantages are particularly formidable, the special interest dilution effects of consensual political institutions and independent regulators should be all the more important for maintaining political commitments to MSP and market integrity. Although sensitive to alternative specifications, I do find that consensual institutions and regulatory independence have a stronger association with market capitalization to GDP when the supply of credit is smaller relative to GDP.

The forth chapter digs deeper into the question of anti-MSP mobilization. It does so by surveying the opinions of those who have the most to lose from the full and stringent implementation of MSP—senior executives. If political consensualism and formal regulatory independence are substantively associated with executives' opinions of minority shareholder protection, it would be direct evidence that these institutions meaningfully shape regulatory practice. While consensual political institutions appear to have little to no effects, regulatory independence does emerge as a key driver of executive opinion regarding investor protections even after controlling for formal levels of MSP. More exactly, independent regulators' more consistent and impartial implementation of MSP appears to increase executives' realism with regards to the formal strength of investor protections in their country. This finding is helpful in identifying where independent regulators will inspire the most opposition from corporate insiders. The link between independence and elite opinion is strongest where executive opinions of MSP strength are more optimistic than expert legal assessments; where property rights are strong but there are historical traditions of concentrated corporate ownership; and where stock markets are *not* the most developed in terms of size or liquidity. It is within these countries where the activities of independent agencies may come as a rude awakening for corporate insiders unaccustomed to the discipline of equity markets or regulation more slanted towards the interests of outside investors.

The fifth chapter explores whether delegation to privately governed self-regulatory organizations produces similar credibility enhancements as delegation to public regulatory agencies. It begins by describing my second dataset of non-private

exchange ownership, exchange governance, and self-regulation. The description reveals that in many countries stock exchanges are anything but symbols of free market capitalism. They can be state-owned enterprises that are not just closely monitored by governments, but are directly operated by them as well. I then evaluate whether depoliticized self-regulation (*DSRO*) is associated with stock market size and performance both before and after controlling for public regulatory independence and consensual political institutions. Results are mixed and not robust across all specifications, but there is evidence that *depoliticized* self-regulation is positively associated with stock market size and to a lesser extent with stock market performance. This finding has two important implications. First, it demonstrates that directly injecting politicians' credibility problems into the governance of equity market infrastructures will discourage equity market investment. Second, it suggests that the retention of regulatory power by the private securities industry will not necessarily lead to anti-competitive behavior or the cartelistic elevation of broker-dealer interests over those of retail investors. Overall, it appears that *both* public regulatory independence *and* depoliticized exchange self-regulation ease politicians' credibility problems and therefore boost stock market development.

The sixth chapter begins with a discussion of how the nature of politicians' commitment problems may change when 'normal times' give way to periods of uncertainty and panic. Equity investors ordinarily place a high value upon policy stability, but the onset of crisis often generates a seemingly conflicting demand for immediate policy responsiveness. The empirical analysis explores this conflict to see if

the stability based virtues of political consensualism, regulatory independence, and depoliticized self-regulation become institutional vices with the onset of systemic crisis. Results indicate that all three sets of institutions continue to have beneficial effects, but these benefits involve a tradeoff between minimizing investor losses and reducing market price fluctuations. More specifically, numerous veto players, more independent regulators, and more depoliticized exchange governance all seem to minimize stock index price declines during crisis. This likely reflects these institutions' associations with better corporate governance practices prior to the crisis as well as their ability to reduce politicians and corporate-insiders' anti-investor opportunism during crisis. However, these same institutions also seem to exacerbate crisis-period stock index volatility. This may be because they prevent politicians from adopting the quickest and most decisive responses to market turmoil. The seventh and concluding chapter will summarize previous results, explain their implications in terms of past literature, and outline future lines of inquiry.

Chapter 2

Theory and Literature Review

In both the developed and developing world, the last forty years have witnessed a fundamental reordering of the role of the state in economic production and distribution. As public ownership and closed economies have given way to privatization and free markets, independent regulatory agencies (IRAs) have emerged as handmaidens of financial liberalization and increasingly powerful moderators between the interests of politicians, private firms, and consumers. Once a distinctly American phenomenon, IRAs have diffused across countries and economic sectors. While all commentators recognize the increasing importance of the regulatory state in economic and social governance, others have gone so far as to describe IRAs as the expression of a new form of "regulatory capitalism" (Levi-Faur 2005 & 2006; Moran 2010).

Previous theoretical and empirical work made substantial progress in explaining the domestic and international forces behind IRAs' diffusion as well as the institutional bases of their independence and autonomy. Scholars continue to engage in unresolved debates about IRAs' legitimacy, their neutrality in the face of political pressure and interest group lobbying, and their ability to deliver superior outcomes as compared to politicians and politicized executive bureaucracies. This chapter will address all of these debates, but it will remain agnostic as to the legitimacy of IRAs or whether they are captured by firms and industry interest groups. Instead, I will focus upon a more narrow set of questions in this and the following empirical chapters: 1) is delegation to politically independent regulatory organizations, both public and private, an effective commitment

mechanism for politicians interested in protecting minority investors and ensuring the integrity of equity markets, and 2) will the credibility effects of delegation increase as the formal political independence of IRAs and SROs increases as well. Although informed by research on monetary policy and the regulation of utilities, the core of the theoretical discussion will remain focused upon the particular commitment problems facing politicians with regard to equity markets, and how these commitment problems vary across political institutions.

This chapter will proceed as follows. First, I will outline the previous literature on delegation and the regulatory state in order to place my argument in broader context. Second, I will review the rapidly growing literature on regulatory capitalism with specific reference to the political forces and institutions that explain the diffusion of IRAs and their independence. The ability of regulatory independence to enhance policy commitments as well as the threats posed by various forms of industry capture will also be discussed. After these preliminaries, I will describe the sources of various commitment problems facing politicians with regard to stock market development and why delegation to politically independent public agencies and private SROs can bolster politicians' credibility. Next, I will discuss how political institutions can alter the severity of policy commitment problems within equity markets and how this variation in severity makes regulatory independence more or less important for equity market development. I will discuss possible objections to my key theoretical assertions including how the nature of policy commitments may change in times of systemic financial crisis. The final section

will summarize my overall argument and lay out a series of theoretical propositions that form the bases of the hypotheses tested within the empirical chapters.

Drivers of Delegation

Legislators often lack the knowledge, expertise, and foresight necessary to secure their desired policy outcomes. No piece of legislation, no matter how detailed or cleverly crafted can account for every possible contingency or every possible set of future circumstances. In sectors such as finance that are characterized by high levels of complexity and innovation, the connections between broad statutes and specific policy outcomes are especially uncertain. Assuming sufficient bureaucratic capacity, this uncertainty creates strong incentives for the delegation of policy implementation to specialized bureaucratic actors (Huber and McCarty 2004; Bawn 1995). American scholars have long highlighted the political consequences that emerge from acts of delegation. Their work is often based on two key assumptions. First, they assume that legislators would prefer to delegate to ideological allies (Epstein and O'Halloran 1999; Bendor, Glazer and Hammond 2001; Bendor and Meirowitz 2004; Gailmard and Patty 2012). Second, when they cannot delegate to ideological allies, they seek ways to limit the discretion of their bureaucratic agents so that policy does not stray too far from their preferences. The need to limit agent discretion is particularly crucial because the qualities that make bureaucrats superior policy implementers (i.e. information and expertise), are the same qualities that give them power over their political principals (Fiorina 1986; McCubbins 1986).

The implications of this imbalance for separation of powers systems have been exhaustively explored. McCubbins, Noll and Wiengast (1987,1989), Epstein and O'Halloran (1996,1999), Kiewiet and McCubbins(1991), and Huber and Shipan (2002) all argue that elaborate administrative procedures and restrictive statutes are key resources in legislators' struggle to limit executive discretion. If legislative-executive conflict is sufficiently severe, legislators may seek to avoid executive branch implementation all-together by delegating to independent commissions rather than executive branch departments (Volden 2002; Wood and Bohte 2004). According to Moe (1989,1990), these same statutory, organizational, and procedural instruments not only constrain bureaucrats in the present, they can constrain executive bureaucrats, legislative majorities, and interest group coalitions in the future. Even in the absence of separation of powers, the struggle to circumscribe bureaucratic discretion remains. Within parliamentary systems, clashes between cabinet officials on the one hand and career civil servants and ministry bureaucrats on the other are well documented (Plowden 1994; Dowding 1995). Like their counterparts in separation of powers systems, parliamentary legislators respond to this conflict by writing more specific statutes deliberately designed to limit the discretion of bureaucratic actors and coalition partners (Huber and Shipan 2002)

Despite significant progress, canonical principal-agent theory and the literature on legislative-executive relations fits awkwardly with the widespread diffusion of independent regulatory agencies and central bank independence (CBI). In both cases political principals violate the "ally principle" and deliberately delegate policy discretion

to bureaucratic agents who do not share their preferences. Previous literature has numerous explanations. But one of the most powerful is politicians' search for credible policy commitment.

Credible commitment problems are typically described in terms of a simple game (see Bendor et. al 2001 for a review). In terms of equity markets, the game follows the following logic. Politicians make a commitment in the first stage of the game (e.g. protect investors and market integrity). This commitment can take the form of "a promise, pledge, vow, covenant, guarantee, or bond to perform in a specific fashion" (Shepsle 1991). In the second stage, constituents take some sort of action conditional on their beliefs about the politician's commitment (e.g. invest or not invest in equity markets). In the third stage, the politician moves again by either maintaining (e.g. protecting investors and market integrity) or reneging on their promise (e.g. shirking regulatory duties and allowing investor expropriation). The assumption is that everyone would be better off (e.g. more developed equity markets and economic growth) if the politician fulfills their commitment, but for some reason it is suboptimal for the politician to do so in the short term (e.g. political contributions from corporate insiders/financial industry). If constituents anticipate this broken promise, they may refuse to invest or invest suboptimally in stage two leaving everyone worse off. Similar game theoretic approaches have been fruitfully utilized to describe commitment problems in monetary and exchange rate policy, foreign direct investment, the governance of utilities and other natural

monopolies, and banking regulation.[2] In all instances, politicians make a commitment that they cannot adhere too, economic actors (e.g. investors, firms, workers, consumers) recognize the non-credibility of a particular policy commitment, and then rationally respond in ways that leaves everyone worse off as compared to what would occur if politicians were more credible.

When politicians' commitments lack credibility but they sincerely seek the outcomes that would occur if their commitments were seen as credible, delegation to *independent* actors with *different* preferences becomes increasingly attractive. In terms of price stability, this takes the form of delegating monetary policy to politically insulated central bankers who hold more 'conservative' (i.e. inflation averse) preferences (Goodman, 1991; Cukierman et. al 1992; Posen 1995; Maxfield 1997; McNamara, 2002). In an increasingly large number of economic sectors including securities markets, the search for credibility involves delegation to independent regulatory agencies. Emulation, peer pressure by international and regional organizations, and outright coercion have also played an important part in the diffusion of IRAs (Gilardi 2005; Jordana and Levi-Faur 2006; Gandrud 2013; Kleibl 2015). Yet even after controlling for these factors, empirical research consistently points to credible commitment as a key driver of IRA diffusion and independence. Elgie and McMenamin (2005), Gilardi (2005; 2011), and Jordana and Levi-Faur (2005 & 2006) all provide evidence that IRAs are adopted more quickly and

[2] See Kyland and Prescott (1977), Barro and Gordon (1983); Backus and Drifill (1985), and Taylor (1985) for a discussion of these issues with regard to monetary policy. Related issues emerge with foreign direct investors (Vernon 1971), utilities governance (Levy and Spiller 1994); exchange rate stability (Bernhard et. al 2002); and banking regulation (Mailath and Mester 1994; Kahn and Santos 2015).

given greater political autonomy in newly liberalized economic sectors where credibility problems are particularly severe (e.g. electricity, telecommunications, transport, banking, and financial services/markets).

Credibility problems are closely related to issues of overall policy stability. Even if both a governing majority and the opposition are credible in the sense that they will stick to their particular policy promises, their credibility will remain in question to the extent that policy can change with the arrival of each new governing majority. In a worse cast scenario, policy not only changes each time an incumbent is replaced, but policy becomes incoherent as policy reforms are layered on top of each other. From this perspective, delegation to "nonmajoritarian" intuitions such as IRAs is beneficial not just because they "tie the hands" of current incumbents, but because they partially detach policy change from the electoral cycle (Majone 1996).

While policy stability is itself appealing to investors, regulated interests, and consumers alike, it is also appealing to legislative incumbents for more explicitly political reasons. According to Moe (1990), enacting coalitions may fear that their legislative accomplishments will be undone by future policymaking majorities once they leave office. If the threat of defeat (i.e. political uncertainty) is sufficiently high, current incumbents may attempt to protect their policy legacy from future majorities by delegating key aspects of policy implementation to politically independent regulatory organizations. Empirical evidence supports these intuitions. Within the American context, Wood and Bohte (2004) find that as the proportion of new members in the American

Congress increases, as majorities get smaller in size, and as ideological party cohesion decreases, new regulatory organizations are more likely to be independent commissions with politically insulated leadership. Among European countries, Gilardi (2005) finds that as the duration of governments are shorter and variance in governments' partisan composition increases, regulatory agencies enjoy higher levels of formal independence.

In addition to limiting political uncertainty in the future, granting independence to bureaucratic agents should increase their incentives to invest in expertise (Gailmard and Patty 2013). Absent the "carrot" of policy discretion, bureaucratic agents have little reason to invest in expertise. Why expend the resources to gain knowledge if that knowledge cannot be used to make any meaningful decisions? Protection from politically motivated dismissal should magnify these discretionary inducements. Longer terms of service should extend the time horizons of regulatory officials thereby strengthening their incentives to invest in costly expertise. In sum, political principals grant their agents independence because without this independence their agents are more likely to be poorly informed and technically incompetent.

Gailmard and Patty (2013) provide another reason why politically insulating regulatory agents may improve regulatory policy making: independence should increase the willingness of regulated interests to reveal sensitive information to public authorities. If firms or industry associations believe that political principals will use revealed information in ways that are detrimental to their interests, they will conceal or misrepresent. However, if meaningful regulatory power is delegated to an *independent*

regulatory agent with preferences distinct from their political principals, industry actors may feel more comfortable discussing current industry practices, prices, and innovations with regulatory personnel. As evidenced by Gailmard and Patty's (2013) case study of the U.S. Securities and Exchange Commission, more stringent corporate disclosure and stock market governance reform would have remained unrealized without high levels of trust among politically independent public regulators, SROs, and industry firms.

Similar informational and expertise concerns drive delegation to private regulatory actors. In areas such as banking, accounting, and securities trading, private-standard setting bodies and self-regulatory organizations (SROs) have long been key pillars of industry governance. The primary justification for these organizations' power lies in their superior expertise and informational advantages. Delegation to SROs allows tacit knowledge of industry practices and technical know-how to be directly reflected in rulemaking and enforcement (Carson 2011). Furthermore, market participants and firms may view a private organization as more legitimate. This added legitimacy can increase voluntary compliance and encourage the disclosure of sensitive information. Self-regulation is not without its critics. Conflicts of interest and anti-competitive behavior are a real threat. By definition SROs are 'captured' by the industries they regulate. Yet with these threats comes the opportunity to make regulatory policy smarter, more legitimate, and less burdensome on public authorities.

To summarize, there are numerous reasons why delegation to non-allies like IRAs or SROs could be in the interest of political principals: it can enhance the credibility of

their policy commitments, protect their policy reforms against political uncertainty, prevent policy instability, and ensure that the essential tasks of policy implementation are conducted by fully informed agents with high levels of expertise.

Democratic Deficits, Capture, and the Myth of Neutrality

Despite the many advantages highlighted above, the regulatory state has been criticized since its inception. In the United States, where a mature administrative state first emerged, critics view delegation to executive agencies and independent commissions as clear violations of popular sovereignty and constitutionally enshrined separation of powers. Others dismiss the possibility of politically 'neutral' technocratic governance out of hand. Similar concerns about the regulatory state's "democratic deficit" have been expressed in Europe and Latin America. Particularly in the developing world, critics argue that IRAs are more the product of international pressure than an earnest search for better policy. Regardless of how the specific critique is framed, the delegation of key policy making power away from the peoples' representatives and toward unelected bureaucrats is depicted as a serious abridgement of democratic accountability.

Beyond these broader normative and constitutional critiques, critics have accused bureaucratic agents of serving rather than supervising regulated industries. As early as the 1950's, prominent political scientist Samuel Huntington (1952) claimed that regulatory agencies become captured by industry interests "as a rule." Bernstein (1955) went so far as to argue that pro-industry bias should increase as regulatory bodies become more independent. Public choice theorists extended and formalized these criticisms in terms of

supply and demand. Rather than serve consumer welfare or the public interest, the regulatory process devolves into a series of transactions. Regulators supply incumbent firms with barriers to entry in exchange for monetary rewards and political support (Stigler 1971; Niskanen 1975).

By the end of the 1970s, theories of capture grew more subtle and the search for empirical evidence became more rigorous. Scholars began to explicitly measure just how often the "revolving door" between industry and regulators turned (Gormley 1979; Krasnow et. al 1982; Sckrzycki 2003). Other researchers highlighted how the flow of personnel between firms and agencies can lead regulators to identify with industry rather than consumers, to overemphasize the costs of regulatory compliance to firms, and to conduct excessively lenient rulemaking and enforcement (see Makkai and Braithewaite 1992). Kwak (2014) comes to the disturbing conclusion that even when regulators believe that they are pursuing the public interest, their "conception of the public interest has been colonized by industry…through a set of shared but not explicitly stated understandings about the world." In contrast to earlier eras, both critics and defenders of the administrative state now doubt the neutrality and public interestedness of regulatory agents.

Although theories of capture and politicized expertise have made significant advancements, rigorous empirical testing of their effects on economic outcomes has moved more slowly. A notable exception is Adolph's (2013) analysis of the career motivations of central bankers and how those motivations are related to price stability.

Rather than a strictly materialistic account of capture, Adolph argues that central bankers' policy making emerges from a complex mixture of motivations including a technocratic desire to "get it right," ideological policy preferences, socialization, and career concerns. He goes on to demonstrate how central bankers' employment/educational history and their future employment are robustly associated with inflation levels. In sum, central bankers' past socialization and future career concerns make them responsive to "shadow principals" in the financial sector rather than their formal principals in government.

Adolph's theoretical points are well taken. Interests should not be buried under institutions and scholars should pay more attention to the motivations of real-life principals and agents. However, it is important to underscore that Adolph's empirical results show that interests *and* institutions matter for economic performance. When he includes his measure of central bankers' interests (i.e. Central Bank Career Conservatism or CBCC) in models of price stability within the developed world, its statistical effects are comparable to institutional measures of central bank independence (CBI). Furthermore, CBI's effects are not driven into insignificance, their substantive size is left largely unchanged, and point estimates for CBI are more often than not slightly larger than CBCC. CBI does drift into insignificance (but maintains theorized sign) within the developing world, but even there the effects of CBCC are substantively weak in the absence of high CBI. In sum, regulatory institutions themselves can be robustly related to economic outcomes even after controlling for the interests of central bankers and regulators. In certain contexts, the effects of interests can only be fully realized in the presence of particular institutions. To reiterate, Adolph's findings suggest that *both*

interests *and* institutions matter in terms of outcomes. His evidence that purportedly neutral regulatory agents actually have ideological and/or career driven preferences does not erase the continued importance institutions. In fact, many of Adolph's most revealing insights would not have emerged had preexisting institutional measures of CBI not been available.

Although some commentators will always oppose the regulatory state on philosophical grounds, most debates regarding capture and politicized expertise revolve around whether institutions such as independent central banks or IRAs deliver superior outcomes for consumers and the general public. Stated differently, the political survival these "nonmajoritarian" institutions depends upon some form of what Franz Scharpf describes as "output legitimacy." Only if regulators can "effectively promote the common welfare of the constituency in question" will their independence remain politically defensible (Scharpf 1999; Majone 1996a). The particular "constituency" whose welfare *ought* to be promoted is itself a thorny issue that will vary across sectors and political contexts. In other cases no identifiable general interest exists; regulatory policies have distributive consequences that create winners and losers with neither group's interests being universal. Yet in order for these normative discussions to be meaningful, scholars must have at least some idea of how actual regulatory institutions are related to actual economic outcomes.

For example, if capture, "as a rule", grows worse as agencies become more rather than less politically independent (Bernstein 1955), the rapid diffusion of independent

regulatory agencies should be associated with a clear cross-national deterioration in consumer welfare and regulatory quality. However, available empirical evidence tells a different story. In regions as diverse as Africa, Latin America, and the EU, the independence of telecommunications regulators is associated with lower prices and increases in network capacity, per capita numbers of telephone lines, and payphone availability (Wallsten 2001; Gutiérrez 2003; Montoya and Trillas 2007; Edwards and Waverman 2006). Similarly, the greater independence of banking regulators is associated with higher capital ratios and reduced risk of banking crises (Gilardi and Servalli, 2011; Jordana and Rosas 2014). When regulators assess each other's quality, greater regulatory independence is associated with more positive peer reviews (Hanretty, Larouche, and Reindl 2012). Evidence at the firm level is also encouraging. In a sample of 80 EU regulated utility firms from 1994 to 2004, Cambini and Rondi (2010) find that regulatory independence is positively related to firm investment. These findings with regards to regulatory agencies are echoed in the monetary policy literature. At least within the developed world, numerous studies have found an inverse relationship between central bank independence and inflation (Grilli et al. 1991; Cukierman et al. 1992; Alesina and Summers 1999; Crowe and Meade 2008; Adolph 2013). Even more telling is the survival and in some instances the recent establishment of SROs in the world's securities markets. These organizations are by definition dominated by industry actors, yet stock market crashes and scandals are not confined to countries that delegate more extensive powers to private SROs.

None of this is to deny that particularistic interest group demands or political pressures can lead IRAs, SROs, or central bankers to abandon their policy commitments. However, the utility of regulatory independence should not be judged solely by high profile failures. It should also be evaluated based upon its ability to deliver industry stability, growth, and consumer welfare over the long-run. Securities market regulation and corporate governance is no exception. Stock market crashes, corporate scandals, and sleazy behavior by market intermediaries are as real as they are damaging to the reputations of regulators. But these failures should not overshadow the more general trend. On balance, greater levels of regulatory independence and self-regulation should help more than they hurt equity market development.

Commitment Problems and the Benefits of Independence

Maintaining equity market integrity and investor protection is a central policy priority for financial regulators. Stock markets can amplify volatility originating in other parts of the financial system; be susceptible to bubbles, crashes, and scandals; and have distributive consequences for executives, shareholders, employees, and pensioners. Equity markets are undoubtedly only a minor part of many countries' financial infrastructures, but global market capitalization continues a steady upward trend. Even where stock markets are small relative to the overall economy, they may still remain important for strategies of privatization, corporate governance modernization, and overall financial development.

Since 1980s, securities market IRAs spread particularly rapidly through Europe, Latin America, and Africa. While pressure to comply with international norms undoubtedly played an important role in their diffusion (Gandrud 2013; Kleibl 2015), questions of credible commitment remain a powerful impetus behind their creation and organizational design (Elgie and McMenamin 2005; Gilardi 2005, 2011; Jordana and Levi-Faur 2006). Politicians must deliver upon two closely related policy commitments in order for stock markets to thrive: minority shareholder protection and market integrity. The former protects non-controlling shareholders from the fraud, mismanagement, and self-dealing of senior managers and controlling owners.[3] The latter is often defined as the degree to which issuing companies and market intermediaries (e.g. brokers, dealers, investment advisers, fund managers etc.) treat retail investors and each other in a fair and transparent manner.[4] The strength of MSP and market integrity not only depends upon specific rules and regulations, but also the consistency with which regulators implement and enforce them. If minority shareholders or retail investors believe that corporations are

[3] Common minority shareholder rights include transparency standards with regard to of related-party transactions; minority shareholders' ability to sue and hold directors liable for self-dealing, fraud, and negligence; rights of access to evidence and allocation of legal expenses in shareholder litigation; minority shareholders' rights and roles in major corporate decisions and corporate democracy more generally; governance requirements that ensure board independence, prevent undue board control, and reduce managerial entrenchment; transparency rules with regards to ownership stakes and executive compensation; and the frequency and quality of audits and financial reporting.

[4] Retail investors are particularly vulnerable to lapses in market integrity. Retail investors are those who purchase securities for their own personal account rather than for an organization. Retail investors can be ordinary middle to upper-middle class citizens who engage in smaller transactions. These less sophisticated investors are the principal losers of brokers and dealers' market manipulations. When retail investors own equity indirectly through various types of managed funds, they also become vulnerable to fund managers as well. In addition to rules of business conduct, transparency, and fairness in the trading process, the technological development of market infrastructures is also key to integrity. Without rapid dissemination of price information and quick and reliable execution of trades, investors are extremely vulnerable to market intermediaries' opportunism. As a result, government's commitment to the technological development of exchanges is part and parcel of their commitment to integrity.

systematically operated to their disadvantage or that the trading process is riddled with opportunism and deceit, they will shy away from equity ownership and stock markets will wither.

In sum, stock markets will thrive only to the extent that politicians can credibly commit to market integrity and investor protection. However, there are numerous reasons why these commitments may lack credibility. First, there can be serious asymmetries in political mobilization between the winners and losers of stock market development. The particular mix and power of interest groups may vary within and between the developed and developing world, but in most contexts interest group pressure will be biased toward the neglect of MSP and market integrity. Second, the broader economic effects of more investor friendly corporate governance create costs for key constituencies of both the left and the right. As a result, neither partisanship nor left-right ideology can serve as a reliable indicator of commitment across countries. Third, politicians' commitments are highly dependent upon the political saliency of regulatory issues. Since this political saliency is often cyclical across booms and busts in asset values, politicians' dedication to stock market integrity and investor protection may lack consistency over time.

Despite the ubiquity of these commitment problems, they are not insurmountable. For the reasons outlined in the previous section, delegation to specialized regulatory agents, both public and private, should go some way toward ameliorating politicians' credibility problems with regard to MSP and market integrity. By removing at least some aspects of rulemaking and enforcement from the legislative arena and politicized

ministries, the protection of investors and market integrity should become more stable, consistent, and technically sophisticated. This should enhance the confidence of equity investors and lead to larger and better performing stock markets. To reiterate, I am not arguing that IRAs and SROs are angelic guardians of the public interest who make no mistakes or are immune from industry pressure. What I am arguing is that delegation to independent regulatory agencies and SROs is superior to the alternative: securities market regulation conducted by executive ministries and politically dominated stock exchange boards.

This connection between independence and equity market development comes with two important caveats. First, the advantages of regulatory independence will not be constant across political institutions and financial conditions. When normal political institutions enhance politicians' policy credibility, delegation to independent regulators should be less important and have smaller effects on equity market outcomes as a result. Second, overall levels of financial stability may also affect the relationship between political and regulatory institutions on the one hand, and stock market outcomes on the other. In times of systemic crisis, regulatory independence and more numerous veto players will continue to enhance politicians' credibility, but these benefits will come with added coordination costs among political and regulatory actors.

Biased Mobilization

Commitments to market integrity and MSP are inherently fragile because the losers of stock market development have the upper hand in terms of political organization

and lobbying capacity. The most obvious losers are economic incumbents who can rely on retained earnings and their well-established reputations with creditors for any needed financing. Since they do not need external equity capital, they benefit when those who do need it cannot access it. Particularly in countries isolated from the global flow of goods or capital, weak investor protection and stock market underdevelopment can form formidable financial barriers to entry that incumbent firms will mobilize to protect (Rajan and Zingales, 2003).

Incumbent financiers also have reasons to oppose equity market development. When stock markets are small and finance is primarily relational, bankers utilize personal relationships, blockholding, interlocking directorates, and reputational incentives to select borrowers, ensure repayment, and monitor firm management. Since building and maintaining these personal and financial networks with firms and other financiers is costly, they may constitute lucrative barriers to entry within the financial sector. As a result, the impersonal and arm's length workings of stock markets are a direct threat to incumbent bankers' hard won relational capital and economic rents. Incumbent financiers may respond politically to this threat, but more often than not their opposition assumes more subtle forms. They may simply refuse to invest in stock market infrastructures while drawing upon their considerable market power and social capital to isolate up-start broker-dealer firms (Rajan and Zingales, 2003).

Incumbent firms and financiers' preference for financial repression is unlikely to abate until *both* international competition and cross-border financial flows are

substantial.[5] Yet even in highly internationalized economies, many senior executives and controlling block shareholders (i.e. corporate insiders) will still have reason to oppose particular minority shareholder protections. Senior executives are management professionals with varying levels of ownership over the companies they operate. Blockholders are investors, but differ from minority shareholders due to their concentrated stake in individual companies and their ability to directly control managers. These corporate insiders are hostile to any attempt by public or private actors to interfere with their decision making authority. This may not make them opposed to stock market development per se, but it does make them deeply skeptical of any minority shareholder right or accounting practice that could even potentially erode their private benefits of control (Dyck and Zingales 2004). To the extent stock markets provide investors with easy to understand information on managerial performance or facilitate active markets for corporate control, the economic privileges of corporate insiders are even more endangered. If forced to choose between more robust stock markets on the one hand, and the privileges of economic incumbency and decision making autonomy on the other, managers and blockholders in many countries choose the latter.

Not only do segments of the business community have an interest in weak MSP and underdeveloped stock markets, they are also more likely to mobilize around that interest. Investor protection and market integrity can produce highly concentrated costs on economic incumbents, corporate insiders, and unscrupulous market intermediaries.

[5] See Rajan and Zingales (2003) pp. 21-24 for why openness to *both* trade and capital flows may be necessary to lessen economic incumbents preference for financial repression.

This, in combination with their smaller numbers and market power, should facilitate their collective action (Olson1965; Bombardini 2008). By virtue of their position atop the managerial hierarchy, corporate insiders often subsidize their political action with firm resources (Morck et. al 2003; Bebchuck and Neeman 2009). These substantial political resources win them greater access to politicians, aids in the communication of policy relevant information, and serves as a clear signal of their willingness to fight regulation within the political arena (Grossman and Helpman 2001; Gordon and Hafer 2005). Corporate insiders can also be deeply embedded within networks of social and political elites further facilitating the sharing of information, coordinated action, and trust (Windolf 2002; Burris & Staples 2012; Morck and Yeung 2004). Given the highly complex nature of financial policy, corporate and industry insiders' greatest advantages may be their technical resources, legal sophistication, and tacit knowledge of industry practices and conditions. Not only will this make less knowledgeable legislators and media professionals more deferent to their arguments, but corporate and industry insiders will be more likely to occupy influential positions within informal working groups, expert committees, and consultative forums (Culpepper 2011).

In contrast to corporate and industry insiders, the winners of stock market development (e.g. minority shareholders and retail investors) may find it far more difficult to act collectively. The benefits of pro-investor regulatory policies are often indirect or difficult to perceive in the short-term. Furthermore, pro-MSP interests are diverse and larger in number raising the costs of their organization. They typically enjoy fewer social connections with political economic elites and lack the technical expertise,

legal sophistication, and tacit industry knowledge of corporate insiders and market intermediaries. This lack of information and expertise should put them at a significant disadvantage in terms of informational lobbying and limit their participation in informal regulatory networks and working groups (Culpepper 2011; Pagliari and Young 2004).

There are two potential pro-MSP constituencies who could be less bound by the limitations just described: upstart entrepreneurs who seek to raise capital from public markets in the future and institutional shareholders. The former have an interest in MSP and market integrity because a lack of either should increase the costs of raising equity capital, diminish the value previously issued shares, and further solidify the position of market incumbents (Jensen and Meckling 1976). Despite this interest, previous research suggests that these entrepreneurs are likely to underinvest in lobbying activity relative to the costs generated by weak investor protection (Bebchuck and Newman 2009). Their underinvestment will be even more substantial whenever more demanding corporate governance and transparency standards raise the costs of regulatory compliance. Upstart entrepreneurs are also less likely to be politically mobilized given their large numbers and economic diversity. Despite enjoying greater sophistication and monetary resources as compared to the average retiree or retail investor, they will still tend to be less sophisticated, wealthy, politically experienced, and socially connected relative to elite corporate insiders. In short, the existence of a thriving entrepreneurial sector will moderate but not eliminate business opposition to MSP and market integrity.

In terms of political mobilization and monitoring managerial performance, the most promising ally of retail investors are institutional shareholders. In contrast to most small investors, institutional shareholders have the wealth, legal expertise, and tacit industry knowledge necessary to weigh in on even the most technical corporate governance controversies. Particularly in countries with more diffuse corporate ownership such as the UK and the US, institutional shareholders such as Hermes, TIAA-CREF, and CalPERS have a long track record of pressuring managers to improve corporate governance practices (Gillan and Starks 2000). Yet despite sensationalistic media accounts of "pension fund socialism" and shareholder activism, there are numerous reasons why institutional shareholders more often than not fail to use their wealth and expertise on behalf of the investing public. First, institutional shareholders are highly diverse. They include mutual funds, public and private pension funds, insurance companies, endowments, hedge funds, and sovereign wealth funds. These institutions vary wildly in terms of their governance, risk appetite, diversification, time horizons, and willingness to confront management. As a result, they rarely speak with one voice regarding regulatory issues.

Exercising boardroom voice or engaging in political action is also risky. The profitability of many institutional investors depends, in part, on the goodwill of senior executives. Criticizing company managers may make it more difficult for fund managers to grow their assets under management and in turn their fees. Even if institutional shareholders are willing to take the risks, their activism may be highly circumscribed by regulatory restrictions in company, securities, insurance, pension, and banking laws

(Rock 2015). Like entrepreneurs, institutional investors are also likely to underinvest in pro-MSP lobbying relative to the aggregate benefits it would create for all non-controlling shareholders (Bebchuck and Newman 2009). The reason for this follows the familiar Olsonian logic. Institutional shareholders bear a disproportionate share of the lobbying costs while having to share a disproportionate amount of the benefits with free-riding retail investors and entrepreneurs. Of course, this assumes that there are significant institutional shareholders to begin with. Although they are more numerous in liberal market economies such as the U.S. and U.K. and increasingly important in a handful coordinated market economies such as the Netherlands and Switzerland, activist institutional shareholders remain relatively rare. To sum up, individual retail investors may have elite allies, but these allies share only some of their interests and are likely to underinvest in political activity.

What is true of institutional shareholders is also true of the financial industry as a whole. The industry can only thrive to the extent that the market possesses at least a minimal level of integrity and investors enjoy some modicum of protection. However, this overlap of interests with retail investors and minority shareholders is limited. The industry's chief goal is lowering their regulatory burden and maximizing profits. The welfare of financial consumers and/or minority shareholders is at best a secondary concern. Given that corporate insiders are often some of their most lucrative customers, the industry will avoid open conflict with non-financial business interests over corporate governance issues. Particularly in developed countries, the financial lobby is a generous political contributor and enjoys social, business, and political connections to party elites

across the ideological spectrum (McCarty et. al 2008; Connaughton 2012; Corporate Europe Observatory 2014). As a result, when their interests conflict with those of their disorganized customers, they are likely to emerge victorious.

Non-Credible Partisans and the Inattentive Public

In terms of politicians' commitments to MSP and market integrity, the account thus far suggests that the normal balance of interest group mobilization should be biased against political commitments to MSP and market integrity. But what about voters and the political parties who represent them? Could ideological conviction or partisans' desire to funnel benefits to core constituencies be sufficient to deliver credible commitment to MSP and market integrity? In most instances, the answer is no. Stock market development is a low salience issue that divides the core constituencies of both the left and the right. As a result, neither the political left nor the right should be seen as inherently more credible with regard to MSP and market integrity. The cross-cutting nature of MSP and market-integrity is best conceptualized in terms of labor and capital market insiders and outsiders (Barker 2010).

According to most partisan theories of corporate governance, shareholder power and stock market development is associated with all that the political left has historically opposed: income inequality, wealth concentration, and employment risk. In its most well-known academic formulation, Roe (2001) argues that wage earners and the social democratic governments they bring to power are inherently anti-investor inasmuch as they prioritize the interests of employees (e.g. high wages, employment security, skill

development, and fringe benefits etc.) at the expense of shareholder value maximization. Perotti and von Thadden (2006) make a similar argument in terms of risk. They assume that because human capital is primarily firm specific and is difficult to diversify, risk averse workers will oppose the financial short-termism and volatility of equity financing.

What all these accounts implicitly assume is that left wing parties are primarily the representatives of labor market insiders who enjoy secure employment, decent wages, and fringe benefits (Rueda 2005). Given this assumption, it makes sense that left-wing parties lack commitment to MSP so as to better protect their core constituency from the corrosive effects of equity based corporate finance. However, the fringe benefits, higher wages, and collective bargaining that often accompany being a labor market insider may create opposite pressures. Defined contribution retirement plans; the use of company stock for employee compensation; union administered pension plans; and high profile corporate scandals may push political parties of the center-left to develop more nuanced positions towards issues of financial market regulation and corporate governance. Stock market growth may further enrich the already wealthy, but it can also make pensioners' retirement incomes more secure. Added corporate transparency can empower unions at the collective bargaining table, strengthen works councils, prevent accounting scandals, and reveal the controversial behaviors of corporate elites. These benefits also create a rhetorical advantage. Parties of the center-left can make direct appeals to the material interests of middle class voters and depict themselves as economic modernizers determined to bring needed dynamism to a self-satisfied corporate elite (Cioffi and Höpner 2006; Cioffi 2010).

Stock market development may have benefits for another potential constituency of left parties: labor market outsiders. Since these outsiders lack stable employment, fringe benefits, and wage protections, they put a high value on employment growth even if this means a reduction in the security of existing jobs (Rueda 2005). According to Pinto et. al.(2010), many left parties may promote MSP and financial liberalization more generally with these demands for employment growth in mind. They argue that center-left parties discount the employment risks posed by financial markets and "join forces with some investors in promoting policies that are conducive to higher levels of investment, thus policies which promote equity capitalization and undermine the political clout of concentrated economic groups who oppose the opening of markets both internally and externally (Pinto et al. 2010; 379). In sum, parties of the center-left may be willing to accept equity markets' disruptive influence on employment relations as long as the aggregate effect of stronger investor rights increases economic and job growth.

Like the left, the right may also be divided by insiders and outsiders. Historically, conservative parties have been the chief political representatives of corporate insiders (e.g. senior executives and blockholders), opponents of the regulatory state, and defenders of economic and social hierarchy. However, these positions may be difficult to sustain where more "dispersed ownership implies more outside shareholders and more lawyers, investment bankers, stock market analysts et al. whose jobs depend on outsider-friendly…rules" (Callaghan 2007). The center-right needs political contributions from wealthy corporate insiders *and* votes from upscale segments of the middle-class. If the latter hold equity assets, conservatives can find themselves in an awkward position when

their elite corporate constituency blatantly disregards the interests of minority shareholders or vested retirees. This tension should be especially severe for more traditionalist conservative parties with long historical ties to 'old-money' elites and familial capitalism.

To sum up, there is little reason to believe that left or right wing partisanship alone will be sufficient to solidify politicians' commitments to equity market development. Labor market insiders on the left and corporate insiders on the right may both pressure their allied political parties to abandon their investor friendly regulatory commitments. The spread of shareholding among more well-off workers and the electorally pivotal middle-class could *potentially* counteract this pressure on both the left and the right. However, this electorally based counteraction makes a heroic assumption: ordinary voters both understand the connection between complex financial policies and economic outcomes, and then incorporate this understanding into their voting decisions. More often than not, financial and corporate governance policy is a low saliency issue that voters care little about. In turn, politicians have little incentive to make it a priority let alone enter into open conflict with interest groups representing their core insider constituencies. However, there are exceptions to this general tendency: crisis, crash, and scandal.

Regulatory Cycles and Inconsistent Crisis Commitments

When banks fail, stock markets crash, or corporate insiders egregiously violate the rights of minority shareholders, low saliency financial politics characterized by large inequalities in collective action gives way to public outrage and widespread mobilization

among interested stakeholders. Sudden and concentrated financial losses to investors clarify the distributive consequences of corporate governance and securities regulation and turn once esoteric issues of financial policy into highly salient subjects of public and partisan debate. This renewed partisan contestation and interest group pluralism reduces policy makers' deference to managers' expertise and saps the effectiveness of corporate insiders' media and public relations strategies (Pagliari and Young 2004; Culpepper 2011). Once voices in the political wilderness, pro-MSP policy entrepreneurs and developmentally-minded state elites can harness popular anger to their political advantage. Politicians, fearful that a wave of populist outrage will dislodge them from power, seek to renew their commitments to MSP and market integrity by increasing their financial policy expertise and passing pro-investor legislation opposed by corporate and industry insiders. These dynamics are clear from the historical record. 18th and early 19th century securities regulation in the U.S., United Kingdom, and France all emerged following investment bubbles and stock market crashes. The same can be said of the federal securities acts of the 1930s (Banner 1997). The Dot.com bust and corporate scandals in the late 1990s and early 2000s (e.g Enron, Tyco, WorldCom, Adelphia, Global Crossing, Parmalat, Cirio, FloTex) were equally powerful drivers of reforms in corporate governance, transparency, and auditing standards.

While the initial adoption of securities legislation in the developing world often stems from desires for economic modernization and national prestige, they too respond to market crash and scandal with legislative change. In short, crisis and scandal heightens the saliency of financial policy issues for ordinary investors and the public thereby

raising the political costs of policy inaction. Not only does this increased saliency bring about greater interest group pluralism, it also leads politicians to renew their commitments to MSP and market integrity by increasing their policy expertise and passing pro-investor legislation.

Unfortunately, financial history as well as pervious research suggests that these post crisis commitments may be deficient on two accounts. First, post-crisis regulatory commitments may signify populist overreactions that overcompensate for past failures through overly restrictive or expansive rules.[6] Rather than close the specific regulatory gaps implicated in the crisis, politicians may seek to exploit justifiable public outrage to enact their own personal regulatory wish-list. Second, even if new commitments are appropriate given past failures, they are rarely credible over the long-run (McDonnell 2013). Once the recovery takes hold, asset values recover, and public anger wanes, politicians may neglect the highly technical and politically unrewarding work involved in implementing their hard won legislative achievements. The return of low saliency "quiet" politics reinforces the expertise and media based power resources of entrenched managers, controlling owners, and industry interest groups (Culpepper 2011). Originally far reaching statutory reforms become watered down through endless litigation and industry friendly rulemaking. The normal inequalities in political mobilization reassert themselves, voters stop paying attention, and the erosion of MSP and market integrity

[6] It is important to point out that legislative responses to crash are not necessarily beneficial for equity market development. The Mississippi Bubble in France and the South Sea Bubble in Britain both led to highly restrictive legislation that likely slowed the development of stock markets in both countries. The response in France was particularly draconian and harmful for equity market development. As a result, the Mississippi Bubble is widely accepted as a turning point in the history of French capitalism.

begins again. In sum, crises may push politicians' to renew their commitments to MSP and market integrity, but the post-recovery demobilization of pro-investor political forces means these commitments are likely to be time inconsistent.

The clearest example of these dynamics is also the most recent. Prior to the housing crash and Financial Crisis of 2007-2008, issues such as subprime mortgage lending, the regulation of mortgage backed securities and credit default swaps, and the resolution plans of large financial institutions were issues of low political saliency. Lobbying around these issues was dominated by investment banks, the mortgage industry, and activist community groups eager to weaken mortgage lending requirements in the name of 'democratizing' home ownership. Large political contributions continually flowed from these interest groups to politicians of both political parties. Politicians responded to this political pressure by loosening the regulatory framework that governed housing finance and appointing regulatory officials who shared their views. When regulatory officials raised alarms about the growth of subprime mortgage lending and the exotic derivatives that emerged from it, they were ignored or isolated. In short, low political saliency increased politicians' receptiveness to mortgage industry lobbying and weakened their commitment to the integrity of mortgage markets.

As housing prices crashed, foreclosures spiked, and failing investment banks required tax payer funded bailouts, the public became enraged. Esoteric issues of housing finance and investment banking shot onto the front page. In response to this increased political saliency, politicians sought to renew their commitment to market integrity

though the passage of landmark legislation: the Dodd–Frank Wall Street Reform and Consumer Protection Act. The law's provisions reflected the temporary weakness of the financial industry lobby, the public's call for action, and the strengthened political hand of regulatory policy entrepreneurs within the Democratic Party. But despite the clear commitment the legislation signified, the strength of Dodd-Frank commitments began to erode as soon as asset values recovered, public anger waned, and low saliency issues of policy implementation moved to the forefront. Five years after the legislation's passage, 40 percent of the law's 400 proposed regulatory rules have been delayed by industry lobbying and litigation. In 2014 alone, the financial industry spent nearly half a billion dollars (not counting campaign contributions and legal fees) and hired more than 2,300 registered lobbyists. Their goal was to tilt the rule-making process in their favor and maintain the steady drumbeat for repeal (Schoen and Ward 2015;CNBC). Since its passage, provisions regarding executive compensation, minority shareholders' proxy access, resolution authority, contingent capital, and the Volker Rule have either been repealed or implemented in ways favorable to financial industry preferences. Appalled by this steady watering-down of Dodd Frank, pro-reform legal scholar John Coffee (2012) writes,

> Above all, this episode shows again that, once a crisis passes, Congress can easily be persuaded to repeal legislation that it passed in response to the crisis. This proves not that the original legislation was flawed, but more that Congress can be manipulated, has a limited attention span, and will sometimes accept makeweight arguments…To be sure, in a national crisis, countervailing forces sometimes arise, but they do not remain organized and vigilant indefinitely (1078).

In summation, the previous account points to several factors which should undermine politicians' commitments to equity market integrity and MSP. First, interest group mobilization around issues of MSP and market integrity should, in normal times, be largely dominated by the losers of stock market development. Second, these losers of equity market development (i.e. labor market and corporate insiders) are core constituencies of both the political left and right. As a result, partisanship and ideology cannot in and of themselves be reliable indicators of financial policy commitment. Third, crisis or scandal can temporarily undermine corporate insiders lobbying dominance and renew political commitments to MSP and market integrity, but these policy commitments often wane as the political saliency of financial policy fades and asset values recover.

Variation in Commitment Problems across the Globe

Despite the ubiquity of these mobilization biases and interest group dynamics, their exact character will vary from country to country. Differences in economic development and the diffusion of equity ownership across society will alter the mix of political actors involved in these policy debates and regulatory struggles. Table 2.1 below provides a rough guide to this variation in interest mobilization. 'a' rows correspond to developed countries with diffuse ownership; 'b' rows correspond to developed countries with concentrated ownership; and 'c' rows correspond to the developing world.

Table 2.1
(Summary of Interest Groups and Mobilization Propensity)

I. Mobilized Interests Undermining Development/MSP/Integrity
a. Senior Executives [Anti-MSP], Market Intermediaries [Anti-Integrity, greater in #]
b. Controlling Owners/Blockholders [Anti-MSP], Incumbent Financiers [Anti-Equity Market], Market Intermediaries [Anti-Integrity, fewer in #]
c. Incumbent Non-Financial Firms [Anti-Equity Market], Incumbent Financiers [Anti-Equity Market], Controlling Owners/Blockholders [Anti-MSP], Market Intermediaries [Anti-Integrity, very few in #]
II. Mobilized Interests Supporting Development/MSP/Integrity
a. Policy Entreprenuers, Politicians (after crisis), Activist Institutional Investors [Pro-MSP, larger in #], Retail Investors (after crisis, larger in #), Public (after crisis)
b. Policy Entrepreneurs, Politicians (after crisis), Retail Investors (after crisis, fewer in #), Public (after crisis), Activist Institutional Investors (Pro-MSP, fewer in #)
c. Policy Entrepreneurs, Politicians (after crisis), Retail Investors (after crisis, very few in #), Public (after crisis)
III. Weakly Moblized and/or Indeterminate Preferences
a. Politicians (cyclical commitments & receptive to lobbying), Labor (w/o crisis & insider/outsider split), Passive Institutional Investors (greater in #), Retail Investors (w/o crisis, larger in #), Public (w/o crisis)
b. Politicians (cylcical commitments & receptive to lobbying), Labor (w/o crisis & insider/outsider split) Passive Institutional Investors (fewer in #), Retail Investors (w/o crisis, fewer in #), Public (w/o crisis)
c. Politicians (cyclical commitments & receptive to lobbying), Labor (w/o crisis & insider/outsider split) Retail Investors (w/o crisis, very few in #), Public (w/o crisis)

a. Developed Countries w/Diffuse Ownership
b. Developed Countries w/Concentrated Ownership
c. Developing Countries

The existence of stock exchanges in nearly every country of the world suggests there are at least a handful of elite economic or political actors (i.e. policy entrepreneurs) who support their development. But what the table above makes clear is that the elite devotees of equity finance will have inconsistent allies and consistent opponents. In the developed world with diffuse ownerships, opposition will come mainly from two groups:

professional executives determined to ward off shareholder interference in their decision making autonomy and a highly developed financial sector (i.e. market intermediaries) concerned with reducing their regulatory burden. In the developed world with concentrated ownership, opposition will arise from blockholders determined to protect their private benefits of control and traditionalists in the banking sector who favor more relational finance. In the developing world, the anti-developmental alliance may be even more formidable: blockholding industrial incumbents, incumbent banks who thrive on the rents created by financial repression, and state actors who view the financial system as a political tool to distribute rents among their political cronies.[7]

Pro-market policy entrepreneurs are not without allies in both the developed and developing world, but these allies are beset by collective action problems, uneven in their policy expertise, and are unlikely to mobilize in the absence of crisis or scandal. In short, maintaining political commitments to MSP and market integrity is an uphill battle regardless of economic development or the diffusion of equity ownership. However, the steepness of this uphill battle will not be equal across political institutions. When political institutions reduce the difficulty of committing to stock market development, delegation to independent regulatory actors should be less important.

Commitment and Reform: The Role of Political Institutions

Past literature consistently argues that more numerous partisan veto players can prevent governments from frequently or arbitrarily altering economic policy. As a result,

[7] As Calmoris and Haber (2014) suggest, this sort of behavior is also present within the developed world. However, greater levels of political competition, transparency, and media scrutiny can make it less severe.

politicians' commitments to investor friendly policies such as respect for private property rights, impartial contract enforcement, and fiscal and monetary policy stability should be viewed as more credible when veto players are more numerous (North and Weingast 1989; Haber, North, and Weingast 2008; Henisz 2000;Tsbelis 2002). Empirical evidence largely supports these contentions. Increased political constraint (i.e. more veto players) is associated with more stable and robust economic growth, better developed banking systems and credit markets, and increased levels of private investment by both foreign and domestic actors (Henisz 2004; Jensen 2003; Stasavage 2002; Keefer 2008). There is little reason to think that these credibility effects do not also extend to regulatory policy including MSP and market integrity. While investors may not enjoy their ideal level of protection, they know that the rights and protections they do enjoy are less likely to be revoked if veto players are more numerous. Furthermore, more numerous veto players means investors have a higher chance of being represented by at least one veto player in the policy making process. Previous findings suggest that political principals take these credibility effects into account when designing their regulatory agents. In analysis of regulatory agencies in Western Europe, Gilardi (2008) finds an inverse relationship between the number of veto players and levels of regulatory independence. This suggests that when credibility seeking politicians are more significantly constrained by other veto players, they view their own commitment problems as less severe and therefore grant less independence to regulatory agents as a result.[8]

[8] However, it is important to point out that Jordana and Levi-Faur (2006) find that veto points and agency independence are positively related in Latin America.

More numerous veto points may also play a part in diluting corporate insiders and incumbent financiers' anti-investor lobbying. Following a logic outlined by Gehlbach and Malesky (2010), veto players must be politically compensated by corporate insiders and economic incumbents in order to protect the financial policy status quo. [9] This compensation (i.e. political contributions) should become increasingly more expensive for corporate elites as veto players become more numerous. As a result, the profitability of anti-investor rent-seeking should decrease as veto players increase in number. Andrews and Montinola (2004) make a similar argument, but place greater emphasis on inter-veto player coordination. To the extent that voters punish veto players for being "in the pocket" of special interests or delivering poor economic governance, increases in political competition should encourage rival veto players to expose each other's acceptance of political contributions from economic incumbents and corporate insiders. In order to avoid this mutual recrimination, veto players must collude. However, as the number of veto players increases so too does the cost of policy collusion. As a result, corporate insiders will have to increase the value of their contributions as veto players become greater in number thereby reducing the profitability of their anti-investor lobbying.

In addition to the political constraint created by veto players, more proportional electoral institutions may also do their part to lessen politicians' commitment problems.

[9]This is built upon the assumption that political actors value the economic growth and efficiency that comes from more 'optimal'regulatory policies. Evidence in favor of the stock market development and economic growth connection is provided by Levine and Zervos (1998), Levine (2005), Rajan and Zingales (1998) Atje and Jovanovic (1993), Rousseau and Wachtel 2002), and Beck and Levine (2004)

To the extent greater proportionality creates coalition governments and consensual lawmaking, it too should reduce the magnitude of policy changes that accompany cycles in asset values or alterations in vote shares (Lijphart 1999). Once again, investors may not enjoy their ideal level of protection, but the protections they do enjoy will be less exposed to the sort of wide policy swings that can follow majoritarian elections. Proportionality should also ensure that both the winners and losers of stock market development receive a seat at the bargaining table when reforms are discussed. Since retail investors and minority shareholders are an electoral minority with weak lobbying power, this assurance of political representation should be especially important. I am not suggesting that more consensual political institutions (i.e. veto players and proportionality) will completely eliminate regulatory cycles or prevent the erosion of MSP when saliency is low. Instead it is best to view regulatory cycles as waves that move above and below some unknown 'optimal' set of financial policies. Consensual political institutions will not systematically produce these optimal policies, but they should widen the wavelength and decrease the amplitude of regulatory waves as they move through the financial system.

In addition to their ability to moderate policy change, proportional elections may moderate political opposition to departures from the blockholding status quo that characterizes most countries. More specifically, the more consensual bargaining environment created by proportional representation can encourage the provision of "benefits for groups, parties, and organizations that are adversely affected by policy change."(Lindvall 2010). In other words, proportionality should facilitate the distribution

of side payments to stock market development losers. Since proportionality also reduces the impact of vote share for retaining office, bargaining among political parties and key interest groups is more likely to be iterative further extending time horizons and making promises of side-payments more credible. These effects of proportionality are not merely hypothetical. Side payments have been key to pro-MSP reforms throughout the world.

For example, German labor market insiders not only acceded but actively promoted pro-MSP reforms in the late 1990s and early 2000s. Their compromise inducing side payment came in the form of significantly higher standards of corporate transparency. Labor insiders valued this transparency because it increased the capacity of unions and works councils to monitor and punish managers who have "too much discretion and too great a capacity to promote their interests ahead of the workers and the firm" (Gourevitch and Shin 2005; 163). Labor market insiders in the Netherlands agreed to pro-MSP reforms because they "obtained side-payments in the form of increasing works council influence on board elections" (Schnyder 2008:13). The menu of side payments for capital insiders is even more expansive and includes tax breaks, subsidies, tariff protection, lucrative government contracts, and/or more forgiving regulatory treatment in areas not directly connected to corporate governance.

To summarize, political institutions may profoundly shape the severity of politicians' commitment problems with regard to MSP and market integrity. As a result, the relationship between regulatory independence and stock market development should also vary across political institutions. Where fewer partisan veto players and majoritarian

elections increase the frequency and magnitude of regulatory policy change, politicians' policy commitments are especially suspect. As a result, delegation to IRAs and SROs should be an especially powerful commitment device in these contexts. When political institutions are more consensual (i.e. more veto players and greater proportionality) policy change should be less frequent and anti-investor lobbying more costly to corporate insiders. Since the winners of development tend to be an electoral minority, more consensual institution should also increase the chances that they receive direct political representation. Finally, when policy does change, it is more likely to be the result of compromise that gains at least some buy in from corporate insiders further increasing the chances that it will be faithfully implemented. As a result, politicians' credibility should be less dependent upon delegation and the independence of their regulatory agents when political institutions are more consensual.

Possible Criticisms and Responses

While the arguments of the previous section are relatively non-controversial in light of previous research, they are not without their critics. These critics bring up three main points that deserve to be directly addressed: 1) veto players and electoral institutions may increase policy stability, but this stability can be the foundation of anti-investor political coalitions; 2) the act of delegation is itself a commitment problem suggesting that more numerous veto players are a prerequisite of rather than a substitute for delegation; and 3) political constraint and regulatory independence are not credibility enhancing during periods of systemic financial crisis because crises fundamentally alter

the nature of politicians' commitment problems. I will discuss each of these criticisms in turn.

In their influential book on the politics of corporate governance, Goureveitch and Shinn (2003) argue that workers, managers, and controlling owners share mutual interests in maintaining firm size and stability. Despite class tensions, they may cooperate to maximize the share of income for themselves at the expense of outside shareholders. Workers receive greater employment security, wages, and benefits while owners and managers get to enjoy larger private benefits of control. Goureveitch and Shinn point to the more numerous veto points and proportional elections of consensual political systems as the institutional foundation of this anti-shareholder "corporatist compromise." Since the compromise requires sustained political alliances between workers, managers, and blockholders, it is unlikely to survive without the policy stability and incentives to cooperate created by more consensual institutions. Although more concerned with electoral competition, Pagano and Volpin (2005) develop a formal model that comes to similar conclusions. They assume that proportional electoral institutions empower social groups with "homogenous preferences" such blockholders and workers. Since both are assumed to favor the stability of bank based finance, proportional electoral institutions are predicted to undermine equity markets.

Although these arguments are convincing, there are several reasons why I come to opposite conclusions regarding consensual political institutions. Gourevitch and Shinn's explanation is likely accurate in terms of providing a historical explanation of post-WWII

corporate governance politics in Western Europe. However, what was true then may be less so now. I follow Barker (2010) and Rajan and Zingales (2003) and insist that recent economic changes may have altered the preferences of corporate insiders and weakened industry incumbents' preference for financial repression. More specifically, the combination of capital mobility and international trade has led to "an exogenously driven increase in product market competition. This implies economic rents decline to much lower levels…the erosion of rents makes it increasingly difficult to sustain a social compromise with insider labor, as there is no longer a surplus which can be shared"(Barker 2010; 54). With reduced private benefits of control, less retained earnings available for investment, and promising opportunities for financing and expansion abroad, firms may be less likely to "play nice" with domestic insider labor at the expense of outside shareholders. Insider labor, now lacking fully committed partners among insider capital, may be willing to form corporate governance "transparency coalitions" with outsider capital over issues of accounting, disclosure, and management self-dealing (Gourevitch and Shin 2003). This is not to say that continental Europe will suddenly adopt Anglo-American shareholder driven capitalism. Instead, I am making a more modest claim: the effects of consensual political institutions on corporate governance politics will change as the interests of actors constrained by those institutions change as well. As a result, the same features of consensual institutions that may have once supported anti-shareholder alliances in Western Europe (eg. policy stability, greater compromise), now serve to encourage stock market development across a world

characterized by freer trade, more intense product market competition, and greater capital mobility.

Another objection concerns my argument that delegation to independent regulatory actors will be more credibility enhancing when political veto players are fewer in number. In fact, scholars such as Keefer and Stasavage (2000) argue the direct opposite. They insist political veto players and delegation are not substitutes, but instead are complements. More exactly, they argue that the act of delegation to independent regulatory agents is itself a policy that is vulnerable to commitment problems. Only if the act of delegation is credible will agents' exercise of delegated power be credible. Or as formulated by Keefer and Stasavage (2000), "The important question that remains, therefore, is how delegation of policymaking authority to an independent agency can make a difference for policy when the number of veto players required to overturn delegation and to change…policy is the same." This is an important question, but one that can be answered in several ways.

First, overturning an act of delegation or significantly reducing agency independence is costly. These costs involve far more than the political transaction costs involved in getting the necessary veto players to agree to a change. More specifically, reversing delegation is a highly visible act that is likely to have serious reputational costs. This is particularly true in a globalized sector such as finance where IRAs are considered an international best practice and sign of good governance. Furthermore, perceptions of credibility are not confined to individual economic sectors. If a government reverses

course with respect to one independent authority, the credibility of all their acts of delegation may come into question. Second, as pointed out by Gailmard and Patty (2013) the reduction of independence may weaken bureaucrats' incentives to invest in expertise. This loss of expertise will reduce the effectiveness of bureaucratic policymaking in general, not just the specific policy that a current governing majority wishes to change by overturning independence. Finally, returning regulatory power to politicians will reintroduce issues of political uncertainty and policy instability. None of this is to deny that acts of delegation are themselves tests of credibility or that regulatory agencies are never abolished or reorganized. However, reversing acts of delegation is costly and these costs are usually sufficient to make politicians' acts of delegation credible.

Evidence of this fact is not hard to find. Greasley and Hanretty (2014) look at the life span and risk of termination of 723 arm's length agencies in the United Kingdom between 1985 and 2008. Given that the UK's parliamentary system is considered an "elected dictatorship" by many commentators, British politicians' acts of delegation should be particularly suspect according to Keefer and Stasavage. Yet, the authors find "that agencies intended to generate credible commitments in regulation are less likely than others to be terminated in any given year… [and] Agencies structured as executive non-departmental public bodies and non-ministerial departments are also longer lived than others."[10] Obviously no act of delegation is irreversible. However, the fact that the

[10] "Non-Ministerial Departments are government departments, staffed by civil servants, established by legislation but headed by a statutory board, or a Director-General, rather than their own elected minister" "A Non-Departmental Public Body (NDPB) is 'a body which has a role in the process of national government but [which] is not a government department or part of one, and which accordingly operates to a greater or lesser extent at arm's length from ministers' "… "Executive NDPBs have their own legal

unconstrained politicians of the U.K. are so clearly affected by concerns of credibility is telling. As I have repeatedly argued, acts of delegation to *independent* agencies have real credibility effects even when the number of veto players required to reverse that delegation is relatively small.

A final objection concerns the role of political institutions and regulatory independence in times of financial crisis. During periods of high uncertainty and market turmoil, the nature of politicians' credibility problems may change: commitments to rapid policy responsiveness and decisive intervention could become more important than commitments to policy stability. Numerous quantitative and qualitative studies have explored this tension within the context of crisis (MacIntyre 2001; Angkinand and Willett 2008; Keefer 2001; Ha and Kang 2015). While I recognize the importance of swift and decisive crisis responses, credible commitments to investor protection and market integrity should become more not less important in times of crisis.

As panic and insolvency spreads, opportunistic corporate insiders will do almost anything including expropriating investors in order to minimize their personal financial losses and prop up failing subsidiaries. In a worst case scenario, governments will face intense pressure to ignore investor interests and play favorites as they distribute bailout funds, coordinate emergency nationalizations or forced mergers, and grant regulatory relief. More simply, politicians could simply look the other way as politically allied business elites save themselves by raiding their firms' assets to the detriment of

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personality…They carry out some combination of administrative, commercial, executive technical, or regulatory functions." (Greasley and Hanretty 2014;pp. 7-10)

shareholders and other stakeholders. To the extent financial crises become fiscal crises for governments, unconstrained politicians may be tempted to renege on their debts, seize assets, and expropriate minority shareholders in state-controlled enterprises. If regulators are politically dependent, they may become willing accomplices to these activities or be forced to remain timid at the very time when investors need aggressive action.

The likelihood of this nightmare scenario should depend, in part, upon political institutions and regulatory independence. If political veto players are more numerous, investors will have a better chance of being politically represented when crisis responses are developed. To the degree veto players are partisan rivals, blatant acts of favoritism in crisis intervention should also inspire greater controversy. Finally, if regulatory actors enjoy more rather than less independence, they can more confidently confront opportunistic behavior by corporate insiders. As a result, both veto players and regulatory independence should continue to have beneficial effects on stock market performance even in times of crisis. Despite these continued credibility effects, the insights of previous literature should not be ignored. More numerous veto players and more independent regulators should raise coordination costs or possibly delay market interventions. These costs and delays are likely to exacerbate crisis period stock price volatility. The real question is whether these added volatility costs are worth the added benefits of credibility. As my empirical analysis will demonstrate, greater stock index volatility is well worth the price. The alternative is mass desertion from equity ownership and catastrophic stock index price declines.

Argument Summarized and Theoretical Propositions for Testing

Like many other areas of economic and regulatory policy making, politicians' commitment to MSP and market integrity may lack credibility. Their non-credibility stems from the technical complexity and low political saliency of many regulatory issues, the superior mobilization capacity of corporate and industry insiders, the presence of anti-investor interests on both sides of the political spectrum, and the tendency of financial regulation to be cyclical rather than time consistent. In line with the literature on central banking and the regulation of utilities, the delegation of rulemaking and enforcement power to independent regulatory actors, both public and private, may enhance politicians' policy commitments. Along with these credibility effects come added benefits in the form of greater policy stability and more informed and knowledgeable regulatory agents. This leads to the following theoretical propositions that will be explored in the upcoming chapters:

Proposition 1a: *Delegation to politically independent public regulatory agencies should make politicians' commitments to market integrity and investment protection more credible, and these credibility effects should enhance stock market development and performance.*

Proposition 1b.: *Delegation to politically independent SROs should make politicians' commitments to market integrity and investment protection more credible, and these credibility effects should enhance stock market development and performance.*

The idea that regulatory institutions can ameliorate credibility problems is straightforward. However, the severity of these credibility problems will not be constant across political contexts. More specifically, where political institutions undermine policy credibility or where the financial status quo benefits politically powerful industrial and financial incumbents, politicians' commitments to stock market development will be particularly fragile. This leads to three more theoretical propositions:

Proposition 2a*: Where a lack of partisan veto players undermines the credibility of political commitments to market integrity and investor protection, delegation to independent regulatory actors should be especially credibility enhancing.*

Proposition 2b*: Where majoritarian electoral competition undermines the credibility of political commitments to market integrity and investor protection, delegation to independent regulatory actors should be especially credibility enhancing.*

Proposition 2c*: Where financial repression empowers anti-investor economic incumbents, delegation to independent regulatory actors should be especially credibility enhancing*

As repeatedly highlighted in the previous pages, investor protection is a key pillar of equity market development. If enforcement is inconsistent or rulemaking overly lenient, corporate insiders have little incentive to understand let alone respect the minority shareholder protections enshrined in statutes and regulations. The consistency of enforcement and stringency of rulemaking should be dependent upon the ability of regulators to resist political pressure from anti-investor interests and their political allies.

Therefore, corporate insiders' understanding of the strength of minority shareholder protections should be function of regulators independence. Or stated more simply,

Proposition 3*: When regulators are able to consistently implement shareholder protections free from the most egregious forms of political interference, corporate elites should have a greater awareness and understanding of minority shareholder protections.*

Research on the political economy of financial crises suggests that the benefits of policy stability in good times can become damaging policy rigidity when rapid, coordinated, and decisive policy responses are needed to calm market volatility. I partially accept this critique and expect that more numerous veto players and more independent regulators may increase coordination costs and slow crisis responses. However, this work fails to fully account for minority shareholders and retail investors' acute vulnerability to corporate insiders, market intermediaries, and predatory state actors in times of systemic crisis. This added vulnerability should make the credibility of political commitments to investor protection and market integrity more rather than less important in crisis periods. This leads to two final theoretical propositions:

Proposition 4a*: More numerous political veto players and more independent regulatory actors should reassure investors that their rights will not be consistently abused by panicked corporate insiders, market intermediaries, or opportunistic politicians; this added reassurance should make investors less likely to abandon equity ownership in times of crisis.*

Proposition 4b*: Since more numerous political veto players and more independent regulatory actors should raise coordination costs and extend bargaining over policy interventions, both may exacerbate stock market volatility during systemic crisis.*

Exact measures and hypotheses stemming from these propositions will be explored in upcoming chapters. More specifically, propositions 1a, 2a, 2b, and 2c will be evaluated in Chapter 3. Chapter 4 and 5 will analyze propositions 3 and 1b respectively. Finally propositions 4a and 4b will be the focus of Chapter 6.

Chapter 3

Institutions, Independence, and Stock Market Development

With its official socialist ideology, widespread state-ownership, and single-party political system, it seems unlikely that China would exemplify many of the political dynamics outlined in the previous chapter. Yet upon closer examination, China's one-of-a-kind socio-economic system has not created one-of-a-kind stock market politics. Like nearly every other country in the world, Chinese officials have repeatedly committed to stock market development in the name of improved corporate governance, economic performance, and international competitiveness. Like other countries, unscrupulous market intermediaries, opportunistic corporate insiders, and political short-sightedness consistently undermined this commitment to equity market development. In response to local political officials' lack of regulatory credibility, China's State Council followed a familiar script. They delegated significant rulemaking and enforcement power to regulatory organizations that enjoy at least some autonomy from party politics. In sum, once it became clear that local party officials and politicized municipal bureaucracies were not only ineffective regulators but that their ineffectiveness led to crisis and social instability, China's most powerful leaders chose to delegate and centralize power within a specialized regulatory agency.

After Communist revolutionaries ordered the closing of the Shanghai Stock Exchange in 1949, securities trading in China lied dormant for nearly 40 years. Only after Deng Xiaoping initiated shareholder-based reforms of state-owned enterprises (SOEs) in the latter half of the 1980s did securities markets reemerge in earnest (Schlicting 2008).

Treasury notes and local government bonds formed the bulk of the early trading. As SOE reforms gathered momentum, corporate equities made up an increasingly large portion of trading volume. In contrast to the indifference and occasional hostility of central government officials, local leaders had fewer ideological qualms and a greater financial interest in the development of these early securities markets. Municipal bonds fueled local government borrowing, and the fees and levies that accompanied SOEs' IPOs proved to be a financial boon for local leaders (Green 2004). Although opposed by party conservatives, reformers within the Thirteenth Congress of the Chinese Communist Party sought to harness rather than repress these early markets. In December of 1990, they pushed through the first public commitment to stock market development in the Communist regime's history. In the name of a new form of "socialist market economy," the Party congress officially approved of the:

> "Gradual enlargement of bond and share issuance, and stern strengthening of its management…the development of financial markets, and giving encouragement to other capital raising methods. In big cities where conditions are right stock markets should be established and perfected, and standardized" (1990)

Local leaders in Shanghai and Shenzhen responded to this policy cue and officially opened stock exchanges in the two cities. Although nominally SROs, municipal governments owned both exchanges and local party officials and bureaucrats dominated their governance.[11] Most early brokerage firms were similarly dominated or at least financially connected to local leaders. As an added boon for municipal and provincial

[11] Technically, both exchanges were regulated by a non-local institution, the People's Bank of China (PBoC). However, the actors actually enforcing PBoC's regulations were PBoC *local* offices. These local offices were operated under the administrative control of local leaders meaning they rarely served as an independent watch dog of local officials' regulatory conduct.

officials, 50 percent of the "stamp taxes" levied on exchange transactions remained in local government coffers. Unsurprisingly, both primary and secondary equity markets became politicized hot beds of corruption and opportunism. Local leaders' regulation of share issuance, exchange trading, market intermediaries, and corporate governance was blatantly self-serving. Revenue maximization and influence peddling took clear precedence over investor protection and market integrity (Green 2004).

Despite clear excesses and the flouting of Central Government regulatory directives, national party leaders and the State Council cautiously supported these early local experiments in shareholding and exchange trading (CSRC 2008). Deng Xiaoping best expressed their circumspect commitments to stock market development in early 1992. He stated:

> "Securities, stock markets, are they good or evil? Are they dangerous or safe? Are they unique to capitalism or also applicable to socialism? Let's try and see. Let's try for one or two years; if it goes well, we can relax controls; if it goes badly, we can correct or close it. Even if we have to close it, we may do it quickly, or slowly, or partly. What are we afraid of? If we maintain this attitude, then we will not make big mistakes."

This tentative commitment received its greatest test less than a year later. On August 10th, 1992, an initial public offering went horribly wrong in Shenzhen. Municipal officials artificially restricted the number of IPO subscription forms and exploited the slipshod regulatory framework in order to enrich themselves and the brokerage firms they controlled. Retail investors rioted and touched off the most serious social disturbance in China since Tiananmen Square (CSRC 2008). Recognizing that stock markets had become large enough to threaten social stability and cognizant of continued ideological

resistance to their existence, the reformist Central Committee acted in accordance with the theory outlined in the previous chapter. They renewed their commitment to investor protection and market integrity, and then sought to enhance the credibility of this commitment through delegation.

The Central Committee created two new regulatory bodies: the State Council Securities Committee (SCSC) and China Securities Regulatory Commission (SCSC). The former was effectively a committee of the State Council made up of top level party officials, economics and finance ministers, and chief bureaucrats. SCSC drafted relevant laws, rules, and regulations for securities market, developed long-term policy goals, and served as a coordinating forum among various regulators and ministries. The CSRC was subordinate to the SCSC and was responsible for developing rules and regulations as well as supervising market intermediaries, exchanges, IPOs, and the listing/delisting of companies. In December of 1992, the Central Government issued the *Circular on Further Strengthening of the Macro-management Over the Securities Market.* The Circular and implementing rules and regulations were the first clear expressions of the Central Government's desire to assume control over securities regulation as well as protect the interests of retail investors (CSRC 2008).

This renewed policy commitment had the desired effects. The creation of the SCSC and CSRC and the issuance of the Circular led to significant increases in total market capitalization, retail investment accounts, trading volume, and listed companies (CSRC 2008). But despite this initial success, the Central Government's commitments

remained incomplete. Local politicians, municipal securities regulators, and stock exchange officials remained powerful and oftentimes ignored CSRC implementation efforts. The SCSC itself was hamstrung by political infighting and proved to be an unreliable ally in the CSRC's struggles with local officials and provincial offices of the People's Bank of China (PBoC). In sum, the Central Government's regulatory initiatives continued to lack credibility since they could not ensure that their policy directives would be faithfully implemented at the local level. Regulatory uncertainty reigned. Investors simply did not know when the CSRC would prevail over the protests of local officials and when it would not (Green 2004).

Once again it was instability that led to further reform. The Asian Financial Crisis of 1997 highlighted the dramatic political and economic consequences that can result from weak financial and corporate governance regulation (Haggard 2000). Eager to avoid the mistakes of their regional neighbors, China adopted a proactive and multipronged approach. First, they abolished the SCSC, revoked the PBoC's authority over securities firms, and consolidated all securities market regulation within the CSRC. This consolidation allowed the CSRC to wrest control of securities exchanges from local governments, shutdown unauthorized securities markets, and initiate a crackdown on fraudulent practices within the politically connected brokerage and fund management industries (Green 2004). Second, after languishing in committee for nearly 6 years, the National People's Congress passed the Securities Law of 1998. For the first time in their history, Chinese securities markets would be governed by a nearly all-encompassing national statute (CSRC 2008). Investors could now look to one set of statutes and

implementing regulations to understand their rights rather than a patchwork of local laws, stock exchange ordinances, SCSC measures, and State Council Directives. The content of the statute itself was unremarkable. It "…had little to offer in terms of institutional change. It contained few new rules…it created no regulatory organs… and it extended few new powers to, or constraints upon, the organs already in existence" (Green 2004; 172). The law was more important in terms of the signal it sent to investors, local politicians, and the international community: *all* the organs of the Central Government were committed to stock market development and integrity, and the CSRC was the *only* legitimate agent of the Central Government working toward that purpose.

Since its initial passage in 1998, the Securities Law has been amended repeatedly and extensively. Each time, the investor protections and supports for market integrity have been formally strengthened rather than weakened (CSRC 2008; IMF "China" 2012). This steady legal refinement has been accompanied by the expansion of the CSRC's enforcement power. Most notably, the CSRC now has powerful provincial enforcement offices and assumes a dominating role in exchange governance and regulation. Both trends have come at the direct expense of local politicians and bureaucrats, unscrupulous or financially troubled market intermediaries, and opportunistic corporate insiders. The emergence of the CSRC as a competent regulator with national jurisdiction is perhaps the most remarkable. There is no doubt that the CSRC operates under the supervision and direction of the State Council and lacks many of the hallmarks of political independence. A Standing Committee of the National People Congress continues to approve its budget. Its leaders enjoy neither fixed terms nor protection from arbitrary dismissal. That said,

the Commission has defended its status as a non-governmental organization, and it continues to successfully resist most instances of interference by municipal politicians, provincial officials, the PBoC, and politically connected SOEs and brokerage firms (Green 2004). This very modest though still meaningful level of political independence is recognized by the international community. A 2012 joint IMF-International Organization of Securities Commissions Report states:

> "the CSRC itself exercises its *day-to-day functions* independent of external political influence… [and] free from political or commercial interests… The CSRC staff observes high professional standards including avoiding conflicts of interests and preserving the confidentiality of information obtained in the course of their duties… The powers and authorities of the CSRC are sufficient, *taking into account the nature of China's capital markets*…" (emphasis added)

The Central Government's commitment to equity market integrity and the credibility effects of the CSRC's partial independence are obvious in various measures of stock market development. Once mere experiments, listed companies now play an important role in the Chinese economy. After numbering only 14 in1991, there are now over 2,500 listed companies on Chinese exchanges today. As of 2012, China's market capitalization and value traded as a percentage of GDP are 44% and 70% respectively. This places them in the 59th and 92nd percentiles in the world (World Development Indicators). When viewed in terms of growth rather than levels, the performance of China's equity markets is even more impressive. Between 1998 and 2012, market capitalization and value traded increased by 100% and 84% respectively. As of 2006, over 11.8 million retail investment accounts held domestic equities and this number

continues to grow even in the aftermath of recent market turmoil (CSRC 2008; Fahey and Chemi 2015).

Despite these positive trends, serious weaknesses remain within China's regulatory architecture, exchanges, corporate governance, and securities industry.[12] Corruption, local officials' continued resistance to the CSRC's regulatory initiatives, a lack of institutional investors, underutilization of SROs, and the continued vulnerability of retail investors continues to threaten Chinese markets. Perhaps most troubling, the persistent lack of investor education has led many of China's retail investors to view the stock market as a casino rather than a tool of long-run wealth management (Fahey and Chemi 2015). Despite these weaknesses, the Chinese case reveals the credibility enhancing effects of delegation to regulatory agencies. Furthermore, it demonstrates that these effects can emerge in hostile political environments characterized by a lack of electoral competition and a minimal number of policy making veto players.

Although unique in many ways, China exemplifies many of the theoretical claims explored in the previous chapter. To reiterate, politicians often have difficulty credibly committing to the defense of market integrity and the promotion of minority shareholder protections (MSP). This lack of credibility can reduce investors' confidence and undermine stock market development and performance. Independent regulatory organizations can help to ameliorate politicians' commitment problems particularly where political institutions (i.e. few veto players or majoritarian elections) make those

[12] For the CSRC's opinion regarding their country's weaknesses, see Chapter 3 of "China's Capital Markets Development Report" of 2008

problems more severe. In the sections below, I will evaluate these claims. More specifically, this chapter will explicitly test the following hypotheses:

Hypothesis Ia: There is a positive association between regulatory independence and market capitalization to GDP

Hypothesis Ib: There is a positive association between regulatory independence and benchmark index price growth.

Hypothesis IIa: There is a positive association between consensual political institutions (veto players and electoral proportionality) and stock market capitalization as a percentage of GDP.

Hypothesis IIb: There is a positive association between consensual political institutions (veto players and electoral proportionality) and benchmark index price growth.

Furthermore, I will evaluate whether consensual political institutions and regulatory independence are complementary or substitutive in terms of their credibility enhancing effects. As was highlighted by the Chinese experience, the delegation of regulatory power to the CSRC was likely *more* impactful because local political elites were initially unconstrained and local bureaucracies were highly politicized. This lack of constraint and the politicization of local bureaucracies led to unstable, opportunistic, and sometimes arbitrary rulemaking and enforcement. These claims regarding the substitutability of political and regulatory institutions lead to the following hypotheses:

Hypothesis IIIa: The positive association between independence and market capitalization will increase in magnitude as veto players become fewer in number and elections more majoritarian.

Hypothesis IIIb: The positive association between independence and price growth in benchmark indices will increase in magnitude as veto players become fewer in number and elections more majoritarian.

In addition to investigating any substitutability between political and regulatory institutions, I will explore whether both sets of institutions take on greater importance if asymmetries in political mobilization are especially biased against minority investors. Unfortunately, a direct measure of mobilization asymmetries is unavailable both cross-sectionally and temporally. What is needed is a proxy that can account for the superior political resources of corporate insiders vis-à-vis retail investors and the general public. To this end, I follow Rajan and Zingales (2003) and assume that credit market underdevelopment is a highly effective financial barrier to entry that swells both the economic and political power of incumbent industrial and financial firms. When credit is scarce, incumbent firms will be larger, fewer in number, and enjoy substantial economic rents that they can use for political contributions and lobbying. Reduced firm turnover will also allow these typically anti-MSP corporate insiders to develop longer lasting relationships with politicians and bureaucrats. In short, credit market underdevelopment creates and empowers the sorts of business elites who have the most to lose (i.e. their monopoly rents) from equity market development and investor protection.

As a result, where credit is the scarcest, corporate insiders will be the most politically advantaged and politicians will be the most insincere in their commitments to MSP and market integrity. However, as Chapter 2 highlighted, consensual political institutions and regulatory independence both have the capacity to dilute special interest influence and/or increase the chances that retail investors and minority shareholders will be politically represented. This leads to a final set of hypotheses.

Hypothesis IV: The magnitude of the association between consensual political institutions and market capitalization will increase as the supply of credit becomes scarcer.
Hypothesis V: The magnitude of the association between regulatory independence and market capitalization will increase as the supply of credit becomes scarcer.

The remainder of the chapter will proceed as follows. First, I will present my measures of stock market development and performance. Second, I will present my novel measure of regulatory independence, veto point and electoral proportionality measures, and macroeconomic controls. Third, I will outline my modeling approach and test the hypotheses above. The fourth and final section will discuss the results and their implications.

Measures of Capital Market Development and Performance

The ideal dependent variable for my purposes would be an annual measure of minority shareholder protections (MSP) and securities market integrity for all countries with public securities markets. While such measures exist, they exist for only a handful of years and a subset of mostly middle and upper income countries (La Porta et. al

(1997,1998); Gourevitch & Shinn 2005). Furthermore, they are extremely slow-moving. A direct measure of ownership concentration would be a next best measure. Higher levels of concentration suggest that blockholders rather than minority shareholders dominate corporate governance. This would serve as a clear indication that the latter group has fewer rights. These measures also exist, but they have only been available since the late 1990s, cover only a subset of upper-middle and upper-income countries, and are rarely available in annual panel form.

In line with previous literature, I utilize stock market capitalization as a percentage of GDP as an indirect de facto measure of MSP and outsider oriented corporate governance. Also known as equity share, market capitalization is calculated by multiplying share prices with the number of shares outstanding for all domestically incorporated firms that are listed on a country's stock exchanges. Investment companies, mutual funds, or other collective investment vehicles are excluded. Market capitalization is obviously an indirect and imperfect measure. That said, it is reasonable to assume that if country A has a significantly higher market capitalization to GDP than country B (controlling for macroeconomic variables), investors in country A have greater confidence in their rights as minority shareholders. Stated differently, only where corporate insiders are willing (or coerced through government regulation) to govern their companies in ways that promote the financial interests of minority shareholders will minority shareholders actually invest.

Despite having significant advantages in terms of cross-national availability (N>100) and annual observations dating back to at least 1988, the measure is not without shortcomings. First, some of the capitalization of national equity markets may be controlled by blockholders who gained their shares prior to a company going public. As a result, some market capitalization merely reflects continued insider control rather than outsider friendly governance. Second, equity share can exhibit cyclical behavior that outpaces cycles in economic growth. This was especially the case in the developed world during the late 1990s dot.com boom. Financially open developing nations may not only experience their own domestic cycles, but they are rarely left unaffected by financial cycles in the global economic core (Barker 2010). These issues should not be dismissed out of hand. However, the use of appropriate econometric techniques such as fixed effects "within" estimators, year dummies, and lagged dependent variables should go a considerable way in terms of mitigating their potential impact on final inferences. Even more importantly, equity share is less flawed than its most feasible alternatives.

The most common alternative measure of stock market development is value traded as a percentage of GDP. Although more revealing in terms of liquidity, it often reflects factors other than minority shareholders' overall confidence in their rights. These factors include financial transaction costs, the state of market infrastructure technology, and the competitiveness of the investment services sector. As compared to equity share, value traded is also even *more* sensitive to financial and macroeconomic cycles. Finally, there is considerable controversy regarding how to properly measure value traded. The inclusion or exclusion of "off-trading floor" transactions of listed securities continues to

spark disagreement (Rajan and Zingales 2003). Given the even greater short-comings of the value traded measure, equity share's more straightforward cross-national comparability and historical coverage make it the best measure for my purposes.[13]

My measure of stock market capitalization to GDP was taken from the World Bank's Financial Development and Structure Dataset drawn from Standard & Poor's Global Stock Markets Factbook. Missing observations and variations in how S&P accounted for inflation restricts my dependent variable data to the period between 1988 to 2012. After the introduction of controls, most model estimations include around 110 countries with an average of 18 yearly observations per country. Before including equity share in empirical models, it was natural log transformed for several reasons. First, market capitalization had an extreme positive skew and its variance tended to increase with its level. Second, there were indications that market capitalization may not be stationary. The transformation had the desired effects. It reduced equity share's skew, stabilized its variance, lessened the influence of outliers, and produced more conclusive evidence of stationarity. Augmented Dickey-Fuller panel unit root tests of both the transformed and untransformed equity share measures can be found below in Table 3.1.

[13] Equity share has a pairwise correlation with value traded of 0.73.

Table 3.1
(Augmented Dickey-Fuller Panel Unit Root Tests)

Market Capitalization %GDP			**ln(Market Capitalization %GDP)**		
No Lag			**No Lag**		
	Test-Statistic	**p-value**		Test-Statistic	**p-value**
Inverse Chi-sqrd	369	**0**	Inverse Chi-sqrd	330	**0**
Inverse Normal	-4.3	**0**	Inverse Normal	-2.08	**0**
Inverse Logit	-3.3	**0**	Inverse Logit	-2.94	**0**
Modified Inverse Chi-Sqrd	6.9	**0**	Modified Inverse Chi-Sqrd	5	**0**
First Lag			**First Lag**		
	Test-Statistic	**p-value**		Test-Statistic	**p-value**
Inverse Chi-sqrd	260	**0.04**	Inverse Chi-sqrd	425	**0**
Inverse Normal	-1.3	**0.1**	Inverse Normal	-4.08	**0**
Inverse Logit	-1.5	**0.07**	Inverse Logit	-6.19	**0**
Modified Inverse Chi-Sqrd	1.8	**0.03**	Modified Inverse Chi-Sqrd	9.64	**0**
2nd Lag			**2nd Lag**		
	Test-Statistic	**p-value**		Test-Statistic	**p-value**
Inverse Chi-sqrd	135	**1**	Inverse Chi-sqrd	309.5	**0**
Inverse Normal	4.2	**1**	Inverse Normal	-1.18	**0.12**
Inverse Logit	4.2	**1**	Inverse Logit	-2.3	**0.01**
Modified Inverse Chi-Sqrd	-3.9	**1**	Modified Inverse Chi-Sqrd	4.38	**0**
3rd Lag			**3rd Lag**		
	Test-Statistic	**p-value**		Test-Statistic	**p-value**
Inverse Chi-sqrd	169	**0.99**	Inverse Chi-sqrd	296	**0.002**
Inverse Normal	2.3	**0.99**	Inverse Normal	-1	**0.16**
Inverse Logit	2.2	**0.99**	Inverse Logit	-1.67	**0.05**
Modified Inverse Chi-Sqrd	-2.3	**0.99**	Modified Inverse Chi-Sqrd	3.86	**0.001**
μT=20, #of Panels=110			μT=20, #of Panels=110		

Because market capitalization has an obvious upward trend and the panels exhibit considerable cross-sectional dependence, both the transformed and untransformed series were demeaned and test regressions included a time trend. The results above suggest that transformation eliminated that non-stationarity revealed at the second and third lags.

In addition to measuring stock market size relative to the rest of the economy, I will also use a measure of overall market performance. Performance will be measured in terms of annual percentage growth in the prices of national stock market indices. Although not a measure of development per se, it is safe to assume that countries with stronger MSP and market integrity will produce stronger demand for equities and this demand should produce larger price growth after controlling for macroeconomic conditions. Individual country market indices are taken from the larger S&P/IFCI and S&P/Frontier BMI indices. In developed and middle income country indices, all included equities must be publically listed, considered "investable," have market values of at least $100 million(US), and annual dollar value traded of at least $50 million(US) (S&P 2016). For the 34 smallest markets covered by the S&P Frontier BMI, included equities must be the "most active securities in their respective stock markets" subject to multitier capitalization and liquidity requirements (see S&P Frontier BMI for details on index construction). Given that I am looking at price growth (i.e. first differences in index price levels), stationarity will most likely not be an issue. However, I conduct augmented Dickey-Fuller Unit Root tests to rule out integration with greater certainty (see Table 3.2 below). Within the 80 country sub-sample, an obvious trend is not apparent, but the series are demeaned to account for cross-sectional dependence.

Table 3.2
(Augmented Dickey-Fuller Panel Unit Root Test)

%PriceΔS&P Benchmark Country Indicies		
Augmented Dickey-Fuller		
No Lag		
	Test-Statistic	**p-value**
Inverse Chi-sqrd	1258.9	**0**
Inverse Normal	-27.46	**0**
Inverse Logit	-37.95	**0**
Modified Inverse Chi-Sqrd	59.98	**0**
1st Lag		
	Test-Statistic	**p-value**
Inverse Chi-sqrd	553	**0**
Inverse Normal	-15	**0**
Inverse Logit	-16.6	**0**
Modified Inverse Chi-Sqrd	21.25	**0**
2nd Lag		
	Test-Statistic	**p-value**
Inverse Chi-sqrd	288.5	**0**
Inverse Normal	-7.048	**0**
Inverse Logit	-7.16	**0**
Modified Inverse Chi-Sqrd	7.3	**0**
3rd Lag		
	Test-Statistic	**p-value**
Inverse Chi-sqrd	276.97	**0**
Inverse Normal	-5.32	**0**
Inverse Logit	-6.23	**0**
Modified Inverse Chi-Sqrd	7.16	**0**
μT=16, #of Panels=84		

As expected, there is no evidence that the series is non-stationary and the variable is left untransformed due to only moderate skew.

Independent Variables

In order to measure consensual political institutions, I need measures for both institutional veto points and electoral proportionality. I primarily utilize Witold Henisz's *Political Constraints III* index while also using Beck et. al's (1999) *checks* variable as a robustness check. Political constraint takes on values between 0 and 1 with higher values indicating that it would be more difficult for a change in the preferences of any one actor to lead to a change in government policy. The measure itself indicates the number of constitutional veto points in the political system, whether these points are controlled by different parties, and then makes a final adjustment for overall levels of party fractionalization within veto points. *Checks* is very similar, but places less emphasis on overall levels of party fractionalization. In presidential systems, it counts veto players according to whether different parties control the legislative and executive branches. In parliamentary systems, *checks* simply counts the number of parties in the governing coalition and then makes further upward adjustments if electoral competition is unrestricted and ballots are open rather than closed lists. Since my theoretical framework emphasizes the ability of consensual political institutions to incorporate a wider diversity of social preferences, *Political Constraint III* is the featured independent variable; it more systematically incorporates party fractionalization in the legislature and more closely adheres to a formal spatial model of heterogeneous preferences as compared to *Checks*.

For my measure of electoral proportionality, I utilize Pagano and Volpin (2005) approach and combine three variables from Beck et. al. *Database of Political Institutions*: *PR, Plurality, Housesys*. *PR* equals one if any government officials are elected using proportional representation. *Plurality* equals one if any officials are elected under majoritarian rules. *Housesys* equals one if the majority of house seats are assigned by a non-proportional rule. *Housesys* equals .5 if there is a bicameral legislature and a majority of house seats are assigned by a non-proportional rule in one house, but not the other. These three variables are then combined according to the following formula so that the higher scores indicate greater electoral proportionality: *PR-Pluralty-Housesys*+2 = Electoral Proportionality.

In addition to the featured political variables above and my original measure of regulatory independence, I will include a series of alternative political and institutional controls. Main models will feature two additional variables derived from Beck and Keefer's *Database of Political Institutions* (DPI): a measure of partisanship and electoral competitiveness. In light of Pinto et. al's (2010) findings regarding the connection between left-partisanship and stock market growth, I include the DPI dummy variable of left-wing partisanship. It takes on a value of one if the chief executive in a presidential system or the largest governing party in a parliamentary system is left wing. Electoral competitiveness is also included because of past literatures' emphasis on the importance of partisan competition for financial development. I combine the Legislative and Executive Indices of Electoral Competitiveness (*liec* and *eiec)* rescaled onto a [0,12]

interval. 12 indicates a maximum level of electoral competition.[14] Both competitiveness indices were used in light of Gehlbach and Keefer (2011) as well as Jensen et. al's (2013) findings. The former emphasizes the importance of institutionalized ruling parties in ensuring the credible commitment of autocrats to property rights and the latter emphasizes the importance of autocratic legislatures in facilitating the passage of pro-investor corporate governance legislation. Taking both sets of findings at face value means that executive *and* legislative party competition that is less than free and fair may still have important effects on corporate governance regulation and the overall investment environment. As a result, the intermediate categories of *eiec* and *liec* may contain valuable information in terms of stock market development.[15]

In line with most cross-national large-N research, I include natural log of GDP per capita and annual percentage growth in GDP to account for economic development and growth.[16] In light of Rajan and Zingales'(2003) emphasis on how both trade and capital

[14] The index of executive competitiveness takes on the following values: 1,2--no executive or executive is unelected; 3—elected executive but there is only 1 candidate; 4—single party multiple candidates; 5—Multiple legal political parties but only 1 candidate received votes in executive elections; 6—Multiple candidates and legal parties but winning candidate received more than 75% of the vote; 7—winning executive candidate received less than 75% of the vote. The legislative index is same as the executive index, but coded for legislatures. The two indices were added together and then anchored at 0 so that the maximum score is 12.

[15] This also means that the use of *Polity II* and its components may be less than ideal. Both the combined democracy score and the executive constraint subcomponent are highly correlated with political constraint and checks(ρ=.74 and .73). While the use of Polity's competitiveness of participation subcomponent is the most promising, it lumps regimes with institutionalized ruling parties under the same "repressed" category as countries without such parties. Such a categorization goes directly against the insights of Gehlbach and Keefer (2011) and Jensen et. al (2013). In contrast, my combined competiveness measure makes more fine grained distinctions among countries with varying levels of ruling party institutionalization as well as legislative party competition in both its autocratic and democratic forms

[16] Natural log of 1 plus inflation excluding a handful of extreme negative values was also included in preliminary analyses, but will not be found in models of stock market size. In most models, inflation failed to approach even the most generous levels of significance ($p>.10$), did not maintain a consistent sign, and only rarely affected the coefficients of other variables. Furthermore, it was highly correlated with both GDP

account openness may alter the preferences of economic incumbents, I include Chinn and Ito's (2006) de jure index of capital account openness and the natural log of export plus imports as a percentage of GDP. The latter was log transformed in order to reduce right skew and ease interpretation. In order to control for any crowding out effects from government spending, I include general government final consumption expenditure (% of GDP) for robustness. The measure takes into account all government current expenditures for purchases of goods, services, and the labor public employees. It also takes into account most forms of military spending excluding expenditures that are a part of government capital formation (World Development Indicators). In order to control for global trends and cycles in stock prices, I included (differenced) price level measures of Morgan Stanley Capital International's All World Securities Index (USD hundreds). The index captures 2,483 large and midcap companies across 23 developed and 23 emerging markets and includes approximately 85% of the globe's investment grade equities.[17] From the World Bank's World Development Indicators and Global Financial Development Database, I use a yearly banking crisis dummy variable to control for the

per capita and capital account openness ($\rho \approx -.45$). Due to missing values, it served only to reduce the number of observations.

[17] The price index was differenced because Dickey-Fuller unit root tests suggest that it is non-stationary. Retests suggest that the series is difference stationary. The MSCI price index is a superior way to control for the global trend of increasing stock values because it is a direct measure of the trend that tracks year by year increases and decreases in stock values. This should be far more meaningful than the inclusion of linear, quadratic, or cubic time trends. These trends make more restrictive assumptions regarding underlying data generating process and have come under criticism for leading to erroneous causal inferences (Box-Steffensmeier et al.2014). Furthermore, the inclusion of a time trend or year dummies absorbed a large amount of the variance of interest. Year dummies will be included in interaction models as a robustness check.

effects of banking system instability. Descriptive statistics and correlation matrices of all variables can be found in the Appendix III(c).

Formal Regulatory Independence

In order to construct my original measure of formal regulatory independence, I assume that simply taking into account a regulator's separation from government ministries is insufficient to capture the full impact of agency independence on politicians' credibility. Unfortunately, there is no preexisting *global* dataset of securities market regulators' formal independence from politicians.[18] Elgie and McMenamin (2005) as well as Yesilkagit and Thiel (2008) have both created fine grained datasets that include financial regulators, but each is limited to only one country. Gilardi's (2002) dataset of formal regulatory agency independence is one of the most all-encompassing given its 21 indicators and cross-sectoral coverage. However, the data remains confined to the European continent and is limited historically.

De jure measures of central bank independence do a better job in terms of their global coverage and sometimes incorporate well over twenty years of data, but these too are often limited to OECD members or a handful of developing nations (Parkin and Bade 1977; Grilli, Masciandaro, Tabellini 1991; Alesina and Summers 1993). In terms of detail, cross-national range, and historical coverage, Cukeriman's (1992) dataset remains

[18] The GlobalRegs project at the Institut Barcelona d´Estudis Internacionals (IBEI) is currently constructing a global dataset of regulatory agency formal independence that covers nearly all social and economic sectors. However, this dataset is not yet publically available.

one of the best. It features over 16 de jure measures of central bank political independence, includes 21 OECD countries along with 49 developing countries, and covers the period from 1950 to 1989. Unfortunately, central banks are also capital market regulators in only a handful of countries and most measures of stock market development begin in the late 1980s. Therefore, Cukeriman's extensive dataset can only be used as a guide, rather than a source of data.

Given the limitations of these past datasets, I constructed a new dataset of securities market regulatory organizations in over 120 countries from 1975 until 2012.[19] The dataset is one of a kind in terms of both historical depth and cross-national coverage. Drawing from financial legislation, agency statutes, executive orders and decrees, and a wealth of secondary sources, the dataset features 25 indicators of political independence making it the most detailed measure of agencies' formal political independence available.[20] Indicator selection was guided by a close review of Cukierman (1992) and Gilardi (2002). However, I made a deliberate effort to be more parsimonious in terms of the number of categories per indicator. Typically, independence indicators are ordinal with the lowest scores corresponding to political dependence upon ministries of finance and/or executive cabinets; middling scores indicating independence from the executive, but not legislatures; and the highest scores reserved for instances in which the regulator is

[19] Countries that lacked a public securities markets or where data was unavailable were excluded from the sample.

[20] In most cases, English translations of agency statutes and financial legislations were available. Most often, these were provided by the agencies themselves, financial ministries, official gazettes, stock exchanges, and/or international organizations. For languages other than Spanish or English, statutes were machine translated and then double checked with dictionaries. On occasion, machine and/or dictionary translations were then sent to fluent speakers for verification.

independent of both executive and legislative actors. In other instances, higher scores reflect requirements that multiple veto players must agree before a particular action can be taken vis-à-vis a regulatory agency or its personnel (e.g. legislative confirmation of executive nominees to an agency board).

My de jure independence indicators include but are not limited to appointment and dismissal procedures for regulators' supervisory boards, executive boards, and/or CEOs/general managers; restrictions on appointment renewal; term lengths and the staggering of board terms; the presence of political officials and other regulators as ex-officio members of agency boards; agencies' budgetary and organizational autonomy; the ability of political officials to issue binding instructions to agency personnel; and the rights of political actors to veto agency rules or issue their own regulations independent of agency participation. Overall, functional, institutional, financial, and organizational independence were all represented by indicators. Of these "secondary-level" features of independence, personnel and functional independence were particularly emphasized. Countries where the ministry of finance or executive cabinet is in charge of regulation almost always received the lowest scores possible for each item indicator.[21]

I assume a "family resemblance" approach to the concept of independence. As a result, my coding scheme does not attempt to express necessary and sufficient conditions

[21] In most instances, regulatory organizations which remained within the Ministry of Finance were not treated as regulatory agencies. Instead they are treated as administrative sub-divisions of the Finance Ministry and receive minimum scores. However, I do not treat institutional independence from government ministries as a necessary condition. When a regulatory organization remained within a government ministry, but its personnel enjoyed finite term limits, protections from dismissal, and/or explicit statutory guarantees of operational autonomy in certain areas, that ministerial subdivision received non-minimum scores on personnel and functional indicators.

for independence (Goertz 2006). Instead, I treat independence as a latent quality that a regulator can possess to a greater or lesser degree. However, my measure does not arbitrarily assume that all indicators are equally important for independence. Rather than rely upon theoretical assertion to weigh some indicators more than others, I follow Hanretty and Koop (2012) and look to a group of measurement models associated with Item Response Theory (IRT).

Item-response models are analogous to factor analysis with item-discrimination parameters resembling factor loadings. However, factor analysis models do a poor job with ordinal data since they assume that indicators have a multivariate normal distribution. Since my coding scheme relies entirely upon ordinal and categorical indicators, they lacked this distribution and factor analysis was ruled out. To be more specific, my statutory 'tests' of formal independence contained both dichotomous (yes/no) and polytomous (>2 ordered categories) response items. Given this mixed indicator format, a graded response model was superior to most alternatives in the IRT family. First, graded response models can accept both polytomous items with differing numbers of response options and dichotomous items. This made it preferable to a standard latent trait model, rating scale models, Rasch models, or a Mokken scaling procedures. Second, unlike a partial credit model, it does not assume that the difference between response options is identical for different items.

Utilizing the R package *mirt* (Chalmers 2016), I fit an unconditional maximum likelihood factor analysis model for graded responses using the Expectation-

Maximization approach outlined by Bock and Aitkin (1981). My specific graded response model was unidimensional and estimated two parameters. The choice of a unidimensional model was primarily theoretical. Indicators were deliberately designed with only one dimension in mind: latent levels of formal independence from politicians. Exploratory two and three dimensional models distributed items across dimensions in ways that were neither theoretically nor empirically informative. In contrast, all items 'loaded' well on a single dimension of latent regulatory independence.[22]

As pointed out by Kolen and Tong (2007 & 2010), the choice of IRT estimator is not without consequences. The choice can have significant influence on the ultimate distribution of latent scores as well as discrimination and extremity parameters. In cases with fewer test items and small sample sizes, these differences can be large. For graded response models, possible estimation approaches include marginal maximum likelihood (MML) estimators, test characteristic functions (TCFs), and fully Bayesian estimators. While the use of TCFs has fallen out of favor, current debates among applied researchers revolve around the choice between MML and fully Bayesian approaches. MML approaches are lauded for their efficiency and consistency as tests and sample sizes grow in size. They are considered the "gold standard" among most testing practitioners (Templin 2011). However, they can perform poorly when dimensions and parameters become more numerous; produce large standard errors at the extremes of the latent

[22] The graded response models were reestimated with the STATA package *IRT grm*. Discrimination parameters and latent scores were very close with pairwise correlations of $\rho \approx .97$. Standard errors were also very similar. Unlike *MIRT*, *IRT grm* allowed me to cluster standard errors by country. Clustering by country did increase the size of standard errors for both discrimination parameters and latent scores. However, the size of this increase was marginal and ranged from 3 to 20 percent depending upon the parameter and item in question.

continuum; and generate nonsensical parameters or fail to converge when response vectors are rare or non-existent.

Although less frequently utilized, Bayesian approaches are said to have several advantages over MML. The most important advantage is the ability to incorporate estimates of uncertainty within parameter estimations. More specifically, standard errors of item parameters can be taken into account when estimating latent trait parameters. In my case, this would allow confidence intervals (typically quantiles of the marginal posterior densities) of independence scores to 'propagate' into inferences about independence's association with stock market outcomes. Along with this practical advantage, previous research suggests that Bayesian methods may also prevent "parameter drift" and more accurately estimate parameters for extreme response patterns, small samples, and short tests (Lord 1986; Swaminathan and Gifford 1982). When modelling issues include large amounts of missing data, multiple raters, multi-level structures, multiple dimensionality, or testlet structures, Bayesian models are also preferable (Patz & Junker 1999; Fox & Glas 2001; Béguin & Glas 2001; Bradlow, Wainer, & Wang 1999; Kuo and Sheng 2016). However, Bayesian estimation is not without shortcomings. Shortcomings include extreme computational intensity for multidimensional models in large datasets, high sensitivity to the selection of the prior, and significant bias toward the selected prior's mean particularly when the number of test items is small. As a result of these weaknesses, Templin (2011) describes the choice between approaches in terms of the reduced overall error of Bayesian methods with the more (asymptotically) unbiased estimates of MML.

While my choice of measurement model is far from trivial, there are reasons to believe that the differences between a MML and a Bayesian approach may be less pronounced in practice. Kim (2001) directly compared the estimates from MML and Gibbs sampling for Rasch models. He found no significant difference between the item parameter estimates except for the longer computational time of the Bayesian approach. Wollack et. al. (2002) made a similar comparison for nominal response models and discovered that the two methods are similarly accurate in samples of 300 and 500 persons with test lengths greater than 10 items. Finally, studies of graded response models suggest that MML and Bayesian approaches produce comparable estimates of item and person parameters "in most cases" with the latter emerging as superior only when sample and test sizes are small or models grow more complex (Kieftenbeld and Natesan 2012)

Since my measurement model is unidimensional, has a large sample (4000+ country-years), and my 'test' of independence is long (25 indicators), my choice of a MML rather than a Bayesian approach will involve little sacrifice in terms of parameter recovery. Obviously, this will not allow me to directly propagate measurement error in my regression models. That said, issues of measurement error should be minimal, because I deliberately selected indicators that would minimize measurement error. If a potential indicator would require subjective judgements or extratextual interpretation, it was not included in the final measure. To reiterate, my measurements involved accounting for the existence or non-existence of particular statutory language. It is difficult to mistake a four year term with a six year term or to misread language that says 'all agency rules are subject to the approval of the finance minister.' This is not to say

that I completely eliminated measurement error, but the simplicity of my chosen indicators should make it minimal. This lack of widespread measurement error weakens but does not eliminate the most convincing justification for a Bayesian approach.

Table 3.3 provides support for my estimation choices. Following the procedure outlined by Bock and Aitkin (1988), each items' discrimination parameter was transformed into the more well-known factor loadings metric. With transformed loadings of 0.7 or higher, all selected items appear to substantively tap latent independence.

Table 3.3
(Regulatory Independence Indicators and Factor Loadings)

Indicator	Factor Loading	h2 (Communality)
Agency Head Term	0.949	0.901
Board Term	0.945	0.893
Board Apt. Staggered	0.774	0.599
Agency Head Apt.	0.952	0.906
Board Apt.	0.906	0.820
Agency Head Removal	0.960	0.921
Board Remocal	0.912	0.831
Executive Manager/Board Apt.	0.944	0.891
Executive Manager/Board Removal	0.947	0.896
Executive Manager/Board Term	0.946	0.895
Government Official Ex-Officio	0.945	0.894
Regulator Ex-Officio	0.952	0.906
Budget Source	0.778	0.605
Ex-Ante Budget Allocation Approval	0.762	0.581
Rulemaking	0.902	0.813
Government Directions	0.958	0.917
Explicit Statement of Independence or Autonomy	0.895	0.801
Ban on Political Officials or Activities	0.871	0.758
Agency Head Appointement Renewal	0.820	0.672
Board Appointement Renewal	0.827	0.684
Executive Manager/Board Apt. Removal	0.708	0.501
Dismissal Language	0.872	0.761
Annual Report Reception	0.887	0.787
Fee/Tariff Approval	0.809	0.654
Organization Approval	0.840	0.706

Of the two item parameters estimated by my graded response models, the discrimination parameter was most important in terms of maintaining concept-measure consistency. The discrimination parameter is analogous to a factor loading (see above) and indicates the degree to which a particular indicator can differentiate between regulatory organizations with greater or lesser independence. When a final latent score of independence is estimated for each country year, the items that constitute that latent score

are weighted so that more discriminatory item indicators have a larger impact on the final latent measure. Overall, discrimination parameters are positive and ranged from 1.7 to 5.8. Of the 25 indicators, having government ministers or non-securities regulators as ex-officio board members; the ability of governments to give binding directions to agency personnel; agency head, supervisory board, and executive board/manager term lengths; and agency head/executive board appointment and dismissal procedures are all the most discriminatory. Appointment and dismissal procedures for supervisory board/general manager are the next most discriminatory. Organizational, reporting, and financial based indictors are the least discriminatory though the size of their discrimination parameters suggests that they all make greater than negligible contributions to final latent measures. A detailed list of independence indicators along with their discrimination parameters can be found in Appendix III(b). Overall, these results fall in line with theoretical expectations as well as past central bank autonomy indices that emphasize personnel based indicators of independence.

For ease of interpretation, latent independence scores were max-min normalized onto a [0,1] scale with 0 indicating regulation conducted completely by political actors and 1 indicating the maximum level of formal independence found in the sample.[23] Overall, *regulatory independence* is rarely changing and strongly trended. While being very stable throughout the post-war era, the number of changes began to accelerate in

[23] The normalization was calculated in the following way: (Independence - $\text{Independence}_{(\text{minimum})}$)/(Independence $_{(\text{maximum})}$ - $\text{Independence}_{(\text{minimum})}$). In order to ensure that middle category inflation does not throw off inferences. All analyses in this chapter were reestimated with raw scores of Independence and Independence z-standardized (Independence- Independence(sample μ))/std.dev(Independence in sample). Qualitative findings were left unchanged and p-values were nearly identical.

1990 and peaked in 1998 when nearly 17 countries experienced changes to their regulators' level of formal independence. Since then, each year has witnessed between 5 to 12 changes in formal regulator independence. 84% of all changes were in the direction of greater independence meaning independence granted is rarely taken away.[24] Excluding years when independence remained unaltered, mean and median changes in formal independence are 0.35 and 0.23 respectively. After 1988, the overall, between, and within standard deviations of formal independence are 0.36,0.22, and 0.27 respectively. During the same period, the global average level of independence increased from a mere 0.18 in 1988 to around 0.73 in 2012.

There is also considerable regional variation. After 1988, Sub-Saharan Africa, East Asia (excluding Australia and New Zealand), and the Middle East/North Africa have the least independent regulators with average independence scores of around 0.40. The next best region is South Asia with a regional average score of 0.50. Latin America/Caribbean, Western Europe, and the Former Soviet Republics of Eastern Europe and Central Asia are somewhat better with regional average scores ranging from 0.59 to 0.61. Unsurprisingly, British settler colonies (i.e. U.S, Canada, Australia, and New Zealand) lead the world with average scores of 0.77. The United States' Securities Exchange Commission has an independence score of 0.92.

[24] This is not to say that regulators were never reorganized or that regulatory power was never rearranged. However, even when new regulators were created, they often had comparable though not identical levels of formal independence.

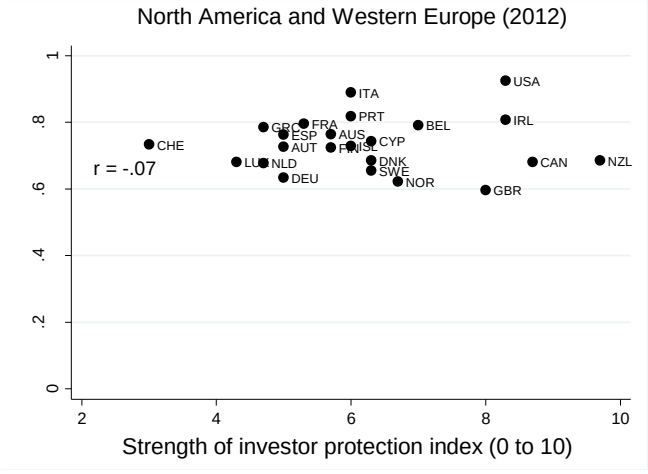
Pairwise correlations of 0.31, 0.28, 0.35, and 0.41 suggest that regulatory independence has a modest positive association with economic development (GDP per Capita), rule of law (Freedom House), political constraint, and electoral competition respectively. In contrast, pairwise correlations with electoral proportionality, government consumption, and partisanship all hover around 0. Pairwise correlations between independence and stock market capitalization (% of GDP), index price growth and volatility, and value traded (%GDP) are equally as weak. Despite having virtually no correlation with trade (%GDP), independence has moderately positive pairwise correlations of 0.34 and 0.48 with capital account openness and KOF's Index of Globalization respectively (Chinn-Ito 2006; Dreher 2006).

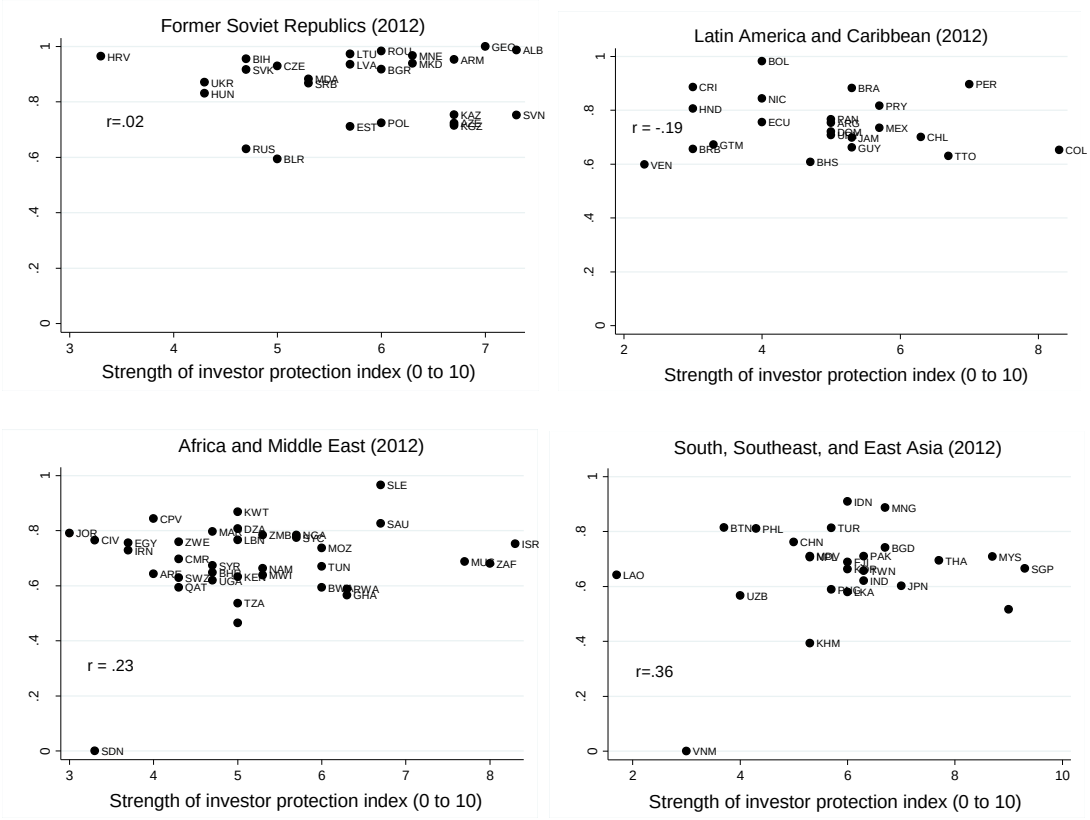
Most important for my purposes, formal regulator independence and formal investor protection are only weakly correlated at $\rho=0.13$ in 2012.[25] Similar pairwise correlations were found in 2006, 2008, and 2010 ($.10 < \rho < 0.17$). This positive association is not universal and is driven largely by Africa, the Middle East, and Asia. In the rest of the world the correlation between independence and MSP is either weakly negative or negligible (see Figure 3.1 below). This divergence between independence and MSP suggests that the political factors that encourage more politically independent regulatory designs (i.e. political uncertainty, divided government, bureaucratic capacity, recent liberalization) do not necessarily lead to increases in investor protection as well. In countries such as Croatia, Bolivia, Jordan, and Kuwait, politicians have sought to

[25] My measure of formal MSP is the World Bank's strength of investor protection index. The index is a part of the Doing Business Project and is only available from 2005-2012.

enhance their credibility by giving securities market regulators higher levels of formal independence. However, these same politicians have stopped far short of bringing their investor protection regimes up to Anglo-American standards. The opposite situation has emerged in countries such as the UK, Colombia, Hong Kong, and Singapore. In these countries, formal MSP is very strong, but politicians have deliberately left regulatory organizations open to direct political influence. The U.S.' global leadership in terms of the size and liquidity of its stock markets makes more sense in light of the diagrams below. The U.S. is exceptional in that its regulatory regime combines *both* high levels of independence *and* very strong MSP. Other global leaders in terms of domestic company market capitalization (i.e. UK, Canada, Japan, North West Europe) have levels of formal MSP that range from mediocre to more stringent than the U.S., but all of their regulators lag behind the U.S.' Securities Exchange Commission in terms of formal independence.

Figure 3.1
(Independence Investor Protection Scatterplot)





The lack of a strong correlation between formal independence and formal MSP is very helpful from the standpoint of establishing a statistical association between regulatory organization and stock market development. Had formal independence and formal MSP been strongly correlated, it would be unclear whether it is the regulator or the regulation that is explaining variance in equity market outcomes. Since they lack a tight correlation, I can be surer that my latent independence measure is not unintentionally serving as a proxy for MSP.

Methods

Since the following sections will analyze cross-sectional time series, contemporaneous correlation, panel heteroskedasticity, and serial correlation are all

serious concerns. Debate continues among scholars regarding the best way to produce efficient, unbiased, and consistent estimates in these situations (Green et. al. 2001; De Boef and Keele 2008; Beck and Katz 2011). However, three features of the data are likely to make to make particular modeling approaches more trustworthy than others: 1) unit effects have more than a minor correlation with the right-hand side variables ($\rho>.43$); 2) the dataset is large and cross-sectionally dominated—($N>100$) and ($\mu T\approx 18$); and 3) first order serial correlation is easily detectable. In light of these facts and simulations conducted by Kristensen and Wawro (2003) and Clark and Linzer (2012), country fixed effect estimations with Huber/White robust standard errors clustered by country should be superior to OLS estimations with Panel Corrected Standard Errors or random effects Generalized Least Squares models.[26]

In addition to "cluster robust" standard errors, serial correlation was also directly addressed through the inclusion of a lagged dependent variable (LDV). This approach is not without shortcomings. A large literature beginning with Nickell (1981) discusses possible biases introduced when a LDV is combined with fixed effects. Given that the coefficient on the LDVs are roughly 0.65 and the average panel length is between 18 and 19, the coefficient of the LDV is likely to be downwardly biased by between 0.07 to 0.11 (Nickel 1981;1422). Since my independence measure is positively related to the LDV, it should have a slight upward bias since it is effectively 'stealing' variance from the LDV. Although these biases are not negligible, it is unlikely that they will lead me to make

[26]Hausman tests clearly indicated the superiority of fixed over random effects. In line with the recommendation of King and Roberts (2015), Huber/White robust standard errors were compared with classical standard errors. They were nearly identical providing evidence against misspecification.

incorrect inferences regarding the qualitative relationship between independence and stock market development. That said, all hypotheses will be reevaluated with Arellano–Bover(1995)/Blundell–Bond(1998) dynamic panel-data estimators.[27] This Generalized Method of Moments (GMM) estimator uses lagged differences as instruments for the initial level equation and lagged levels as instruments for the difference equation. While this approach may avoid biases of a dynamic LSDV, GMM's will be treated as a robustness check due to their inefficiency and poor root-mean-squared-error properties. Overall, the strong theoretical basis for the inclusion of a lagged dependent variable outweighs the complications involved in including them with fixed effects.[28] My models will take the following form:

$$Y_{it} = \gamma Y_{it-1} + \alpha_i + \beta_1 * P_{it} + \beta_2 * X_{it} + \varepsilon_{it}$$

The dependent variable Y_{it} represents stock market capitalization/GDP for country i in year t and Y_{it-1} is the same dependent variable lagged by one year. The vector P_{it} contains my measures of consensual political institutions, competing political controls, and my

[27] The Arellano–Bover(1995)/Blundell–Bond(1998) GMM estimators were implemented with *STATA's xtdpdsys* package.

[28] The theoretical arguments in favor of the inclusion of lagged DV are outlined by Bebchuck and Roe's *A Theory of Path Dependence in Corporate Ownership and Governance* (1999). They write "First, the corporate structures of an economy depend on the structures with which the economy started. Initial ownership structures have such an effect because they affect the identity of the structure that would be efficient for any given company and because they can give some parties both incentives and power to impede changes in them. Second, corporate rules, which affect ownership structures, will themselves depend on the corporate structures with which the economy started. Initial ownership structures can affect both the identity of the rules that would be efficient and the interest group politics that can determine which rules would actually be chosen"(127). More generally, as stock markets get larger they offer more opportunities for diversification which encourages even more investment. This further investment makes them all the more attractive sources of capital for companies leading to more public listings.

measure of regulatory independence. X_{it} contains macroeconomic controls. β_1, β_2, and γ are estimated coefficients. αi are country dummies and ε_{it} is the remaining error

Results: Institutions and Independence

The first set of analyses tests Hypotheses I(a) and II(a). Table 3.4 reports the estimation results. Model 1 is naïve in that it excludes all other political variables as well as the dummy for banking crises. Models 2-6 include the banking crisis dummy and additional political controls introduced one at a time. Overall, results suggest a strong positive association between consensual political institutions (i.e. constraint and proportionality) and regulatory independence on the one hand, and stock market size on the other. All three associations were significant at conventional levels of significance ($p<.05$) even after controlling for macroeconomic controls, electoral competition, partisanship, and government spending. Moves from minimum levels of political constraint and regulatory independence to maximum levels would produce contemporaneous increases in stock market size of around 18 or 13 percent respectively. The former is equivalent to just under half and the latter to a little over half of the within country standard deviation in market capitalization. A move from completely majoritarian elections to completely proportional elections would be associated with an even larger 30 percent contemporaneous increase in market capitalization to GDP. A direct comparison of all the political variables' standardized coefficients (i.e. 1 standard deviation increases) can be found in Figure 3.2:

Table 3.4
(Independence and Market Capitalization)

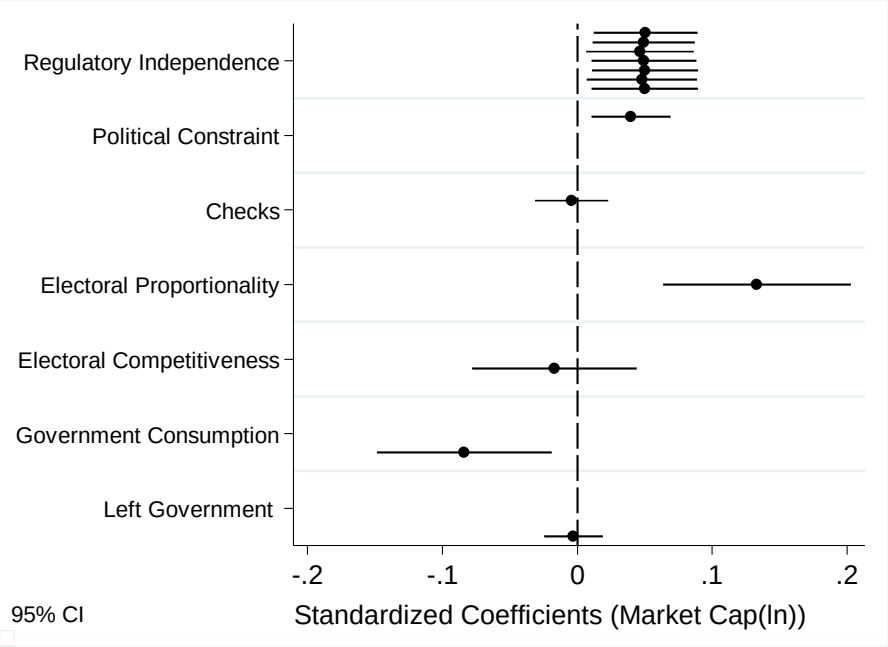
DV: ln(Market Capitalization %GDP)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
$\ln(MarketCap)_{t-1}$	0.66***	0.65***	0.65***	0.65***	0.65***	0.65***	0.66***
	(0.02)	(0.03)`	(0.02)	(0.03)	(0.03)	(0.03)	(0.02)
Regulatory	0.14**	0.13**	0.13**	0.13**	0.13**	0.13**	0.13**
Independence	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Political		0.19***					0.17**
Constraints		(0.07)					(0.07)
Electoral			0.10***				0.09***
Proportionality			(0.03)				(0.03)
Left				-0.007			
Partisanship				(0.02)			
Electoral					-0.005		-0.008
Competition					(0.008)		(0.01)
Government						-0.01**	-0.01**
Consumption						(0.006)	(0.005)
GDP growth	0.01***	0.08***	0.007**	0.008***	0.008***	0.006**	0.006*
	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.002)	(0.003)
ln(GDPper	0.01	0.05	0.005	0.04	0.04	0.047	0.02
Capita)	(0.03)	(0.04)	(0.03)	(0.04)	(0.04)	(0.04)	(0.03)
ln(Trade)	0.28***	0.32***	0.36***	0.32***	0.32***	0.30***	0.35***
	(0.06)	(0.07)	(0.07)	(0.07)	(0.07)	(0.06)	(0.07)
Capital Account	0.24***	0.22***	0.25***	0.21***	0.21***	0.21***	0.25***
Openness	(0.05)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Banking Crisis		-0.15***	-0.16***	-0.14***	-0.14***	-0.15***	-0.17***
		(0.034)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)
ΔAll World	0.29***	0.29***	0.29***	0.29***	0.29***	0.29***	0.29***
Stock Index	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Constant	-0.443	-0.877**	-0.83**	-0.75**	-0.72**	-0.52	-0.70*
	(0.295)	(0.363)	(0.37)	(0.35)	(0.36)	(0.35)	(0.4)
Observations	2,027	1,926	1,750	1,937	1,927	1,909	1,724
Adjusted R^2	0.68	0.68	0.71	0.68	0.68	0.69	0.72
Overall R^2	0.85	0.83	0.80	0.84	0.83	0.84	0.817
Number of countries	110	109	103	110	109	110	103

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Each coefficient in Figure 3.2 corresponds to Models 1-6 of Table 3.4. The plots reveal that the two strongest political drivers of stock market size are electoral institutions and the negative effects of government spending. Contrary to their anti-investor image,

left-governments do not appear to have significant negative effects on stock markets. The introduction of dummies for center-left, center, center-right, and right wing governments produced similarly non-significant results (not shown). Although negatively signed, electoral competiveness fails to have a significant effect.

Figure 3.2



According to the figure above, standard deviation increases in independence, constraint, and proportionality are associated with contemporaneous increases in stock market size of roughly 6.0%, 4.75%, and 11.5 % respectively. Given the coefficients of the lagged dependent variables, the long-run increases in stock market size due to standard deviation increases in these three variables would be around 17%, 13%, 33% respectively. Results also support the contention that trade and capital account openness should promote stock market development. Unsurprisingly, economic growth has positive effects and banking

crises negative effects on market capitalization. Finally, the highly significant coefficient for changes in the MSCI All World Stock Index suggests that the effects produced by my political, regulatory, and macroeconomic variables exist even after controlling for global trends in stock market performance.

In order to see if the effects of regulatory independence are the same across different numbers of veto players and different levels of electoral proportionality, I estimated a series of interactions. Table 3.5 below presents the interactions between regulator independence and both of my veto player measures. As expected Hypothesis III(a) receives support. There is a substitutive effect between veto players and regulatory independence with the latter being particularly important when veto players are fewer in number. Looking at the main effects suggest that the size of regulatory independence's coefficient almost doubles when political constraint is at its lowest levels (Model 1). This "maximum" main effect creates a nearly 30 percent contemporaneous increase in market capitalization even after electoral competition and the powerful effects of electoral institutions are controlled for (Model 3). Unlike the individual effects in Table 3.4, the interaction effects in Table 3.5 are not only robust to year fixed effects, they grow stronger with their inclusion (Models 2 and 4).

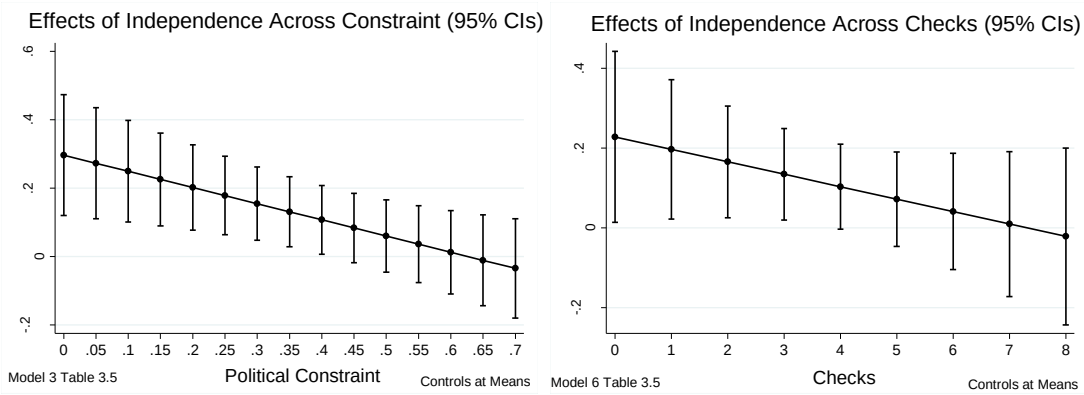
Table 3.5
(Independence-Veto Interaction: Market Capitalization)

DV: ln(Market Capitalization %GDP)	(1)	(2)	(3)	(4)	(5)	(6)
$\ln(MarketCap)_{t-1}$	0.65***	0.63***	0.66***	0.64***	0.65***	0.66***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)
Regulatory	0.24***	0.20**	0.30***	0.25***	0.195*	0.23**
Independence	(0.08)	(0.082)	(0.09)	(0.086)	(0.10)	(0.11)
Political Constraints	0.40***	0.46***	0.46***	0.53***		
	(0.114)	(0.12)	(0.13)	(0.12)		
Checks					0.012	0.02
					(0.015)	(0.015)
Independence X	-0.35**	-0.39**	-0.47**	-0.51***		
Political Constraint	(0.16)	(0.17)	(0.18)	(0.17)		
Independence X					-0.023	-0.03
Checks					(0.02)	(0.02)
Electoral			-0.01	-0.01		-0.01
Competition			(0.01)	(0.01)		(0.01)
Electoral			0.09***	0.09***		0.09***
Proportionality			(0.025)	(0.027)		(0.02)
General government			-0.01**	-0.01**		-0.01**
consumption			(0.005)	(0.005)		(0.005)
GDP growth	0.01***	0.01***	0.01*	0.01**	0.01***	0.01*
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
ln(GDPperCapita)	0.04	0.01	0.02	-0.02	0.05	0.03
	(0.038)	(0.06)	(0.035)	(0.06)	(0.04)	(0.03)
ln(Trade)	0.32***	0.23***	0.35***	0.25***	0.33***	0.35***
	(0.07)	(0.08)	(0.07)	(0.09)	(0.07)	(0.07)
Capital Account	0.23***	0.20***	0.26***	0.22***	0.20***	0.23***
Openness	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Banking crisis	-0.14***	-0.11***	-0.17***	-0.15***	-0.14***	-0.17***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
ΔAll World Index	0.29***		0.29***		0.29***	0.29***
	(0.02)		(0.02)		(0.02)	(0.02)
Constant	-0.92**	-0.19	-0.75*	0.11	-0.88**	-0.75*
	(0.36)	(0.63)	(0.39)	(0.69)	(0.36)	(0.39)
Observations	1,926	1,926	1,724	1,724	1,913	1,712
Adjusted R^2	0.67	0.70	0.72	0.73	0.68	0.72
Overall R^2	0.83	0.85	0.81	0.83	0.83	0.81
Year FE	NO	YES	NO	YES	NO	NO
Number of countries	109	109	103	103	109	103

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Figure 3.3 below presents the predicted marginal effects of regulatory independence across both veto player measures with all other variables held at their means.

Figure 3.3



While the interaction effects are estimated with greater precision when the political constraint measure is utilized, both veto player measures tell a similar story. Only when politicians are less constrained (and therefore less credible) than the 'average' politician in the sample, does regulatory independence have a meaningful impact on market capitalization. Assuming 95% confidence intervals, the effects of regulatory independence on stock market size become statically indistinguishable from zero when political constraint and checks significantly exceed their post 1988 median levels (.34 and 3 respectively). Stated differently when political institutions produce greater than median levels of constraint (and credibility), delegation to an IRA will have little to no impact on market capitalization.

Also in line with Hypothesis III(a), regulatory independence and electoral proportionality appear to be substitutive rather complementary. As demonstrated by the

interaction coefficients in Table 3.6, this substitutive relationship is supported by p-values no larger than .10.

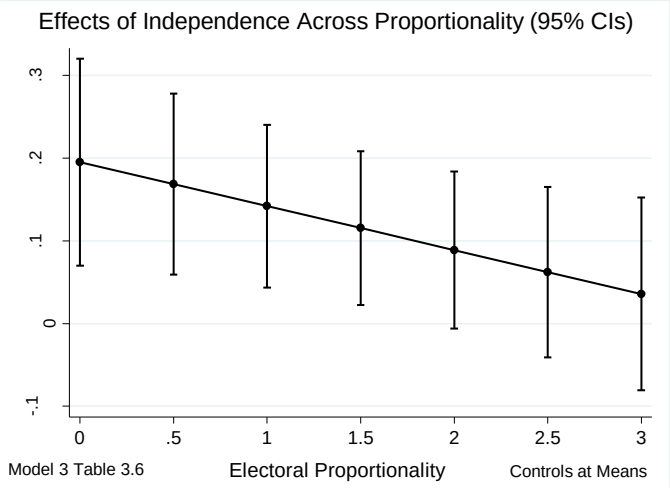
Table 3.6
(Independence-Proportionality Interaction: Market Capitalization)

DV: ln(Market Capitalization %GDP)	(1)	(2)	(3)	(4)	(5)	(6)
$\ln(MarketCap)_{t-1}$	0.65***	0.64***	0.65***	0.66***	0.64***	0.66***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Regulatory Independence	0.20***	0.15**	0.20***	0.20***	0.14**	0.20***
	(0.06)	(0.07)	(0.06)	(0.07)	(0.07)	(0.06)
Electoral Proportionality	0.14***	0.14***	0.14***	0.13***	0.13***	
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	
Proportional Dummy						0.30***
						(0.09)
Independence X Proportionality	-0.05*	-0.05*	-0.05**	-0.05*	-0.06**	
	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	
Independence X Proportional Dum.						-0.16**
						(0.07)
Political Constraint			0.15*	0.17**	0.22**	0.18**
			(0.08)	(0.08)	(0.08)	(0.08)
Electoral Competition				-0.008	-0.01	-0.007
				(0.01)	(0.01)	(0.01)
General government consumption				-0.01**	-0.01**	-0.0**
				(0.005)	(0.005)	(0.005)
GDP Growth	0.007**	0.009***	0.008***	0.006**	0.008**	0.006**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
ln(GDPperCapita)	0.006	-0.04	0.01	0.02	-0.03	0.03
	(0.03)	(0.06)	(0.03)	(0.03)	(0.06)	(0.04)
ln(Trade)	0.36***	0.27***	0.37***	0.35***	0.24***	0.33***
	(0.07)	(0.09)	(0.07)	(0.07)	(0.09)	(0.07)
Capital Account Openness	0.26***	0.23***	0.26***	0.26***	0.23***	0.25***
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Bank Crisis	-0.16***	-0.14***	-0.16***	-0.17***	-0.15***	-0.16***
	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)
ΔAll World Index	0.29***		0.29***	0.29***		0.29***
	(0.02)		(0.02)	(0.02)		(0.02)
Constant	-0.88**	-0.07	-0.99***	-0.77*	0.20	-0.71*
	(0.37)	(0.70)	(0.38)	(0.39)	(0.69)	(0.40)
Observations	1,750	1,750	1,749	1,724	1,724	1,724
Adjusted R^2	0.71	0.72	0.71	0.72	0.73	0.71
Overall R^2	0.80	0.82	0.79	0.81	0.83	0.82
Year FE	NO	YES	NO	NO	YES	NO
Number of countries	103	103	103	103	103	103

Huber/White Robust standard errors clustered by country(*** p<0.01, ** p<0.05, * p<0.1)

The predicted marginal effects of independence found in Figure 3.4 describes this relationship in more detail.

Figure 3.4
(Independence-Proportionality Marginal Effects)



Holding all other variables at their means, regulatory independence fails to have a statistically significant positive impact on market capitalization wherever electoral institutions are more proportional than they are majoritarian (i.e. >2). When institutions are completely majoritarian, a maximum increase in independence is associated with contemporaneous stock market size increases of between 14 to 20 percent. Looked at differently, when financial regulation is retained within the executive bureaucracy, a move from completely majoritarian elections to completely proportional elections leads to a nearly 30 percent increase in stock market capitalization. Table 3.6 suggests that these interaction effects are robust to the inclusion of additional political controls, year fixed effects, and a dummy recoding of the proportionality measure so that all countries without purely majoritarian institutions are coded 1 (Models 2,5,6).

Overall, results largely support the theoretical claims made in Chapter 2 as well as Hypotheses I(a), II(a), and III(a). There is a positive association between consensual political institutions and stock market development. When the positive effects of political constraint are compared to those of electoral proportionality, the latter appears to be more influential. Regulatory independence also appears to have a modest positive effect on stock market size. However, the effects of regulatory independence grow more substantive when the threats of policy instability and time inconsistency are the greatest. Stated differently, regulatory independence has its largest impact on politicians' credibility when political institutions are the least consensual(i.e. elections are first past the post and veto players are fewer in number).

Results: Stock Market Performance

In contrast to stock market size, the relationship between my political and macro-economic covariates with index price growth does not appear to be dynamic. While preliminary analyses suggest lagged index price growth was related to index price growth at p-values around conventional significance ($0.05<p<0.14$), this relationship disappeared with the introduction of a control for inflation. So as to avoid the complications of a lagged dependent variable, I include a control for inflation along with cluster robust standard errors. Below I estimate iterations of the following model that is identical to the models estimated above except with a different regressand and no lagged dependent variable.

$$Y(\text{annual index price growth})_{it} = \alpha_i + \beta_1 * P(\text{political/regulatory variables})_{it} + \beta_2 * X(\text{macroeconomic controls})_{it} + \varepsilon_{it}$$

In contrast to stock market size, results are more mixed with regards to Hypothesis II(b). Electoral proportionality continues to have a positive effect, but political constraint either undermines or at least fails to contribute to index price growth. Although Hypothesis I(b) is supported, results still contrast with the results found in Table 3.4. Regulatory independence maintains a positive and significant relationship with index price growth, but its positive effects come to rival those of electoral proportionality in terms of magnitude. This is clearly demonstrated by Table 3.7 and Figure 3.5 that features standardized coefficients from Models 1-6.

Figure 3.5

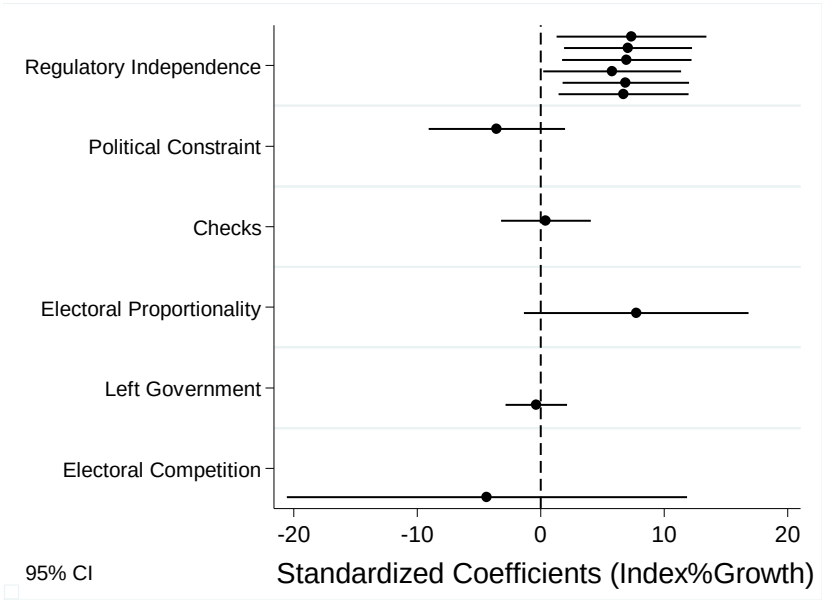


Table 3.7
(Independence and S&P Index Annual % Price Δ)

DV: %ΔS&P Indices	(1)	(2)	(3)	(4)	(5)	(6)
Regulatory Independence	19.7** (8.17)	18.9*** (6.99)	15.5** (7.51)	18.4*** (6.88)	18.0** (7.10)	17.2** (7.95)
Political Constraints		-16.7 (13.0)				
Electoral Proportionality			5.84* (3.44)			
Left Government				-0.82 (2.78)		
Electoral Competitiveness					-1.14 (2.14)	
General government consumption						-3.91 (4.32)
GDP Growth	1.28*** (0.37)	0.61 (0.38)	0.57 (0.39)	0.59 (0.37)	0.62 (0.38)	0.20 (0.55)
ln(GDPperCapita)	-5.15* (2.75)	-1.88 (3.1)	-1.18 (3.284)	-1.66 (3.07)	-1.28 (3.16)	-1.32 (3.54)
ln(Trade)	16.3 (9.8)	22.7** (10.0)	25.2** (10.8)	24.1** (10.1)	23.9** (10.1)	23.0** (11.5)
Capital Account Openness	2.25 (11.0)	-7.31 (11.0)	-3.91 (12.3)	-7.46 (11.1)	-7.71 (11.1)	-11.9 (12.1)
ln(Inflation)	2.19 (5.90)	2.09 (5.71)	2.62 (6.83)	1.76 (5.65)	1.88 (5.70)	-0.43 (3.22)
Bank Crisis		-23.5*** (4.83)	-24.1*** (5.07)	-24.0*** (4.88)	-24.0*** (4.89)	-21.4*** (4.52)
ΔAll World Index	35.9*** (2.55)	35.4*** (2.46)	36.1*** (2.77)	35.5*** (2.46)	35.5*** (2.45)	35.9*** (2.50)
Constant	-37.7 (31.9)	-74.6* (38.3)	-107.6** (46.3)	-87.6** (38.3)	-77.5* (44.1)	-12.1 (70.2)
Observations	1,244	1,167	1,117	1,175	1,167	1,164
Adjusted R^2	0.21	0.23	0.23	0.23	0.23	0.24
Overall R^2	0.16	0.17	0.16	0.16	0.16	0.11
Number of countries	80	79	74	80	79	80

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

As before, Model 1 (above) is a naïve model with no control for banking crises and no additional political variables. Subsequent models include both the crisis dummy and additional political controls added one at a time. Results indicate minimum to

maximum increases in both regulatory independence and electoral proportionality are associated with additional 15 to 20 percent increases in annual index price growth. This is 20 to 35 percent larger than the mean price growth across the sample and roughly equivalent to around half of the within country standard deviation (42%). Overall, results suggest that regulatory independence and *some* consensual political institutions (i.e. proportionality) enhance stock market performance. In contrast to market capitalization, political constraint appears to make negligible and possibly even negative contributions to index price growth.

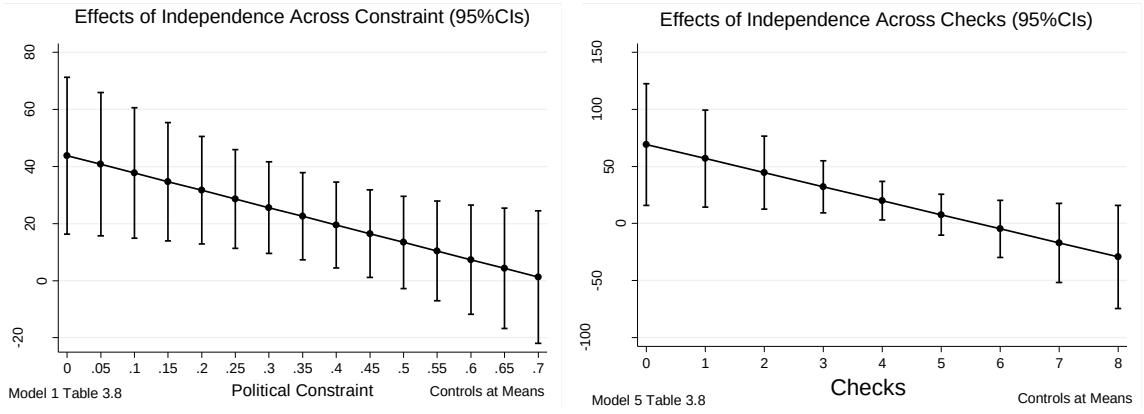
Like Hypothesis II(b), support for Hypothesis III(b) is mixed across different features of institutional consensualism. Like stock market size, results suggest that there is a statistically significant negative interaction effect between regulatory independence and veto players in terms of promoting stock index price growth (Table 3.8). This interaction effect is robust to the inclusion of year fixed effects as well as electoral competition and government spending. In contrast to stock market size, the interaction effect is more statically robust for *checks* rather than for *Political Constraint III* (see Table 3.8 below).

Table 3.8
(Independence-Veto Interaction: S&P Index Annual % Price Δ)

DV: %ΔS&P Indices	(1)	(2)	(3)	(4)	(5)	(6)
Regulatory Independence	43.8***	45.4***	39.8*	35.9	69.1**	68.0**
	(14.0)	(15.4)	(22.4)	(22.3)	(27.20)	(27.1)
Political Constraint	24.6	37.4*	22.3	28.9		
	(22.1)	(19.2)	(30.4)	(26.6)		
Checks					7.99*	8.1**
					(4.05)	(4.01)
Independence X Political Constraint	-60.8**	-59.7**	-57.5	-44.6		
	(29.6)	(27.4)	(43.2)	(38.0)		
Regulatory Independence X Checks					-12.3**	-11.5*
					(5.93)	(6.0)
Electoral Competition			-0.32	-0.69		
			(3.3)	(2.7)		
Electoral Proportionality			5.57**	0.48		
			(2.7)	(3.2)		
General Government Consumption			-4.02	-4.8		
			(4.72)	(4.75)		
GDP Grow	0.59	1.4**	0.14	1.04*	0.58	1.39**
	(0.38)	(0.58)	(0.57)	(0.55)	(0.37)	(0.59)
ln(GDPperCapita)	-2.39	-37.4**	-1.08	-43.3**	-3.05	-38.5**
	(3.06)	(15.8)	(3.95)	(17.9)	(3.17)	(15.9)
ln(Trade)	22.8**	-12.4	23.4*	-18.2	24.4**	-12.2
	(10.1)	(17.5)	(12.1)	(21.4)	(10.3)	(17.4)
Capital Account Openness	-6.42	-13.3	-8.66	-15.8	-3.9	-10.4
	(11.0)	(11.9)	(13.2)	(13.3)	(11.5)	(12.5)
ln(Inflation)	2.05	3.86	0.86	2.21	2.05	4.03
	(5.746)	(5.21)	(4.44)	(3.87)	(5.68)	(5.22)
Bank Crisis	-23.3***	-18.1***	-21.2***	-16.1***	-23.5***	-18.0***
	(4.77)	(3.91)	(4.62)	(3.98)	(4.71)	(3.78)
ΔAll World Stock Index	35.4***		36.6***		35.5***	
	(2.47)		(2.9)		(2.5)	
Constant	-87.75**	323.6*	-31.82	496.3*	-112.4**	313.2*
	(38.33)	(173.9)	(62.92)	(283.9)	(46.90)	(166.9)
Observations	1,167	1,167	1,106	1,106	1,163	1,163
Adjusted R^2	0.23	0.30	0.25	0.32	0.23	0.30
Overall R^2	0.16	0.08	0.12	0.06	0.16	0.08
Year FE	NO	YES	NO	YES	NO	YES
Number of countries	79	79	74	74	79	79

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Figure 3.6



As suggested by the predicted marginal effects in Figure 3.6, the positive effects of regulatory independence are statistically distinguishable from zero for a larger range of veto player values than as compared to the market capitalization veto-interaction models. Political constraint would have to reach its 75th percentile and checks its 90th percentile before the positive impact of regulatory independence would be indistinguishable from 0. Although maximum levels of formal regulatory independence could never be achieved in absolute autocracy given the nature of some of my independence indicators, the main effects in Table 3.8 are nonetheless dramatically large in magnitude. In line with the Chinese experience, this suggests that regulatory agencies can have very large positive effects on stock market performance in even the most inhospitable of political contexts. More exactly, when *constraint* and *checks* are at their minimum, a maximum increase in independence would lead to additional 40 to 70 percent increases in annual percentage price growth in benchmark indices. At mean levels of *constraint* and *checks*, the same

maximum increase in independence could lead to 25 to 50 percent additional increases in (annual %) index price growth.

In contrast to veto players, the interaction effect between regulatory independence and proportionality does not resemble that found for stock market size. Instead, results suggest a complementary relationship in which independence has larger positive effects on index price growth when electoral institutions are proportional (Table 3.9 below). However, the statistical strength of the positive interaction effect is weak with p-values ranging from .09(Model 4) to .218 (Model 1). Marginal significance is only achieved when year fixed effects are included (Models 2,4,6). Figure 3.7 below presents the marginal effects of independence across proportionality. It suggests that the positive effects of independence on S&P price growth are only distinguishable from 0 when electoral institutions are more proportional than they are majoritarian (i.e. >1.5).

Figure 3.7

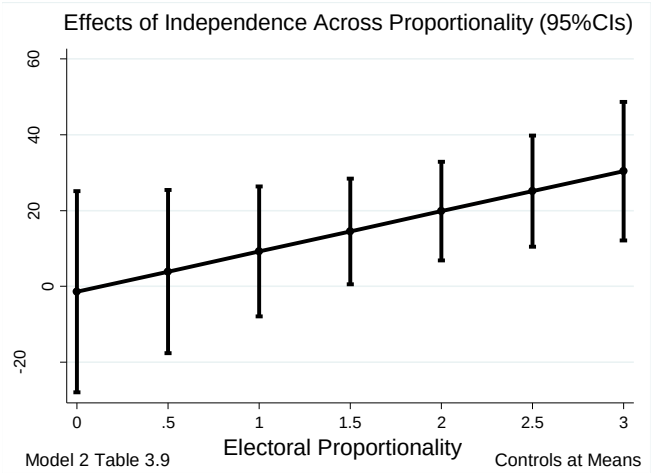


Table 3.9
(Independence-Proportionality Interaction: S&P Annual % Price Δ)

DV: %ΔS&P Indices	(1)	(2)	(3)	(4)	(5)	(6)
Regulatory	4.28	-0.78	1.73	-1.39	-4.26	-11.7
Independence	(10.5)	(13.5)	(10.0)	(13.5)	(16.1)	(21.6)
Electoral	0.84	-7.47	-0.16	-7.66	-2.63	-11.8
Proportionality	(5.67)	(6.81)	(5.62)	(6.77)	(6.67)	(8.84)
Independence X	6.02	10.2*	7.65	10.6*	9.96	14.9*
Proportionality	(4.84)	(6.09)	(4.88)	(6.12)	(6.96)	(8.82)
Political			-19.8	-5.88	-18.8	-3.51
Constraint			(13.2)	(10.7)	(11.9)	(10.4)
Electoral					-0.51	-1.0
Competition					(3.31)	(2.57)
General government					-4.12	-5.01
consumption					(4.70)	(4.73)
GDP Growth	0.57	1.40**	0.55	1.39**	0.14	1.07*
	(0.39)	(0.65)	(0.39)	(0.65)	(0.57)	(0.55)
ln(GDPperCapita)	-1.25	-40.4**	-1.72	-40.17**	-0.90	-45.8**
	(3.24)	(15.8)	(3.26)	(15.90)	(3.97)	(18.3)
ln(Trade)	24.2**	-15.7	22.3**	-15.9	20.9*	-22.8
	(10.6)	(18.2)	(10.4)	(18.1)	(11.6)	(21.4)
Capital Account	-3.81	-10.7	-3.59	-10.6	-8.76	-15.2
Openness	(12.4)	(12.1)	(12.2)	(12.1)	(13.3)	(13.3)
ln(Inflation)	2.62	4.51	2.89	4.62	0.77	2.0
	(6.83)	(6.11)	(6.83)	(6.10)	(4.4)	(3.8)
Bank Crisis	-24.0***	-18.8***	-23.6***	-18.7***	-21.0***	-16.2***
	(5.06)	(4.08)	(5.01)	(4.10)	(4.64)	(4.02)
ΔAll World Stock	36.08***		35.9***		36.5***	
Index	(2.78)		(2.76)		(2.8)	
Constant	-94.01*	393.2**	-73.03	394.2**	13.4	581.2*
	(48.31)	(186.3)	(49.13)	(185.8)	(67.0)	(297.3)
Observations	1,117	1,117	1,117	1,117	1,106	1,106
Adjusted R^2	0.23	0.30	0.23	0.30	0.24	0.32
Overall R^2	0.16	0.08	0.18	0.08	0.13	0.06
Year FE	NO	YES	NO	YES	NO	YES
Number of countries	74	74	74	74	74	74

Huber/White Robust standard errors clustered by country(*** p<0.01, ** p<0.05, * p<0.1)

Replacing the proportionality measure with the dummy for all non-purely majoritarian institutions measure does little to increase coefficients or reduce standard errors (not shown). Given the instability and marginal significance of the coefficients, it is difficult

to definitively state that there is a complementary relationship between independence and proportionality on the one hand, and stock market performance on the other. What is more certain is that they are not substitutable as they were with regard to stock market size.

Overall, the empirical analyses thus far have produced a series of fairly robust conclusions. Hypotheses I(a) and I(b) are strongly supported. Regulatory independence is positively associated with both stock market size and performance. In line with Hypotheses III(a) and part of Hypothesis III(b) these associations are strongest when veto players are fewer in number. Hypothesis II(a) also receives robust support: consensual political institutions(veto points and proportionality) are positively associated with stock market size. The remaining hypotheses receive more mixed support. While veto points are positively related to stock market size, they fail to have a statistically meaningful relationship with index price growth. In contrast, proportionality continues to be positively and significantly related to index price growth. Although the relationship between independence and proportionality is substitutive with regards to market capitalization, there is tentative evidence that this interaction becomes complementary or insignificant with regards to index price growth.

Institutions, Independence, and Biased Mobilization

To reiterate, when financial barriers to entry are high, corporate insiders will enjoy larger rents and be fewer in number. Both factors should aid their collective action and deepen their opposition to MSP and market integrity. Financial underdevelopment

will also reduce the financial sophistication of the general public and minimize opposition to corporate insiders on corporate governance issues. In short, when financial sectors are immature, political mobilization will be particularly biased against minority shareholders. To the extent that consensual political institutions and independent regulators can dilute the effects of this anti-MSP bias, their association with stock market development should be even stronger when anti-MSP interests are especially dominant. Since I lack a direct measure this anti-MSP mobilization bias, I will use credit supplied by the domestic financial sector (%GDP) as a proxy.[29] More specifically, I will evaluate whether the magnitude of the associations between regulatory independence and consensual political institutions on the one hand, and market capitalization on the other increase as credit becomes scarcer (Hypotheses IV and V).

Hypothesis testing will once again utilize dynamic fixed effect models with Huber/White standard errors clustered by country. Model estimations will assume the following form:

$$Y_{it} = \gamma Y_{it-1} + \alpha_i + \beta_1 * P_{it} + \beta_2 * X_{it} + \beta_3 (P_{it} \text{ x Total Credit Supply}) + \varepsilon_{it}$$

The dependent variable Y_{it} represents stock market capitalization/GDP for country i in year t and Y_{it-1} is the same dependent variable lagged by one year. The vector P_{it} contains

[29] Domestic credit provided by the financial sector as a percentage of GDP is taken from the World Bank's World Development Indicators and the World Bank's Global Financial Inclusion Database. Alternative measures of credit supply and/or financial development include total credit supplied to the private sector as a percentage of GDP, bank deposits as a percentage of GDP, domestic credit provided to the private sector by banks as a percentage of GDP, and a de jure measure of financial liberalization (Abiad et. al 2008). With the exception of the formal liberalization measure, all of the financial development indicators are very closely related with pairwise correlations ranging from .81 to .94. Therefore, results and qualitative inferences were not dependent upon the specific measure of credit supply chosen.

my measures of consensual political institutions and my measure of regulatory independence. X_{it} contains macroeconomic controls, β_1, β_2, β_3 and γ are estimated coefficients with β_3 being the coefficient for the interaction term. α_i are country dummies and ε_{it} is the remaining error

In terms of veto players, there is tentative evidence of an interactive relationship between political constraint and credit market depth. Interaction coefficients for domestic credit market show consistent negative signs and relatively stable coefficients. However, coefficients were inconsistently significant at even the most generous levels with p-values ranging from .075 to .194 (Models 1-4; Table 3.10 below). Unsurprisingly, static specifications performed significantly better in terms of the magnitude and significance of the interaction term (Models 5 and 6). In general, the addition of political controls both alone (not shown) or all together inflated standard errors (Models 3 and 4). The addition of year fixed effects to Models 2 and 6 did not substantively alter coefficients or standard errors.

Table 3.10
(Veto Player-Credit Interaction: Market Capitalization)

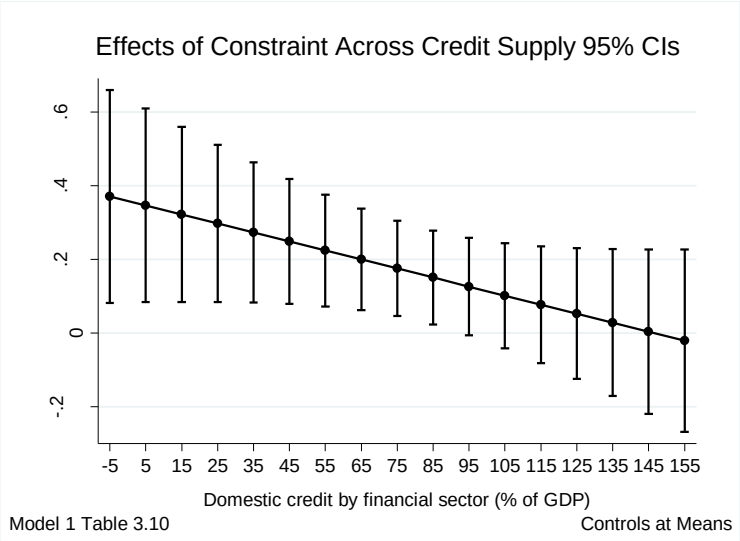
DV: ln(Market Capitalization %GDP)	(1)	(2)	(3)	(4)	(5)	(6)
$\ln(\text{MarketCap})_{t-1}$	0.65***	0.64***	0.65***	0.66***		
	(0.02)	(0.02)	(0.02)	(0.02)		
Political	0.36**	0.41***	0.29*	0.30*	0.97***	0.94***
Constraint	(0.14)	(0.14)	(0.16)	(0.16)	(0.30)	(0.32)
Domestic Credit by	0.002**	0.001*	0.002**	0.002**	0.004**	0.004**
Financial Sector	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
Constraint X	-0.002	-0.003*	-0.002	-0.002	-0.006**	-0.006*
Domestic Credit	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)
Regulatory			0.13**	0.13**	0.31**	0.13
Independence			(0.05)	(0.05)	(0.14)	(0.14)
Electoral			0.11***	0.10***	0.22***	0.21***
Proportionality			(0.03)	(0.03)	(0.06)	(0.07)
Electoral				-0.01	-0.01	-0.02
Competition				(0.01)	(0.02)	(0.02)
General Government				-0.02**	-0.03**	-0.03**
Consumption				(0.01)	(0.01)	(0.01)
Capital Account	0.23***	0.18***	0.25***	0.25***	0.70***	0.53***
Openness	(0.06)	(0.06)	(0.06)	(0.06)	(0.15)	(0.14)
GDP Growth	0.008***	0.009***	0.009***	0.007**	0.015**	0.016**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.006)	(0.01)
ln(GDPperCapita)	0.03	-0.032	-0.016	-0.007	0.42***	0.48***
	(0.04)	(0.07)	(0.04)	(0.04)	(0.07)	(0.15)
ln(Trade)	0.32***	0.20**	0.35***	0.33***	1.03***	0.80***
	(0.06)	(0.08)	(0.07)	(0.07)	(0.13)	(0.17)
Bank Crisis	-0.16***	-0.12***	-0.18***	-0.19***	-0.30***	-0.24***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.07)	(0.067)
ΔAll World	0.28***		0.28***	0.28***	0.21***	
Stock Index	(0.02)		(0.02)	(0.02)	(0.02)	
Constant	-0.84**	0.26	-0.81**	-0.46	-5.65***	-5.31***
	(0.36)	(0.70)	(0.39)	(0.41)	(0.81)	(1.61)
Observations	1,924	1,924	1,719	1,694	1,783	1,783
Adjusted R^2	0.69	0.70	0.71	0.72	0.48	0.53
Overall R^2	0.84	0.85	0.81	0.82	0.17	0.20
Year FE	NO	YES	NO	NO	NO	YES
Number of countries	108	108	102	102	104	104

Huber/White Robust standard errors clustered by country(*** p<0.01, ** p<0.05, * p<0.1)

The substitution of *checks* for *political constraint* also produced negative interaction coefficients, but standard errors were sometimes well over two times the size of

coefficients (not shown).

Figure 3.8

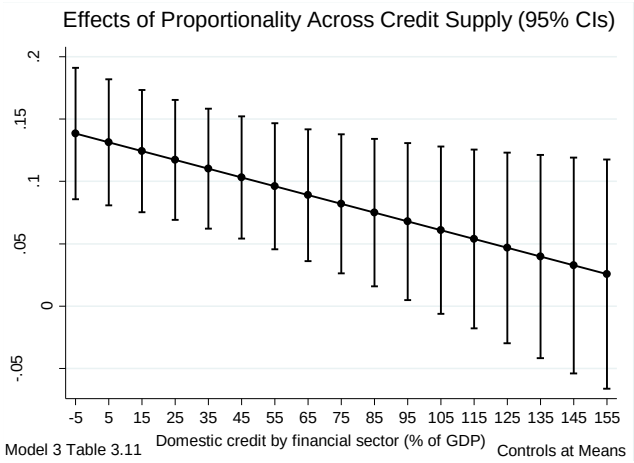


With these caveats in mind, Figure 3.8 is nonetheless informative and suggests that political constraint does have its largest positive effects on stock market size when credit is scarcer. To be specific, constraint's positive effects remain statistically distinguishable from 0 until total domestic credit reaches roughly its 75th percentile for the sample. Beyond this point, additional veto players contribute little to further market development. In short, the special interest dilution effects of veto players only emerge as meaningful in credit scarce environments.

In contrast to veto players, the results for electoral proportionality show greater statistical strength. They more definitively suggest that the positive effects of proportionality on stock market size will decrease as credit supply increases and incumbent insiders enjoy a less dominant economic position (see Table 3.11). While

proportionality has uniformly positive effects on stock market development across all levels of credit supply, the positive effect becomes statistically indistinguishable from 0 as total credit supply exceeds its 80th percentile or 100 percent of GDP (See Figure 3.9).

Figure 3.9



The interaction effect is robust to the inclusion of year fixed effects (Model 2,4,6) and the full battery political and regulatory controls (Models 5 and 6). This is remarkable given that the effects of proportionality remain even after controlling for the greater number of veto players that often results from proportional elections. These effects are also substantively strong.

Table 3.11
(Proportionality-Credit Interaction: Market Capitalization)

DV: ln(Market Capitalization %GDP)	(1)	(2)	(3)	(4)	(5)	(6)
$\ln(MarketCap)_{t-1}$	0.66***	0.65***	0.65***	0.64***	0.65***	0.65***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Electoral	0.15***	0.14***	0.13***	0.13***	0.13***	0.12***
Proportionality	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.03)
Domestic Credit by	0.002***	0.002**	0.002***	0.002**	0.003***	0.002**
Private Sector	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Proportionality	-0.001**	-0.001**	-0.001**	-0.001**	-0.001**	-0.001**
X Domestic Credit	(0.0003)	(0.0004)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Regulatory			0.13**	0.08	0.13**	0.07
Independence			(0.05)	(0.06)	(0.05)	(0.06)
Political			0.15*	0.20**	0.16**	0.21**
Constraint			(0.08)	(0.08)	(0.08)	(0.08)
Electoral					-0.006	-0.008
Competition					(0.012)	(0.012)
General Government					-0.016**	-0.016**
Consumption					(0.007)	(0.007)
Capital Account	0.27***	0.23***	0.26***	0.23***	0.259***	0.228***
Openness	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
GDP Growth	0.007**	0.008**	0.009***	0.01***	0.007**	0.008**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)
ln(GDPperCapita)	-0.01	-0.06	-0.015	-0.06	-0.01	-0.05
	(0.06)	(0.07)	(0.04)	(0.08)	(0.04)	(0.07)
ln(Trade)	0.35***	0.25***	0.35***	0.26***	0.321***	0.234**
	(0.07)	(0.09)	(0.073)	(0.093)	(0.071)	(0.092)
BankCrisis	-0.18***	-0.16***	-0.18***	-0.15***	-0.19***	-0.17***
	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
ΔAll World Index	0.28***		0.28***		0.285***	
	(0.02)		(0.03)		(0.02)	
Constant	-0.79**	0.21	-0.80**	0.02	-0.46	0.42
	(0.37)	(0.79)	(0.39)	(0.82)	(0.42)	(0.82)
Observations	1,744	1,744	1,719	1,719	1,694	1,694
Adjusted R^2	0.71	0.73	0.72	0.73	0.73	0.74
Overall R^2	0.82	0.84	0.82	0.84	0.84	0.85
Year FE	NO	YES	NO	YES	NO	YES
Number of countries	102	102	102	102	102	102

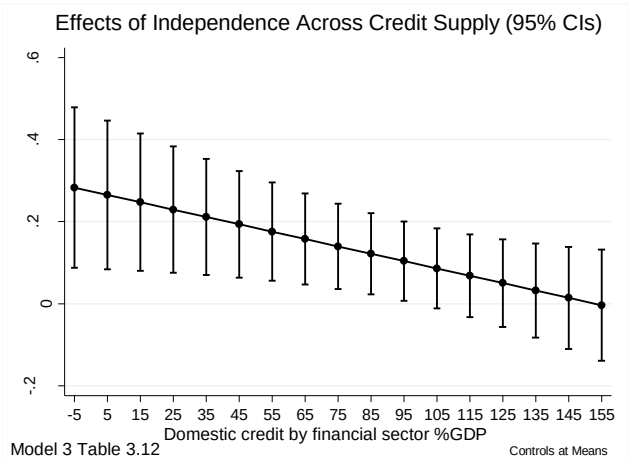
Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

At the median level of credit supplied by the financial sector (51%), going from completely majoritarian elections to elections in which just some officials are elected proportionally (i.e. 1 unit increase) is associated with stock markets that are 10 percent

larger. A more dramatic complete minimum to maximum increase in proportionality would lead stock markets that are roughly 30 percent larger holding all controls at their means. In short, corporate insiders and incumbents will be especially powerful in credit scarce environments, but there is robust evidence that proportional representation goes at least some way toward limiting their lobbying dominance.

Thus far Hypothesis IV has received some support: the positive effects of consensual political institutions on stock market size appear to decline as credit markets become more developed. Results with regard to regulatory independence tell a similar story. Taking Model 3 of Table 3.12 as a guide, regulatory independence's marginal effects on stock market size are distinguishable from zero until total credit supply reaches the 80th percentile of the sample (see Figure 3.10).

Figure 3.10



When credit supply is at its median (51%), going from minimum to maximum levels of independence is associated with a roughly 18% contemporaneous increase in stock market in size.

Table 3.12
(Independence-Credit Interaction: Market Capitalization)

DV: ln(Market Capitalization %GDP)	(1)	(2)	(3)	(4)	(5)	(6)
$ln(MarketCap)_{t-1}$	0.65***	0.64***	0.64***	0.64***	0.65***	0.65***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
Regulatory	0.27***	0.20**	0.27***	0.21**	0.26**	0.19*
Independence	(0.09)	(0.09)	(0.09)	(0.09)	(0.10)	(0.10)
Domestic Credit by	0.002**	0.002*	0.002**	0.002*	0.002**	0.002*
Financial Sector	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Independence X	-0.002**	-0.002**	-0.002**	-0.002**	-0.002*	-0.002*
Domestic Credit	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Political			0.19***	0.23***	0.16**	0.21**
Constraint			(0.07)	(0.07)	(0.08)	(0.08)
Electoral					0.10***	0.10***
Proportionality					(0.03)	(0.03)
Electoral					-0.01	-0.01
Competition					(0.01)	(0.01)
General government					-0.02**	-0.02**
consumption					(0.01)	(0.01)
Capital Account	0.22***	0.18***	0.22***	0.19***	0.26***	0.23***
Openness	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
GDP Growth	0.01***	0.01***	0.01***	0.01***	0.01**	0.01**
	(0.003)	(0.003)	(0.00275)	(0.003)	(0.003)	(0.003)
ln(GDPperCapita)	0.02	-0.001	0.02	-0.014	-0.006	-0.05
	(0.04)	(0.07)	(0.04)	(0.07)	(0.04)	(0.08)
ln(Trade)	0.318***	0.239***	0.324***	0.236***	0.341***	0.244***
	(0.068)	(0.084)	(0.067)	(0.083)	(0.071)	(0.09)
Bank Crisis	-0.16***	-0.12***	-0.16***	-0.12***	-0.19***	-0.16***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
ΔAll World Index	0.29***		0.28***		0.28***	
	(0.02)		(0.02)		(0.02)	
Constant	-0.73*	-0.06	-0.86**	-0.07	-0.57	0.39
	(0.37)	(0.72)	(0.38)	(0.72)	(0.41)	(0.81)
Observations	1,901	1,901	1,890	1,890	1,694	1,694
Adjusted R^2	0.69	0.70	0.69	0.71	0.73	0.74
Overall R^2	0.84	0.85	0.83	0.85	0.82	0.83
Year FE	NO	YES	NO	YES	NO	YES
Number of countries	109	109	108	108	102	102

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

At that same median level, within and overall standard deviation increases in independence are associated with 5.5 and 7 percent contemporaneous increases in market size respectively. In other words, the overall impact of regulatory independence on stock market size is modest across most levels of credit market depth. That said, the interaction is statistically robust to year fixed effects (Models 2,4,6) as well as the full battery of political controls (Models 5 and 6). The interaction terms themselves are estimated with reasonable levels of precision with p values maxing out at 0.08.

Robustness

In order to ensure that the positive relationship between independence and market capitalization is not driven entirely by the latter's log-transformation, the models in Table 3.4 were reestimated with the non-transformed version of market capitalization. The substantive magnitude of the relationship did decline with contemporaneous and long-run (multiplier) effects of a maximum increase in independence being 6.8% and 15% respectively. However, the coefficient for independence was stable as additional political controls were added and it always maintained significance with p-values of less than 0.05 (Table 3.13A; Appendix III(a)). In contrast, all other political variables with the exception of government consumption failed to reach even the most forgiving levels of significance with the untransformed size measure ($p>.10$). Various independence interactions as well as GMM reestimations also failed to produce significant results with the untransformed version of market capitalization (not shown).

All dynamic models of (log transformed) stock market size were reestimated with Generalized Method of Moments (GMM) Blundell-Bond dynamic panel estimators. In terms of the individual effects found in Table 3.4, results were encouraging (see Table 3.14A; Appendix III(a)). The use of the GMM estimator strengthened the estimated association between regulatory independence and stock market size with coefficients' increasing in size by between 35 to 45 percent. Political constraint's coefficients saw similar if slightly larger increases in the GMM estimations as well. When the alternative veto player measure *checks* was estimated with the GMM, its coefficient remained small (<.01) but became positive moving it closer to theoretical expectations (not shown). The coefficients for government consumption grew slightly in size, but their standard errors noticeable increased. Electoral proportionality's coefficients were cut in two, lost significance, but remained positively signed.

In terms of the interaction effect between regulatory independence and veto players, the GMM results produced similar results qualitatively (Table 3.15A; Appendix III(a)). Although the size of the main effects increased in magnitude, the interaction coefficients for political constraint were estimated with far greater error and often lost significance as a result. The *checks* coefficients also decreased in size. That said, all interaction effects regardless of veto player measure maintained their negative signs in line with the theoretical claims of Chapter 2. The interaction between regulatory independence and electoral proportionality was weakened in terms of statistical significance due to larger standard errors. However, the coefficients of the main effects for regulatory independence and all the proportionality interaction terms noticeably

increased in size (Table 3.16A; Appendix III(a)). This was especially true when the electoral institution variable was recoded as a proportional dummy. In fact, the interaction with the proportional dummy maintained significance at $p<.10$ and increased significantly in size as compared to the dynamic least squares dummy variable estimation in Table 3.6.

Unsurprisingly, static reestimations of the results in Tables 3.4 to 3.6 produced much larger coefficients for regulatory independence, political constraint, electoral proportionality, and their interactions (not shown). I most instances, they roughly doubled in size and maintained conventional levels of significance. In terms of the individual effects of regulatory independence and consensual political institutions on price growth in national stock market indices (Table 3.7), the introduction of year fixed effects produced qualitatively similar results. The coefficients for consensual political institutions did marginally decrease in size, but the association between regulatory independence and index price growth increased in magnitude with the introduction of year dummies (not shown).

An additional set of robustness tests were performed to guarantee that it is actually the independence of regulators rather than their mere existence that is driving the results. I reran models from Tables 3.4, 3.5, 3.6, 3.7, 3.8, and 3.9 but with a "regulatory framework in existence dummy." I coded the dummy according to the scheme found in Johannes Kleibl's "Coercion and the Global Spread of Securities Regulation" (2014). A country-year was coded 1 if

> "1.it has established a statutory regulatory body for the supervision of the securities markets; 2. this regulatory body is separate from the ministerial government administration; 3. and this body supervises under a general securities regulatory framework, which covers at a minimum the supervision of stock exchanges and the main securities market participants such as brokers and dealers" (1-2 Kleibl Web Appendix).

In line with expectations, results were weakened and AIC/BIC levels increased. While the individual effects of the regulatory framework dummy were sometimes significant at conventional levels, the magnitudes of their coefficients were a little over half the size of the independence measure (Table 3.17A; Appendix III(a)). Similarly, they produced significant interaction effects with political constraint, but once again dummy main effects were roughly 33 percent smaller than the full measure and interaction coefficients were between 25 and 30 percent smaller (Table 3.18A; Appendix III). The regulatory framework dummy performed even more poorly in terms of reproducing the index price growth results from Tables 3.7, 3.8, and 3.9 (see Table 3.19A: Appendix III(a)). Individually and in interaction with political constraint, the regulator dummy fails to reach even the most forgiving levels of conventional significance ($p>.10$). However, it largely confirms the finding of a positive interaction effect between regulatory independence and electoral proportionality. Although the regulator dummy variable produces slightly smaller interaction coefficients, the interactions found in Models 5 and 6 of Table 3.19A are significant at even lower p-values ($<.01$). The combined results of Table 3.19A provide strong evidence that the positive price growth effects of having an independent regulator will be larger when electoral institutions are more proportional.

The interactions between consensual political institutions and regulatory independence on the one hand, and credit market depth on the other are very sensitive to alternative specifications. The use of a GMM estimator for models featured in Tables 3.10, 3.11, and 3.12 uniformly produces smaller and conventionally insignificant coefficients for interaction terms. However, *all* interaction terms maintain their negative signs (not shown). Static estimations of the dynamic credit market interaction models almost always increase the size of main and interaction effect coefficients both absolutely and relative to standard errors (not shown). The only exception is electoral proportionality. Static specifications do increase the size of main and interaction effects, but standard errors increase even more yielding largely insignificant coefficients (0.138 <p<0. 244). When the regulatory framework dummy replaces the independence measure in the credit market interactions from Tables 3.10,3.11, and 3.12 , its main effects are typically 35 to 50 percent smaller than the independence measure's main effects. The interaction terms are also marginally smaller, but are all significant at p <.05 (not shown). That said, the replacement of regulatory independence with the regulatory framework dummy *always* produces higher Akaike and Bayesian Information Criterions across all credit market interaction models.

While both trade and capital account openness are included as standard controls, it could be said that these two variables insufficiently account for the international character of equity trading. More specifically, the analyses above fail to take into account inflows and outflows of *foreign* portfolio equity investments. This is a *potentially* serious omission given the increasing importance and dynamism of international portfolio flows.

In order to address this issue, I first see if my regulatory independence measure or any other political institutions are associated with net portfolio equity inflows. Results are clear, regulatory independence, political constraint, electoral proportionality, and partisanship all fail to have statistically significant effects on inflows. In fact, standard errors for my independence measure are twice the size of its positive coefficient (Table 3.20A).

Even though independence does not appear to attract foreign portfolio equity investment, it is important to rule out the possibility that it is foreign equity flows that are driving increases in stock market size and performance rather than the institutional variables outlined by my theory. Therefore, the relationship between independence and stock market size as well as the various interactions analyzed above were all reevaluated with a control for net portfolio equity inflows. As expected, net portfolio flows are positively and significantly ($p<.01$) related to market capitalization. However, the size of their effects is very small. More importantly, all substantive findings relating to regulatory independence, political institutions, and their interactions are unaffected by the inclusion of portfolio flows (Table 3.21A; Appendix III(a)).

Although maintaining positive coefficients, net portfolio inflows also appear to be unrelated to growth in benchmark stock indices. Unsurprisingly, the statistical association between regulatory and political institutions on the one hand and benchmark index growth on the other are left unchanged after controlling for foreign equity flows (Table 3.22A; Appendix III(a)). In sum, controlling for net portfolio equity inflows does not

alter the magnitude or significance of previous findings regarding domestic institutions and domestic stock market size and performance.

Conclusion

The main argument of this chapter was that consensual political institutions and independent regulatory agencies should increase stock market development. Results suggest that that this is largely the case. Proportional representation, more numerous and fractionalized veto players, and more independent regulators have a robust positive association with the size of stock markets. Of the three, increasing electoral proportionality is the most strongly related to stock market size. This result confirms my theoretical claims and casts doubt on the continued relevance of previous research that sees proportional representation as vital to solidifying anti-investor political alliances. Instead, it appears that movement towards more proportional representation may limit policy instability and facilitate compromise policies that push corporate ownership away from the block holding status quo.

Results regarding veto players and regulatory independence are also clear. Greater political constraint and regulatory independence are both positively and significantly related to stock market size. This provides further evidence of investors' preference for policy stability and consistency. Stated differently, political constraint and regulatory independence increase the credibility of commitments to MSP and market integrity leading to greater equity investment.

My theoretical expectations regarding substitutive relationships between political and regulatory institutions are also supported. More specially, the positive effects of independence on equity market size are particularly large when majoritarian (i.e. first past the post elections) and centralized (fewer veto players) political institutions undermine policy stability and consistency. Contrary to past research, greater electoral competition appears to have little meaningful effect on stock market development after controlling for macroeconomic conditions.

Regulatory independence and proportional representation, but not more numerous veto players, also appear to increase overall stock market performance as measured by annual percentage growth in benchmark index prices. Like stock market size, the positive effects of independence on performance do appear to be dependent upon the overall institutional context. Greater independence has a particularly large impact on price growth when veto players are fewer in number. This mirrors the results for stock market size and provides further evidence that regulatory independence and veto players may be substitutable in terms of policy stability and consistency. However, the results with regard to the interaction between independence and electoral proportionality do not mirror those found with regard to stock market size. The association between independence and price growth appears to grow stronger when electoral institutions are proportional, but this relationship is inconsistent in terms of statistical significance.

I also find that the positive effects of consensual political institutions and regulatory independence are greatest when credit markets are less rather than more

developed. This is especially true for electoral proportionality and regulatory independence. If credit is scarce, those who control incumbent firms will be especially powerful and have more to lose from stronger MSP. Minority shareholders and their allies among the public may also be less sophisticated and have a smaller stake in regulatory debates. In short, financial barriers to entry should worsen asymmetries between corporate insiders and retail investors making politicians' commitments to MSP and market integrity all the more fragile. However, results suggest that this weakness can be reduced by institutional reforms that make political institutions more consensual or regulatory organizations more independent. Particularly among developing and middle income countries, political consensualism and regulatory independence may be the key to diluting anti-MSP special interest influence and providing investor interests with a seat at the bargaining table.

Chapter 4

Political Independence and the Roots of Regulatory Realism

The previous chapter established that regulators' independence from politicians is positively associated with stock market size and index price growth. This result provides support for contention that where minority shareholders (i.e. non-controlling) and retail investors (i.e. small) feel exposed to the greed, incompetence, and malfeasance of corporate managers and controlling shareholders, they will avoid or reduce their equity investments. In light of investor protections' importance in terms of investor confidence and market outcomes, both academics and practitioners have developed numerous formal measures and indices of minority shareholder protection (MSP). Well known examples include LaPorta et. al (1997,1998, 2000), Djankov et. al (2005), and Gourevitch and Shinn (2005). While invaluable, these measures implicitly adopt the perspective of those who 'win' from stronger MSP.[30] But what about the perspective of those who could potentially lose? Given that corporate and industry insiders are such key players in the corporate governance lobbying game, gaining a better understanding of how they view investor protections should also be a priority for researchers. Perceptions of MSP shape corporate insiders' decisions to take their companies public, raise additional capital on public markets, and/or expend scarce resources lobbying against MSP.

[30] For example, one of the most widely cited MSP measures features an "Anti-Director Index" (La Porta et. al (1997,1998, 2000).

One of my key theoretical building blocks is that regulatory independence denies corporate and industry insiders one of the most powerful tools with which they can shape corporate governance and securities regulation: politicians. By at least partially isolating regulatory agencies from political influence, formal independence should give regulators greater latitude to implement and enforce MSP in ways that deviate from corporate and industry insiders' ideal preferences. As a result, regulatory independence should have a noticeable impact on corporate insiders' perceptions of investor protection.

Fortunately, as part of their annual Global Competitiveness Reports, the World Economic Forum's (WEF) Annual Executive Survey directly addresses issues of corporate governance. More specifically, the WEF asks senior executives to rate on a scale of one to seven the degree to which the interests of minority shareholders are protected in their country. To reiterate, this approach is distinct in that it asks the *potential* losers of MSP to rate the strength of investor rights rather than potential winners or more disinterested experts. When these surveys of executive opinion are compared with legal experts' assessments of MSP, there are noticeable differences. The goal of this chapter is to explore these differences in order to get a better grasp of how corporate insiders come to oppose or tolerate minority investor protections.

I argue that the key to understanding the differences between executives and legal experts' views of MSP lies is the political independence of those who do the actual protecting (i.e. regulatory organizations). I assume that MSP is largely a valence issue among business elites. Even though specific investor protections can create costs for

senior managers and blockholders, few will express overt hostility to investor protection if asked by researchers or members of the media. They may view minority investor protections in the same way that they view property rights: something that all modern and well governed economies must have. As a result, they may join minority shareholders and express a general support for investor protection. However, much of this executive support may be predicated upon MSPs remaining abstract rather than realized. In other words, corporate elites' tolerance of investor protections will be strongest when investor protections are implemented in ways that do not directly interfere with their economic interests. This will be most likely when financial regulators enjoy less rather than more political independence. Since corporate insiders enjoy considerable advantages in political mobilization vis-à-vis minority shareholders, politicized regulators will face strong pressure to enforce MSPs in ways that go largely unopposed by corporate insiders. Stated differently, as politicians' influence over regulatory agencies grows, regulators' rulemaking and enforcement will become increasingly consumed with preempting industry criticism and forestalling political interference. In contrast, greater political independence should reduce this strategic behavior and allow securities market agencies to more stringently and consistently implement MSP in spite of corporate insiders' influence over politicians. This added stringency and consistency should raise executives' awareness of investor protections and highlight the ways in which specific protections do or do not impinge upon their interests. As a result, regulatory independence should make corporate insiders' evaluations of MSP strength less abstract, better informed, and therefore closer to those legal experts and academics.

In summation, to the degree that independent regulators' more effective policy implementation brings executives and blockholders face to face with the realities of investor protection, it may reduce their valence based approval of MSP in the abstract. As independent regulators force corporate insiders to confront the costs of more stringently and consistently enforced corporate governance regulation, executives' assessment of MSP may be less optimistic and more likely to fall in line with the views of the legal experts.

This leads me to my first two hypotheses:

Hypothesis I: As regulatory independence increases, average executive evaluations of the strength of minority shareholder protection will decrease.

Hypothesis II: As regulatory independence increases, the difference between expert assessments and executive opinion should decrease.

However, direct regulatory intervention by public actors is not the only way that corporate insiders gain awareness of shareholder rights. Large and liquid stock markets can embolden shareholders by lowering the costs of exit from firm ownership (i.e. selling) and by providing easy to understand and up-to-date information on corporate insiders' managerial performance. More developed stock markets also increase the credibility of hostile takeover threats and encourage equity based executive compensation schemes that can align the preferences of senior executives with those of short-term investors. Countries with large stock markets also tend to have a more active financial press, more numerous and assertive institutional investors, and a larger cadre of

professionals (e.g. lawyers, accountants, auditing firms, fund managers, investment analysts and advisers) whose livelihood is built around the understanding and in some cases the promotion of investor rights. Since the most developed equity markets are often found upper-middle and upper-income countries, corporate elites in these richer countries should generally be more sophisticated in how they view their regulatory environments. For some or all these reasons, executives in countries with highly developed equity markets are likely to have a firmer grasp of the rules and norms of corporate governance regardless of whether they believe investor protections are too strong or not strong enough. Stated differently, it is not their confrontations with independent regulators that most strongly shape these executives' understanding of investor protection. Instead, they gain awareness of the formal level of investor protection through their repeated interactions with institutional shareholders, their exposure to the financial press, and their everyday conversations their lawyers, accountants, auditors, and corporate peers. This leads to my third hypothesis.

Hypothesis III: The effects of regulatory independence on the difference between expert and executive assessments should be smaller in countries with more highly developed stock markets.

Results indicate that regulatory independence is associated with lower executive assessments of investor protection, but this association is not equally strong in all contexts. Findings suggest it is primarily associated with countries where executives express higher levels of confidence in MSP than do 'neutral' experts in the same country.

Stated differently, regulatory independence seems to reduce executive overconfidence in their countries' level of investor protection. In addition, the negative effects of regulatory independence are larger in countries where stock markets are less liquid and smaller in size. In short, where stock markets are highly developed or executive assessments of MSP are more pessimistic than the experts, regulatory independence has small to negligible effects. These results hold across a variety of estimators and survive the inclusion of a numerous political economic controls.

MSP Assessments

In order to test these hypotheses, I need accurate measures of both expert assessments and executive opinion of minority shareholder rights. For my expert measure, I draw upon the World Bank Doing Business Project's *Strength of Minority Investor Protection Index*. According to the Doing Business Project's website, the index is constructed from a "questionnaire administered to corporate and securities lawyers and are based on securities regulations, company laws, civil procedure codes and court rules of evidence." The index itself is actually a composite of several others and is constructed in the following way:

> The indicator measures the *protection of minority investors from conflicts of interest* through one set of indices (combined in the extent of conflict of interest regulation index) and *shareholders' rights in corporate governance* through another (combined in the extent of shareholder governance index).The extent of conflict of interest regulation index focuses on one of the most serious breaches of good corporate governance around the world: the related-party transaction. The index measures the protection of shareholders against directors' misuse of corporate assets for personal gain by distinguishing 3 dimensions of regulation that address conflicts of interest: transparency of related-party transactions

(captured by the extent of disclosure index), shareholders' ability to sue and hold directors liable for self-dealing (extent of director liability index) and access to evidence and allocation of legal expenses in shareholder litigation (ease of shareholder suits index). The extent of shareholder governance index measures shareholders' rights in corporate governance by distinguishing 3 dimensions of good governance: shareholders' rights and role in major corporate decisions (captured by the extent of shareholder rights index), governance safeguards protecting shareholders from undue board control and entrenchment (extent of ownership and control index) and corporate transparency on ownership stakes, compensation, audits and financial prospects (extent of corporate transparency index) (Doing Business Project).

The resulting composite *Strength of Investor Protection Index* takes on values between 0 to 10 with 0 indicating the complete absence of investor protection and 10 indicating maximum investor protection.

My measure of executive opinion is taken from The World Economic Forum's *Executive Opinion Survey* that began a systematic survey of corporate governance issues in 2005. Although there is variation year to year, the survey typically collects the opinions of well over 12,000 senior managers with the average number of respondents per country being over 90. A majority of survey respondents are randomly selected, but the World Economic Forum insists that their country partners include some repeat respondents in order to aid in comparability overtime. Once the data is cleaned of outliers and missing responses, individual answers are aggregated at the country level and weighted by economic sector. Each yearly country average is actually a weighted average of the most recent year's survey results combined with a discounted average of the previous year.[31] This step is performed in order to make country averages less sensitive to

[31]Care must be taken to match yearly control variables with the correct yearly average. For example, the dependent variables for 2012 are a combination of assessments collected in the first quarter of 2012 and the first quarter of 2013 with greater weight placed on 2013 assessments. These observations are then matched

the specific point in time in which survey responses were collected and to increase sample size. Given my dependence upon these WEF surveys, empirical analyses will utilize annual data from 2006 to 2012 and include just over 100 countries.

The question formats are identical for all indicators and loosely resemble Likert scales. They consist of a 1 to 7 scale with 1 corresponding to "you agree completely with the answer on the left-hand side; 3 corresponding to "your opinion is indifferent between the two answers;" and 7 corresponding to "you agree completely with the answer on the right-hand side." The most important indicator for my purposes is the "protection of minority shareholders' interests" with 7 corresponding to the strongest protection (see Global Competitiveness Report 2013-2014 pp. 83-92 for more detail of survey methodology and score construction). Obviously this is a far more crude measure than the index created by the Doing Business Project, but this is precisely the point. The latter expert measure is specifically designed to be an objective assessment of the legal environment. In contrast, the simplicity of the executive survey question leaves room for more affective components of policy evaluations. Rather than a purely disinterested assessment of what executives consider to be the "objective" level of MSP, the Likert-styled WEF measure provides executives' with ample opportunity to draw upon any feelings of contentment or frustration that their personal experiences with MSP engender.

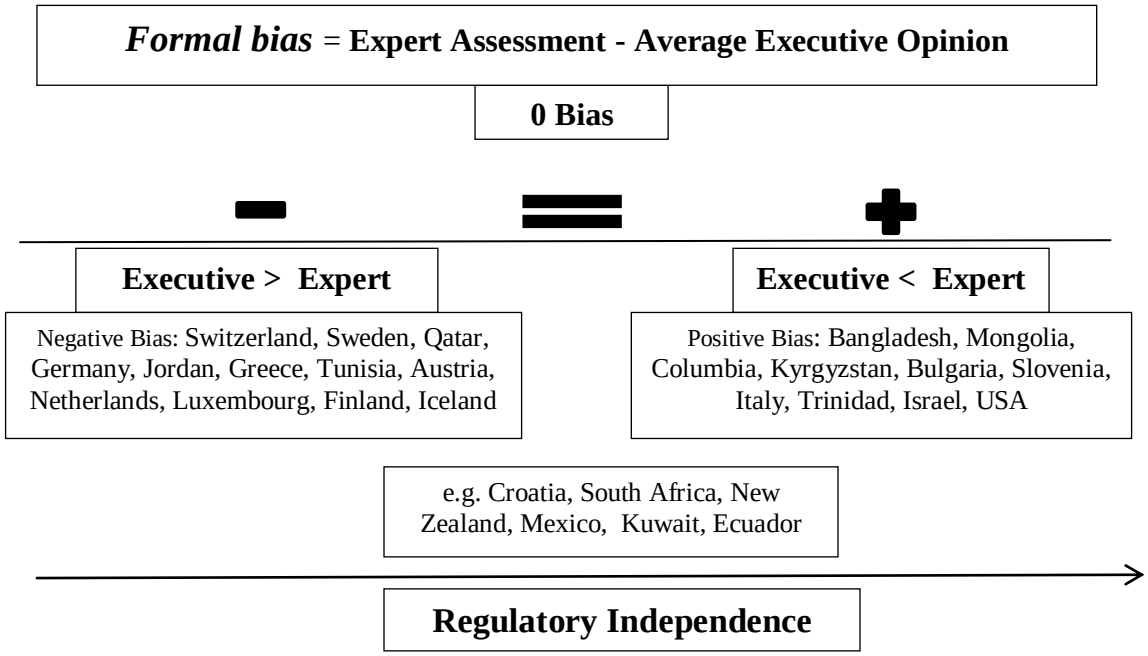
Overall, the Pearson product-moment pairwise correlation between the two MSP evaluations is positive and weakly moderate at $\rho \approx .35$ (see Appendix IV(b)). Both

to controls from 2012. This approach had to be taken in order to ensure that independent variables in 2012 were not explaining variation 2011-2012 assessments. Instead, independent variables in 2012 explain variation in the combined weighted average of 2012 and 2013 assessments.

measures of MSP were max-min normalized onto a [0,1] interval to ease interpretation and cross-measure comparison.[32] In order to measure the divergence between executive and expert assessments, the normalized WEF executive assessments were subtracted from the Doing Business Project's normalized shareholder index score. I label this difference "formal bias" (*formal bias* = expert assessment - average executive opinion) and it describes the differences in how experts and executives place their country on two MSP scales relative to other countries. *Formal bias* ranges from [-0.59, 0.59] with a mean of zero and an overall standard deviation of 0.22. When *formal bias* takes on negative values, this means that the expert assessments of MSP where less optimistic than executive opinion relative to other countries. When it takes on positive values, it suggests that expert assessments are more sanguine with regard to MSP than executives. A formal bias of zero means both executives and experts placed their countries' regulatory regimes in identical positions relative to other countries on their respective MSP scales. According to my framework, *formal bias* should become more negative (i.e. executives more optimistic as compared to experts) as executives' face less confrontational implementation of MSP by less than fully independent regulators (see Figure 4.1). Correlations provide some support for my theoretical intuitions: regulatory independence has a weak negative pairwise correlation with executive opinion ($\rho \approx -0.26$) and an even weaker positive correlation with expert assessments of MSP ($\rho \approx 0.13$)

[32] There may be concern that this transformation could distort information or lead to middle category inflation. In order to rule out this possibility, I z-standardized both MSP measures and then subtracted the z-standardized expert assessments from the z-standardized average executive opinions. I then reevaluated the latter two hypotheses. The direction and p-values of coefficients were left virtually unchanged. Unsurprisingly, predicted margins for models evaluating Hypotheses I and II did see some minor shifts, but qualitative conclusions were left unchanged. Predicted margins of the interaction effect featured in Hypothesis III were almost identical.

Figure 4.1

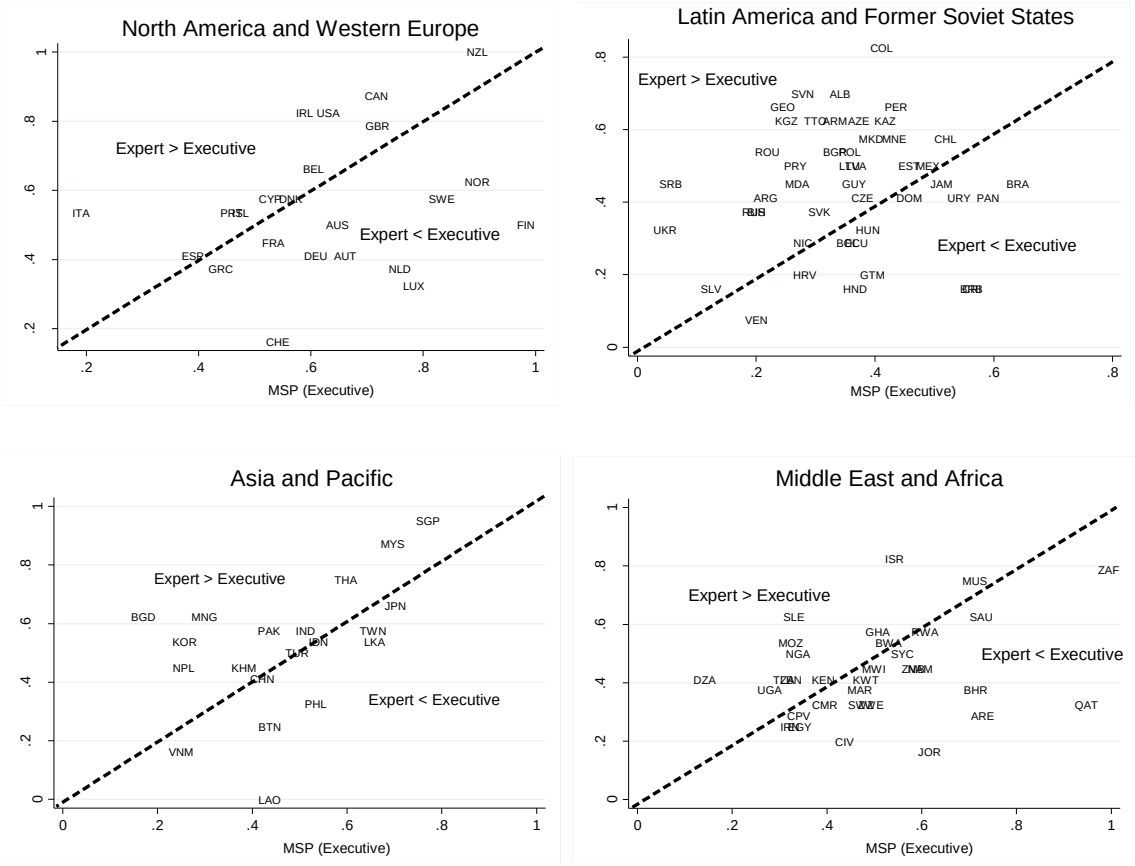


A look at Figure 4.2 below provides some hints as to where executives will be the most likely to express greater confidence in MSP relative to the experts. Executives in Sweden, Norway, Finland, Switzerland, Netherlands, Luxembourg, and to a lesser extent Germany and Austria all seem to express greater confidence in investor protection as compared to legal experts' formal evaluations. These countries are all known for wealth, good governance, and having some of the strongest property rights in the world.

Figure 4.2

Expert and Executive Assessments Compared (2012)

dashed lines indicates 0 Formal bias



Despite these positive qualities, these countries have long histories of bank rather than market based systems of finance where insider relationships and highly concentrated corporate ownership and control (i.e. blockholding) are dominant. Given their otherwise well governed economies and productive corporate sectors, executives in these countries may assume that the interests of investors (like all property owners) are sufficiently protected even when their regimes of MSP fall short by Anglo-American standards. A similar dynamic may be taking place in Middle Eastern countries such as Jordan,

Bahrain, Qatar, and the UAE. These countries are wealthy and possess strong property rights relative to both their region and the rest of the world. As with Scandinavia, these Middle Eastern business elites see their relatively well governed corporate sectors and then assume that investors' interests are respected. This is despite the fact that formal MSP is weak to mediocre, pro-shareholder norms are not widely internalized, and corporate ownership is highly concentrated among the state and families allied to the ruling regime. It is within these rich property rights respecting countries with historical traditions of concentrated corporate ownership where politically independent financial regulators may have the most sobering impact on executive opinions of investor protection.

What about those countries with positive formal bias in which experts express greater confidence in MSP as compared to executives? These countries can be divided into two groups: 1) rich common law countries such as the U.S., New Zealand, and Canada who have longer traditions of diffuse corporate ownership, and 2) poor or corrupt countries with weaker court systems and incomplete property rights. Within the first group, pro-shareholder norms are more widely accepted across the business elite and common law legal systems facilitate shareholder self-help. As a result, executive opinions in these countries will be better informed regarding MSP and shareholders will exercise greater economic power. This means executives are likely to be more aware of where investor protections fall short of formal standards or they may downgrade their assessments in an affective response to what they believe is excessive shareholder power. Both could conceivably produce positive formal biases (expert>executive).

The second group forms the majority of the countries of the world. It is within these countries where the gap between de jure investor protection and the de facto economic reality will be most pronounced. Experts may rate these countries' formal MSP highly, but corruption or weak judiciaries may undermine MSP's consistent and impartial enforcement.[33] In short, investor protections may be unrealized statutes that exist only on paper causing executive assessments to be more pessimistic relative to legal experts' formal evaluations. For both groups 1 and 2, regulatory independence may have little to no effects. For group 1, shareholders' may have economic and legal power that that is less dependent upon public regulators. As a result, the latter may have a less meaningful role in shaping executives assessments of MSP. For group 2, if *formal* MSP has little connection to the economic reality as judged by executives, there is little reason to believe that regulators' *formal* independence will have much meaning either. As a result, the delegation of regulatory power to 'independent' regulators will do less to ensure that investor protections are implemented in an impartial manner. Therefore, formal independence should have less effect on executive assessments. This discussion suggests a fourth and final hypothesis.

Hypothesis IV: regulatory independence will have the largest effects in countries where executives express greater confidence in MSP as compared to experts (i.e. rich, property rights respecting, historical traditions of weak MSP).

[33] Particularly in Eastern Europe, many countries' formal regimes of MSP consist of best practices transplanted by organizations such as the European Bank of Reconstruction and Development after the fall of communism. When comparing executive assessments to international best practices, it should not be surprising that the former are relatively more pessimistic.

Variables

In addition to my original measure of regulatory independence, main models will feature the same variables as previous chapters including the three derived from Beck and Keefer's *Database of Political Institutions* (DPI): electoral competitiveness, electoral proportionality, and a measure of partisanship. The partisanship measure is a dummy variable of center-right government that takes on a value of one if the chief executive in a presidential system or the largest governing party in a parliamentary system is centrist or right-wing. In order to account for the legal environment, I also include a dummy variable control for common law legal family and Freedom House's Rule of Law measure. The latter ranges from [0,16] with 16 corresponding to maximum levels of judicial independence, procedural fairness in criminal and civil trials, and equal rights under the law. In order to evaluate the importance of veto players, I once again utilize Witold Henisz's *Political Constraints III* index. The World Banks' Worldwide Governance Indicators' *Regulatory Quality* measure will be included in supplemental models to control for the overall regulatory environment. The *Regulatory Quality* indicator takes on values between [-2.21, 2.25] and is a broad measures of the "incidence of market-unfriendly policies such as price controls or inadequate bank supervision, as well as perceptions of the burdens imposed by excessive regulation in areas such as foreign trade and business development" (Kaufmann and Mastruzzi 2009). Higher scores indicate a more "market-friendly" and less burdensome regulatory environment.

Featured macroeconomic controls include GDP per Capita in current US. Dollars (ln), GDP annual percentage growth, Chinn-Ito's index of capital account openness (normalized), trade (sum of exports and imports of goods and services) as a percentage of GDP (ln), and value of stock traded as a percentage of GDP (ln) as a measure of stock market liquidity and development.[34] In supplementary models, a dummy variable for banking crises, stock index price volatility, and inflation (ln) are also included. All macroeconomic variables, with the exception of the Chin-Ito index, come from the World Banks' World Development Indicators or their Database on Financial Development and Structure.

Methods

The short nature of the panel (2005-2012) and the slow moving nature of both my independent and dependent variables create important modelling challenges. "Within" fixed effects estimators are increasingly seen as the standard for cross-national panel data and an effective way to limit concerns regarding time invariant omitted variable bias. Despite its appeal, this solution would involve throwing away cross-national variation and depending primarily upon within country variation for hypothesis testing. Given the

[34] The inclusion of value traded raises concerns with reverse causality. It will not be included as a control in models where the dependent variable is the level measure of executive confidence in MSP, but will be included in models evaluating the gap between expert and executive assessments. Although this may introduce some endogeniety bias, the exclusion of value traded does not substantively alter the results in Table 4.1. The analysis of the interaction effect between independence and value traded is not meant to definitively establish the direction of causality. Instead it is included in order to find out if the effects of regulatory independence are the same in countries that have greater or lesser degrees of stock market development.

limited amount of within country variation in my key variables, this is unlikely to yield informative results.

The most straightforward alternative is to estimate multi-level models, but this would involve making the dubious assumption that idiosyncratic error terms are uncorrelated with the explanatory variables. Haussmann specification tests suggest that this correlation does indeed significantly alter results between fixed and random effects models (Baltagi 2008). As a result, I face the following dilemma: fully utilize cross-national variation but suffer the biases caused by correlations between errors and independent variables, or correct this bias with country fixed effects and throw away potentially revealing cross-national variation. I choose the former path with full awareness of its costs. Main models utilize random effects estimations supplemented by pooled Prais-Winsten models with panel corrected standard errors.

The slow moving nature of the key dependent and independent variable raises another issue, serial correlation. With this in mind, random effects estimations will be estimated with Huber-White standard errors clustered by country (Stock and Watson 2008).[35] But to further assure that inferences are not biased by autocorrelation, alternative Cochrane-Orcutt and Prais-Winsten (with common AR(1) disturbances) estimators will also be utilized.[36] Despite the many caveats just discussed, main models will utilize a

[35] Following King and Roberts (2014), I directly compared the conventional and robust standard errors for my models. They appear nearly identical. At no point did they alter my substantive findings.
[36] Another common solution to serial correlation is the inclusion of lagged dependent variables. I avoid this approach for 2 reasons: 1) coefficients for LDVs were .88 or higher absorbing much of the effects of the independent variables, and 2) the briefness of the panel ($T \leq 8$) means the combination of random effects and an LDV would result in considerable short panel bias.

random effects estimator with Huber/White "cluster-robust" standard errors. The "random effects" are drawn from the Normal distribution.[37] As a result, most models will take the following form:

$$Y_{it} = \alpha + \beta X_{it} + u_i + v_{it}$$

Y_{it} represents either normalized executive assessments of MSP in country i. in year t, or the *formal bias* measure in country i. year t. X_{it} represents regulatory independence and the full battery of political economic controls in country i year t. u_i represents the random individual specific effects. By assumption, between-country errors are assumed to be uncorrelated with the predictors. v_{it} represents the remaining error. β is a vector of coefficients for my explanatory variables and controls. A third set of models will feature an interaction term between regulatory independence and value traded as a percentage of GDP. These models will be nearly identical to the model above with the exception of the interaction effect:

$$Y_{it} = \alpha + \beta_1 X_{it} + \beta_2(\text{Independence}_{it} \times \text{ValueTraded}_{it}) + u_i + v_{it}$$

Analysis

Results largely support Hypothesis I. Regulatory independence has a negative association with executive assessments of investor protection. In contrast, stronger formal MSP (as measured by World Bank expert surveys) has a positive association (see below).

[37] I realize the normality of the random effects coefficient is often questionable in many empirical applications. However, according to simulations by Beck and Katz (2007), Maas and Hox (2004), and McCulloch and Neuhaus (2011a) estimates of beta and random effects variances are typically unbiased by non-Normal random effects in linear models with continuous dependent variables. Bias arise only in "extreme" circumstances (McCulloch and Neuhaus 2011b)

The effects of independence and expert MSP are almost identical in size. A maximum zero to one increase in either variable is associated with a half overall standard deviation (≈0.20) and at least a full within standard deviation (≈0.07) change in executive assessments. This suggests that a simultaneous and equally sized increase in formal MSP and formal regulator independence could have largely offsetting effects in terms of executive opinion. Of the two variables, regulatory independence was far more robust to the inclusion of a dummy for common law legal origin while the expert MSP measure shrank in terms of both magnitude and significance. (see Table 4.1 below). This is unsurprising given the non-negligible positive correlation between the two variables ($\rho \approx .34$) and the work of La Porta et. al. (1998) who suggest that legal tradition fundamentally shapes the strength of MSP.

Table 4.1
(Executive Opinion of Investor Protection)

(DV: Executive Opinions)	(1) Random Effects	(2) Random Effects	(3) Random Effects	(4) Random Effects	(5) Cochrane – Orcutt	(6) Cochrane – Orcutt
Regulatory	-0.11***	-0.10***	-0.08***	-0.15***	-0.05*	-0.11***
Independence	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)
Formal MSP	0.11*	0.11*	0.06	-0.07	0.04	0.01
Expert	(0.05)	(0.06)	(0.056)	(0.08)	(0.04)	(0.06)
Assessment						
Electoral		-0.01***	-0.01***	-0.02*	-0.004*	-0.01**
Competition		(0.003)	(0.003)	(0.008)	(0.002)	(0.004)
Rule of Law		0.01**	0.01**	0.01**	0.006**	0.008**
		(0.004)	(0.004)	(0.005)	(0.003)	(0.004)
Common Law			0.12***	0.19***	0.14***	0.18***
			(0.03)	(0.03)	(0.03)	(0.04)
Political			-0.06	-0.08*		-0.03
Constraint			(0.05)	(0.05)		(0.04)
Electoral			0.001	0.01		0.01
Proportionality			(0.006)	(0.008)		(0.01)
Center-Right			0.03	0.02		0.01
Government			(0.02)	(0.01)		(0.01)
ln(GDPperCapita)	0.03***	0.02*	0.02*	0.04**	0.05***	0.05***
	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)
GDP Growth	0.004***	0.004***	0.004***	0.001	0.002***	0.001*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.0006)	(0.0008)
Capital Account	0.11**	0.10**	0.12***	0.11*	0.05*	0.10**
Openness	(0.04)	(0.04)	(0.04)	(0.06)	(0.026)	(0.04)
ln(Trade)	-0.05	-0.05*	-0.06**	-0.03	-0.01	-0.02
	(0.03)	(0.03)	(0.03)	(0.04)	(0.02)	(0.03)
ln(Inflation)				0.001		0.0002
				(0.01)		(0.005)
Bank Crisis				-0.11***		-0.10***
				(0.01)		(0.01)
Stock Index				-0.002**		-0.001**
Volatility				(0.0006)		(0.0004)
Constant	0.35**	0.48***	0.47***	0.40*	0.034	0.18
	(0.14)	(0.15)	(0.15)	(0.23)	(0.10)	(0.15)
Observations	860	848	796	455	848	455
Overall R^2	0.04	0.05	0.07	0.48	0.43	0.31
Within R^2	0.32	0.34	0.39	0.34	0.01	0.48
Number of countries	121	119	114	73	119	73

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Like independence and expert MSP, rule of law and electoral competition have opposite effects on executive assessments. This mirrors the findings of Li and Resnick

(2003) who suggest that distinctions must be made between the property rights enhancing aspects of democracy (e.g. rule of law) versus those aspects that could frighten business interests (open electoral competition that could empower anti-business interests). Political constraint, electoral proportionality, and government partisanship all lacked meaningful relationships to executive opinion. Economic growth and economic development both improved executive evaluations while instability in stock markets and the banking sector had opposite effects. Effects for my two measures of globalization (capital account openness and trade) were mixed though consistently significant at conventional levels. Overall, Hypothesis I is supported. Regulators' formal insulation from politics does appear to depress executive assessments of investor protection even after controlling for the formal level of MSP as measured by experts.

Formal Bias

The previous section demonstrated that countries with more independent regulators have lower average executive assessments of investor protection. But given that executives are not neutral players in struggles over corporate governance and may benefit from less stringent investor protections, how should this lower level of confidence be understood? Is it simply the losers of regulatory independence expressing their frustration or does it represent a genuine reappraisal of MSP in light of its more consistent and impartial implementation? By analyzing executive opinions alongside those of the experts and isolating the role of regulatory institutions in explaining gaps between the two (i.e. *formal bias*), we should have a better idea of the answer. Results in

Table 4.2 suggest that regulatory independence is in fact a strongly associated with differences between experts formal assessments and executive opinion.

Although the magnitude of the association shrinks by almost half with the inclusion of year dummies or the use of a Cochrane Orcutt AR(1) transformation, regulatory independence is statistically significant at conventional levels in all models. This positive coefficient is in line with Hypothesis II: as regulatory independence increases, formal bias becomes more positive (or less negative) suggesting a decrease in executive confidence relative to the experts. In the random effects models, a maximum zero to one change in regulatory independence should produce positive changes that range from a third to a half of the overall standard deviation of *formal bias*. Prais-Winsten models suggest effects would be equal to roughly half of an overall standard deviation in formal bias (0.12).

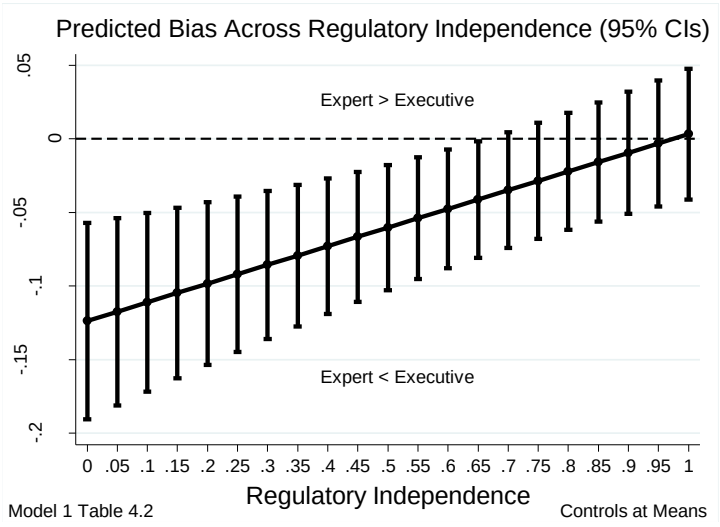
To reiterate, the positive coefficient on regulatory independence variable should not be interpreted as an increase in the absolute size of the gap between expert assessments and executive opinion.

Table 4.2
(Formal bias)

(DV: Formal bias)	(1) Random Effects GLS	(2) Random Effects GLS	(3) Cochrane-Orcutt(AR1)	(4) Prais-Winsten w/PCSE
Regulatory Independence	0.127***	0.082**	0.076**	0.116**
	(0.043)	(0.04)	(0.038)	(0.046)
Electoral Competition	0.008**	0.003	0.007**	0.008***
	(0.004)	(0.003)	(0.003)	(0.003)
Rule of Law	-0.008	0.006	-0.004	-0.003
	(0.006)	(0.006)	(0.004)	(0.003)
Common Law	0.07	0.006	0.047	0.0397
	(0.048)	(0.047)	(0.04)	(0.029)
Center-Right Partisanship	-0.021	-0.011	-0.005	-0.002
	(0.019)	(0.016)	(0.011)	(0.01)
ln(GDPperCapita)	0.041**	-0.07***	0.0124	-0.006
	(0.016)	(0.02)	(0.012)	(0.011)
GDP growth (annual %)	-0.005***	-0.002	-0.003***	-0.002*
	(0.001)	(0.001)	(0.001)	(0.001)
Capital Account Openness	-0.11*	-0.05	-0.07*	-0.03
	(0.06)	(0.06)	(0.04)	(0.03)
ln(Trade)	0.08**	0.06	0.03	-0.002
	(0.04)	(0.04)	(0.02)	(0.02)
ln(Stocks Traded)	-0.04***	-0.0005	-0.03***	-0.03***
	(0.01)	(0.01)	(0.01)	(0.01)
Constant	-0.68***	0.14	-0.22	-0.03
	(0.22)	(0.23)	(0.14)	(0.14)
Observations	733	733	733	733
Within R^2	0.21	0.37	0.18	--
Overall R^2	0.08	0.13	0.13	0.10
Year FE	NO	YES	NO	NO
Number of countries	101	101	101	101

Huber/White Robust standard errors clustered by country (Models 1-2) (*** p<0.01, ** p<0.05, * p<0.1)

Figure 4.3



Instead, it can be described as a move away from negative levels of formal bias (expert < executive) or a reduction in executives' valence based overconfidence in MSP relative to experts' formal evaluations. Figure 4.3 above features a linear prediction of bias across regulatory independence and should clarify the meaning of the positive coefficients. The dashed reference line on the y axis designates the point at which experts and executives' ratings of MSP are identical relative to the other countries of the world. Since all controls are held at their mean, the predictions above represent the effects of regulatory independence on the average country in an average year. When predictions are generated with actual values, results are nearly identical.

Despite differences in slope, all models suggest that regulatory organizations with below average formal independence (<.71) should be associated with executive assessments of MSP that *are more optimistic than the experts* (i.e. negative formal bias).

Beyond mean levels independence, differences are not distinguishable from zero at 95% level of confidence. When financial regulation is conducted within the executive bureaucracy (independence =0), formal bias becomes the most negative and reflects the highest levels of executive overconfidence and/or optimism relative to the experts. Overall, Figure 4.3 provides clear support for Hypothesis IV, linear predictions at both means and actual values are confined primarily to negative levels of formal bias. In other words, the effects of formal regulatory independence seem most closely associated with countries where executive opinions of MSP are more positive relative to experts' formal assessments.

Of the political control variables, only electoral competition produced consistent results in terms of both sign and significance. Interestingly, electoral competition has very similar effects to regulatory independence. As electoral competition increases, executives' opinions become less optimistic relative to the experts and the formal bias variable approaches zero. In short, electoral competition and executives' MSP realism appear to go hand in hand. Of the macroeconomic controls, only economic growth, capital account openness, and stock market liquidity maintain consistent signs. All three are negative and their linear predictions suggest that brisk economic growth, greater capital account openness, and increased stock market development can all increase executive opinions of MSP beyond those of the experts. Although further research would be required, the higher MSP ratings (relative to experts) created by economic growth may be a reflection of a more general optimism experienced by executives during periods of high economic growth. Similarly, the greater optimism in MSP that results from higher

levels of capital account openness may be due to the added financial activity that emerges in the wake of financial liberalization. It could also reflect executives' mistaken assumption that liberalization is accompanied by stronger investor rights.[38]

A similar logic may explain the highly significant and largely negative effect of stock market liquidity on formal bias. Executives may see greater stock market activity and then infer that this must be due, at least in part, to formal investor protection. They may also be conflating formal investor protections with the added economic power that flows to shareholders as a result of market liquidity. As stock markets become more developed, minority shareholders gain added leverage over corporate insiders. Markets for corporate control become more active; information about managerial performance is more readily available; and shareholders can more easily divest themselves of poorly performing companies. Furthermore, as trading activity becomes a larger part of the economy, executives are more often exposed to pro-investor norms and may even internalize these norms through equity based compensation. Any or all of these factors may lead executives to over-estimate minority shareholder protection relative to the experts.

Overall, regulatory independence, electoral competition, economic growth, capital account openness and stock market development have a statistically significant association with formal bias. Higher levels of the first two reduce executives' confidence in MSP relative to the experts while higher levels of growth, capital account openness,

[38] Fortunately, Chinn and Ito's measure of capital account openness has a pairwise correlation of over 0.63 with Abiad, Detragiache, and Tressel's index of banking sector and credit market liberalization.

and stock market development may do the opposite. Given the profound role that stock markets can have on business culture and therefore executive's preferences and behavior, the question arises as to whether the sobering effects of regulatory independence remain the same as economies transition to more shareholder friendly forms of corporate governance. As the findings in Table 4.3 below indicate, the answer is clearly no.

The marginal effects of regulatory independence diminish as stock trading activity becomes a larger portion of the economy. This result is robust to the inclusion of year fixed effects and alternative Cochrane-Orcutt and Prais-Winsten estimations. As Figure 4.4 demonstrates, increases in regulatory independence diminish formal bias in most countries. But once value traded exceeds the 75 percentile of the sample (3.5), the sobering effects of regulatory independence become indistinguishable from 0. There are number of reasons why independence should be less important at these higher levels of market development.

First, there are simply more listed companies, equity investors, and financial professionals spreading pro-shareholder norms across the economy. Long before they are confronted by regulators, executives will have had frequent interactions with the financial press, securities lawyers, independent auditors, and securities analysts. Shareholder-centered corporate governance is also more likely to be included within executives' business education. Most directly, highly liquid markets can facilitate market based punishments for executive under performance (e.g. slumping stock prices and reduced stock based compensation) and make takeover threats more credible. Both give

executives a direct material interest in understanding investor protection. Overall, where markets are highly developed, the chief conduits of pro-shareholder norms are executive socialization and education rather than the enforcement actions of public regulators.

Table 4.3
(Regulatory Independence-Market Depth Interaction on Formal bias)

DV: Formal Bias	(1) Random Effects	(2) Random Effects	(3) GLS Cochrane-Orcutt	(4) Prais-Winsten w/PCSE
Regulatory	0.30***	0.20***	0.20***	0.26***
Independence	(0.07)	(0.06)	(0.06)	(0.08)
ln(StockTraded)	0.007	0.03**	0.002	0.015
	(0.02)	(0.01)	(0.01)	(0.02)
Independence X	-0.07***	-0.05**	-0.05**	-0.06***
ln(StockTraded)	(0.02)	(0.02)	(0.02)	(0.02)
Electoral	0.008**	0.002	0.007**	0.009***
Competition	(0.004)	(0.003)	(0.003)	(0.003)
Rule of Law	-0.007	0.006	-0.003	-0.003
	(0.006)	(0.006)	(0.003)	(0.003)
Common Law	0.081*	0.01	0.06	0.05*
	(0.05)	(0.05)	(0.04)	(0.03)
Center Right	-0.02	-0.01	-0.005	-0.001
Government	(0.02)	(0.02)	(0.01)	(0.01)
ln(GDPperCapita)	0.04**	-0.07***	0.012	-0.005
	(0.016)	(0.02)	(0.01)	(0.01)
GDP Growth	-0.004***	-0.001	-0.003***	-0.002*
	(0.001)	(0.001)	(0.0007)	(0.001)
Capital Account	-0.11*	-0.05	-0.07**	-0.034
Openness	(0.06)	(0.06)	(0.03)	(0.03)
ln(Trade)	0.08*	0.05	0.02	-0.005
	(0.04)	(0.04)	(0.02)	(0.02)
Constant	-0.79***	0.06	-0.32**	-0.13
	(0.22)	(0.24)	(0.15)	(0.15)
Observations	733	733	733	733
Overall R^2	0.10	0.14	0.15	0.11
Within R^2	0.21	0.38	0.19	--
Year FE	NO	YES	NO	NO
Number of countries	101	101	101	101

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

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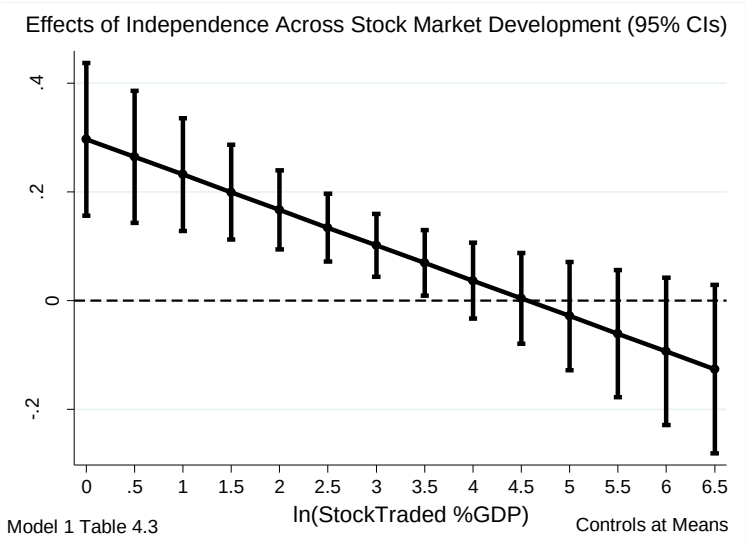
Figure 4.4
(Independence-Market Depth Interaction on Bias)



In contrast, executives in countries with smaller equity markets will be far less likely to gain an understanding of investor protection through non-administrative channels. There are several reasons why this should be the case. First, fewer executives will manage publically listed companies so fewer executives will have incentives to prioritize investor relations. More broadly, executive socialization and education will be less steeped in the norms of outsider oriented corporate governance. The financial press will be less developed, fewer executive peers will manage listed companies, and there will be a smaller density of financial professionals working on behalf of minority shareholders. When executives are made aware of investor protection, this awareness will be more likely to result from interactions with public authorities. Since these interactions are profoundly shaped by regulators' political independence, independence will more powerfully shape executive perceptions in these less developed contexts.

To summarize, higher levels of regulatory independence reduce executive assessments of investor protection. When executive and expert assessments are placed on relative [0,1] scales, findings reveal that this reduction also corresponds to smaller gaps between executive opinions and expert assessments. In support of Hypotheses IV and III respectively, the effects of regulatory independence seem largely confined to countries where executives express greater confidence relative to the experts and in countries where stock markets are *not* the most highly developed in terms of liquidity and size. The section below will investigate the robustness of these results.

Robustness and Sensitivity

In terms of the relationship between regulatory independence and formal (expert) MSP on the one hand and executive assessments on the other, neither is robust to the inclusion of country fixed effects. Only the expert measure is robust to the inclusion of year fixed effects (not shown). However, when the same relationship is evaluated with a pooled Prais-Winsten estimator and panel corrected standard errors, results resemble those in Table 4.1: both expert MSP and regulatory independence are statistically significant, oppositely signed, and have associations with executive assessments of roughly equal magnitude (see Table 4.4A). Regardless of estimator type, the inclusion of controls for financial instability does not diminish the strength of regulatory independence's coefficient.

The relationship between regulatory independence and formal bias found in Table 4.2 is also fairly robust. A statistically meaningful association survives the inclusion of a

further set of controls including overall regulatory quality, political constraint, and financial instability (Table 4.5A). Findings weaken but typically remain significant with the inclusion of country and year fixed effects both together and separately (Table 4.6A). However, the independence coefficient drifts into insignificance when a Prais-Winsten estimator is combined with country fixed effects (Model 3, Table 4.6A). Additional specifications also demonstrate that the reduced differences between expert and executive assessments are in fact driven by the independence of regulators and not their mere existence. When the regulatory independence measure is replaced with a 'regulator in existence' dummy variable, coefficients are cut in half with standard errors being at least as large as coefficients. This non-significance holds across all estimators (not shown).

Robustness tests also provide further support for the assertion that the effects of regulatory independence on formal bias are smaller as stock markets become better developed. The interaction effect is largely unaffected by the inclusion of country fixed effects, year fixed effects, or both (Table 4.7A). Once again, combining a Prais-Winsten estimator with country fixed effects significantly weakens the results (Models 3 and 6, Table 4.7). The interaction survives the addition of controls for political constraint and financial instability (Table 4.8A), but substantially weakens when the independence measure is replaced by the "regulator in existence" dummy (Table 4.9A). If the size of stock markets is substituted for liquidity, results remain largely unchanged across all model types (not shown).

Conclusion

The strength of minority shareholder protection is widely believed to be an essential contributor to financial development. As a result, scholars continue to focus upon developing accurate measures of how various rules and regulations protect non-controlling shareholders from the fraud, incompetence, and self-dealing of corporate insiders. While most measures attempt to develop an objective account of MSP strength, other measures, like the survey evidence provided by the World Economic Forum, allow for more subjective evaluations. Unsurprisingly, the differences between the more formal legal expert based approaches and those that utilize the opinions of the potential losers of MSP (i.e. corporate insiders) are substantial in many countries. Findings indicate that regulatory independence is a key driver of the size and nature of these differences.

In countries where regulators are freed of the most blatant forms of political interference, average executive assessments of MSP are actually lower than countries with more politicized regulators. While it is possible that regulatory independence systematically weakens investor protection, this is likely not the case. Not only would such a conclusion be contrary to the expectations of nearly all past literature on regulatory politics, it would also ignore the potential costs that executives must pay when MSP is strengthened. What seems more likely is that the added policy consistency that accompanies independence may raise executives' awareness of formal MSP including how current levels of MSP fall short or impinge upon their interests. Rather than a genuine sign of weaker investor protection, the inverse relationship between

independence and executive confidence in MSP likely reflects a higher level of knowledge and realism among business elites. Furthermore, these results provide clear guidance as to where independent regulatory organizations may generate the most opposition from corporate insiders: countries where senior executives are more confident relative to the experts in the current regime of investor protection and are relatively isolated from the financial pressures that come from having larger and more liquid equity markets. In these contexts, the consistent and impartial implementation of formal MSP may come as a rude awakening for corporate insiders unaccustomed to the discipline of financial markets or the more stringent enforcement of corporate governance regulation.

However, there are contexts where formal regulatory independence may be a less powerful shaper of executive opinion. In countries where shareholders are economically powerful and reassured by common law, regulatory independence may be less essential to shareholder protection and therefore more weakly associated with executives' assessments of that protection. In other instances, politicians and judges may largely ignore investors' formal rights leading executive opinions to lag far behind expert assessments (expert>executive). If formal MSPs are ignored, regulators' formal protections from political interference will likely be ignored as well. This will cause the latter to have little to no effect on executive opinion since formally independent but informally politicized regulators will act in largely the same way as politicians.

These findings have two key implications. First, independent regulators play an important part in spreading financial knowledge and pro-shareholder norms among

business elites. Their consistent implementation of MSP may help to shift executive assessments of investor protection away from being naïve, abstract, and valence based toward something more concrete, meaningful, and possibly pessimistic. Second, these findings highlight the importance of preventing capture that operates indirectly *through* politicians via processes of appointment, appropriation, and oversight. Had findings indicated that formal political independence is unrelated to executive opinions of MSP, it would suggest that the indirect pressure corporate insiders exercise through the political process plays a only a minor role in shaping regulatory practice. This chapter's results suggest the opposite. Political independence matters and may be essential to transforming formal investor protections from empty words upon which everyone can agree into something that inspires considerable conflict among powerful economic elites.

Chapter 5

Depoliticized Exchange Governance and Self-Regulation

In what was widely seen a landmark case in the history of Canadian federalism, the country's Supreme Court declared unconstitutional the Federal government's proposed establishment of a national securities regulator (*Reference Re Securities Act 2011*). As a result of the Court's decision, Canada remains the only country in the world that regulates its stock markets and securities industry on a fully provincial basis. While provincial securities commissions go to great lengths to coordinate their actions, the only truly national authority over the Canadian securities industry is a *private* self-regulatory organization: the Investment Industry Regulatory Organization of Canada (IIROC). Although Canada is not alone in having a regulatory regime that relies extensively on SROs (e.g. U.S., Korea, Japan, and Colombia), it is unique in that its Federal constitution makes such a reliance virtually unavoidable.

Like Canada, industry self-regulation has fundamentally shaped China's financial development. But unlike Canada, the Chinese experience dramatically highlights how effective self-regulation requires a *political* foundation that China continues to lack. More specifically, self-regulation means more than exchanges or market participants setting and enforcing their own rules. The governance of exchanges must also be free from direct political interference in order for meaningful industry self-regulation to emerge. In the introductory paragraphs below, I will briefly review the Canadian and Chinese experiences. By comparing clear instances of self-regulatory persistence and success with

self-regulatory failure and continued inadequacy, the reasoning that guided the construction of my *depoliticized* self-regulation measure should become more intuitive.

The history of securities regulation and self-regulation in Canada roughly resembles that of its neighbor to the south.[39] Organized securities trading first emerged in Canada during the 1850s and 1860s. Within informal clubs and associations, traders in Toronto and Quebec concentrated their exchange activities on government bonds and early railroad stocks. By the mid-1870s, informal associations of brokers gave way to officially recognized exchanges in both Montreal and Toronto. Both exchanges were *privately* governed and exercised significant self-regulatory power including making and enforcing detailed trading, settlement, and dispute resolution rules. Railroad and mining booms led to the rapid growth of both self-regulatory markets' trading volume and membership. The sale "Victory Bonds" during WWI accelerated this trend as ordinary Canadians became familiar with financial securities. Like the United States, the 1920s were a boom time for Canadian markets. But along with high prices and popular participation came exploitation. Inexperienced retail investors frequently fell victim to aggressive and sometimes fraudulent brokerage sales practices, price manipulation by corporate insiders and market intermediaries, and poor corporate governance (Armstrong 1997). Since segments of the brokers-dealer industry benefited financially from many of

[39] The discussion below will focus mainly upon events in Ontario. Ontario is home to the Toronto Stock Exchange, the largest equity market in Canada from the mid-1930s onward. The Montreal Stock Exchange was the largest by capitalization prior to the 1930s, but economic restructuring, provincial politics, and even a terrorist attack gradually pushed trading volume and business incorporations out of Quebec.

these dubious practices, member controlled stock exchange boards did little to crack down on these corrosive practices.

Following the lead of prairie populists to their south, Western provinces and later Ontario and Quebec passed "Blue Sky Laws" and set up securities fraud enforcement tribunals in order to punish industry wrongdoing. Although these laws and tribunals reigned in the most egregious acts of fraud in the share issuance process, opportunism during exchange trading and within the still self-regulating brokerage industry continued. High profile swindles in mining stocks exposed the shortcomings of the Blue-Sky laws and tribunals, and led the province of Ontario to pass the first modern securities legislation in Canadian history. The Security Frauds Prevention Act of 1928 brought market intermediaries under the purview of public registration, established business conduct rules, and introduced criminal penalties for violations of the Act (Armstrong 1997 & 2001). A new regulatory body, the Securities Fraud Prevention Board was also created to enforce the statute. Following a stock market crash roughly a year later, an additional and even more stringent Fraud Prevention Act was enacted and the Fraud Prevention Board was reorganized into the Ontario Securities Commission. Although the new law and Commission expanded public authority over securities issuance and the brokerage industry, successful lobbying by exchange officials insulated the Toronto Stock Exchange (TSE) from direct Commission supervision. Despite the many weakness revealed by the 1929 crash, Canadian politicians did not believe that private exchange governance or self-regulatory power were the culprits behind market volatility. Instead,

they pointed to weaknesses in corporate reporting, aggressive sales practices, and *individual* broker-dealer firms.

Only after WWII was the Toronto Stock Exchange finally brought under the supervisory authority of the Securities Commission (Armstrong 2001). Yet it is important to point out that this official recognition represented the formalization and deepening of self-regulation rather than its curtailment. Most provincial lawmakers remained confident in the benefits of private rulemaking and enforcement and saw opportunism within the brokerage industry as a reason to empower rather than weaken private self-regulators. This willingness to delegate accelerated even further during the latter half of the 20th century. The Investment Dealers Association (IDA), originally a trade association founded in 1916, gained SRO status under the Commodities Futures Act in 1984 and then under the Securities Act in 1995. The fund management industry followed suit with the Mutual Fund Dealers Association gaining SRO status in 2000. When the Toronto Stock Exchange spun off its self-regulatory functions into a stand-alone organization in 2001, the entity (Market Regulation Services Inc.) was immediately recognized as an SRO by the Ontario Commission. Canadian politicians and regulators' faith in self-regulation reached its pinnacle in 2008 when they allowed the merger of the IDA and Market Regulation Services Inc. into the Investment Industry Regulatory Organization of Canada (IIROC). To this day, the IIROC is one of the most powerful SROs in the world and is the only regulatory organization with national jurisdiction in Canada. Its regulatory duties are extensive and include screening investment advisors for good character and sufficient training; ensuring that brokerage firms meet minimum capital requirements and are in

good financial health; reviewing business conduct compliance so that all customers are treated fairly; conducting front-line market surveillance of trading activity; investigating marketplace and dealer misconduct; adjudicating disputes between market intermediaries; and initiating disciplinary proceedings that can results in fines, suspensions, permanent bans, and referrals to criminal prosecution.

Canada's history raises the following question: is Canadian politicians' confidence in private-sector self- regulation misplaced? Is their continued reliance on self-regulation more a product of industry lobbying rather than a reflection of successful practice? View most broadly, the answer to both questions appears to be no. Canadian official's uniquely intense reliance on privately governed SROs has not led to a widespread deterioration in investor protections or major delays in the development of Canadian equity markets. As of 2012, Canada's market capitalization as a percentage of GDP, value traded as percentage of GDP , and number of publically listed companies per capita are at the 91st, 89th, and 97th percentile globally (World Development Indicators). According to the World Bank's composite index of investor protection, Canada sits atop the rankings at the 98th percentile. When the World Economic Form asked Canadian executives to rank the strength of investor protection and the quality of exchange regulation in their country, their average scores were at the 93rd and 89th percentile of the 2011-2012 global sample (Schwab 2013). In sum, Canadian federalism may have induced a high degree of dependence upon private-sector self-regulation, but this dependence appears to have aided rather than hindered the development of Canada's equity markets.

As touched upon in Chapter 3, the experience in China could not be more different. Prior to the passage of its first full-fledged securities statute in 1999, early securities exchanges and brokerage firms performed self-regulation by default. The first securities markets were operated by local banks and branches of the PBoC with the latter exercising limited regulatory power over OTC equity and bond markets. These early experiments were largely a failure. Fees were high, manipulation widespread, securities registration uneven, corruption endemic, and securities companies poorly managed. Due to these issues, the State Council shut down this interbank OTC equity and bond market at the end of the 1980s. Municipal governments then took their turn as market builders. In 1990 and 1991, municipal officials in both Shenzhen and Shanghai opened formal stock exchanges and designated both as SROs. Reformers within the Communist party saw the establishment of these new exchanges as an opportunity to push their country's nascent securities industry in a Western direction (Green 2004). Unfortunately, the efforts of these more pro-Western modernizers were unsuccessful, and their influence quickly waned as local politicians and bureaucrats seized control over securities trading and SOE reform. Rather than market integrity and investor protection, short-term financial gain and the protection of local industry took precedence within locally administered regulatory regimes.

The weaknesses of local regulation were obvious. A broker-dealer SRO, the Securities Association of China (SAC), was established in 1991 as a non-governmental organization. However, the association was unable to development meaningful self-regulatory power and proved to be a poor advocate for the industry. Rather than a SEC

styled national regulator, Securities Management Commissions (SMC), Securities Administration Offices (SAO), and provincial branches of the PBoC assumed key rulemaking powers. All three organizations were dominated by provincial and municipal politicians, bureaucrats, and party leaders. The exchanges in Shanghai and Shenzhen did exercise the powers traditionally associated with western-styled exchange SROs. They authorized the listing and delisting of shares, set exchange membership rules, developed disclosure requirements for companies, set trading and settlement rules, investigated members' rule violations, and determined disciplinary actions. However, their governance was largely *public* and resembled that of the SMCs and SAOs. Executives, officers, and key committees were made up of local politicians, provincial bureaucrats, and their appointees and allies. As a result, many of the exchanges' self-regulatory powers went either unexercised or were exercised so as to protect politically connected intermediaries and issuers (Green 2004). In short, local officials in the exchange SROs, SMCs, and SAOs consistently abandoned their commitments to investor protection and market integrity in the name of revenue maximization, personal enrichment, and political careerism.

As previously discussed, the Central Government engaged in a prolonged and largely successful struggle to wrest control of securities regulation from local leaders. However, the means by which they waged this struggle has further undermined meaningful self-regulation in the Chinese securities industry. More specifically, in order to protect the Shenzhen and Shanghai stock exchanges from corrosive local influence, the exchanges' regulatory powers were curtailed and their self-governance undermined.

Although formally recognized as SROs according to the 1999 Securities Law, their regulatory role is now that of a frontline supervisor and limited rule maker over trading activity, member conduct, and listing requirements. More dramatically, the CSRC gained appointment power over both exchanges' presidents, vice-presidents, and general managers. The CSRC even holds a de facto veto over appointments and dismissals of directors and middle-managers in key exchange departments (Green 2004).

Although a joint IMF-IOSCO evaluation states that "the regulatory arrangements in China place appropriate and significant reliance on SROs to perform regulatory functions..." many experts highlight the limitations and weaknesses of this reliance (IMF China 2012). In its 2008 Capital Markets Development plan, even the CSRC admits that "Self-regulatory organizations such as the SAC and exchanges have not been fully functioning, and lack the ability to work independently from regulatory agencies (CSRC 2008; 279). The SAC has come under particular criticism. While formally possessing considerable self-regulatory power, experts assert that SAC

> representatives have been actively involved in neither rule-making nor in significant lobbying on behalf of industry...Instead the CSRC has closely deliminted the SAC's role, power, and rulemaking capabilities. The association has operated under the administrative control of the CSRC… all SAC senior staff are government officials, appointed by their CSRC and their work is mainly focused on organizing educational programs (Green 2004; 201).

Despite these obvious weaknesses, the SAC is beginning to fulfill some of the roles envisioned by its founders and the statutes of the National People's Congress. As the second decade of the 2000s commenced, the SAC expanded its long standing educational efforts; conducted a higher volume of "professional assessments" of securities firms;

intensified the issuance of guidelines, best practices, and codes of conduct; and launched its own remote trading system (SAC 2016). While these are signs of progress, the SAC's inability to issue legally binding rules and its lack of disciplinary power demonstrates that it remains more of a (weak) industry lobby and professional association rather than a SRO. It continues to fall far short of the examples set by the IIROC in Canada or the Financial Industry Regulatory Association in the U.S.

As the previous account suggests, the delegation of regulatory power to stock exchanges or associations of broker-dealers is not enough for meaningful self-regulation to emerge. Like public regulators, stock exchanges and industry associations must have sufficient discretion and independence from political officials in order to assume actual self-regulatory power. Without this independence, they can become mere extensions of executive bureaucracies and/or public regulatory agencies. The result is the loss of many of the expertise, legitimacy, and credibility based advantages highlighted by self-regulation's proponents. In short, self-regulation is about more than stock exchanges or broker-dealers exercising power over their own affairs. *It requires the exercise of private power by private actors under public oversight that remains free from direct forms of political interference*. These themes will be explored further in the remainder of this chapter and will be directly incorporated into my novel measure of *depoliticized* self-regulation and exchange governance. This measure will then be used to explore whether

depoliticized self-regulation actually produces the positive stock market development and performance effects predicted by both my theory and self-regulation's proponents.[40]

SROs across the World

As highlighted by the country vignettes above, the activities of public regulatory agencies are often complementary to and sometimes dependent upon extensive private sector self-regulation. Stock exchanges, associations of broker dealers, and industry wide self-regulatory organizations can be key actors in defending retail investors from the opportunism of market intermediaries (e.g. brokers, financial advisers) and ensuring corporate transparency. They perform a variety of regulatory tasks including the establishment and enforcement of market trading, conduct of business, and fair dealing rules; conducting real-time and post-trade surveillance; licensing trading and clearing members; setting capital adequacy and position risk standards; performing clearing and settlement; and providing arbitration facilities for dispute resolution (WFE 2005). [41] In addition, many exchanges play a leading role in protecting minority shareholders by embedding corporate governance, financial performance, and accounting, auditing, and

[40] By proponents I have in mind the financial community, individual SROs, and international organizations such as the International Monetary Fund, International Organization of Securities Commissions, European Bank of Reconstruction and Development, and the International Council of Securities Associations. According to IOSCO's 2008 *Objectives and Principals of Securities Regulation*, regulatory regimes should "make appropriate use of SROs that exercise some direct oversight responsibility for their respective areas of competence and to the extent appropriate to the size and complexity of the markets." The exercise of this oversight responsibility should be "subject to the oversight of the regulator" (IOSCO 2008).

[41] Central securities depositories (CSD) are also considered Self-Regulatory Organizations in some national jurisdictions. These organizations regulate and record 1) the net trading obligations of the broker participants; 2) exchange of cash and securities on the contractual settlement date; and 3) safekeeping of securities and other financial assets. CSDs also act as a central counterparty to trading participants so that if either party to a transaction fails to fulfill their obligations, the CSD will make the wronged party whole. Although researchers have recently pointed to CSDs as a source of systemic risk, they will not be the main focus of this chapter.

periodic disclosure standards in their listing requirements. In many instances these standards are more demanding than the minimum standards set by legislative statute or public regulatory rules. Even short of these formal powers, stock exchange officials can be major players in spreading pro-shareholder norms through their participation in informal working groups and their development of non-binding corporate governance codes. Associations of broker-dealers can play similar roles with regard to market integrity through their promotion of codes of best practices among their members. While they typically lack the powers of public regulators and prosecutors, many exchanges and associations retain the ability to conduct investigations and disciplinary hearings, oversee legally binding arbitration, publically censure market intermediaries and listed firms, and impose monetary fines. Their most potent enforcement powers include the ability to refer market actors to administrative proceedings or criminal prosecution; delist companies from trading; expel or suspend stock exchange and/or industry association members; and revoke industry licenses.

Given the essential role they often play in rulemaking and enforcement, SROs are understudied phenomena among political scientists. Although volumes of research has addressed the international "private politics" of accounting harmonization and corporate social responsibility, securities industry self-regulation has received less sustained and frequent treatment (Simmons 2001; Baron 2001; Mattli and Büthe 2011). When they are the subject of study, they are typically the *object* of political struggle and regulatory controversy. Work on their regulatory role and whether that role has positive or negative benefits on stock market development is even rarer. This is a puzzling omission for a

number of reasons. First, securities exchanges are the venue within which inherently politicized processes such as privatization and the reform of state-owned enterprises takes place. Second, inasmuch as SROs exercise delegated regulatory authority, they are private guardians of public interests. Major breakdowns in exchange governance and/or self-regulation can create damaging market volatility; exacerbate financial crisis or directly cause market crashes; heighten opportunities for corporate malfeasance; and retard financial development by undermining market integrity. The neglect of SROs is puzzling for a third and even more obvious reason. In many instances, stock exchanges are directly owned by the state or are indirectly controlled by state-owned financial institutions. The presence of politicians, regulators, and their appointees on exchange boards is common in the developing world. In sum, stock exchanges are not just objects of political and regulatory debate; they are political and regulatory actors in their own right.

Unfortunately, only a handful of cross-national studies have systematically explored the prevalence of SROs and their regulatory role within securities markets (Carson 2011; IOSCO surveys).[42] While legal and financial scholars have engaged in

[42] The International Council of Securities Associations (ICSA) defines an SRO as "*a private, nongovernmental organization* that should be dedicated to the public interest objectives of enhancing market integrity, investor protection, and market efficiency." More specifically, the ICSA (2006b) insists that SROs should " (a) share a common set of public policy objectives including the enhancement of market integrity, market efficiency, and investor protection; (b) are actively supervised by the government regulator(s); (c) have statutory regulatory authority, authority that is delegated by government regulator(s), or both; (d) establish rules and regulations for firms and individuals that are subject to their regulatory authority; (e) monitor compliance with those rules and regulations and, in the case of SROs that regulate trading markets, conduct surveillance of markets; (f) have the authority to discipline members that violate applicable rules and regulations; (g) include industry representatives on their boards or otherwise ensure that industry members have a meaningful role in governance; and (h) maintain structures, policies, and

more in-depth analyses, their work is rarely comparative and explicitly political questions make only intermittent appearances within the literature. A lack of data may at least partially explain this omission of exchange governance and SROs from the financial politics research agenda. Even the peak level international organization that represents stock exchanges experiences difficulties collecting information. In the preface to their 2004 study on exchanges' rulemaking, monitoring, and enforcement responsibilities, the World Federation of Stock Exchanges states that only

> 80% of the WFE members responded to the questionnaire, although not all exchanges responded to all of the questions asked… The costs of regulation are a significant portion of exchange operating expenses, although the answers to questions about costs in this survey were somewhat disappointing in terms of genuine comparability for the group. Some exchanges did not respond to these questions, and some answers seemed somewhat arbitrary, and perhaps even erroneous… A majority of exchanges wished their answers to remain confidential… Perhaps an inability by exchanges to fully understand or control what is happening to the exchange markets and to their regulation explains some of the difficulties exchanges had in answering the questions…Another possible impediment to clearer responses is that as exchanges become commercial enterprises in a global capital market, they are all competitors on some level. That also makes giving quantitative information a sensitive matter(3-4).

Studying financial statues and regulation can only go so far in overcoming this dearth of information regarding exchanges' regulatory roles. Statutes often list the areas over which exchanges can and/or must make rules and conduct enforcement activities. How detailed or wide ranging these rules are in practice is far harder to discern as is the effort that exchanges actually expend in enforcing them. Oftentimes, public regulators will have overlapping and/or duplicative regulatory responsibilities with exchanges and

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procedures to ensure that conflicts of interest between their commercial and regulatory activities are appropriately managed." (quoted in Carson 2015)

SROs leaving it unclear which actor exercises the preponderance of authority. Further complicating matters are statutes that give public regulators the ability to delegate their regulatory power to industry SROs. How much delegation actually takes place and whether the delegation is broad or specific remains ambiguous. As the 2004 WFE report quoted above suggests, these issues are in constant flux and are a real source of confusion among regulators, politicians, exchange officials, and securities firms. If even industry insiders often lack a detailed understanding of the true distribution of regulatory authority within the securities industry, outside analysts should not be blamed for their less than complete grasp of the same issues.

To date, there is no panel data regarding state ownership within the stock exchange sector or the presence of politicians, political appointees, regulators, and central bankers within exchanges' decision making bodies. Relatedly, there is no dataset that measures the degree to which different countries' financial legislation encourages or discourages the formation of SROs or whether officially designated SROs actually emerge when a legislative framework exists. Before the more complex task of discerning the exact division of authority between public and private regulators can be tackled, a more basic empirical baseline must be established. The goal of this chapter is to establish just such a baseline. This chapter will begin with a descriptive overview of 1) non-private ownership of securities exchanges; 2) the formal politicization of their governance; 3) the presence of financial statutes that facilitate the exercise of regulatory power by the private sector; and 4) the de facto presence of SROs across the globe. As in previous chapters, I will utilize a graded response model in order to place national regulatory

regimes along a latent continuum of *depoliticized private industry self-regulation (DSRO)*. Once I have a measure of *DSRO*, I will estimate a series of empirical models in order to discern the strength of the association between industry self-regulation and measures of stock market development and performance.

Overall findings are mixed. In terms of overall stock market development, there is evidence that depoliticized self-regulation is positively associated with market size and index price growth, but this relationship is not robust to all potential controls. Furthermore, it seems that the association between depoliticized self-regulation and stock market development is dependent upon at least some semblance electoral competition particularly among legislators. Finally, there is evidence that both public regulatory independence and depoliticized self-regulation make unique contributions to stock market size and price growth.

SRO Models

Variation in levels of self-regulation is best viewed as part of a continuum ranging from outright government domination of both the operation and regulation of financial markets to elaborate systems of self-regulation that utilize extensive private rulemaking and enforcement. Different countries have different mixes of public regulation and private self-regulation with public regulatory agencies and SROs sometimes playing complementary and at other times playing substitutive roles within capital market governance (IOSCO 2000; CFA Institute 2007; Carson 2011; World Federation of Exchanges 2004; CFA Institute 2013). At one end of the self-regulatory continuum is a

government dominated model in which all forms of private sector self-regulation are virtually absent and the governance of the securities industry is maximally politicized. Government ministers, political appointees, or politicized regulatory agencies are charged with supervising trading activities; determining exchange rules concerning listing, trading, membership, and business conduct; and/or enforcing penalties when traders or issuers violate rules. The most extreme version of the government dominated model features exchanges that are statutory public institutions or SOEs with politicians, political appointees, and/or other public officials serving as executive management and/or supervisory board members. These government dominated exchanges may be nominally self-regulatory in the sense that the exchange board of directors both operates and regulates the exchange. However, in line with most practitioners and international organizations such as the ICSA, I do not consider them SROs since they lack the status of *private nongovernmental* organizations. The government dominated model is found most often within authoritarian regimes particularly those located in the Middle East and North Africa. However, the presence of political appointees on exchange boards was and continues to be present in countries across the world (see Appendix V(b) for a complete list).

In other instances, the government plays a leading rather than a dominating role in securities market regulation. Particularly common in Western Europe, the government-led model is built upon the assumption that assigning public regulatory functions to a private body is inappropriate particularly when the private body is a commercial company that must compete against others for trading volume. This model seeks to

minimize layers of regulation and compliance costs by centralizing rulemaking and enforcement responsibility within one public body. Within the government-led model, exchanges' self-regulatory functions are highly circumscribed, but still include market surveillance and basic rulemaking with regard to trading procedures, exchange membership, and basic listing requirements. Exchanges' roles in enforcement are also minimal in this model and are typically limited to reporting wrong doing to public authorities and/or temporarily suspending trading participants or securities firms while more formal public enforcement activities run their course. Issues such as market manipulation and insider trading remain the sole purview of public regulators. The government-led model also tends to be less politicized than the government dominated model since political officials play a much smaller role in exchange governance and operation.

The limited SRO exchange model is similar to the government led model in that public regulatory agencies remain the most powerful rule makers and enforcers, but they are more dependent upon exchanges to perform "front-line" supervisory and monitoring duties. Exchange rulemaking extends beyond mere operational rules and becomes more detailed and demanding particularly with regard to listing, trading, and membership rules. Enforcement powers are also augmented under this model, but they remain limited to listed companies and trading participants conduct vis-à-vis each other and the exchange. This model may also feature dispute resolution procedures for any disagreements that emerge on the trading floor.

At the more extreme end of the self-regulatory spectrum lies the strong exchange SRO and independent member SRO models. In the former model, government regulators are highly dependent upon exchanges to perform "extensive" regulatory functions that extend well beyond market surveillance and trading rules. Not only will exchanges regulate the behavior of trading participants and members while they are on the exchange floor, but strong exchange SROs will also make rules regarding broker-dealers' internal business, compliance, book keeping, and risk management practices; intermediaries' dealings with customers off the exchange; and clearing and settlement. The strongest exchange SROs may play dominant roles in the licensing and examination of market intermediaries as well as rulemaking, monitoring, and enforcement regarding insider trading and market manipulation. Strong exchange SROs listing requirements tend to move beyond basic issues of financial health and accounting transparency. They can include extensive corporate governance requirements with regards to minority shareholders, board independence, mergers, block acquisitions of shares, and auditing procedures. Some exchanges (e.g. Johannesburg Securities Exchange) are the sole authority with regards to prospectus and securities distribution requirements in initial public offerings. Enforcement powers are also much stronger and include the ability to launch formal investigations with statutorily backed powers to demand testimony, documentation, and/or trading data. Disciplinary procedures may take on a quasi-judicial flavor that can not only lead to fines, suspension, and expulsion, but also referral to criminal prosecutors. Some SROs are so powerful that they enjoy the same immunities

from lawsuit that are enjoyed by public regulators and government personnel (e.g. U.S, Bahamas, Singapore).

The independent member SRO model is very similar to the strong exchange model, except the SRO is not a market operator. These non-exchange member SROs are typically non-profit, member owned, and have emerged in countries as disparate as the United States, Canada, Turkey, Oman, Japan, and Korea. Like exchange SROs, these organizations settle disputes between trading members; set membership requirements concerning professional training, experience, and financial solvency; punish members for violating trading or business conduct rules; and institutionalize off-exchange over-the-counter trading. In more recent decades, independent SROs have extended their authority beyond trading activities into areas such as financial advising, investment fund management, and ethical standards for all financial professionals and intermediaries. Given the increasingly prominent role of non-exchange trading across electronic communication networks and the demutualization of exchanges into for-profit corporations, some non-exchange member SROs (e.g. US prior to 2013, Canada, Philippines) assume nearly all of the regulatory duties once exercised by exchange operators.[43]

These models should all be considered ideal types with some countries utilizing features from more than one model at the same time or shifting between models overtime. Furthermore, some countries have created statutory frameworks for SROs

[43] Credit for the SRO types just described belongs largely to Carson (2011)

without any SROs actually emerging. Even within models there is variation in the degree to which self-regulation is a substitute or complement to public regulatory effort. There is also diversity as to whether self-regulatory power is exercised independently of public oversight or under the strict scrutiny of public officials. In light of this complexity, the measures outlined below are obviously rudimentary. However, they do provide an essential first cut at the evidence regarding the role of industry self-regulation across the world's stock markets.

Public Ownership of Stock Exchanges

Despite their symbolic association with free market capitalism, non-private ownership of stock exchanges is widespread throughout the world. During the 1988-2012 period, roughly 45% of 130 sample countries hosted a stock exchange with some sort of non-private ownership.[44] While the vast majority of the world's largest and most liquid exchanges undoubtedly remained in private hands throughout the period, the number of non-purely privately owned exchanges is high and reflects the very active role of the state in supporting the diffusion of equity markets across the globe.

In order to get a more detailed grasp of global trends in ownership, I created an indicator for the world's major exchanges that measures all three types of non-private ownership: 1) direct government ownership; 2) ownership by central banks; and 3) ownership by banks or other financial institutions which are themselves controlled by state shareholders. Within these three categories, 0 indicates pure private ownership, 1

[44] During the 1988-2012 period, just under 35% of all country-year observations indicated non-purely-private exchange ownership.

indicates minority non-private ownership, and 2 indicates majority non-private ownership. Exchanges that are statutory public institution were automatically given a 2 under the direct government ownership category. These three categories were then summed and truncated at 2 with all scores above 2 being recoded to 2.[45] The resulting public ownership measure, *PubOwnTotal*, takes on a value of 0 for pure private ownership, 1 for minority non-private ownership of any sort, and 2 for majority non-private ownership of any type *OR* minority ownership by more than one type of non-private body.[46] With this coding, *PubOwnTotal's* sample mean is 0.61 and its median is 0.

Several trends become clear from an initial look at the data. First, the number of exchanges with non-private ownership has increased as less well developed countries have founded exchanges. More formally, there is a negative spearman rank order correlation between the measure of non-private ownership and the age of exchanges ($\rho \approx -.41$). Non-privately owned exchanges are overwhelmingly concentrated in Africa, the Middle East, South East Asia, and the former Soviet countries of Eastern Europe and Central Asia. The most common type of non-private ownership during the 1988 to 2012 period is direct ownership by government (25% of country year observations) followed

[45] I initially attempted to utilize an IRT scaling procedure to uncover a latent dimension of non-private ownership. However, no measurement model emerged in which the three indicators loaded onto a single dimension. Other than the indicator direct government ownership, all others had trivially small discrimination parameters.

[46] Since the goal of this analysis is to investigate the impact of exchange politicization, 2 other coding schemes were adopted for robustness. Both attempted to weigh the ownership types according to their level of politicization. Due to international best practice converging around the norm of central bank independence, the central bank category was not given any extra weight. *PubOwnTotal2* multiplied the direct government ownership category by 2 before adding the other two categories. *PubOwnTotal3* multiplied the direct government ownership category by 2, the ownership by government owned financial institutions category by 1.5, and left the central bank category unmodified before the 3 were summed.

by indirect ownership via financial institutions controlled by the government (13%), and Central Banks (6%). Finally, within country variation in non-private ownership is small as compared to the overall variation during the 1988-2012 sample period (within/overall std.dev =0.34/0.9). There are only 31 instances in which the overall level of non-private ownership increased or decreased. When changes are measured so that alterations in the mix of non-private ownership are counted rather than just the overall level, the number of changes increases to 48 over the sample period.

Below are Spearman's rank correlation coefficients between the ordinal ownership measure and different political and macroeconomic variables.

Table 5.1
(Exchange Ownership and Macroeconomic Correlations)

Trade (%of GDP)	.14**
Capital Account Openness	-.30**
ln(GDPperCapita)	-.23**
Services Value Added (%ofGDP)	-.36**
Industry Value Added (%ofGDP)	.19**
Agriculture Value Added (%ofGDP)	.21**
p<.05*; p<.01**	

Non-private stock ownership exchange ownership has a clear negative rank order correlation of a weakly moderate size with economic development. More specifically, countries with more tightly regulated capital accounts, less than fully liberalized financial sectors, and whose economies are dominated by "old" economic sectors (i.e. industry and agriculture) are also more likely to have non-privately owned exchanges. Non-private ownership also appears to be more common in non-democratic contexts with spearman rank order correlations being -0.40 and -0.32 for electoral competition and political

constraint respectively. Not surprisingly, non-private exchange ownership is negatively associated with securities market and banking development and has a negative correlation with measures of financial sector liberalization and regulatory quality (see below).

Table 5.2
(Exchange Ownership and Financial Development Correlations)

Market Capitalization (%GDP)	-.24**
Value of Stock Traded (%ofGDP)	-.13**
Stock Price Volatility	.30**
Domestic Credit Provided by Financial Sector	-.16**
Privatization of Bank Sector	-0.35**
Stock Market Liberalization (First ADR or Country Fund)	-.09*
Overall Financial Liberalization	-.31**
p<.05*; p<.01**	

Politicized Exchange Governance

When exchanges are owned by non-private actors, these actors also tend to exercise influence over exchange management by virtue of their status as block and/or controlling shareholders. However, the ability of non-private shareholders to appoint board directors is not the only way government officials and regulatory actors can directly participate in exchange decision making. More specifically, financial legislation in many countries reserve seats on exchange boards of directors for government ministers, regulators, and their direct delegates. Other statutes require that exchange managers or boards of directors be appointed or approved by political officials or regulators. In some contexts, governments appoint "commissioners" to exchange bodies that are directly responsible to political officials rather than regulators. These commissioners often have the right to participate in board deliberations as well as veto or

suspend board decisions. In short, there are a variety of methods that public officials can utilize to directly influence exchange governance and operation. [47] In order to get a more accurate grasp of these methods, I analyzed financial legislation, regulatory orders, and exchange annual reports to develop five indicators of exchange politicization.

The first indicator (exOfficioGov) measures whether politicians or their direct delegates sit on exchange boards. The indicator is scored on a 0,1,2 scale with 0 indicating multiple government officials/delegates, 1 indicating a single government official/delegate, and 2 indicating the absence of any government officials/delegates within organs of exchange decision making. The second indicator (exOfficioReg) is identical to exOfficioGov except the presence of securities regulators or central bankers is measured on the 0-2 scale. The third indicator measures the presence of board members appointed by state-owned financial institutions and takes on the same 0-2 scale as the exOfficio indicators. The last two indicators measure both the ability of government or regulators to appoint board members (who are not their delegates/representatives) and their ability to approve the appointments of exchange shareholders or members. The two indicators, GovAptApv and RegAptApv, are coded so that 0 indicates the presence multiple appointments, 1 a single appointment, 2 approval power over shareholder/member appointments, and 3 no appointment or approval power.

An initial glance at the data suggest that like non-private exchange ownership, politicized exchange governance is concentrated in the Middle East, North Africa, South

[47] I include Central Bankers under the category of regulators

East Asia, and former Soviet countries of Eastern Europe and Central Asia. Across 131 countries during the 1988-2012 period, 78 countries had some form of non-private participation in exchange governance. Overall, there is relative stability in exchange governance politicization. During the 1988-2012 period, there were just over 90 changes to the mix of government and regulatory officials and appointees within exchange governance. As new exchanges were founded in countries of the former Soviet Union during the 1990s, the global level of exchange politicization briefly increased. However, this brief increase was reversed as the role of government owned commercial banks and financial SOEs declined within many Eastern European and Central Asian exchanges (see Appendix V(b) for review of non-private ownership and politicized exchange governance).

In order to measure overall levels of politicization, I once again utilized a marginal maximum likelihood (MML) two-parameter graded response model to extract a latent dimension of exchange governance (de)politicization from my five indicators. As previously discussed in Chapter 3, the choice of MML estimation rather than a Bayesian approach is not without consequences. As compared to my independence measure that had a large number of statutory test items, my politicization measure has only five indicators. This fewer number of indicators does make a Bayesian approach more appealing in terms of the accuracy of latent scores (Kieftenbeld and Natesan 2012). However, according to simulations conducted by Lautenschlager et al. (2006) and Kieftenbeld and Natesan (2012), MML graded response models still perform reasonably well in terms of parameter recovery (as compared to Bayesian models) as long as sample

sizes exceed 300 and the number of indicators in no fewer than five. Since my final measure of depoliticized exchange governance and/or self-regulation meets or exceeds both of these rules of thumb, I will continue with a MML approach in the name of consistency.

In line with the coding outlined above, higher latent scores indicate a smaller role for public officials and appointees in exchange governance. For obvious reasons, I expect the presence of government officials on exchange boards to be the most politicizing and discriminatory. I expect the presence of regulators or central bankers on exchange boards to be the second most discriminatory in terms of politicization. I have this expectation because they are appointed to their posts by politicians, are often charged with supporting government policies, and enjoy only imperfect protection from political interference.[48] For comparable reasons, I expect the government appointees indicator to have a similar level of discriminatory power. Finally, I expect the regulatory appointee and government owned financial institution indicators to be the least discriminatory in terms of latent politicization because both groups are an added layer of delegation removed from political officials. Of the two, I expect the appointees of regulators to be the least politicizing since they are often appointed as "public interest" or "independent" directors rather than as delegates or representatives of government actors. In contrast, appointees

[48] The severity of this "imperfection" should correspond to the varying levels of formal political independence enjoyed by regulatory organizations and central bankers. Less independent regulatory officials will likely politicize exchange governance to a greater degree than more independent regulatory officials.

of government owned financial institutions are directly responsible to actors who themselves have legally binding fiduciary duties to government shareholders.

Overall, the modified factor loadings (i.e. discrimination parameters) largely fall in line with expectations. Indicators measuring the presence of politicians and regulators on boards of directors were the most discriminatory while indicators measuring actors who were an added layer of delegation removed from politicians were the least discriminatory. However, the regulator appointment/approval indicator (RegAptApv) performed poorly. Not only did it possess a discrimination parameter and modified factor loading that was of negligible size according to convention, but its discrimination parameter was also negative. As a result, the RegAptApv indicator was dropped and the graded response model was reestimated. The reestimated model produced very similar results.

Table 5.3
(Exchange Governance Factor Loadings)

With Regulator Appointment and Approval

	Modified Factor Loadings
Government Board Members/Delegates	0.99
Regulator Board Members/Delegates	0.717
Government Owned Bank Appointees	0.326
Government Appointees	0.574
Regulator Appointment/Approval	-0.235

Without Regulator Appointment and Approval

	Modified Factor Loadings
Government Board Members/Delegates	0.982
Regulator Board Members/Delegates	0.732
Government Owned Bank Appointees	0.365
Government Appointees	0.587

In order to ease interpretation in future analyses, I max-min normalized exchange governance depoliticization latent trait scores onto a [0,1] interval so that 0 corresponds to the maximum level of politicization within the sample and 1 corresponds to complete freedom from direct public governance. Overall, the average exchange's decision making body was relatively free from political influence (μ=0.8) and the level of variation within countries was minimal (within/overall std.dev = 0.11/0.28). Exchange governance depoliticization has gradually increased overtime from an average of 0.74 in 1988 to 0.85 in 2012.

In comparison to exchange ownership, the positive correlations between governance depoliticization on the one hand and overall economic development and democracy on the other are somewhat weaker. Veto players and electoral competition have Pearson correlations with exchange governance of 0.38 and 0.21 respectively. In terms of financial sector outcomes, the depoliticization of exchange governance is only very weakly correlated with stock market development and measures of financial liberalization.

Table 5.4
(Exchange Governance Correlations)

ln(GDPperCapita)	0.04*	Market Capitalization (% of GDP)	.05*
Capital Account Openness	.16**	Value Traded (% of GDP)	.10**
Trade (%ofGDP)	-.08**	Stock Price Volatility	-.09**
Services Value Added (%of GDP)	.14**	Domestic Credit Provided by Financial Sector (% of GDP)	.11**
Industry Value Added (%of GDP)	-.10**	Privatization of Bank Sector	.27**
Agriculature Value Added (%of GDP)	-.07**	Stock Market Liberalization (First ADR or Country Fund)	.16**
p<.05*, p<.01**		Overall Financial Liberalization	0.04
		p<.05*, p<.01**	

Self-Regulatory Statutes and Organizations

In contrast to exchange ownership and governance, measuring the importance of self-regulation is less straight forward. Nearly every stock exchange in existence has at least some basic self-regulatory powers and nearly every securities market regulatory framework gives stock exchanges the right to make and enforce rules. However, what is more important for my purposes is the degree to which politicians explicitly promote or sanction self-regulation within financial statutes. This conceptual issue is analogous to issues raised by public regulatory independence. Most regulatory agencies are organizationally separate from ministries of finance. However, when measuring their formal protections from political interference, many experts view references to agency "independence" or "autonomy" within financial statutes as a clear indication that lawmakers intend for an agency to act independently. I view statutory references to "self-regulation" in a similar way. Explicit references to "self-regulation" within financial legislation serves as a clear indicator of government actors' willingness to delegate regulatory authority to non-public actors. Obviously, an ideal measure would track the specific areas of rulemaking, monitoring, and enforcement that were delegated, but this ideal would be difficult to achieve for the reasons outlined earlier. In lieu of this ideal, I construct an indicator that encompasses *both* the degree to which statutes facilitate and/or mandate self-regulation *and* the actual presence of self-regulatory organizations within a particular country's securities industry. With this in mind, I developed the following scale of self-regulatory intensity:

0--A full securities market regulatory framework exists, but there is no mention of self-regulation anywhere within the framework.

1—A fully *private* stock exchange operates in an environment in which there is no securities market regulatory framework and is therefore self-regulatory by default.

OR

1--A securities market framework exists and there is a brief mention or passing reference to self-regulation within financial statutes. Stock exchanges may be recognized as self-regulatory, but a full self-regulatory statutory framework is absent from financial legislation.

2--A *full* SRO statute exists, *but* no exchange or broker dealer association has officially been designated as an SRO under the statute by public authorities. An SRO statute is considered "full" when it 1) outlines the process by which an exchange or broker-dealer association receives recognition as an SRO; 2) it describes SROs' obligations vis-à-vis the public, the government, regulators, and its members; 3) it outlines SROs rulemaking and enforcement powers; 4) Explicitly describes how the government and/or securities market regulator conducts oversight of officially designated SROs

OR:

2--A statutory framework exists for securities markets and there is no explicit mention of "self-regulation" within the statutory framework, *but* a non-government dominated

exchange is explicitly delegated extensive regulatory powers over market participants and/or listed companies.[49]

3--Exchanges and/or broker dealer associations are explicitly designated as Self-Regulatory Organizations by statute or regulatory order.

OR

3--A statute mandates the creation of a broker dealer association that exercises self-regulatory power, the association comes into existence, and it is recognized as fulfilling its mandate.[50]

Overall, just over 55 countries have non-zero scores on the SRO indicator. Only 25 countries have or did have exchanges that are/were officially designated as SROs according to statute or regulatory order during the 1988-2012 period. 18 additional countries have or had officially designated non-exchange member based SROs. The remaining 12 countries' regulatory regimes have either a) private exchanges operating without a formal securities market regulatory framework (scored 1), b) non-government

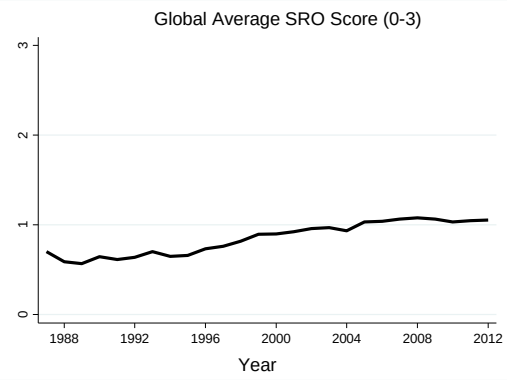
[49] For example, from 2001 until 2009, the Australian Exchange was not only charged with enforcing compliance with its own business rules, but it was also charged with enforcing public licensing requirements. In addition it was tasked with enforcing as *all* of the statutes within the "Securities" chapter of the Corporations Act of 2001. Bursa Malaysia, Johannesburg Stock Exchange, and the Singapore Exchange also received a score of 2 during particular country years due to their extensive exercise of delegated regulatory power in the absence of an official SRO designation.

[50] This is the case in Turkey, Oman, Sudan, and Iran. In Turkey, the Borsa Istanbul is not considered an SRO and operates within a regulatory regime dominated by a public regulator. However, securities statutes mandate the creation of the Turkish Capital Market Intermediaries Association and the association exercises extensive self-regulatory powers over its members. Both the Muscat Securities Exchange and the Khartoum Securities exchanges are government dominated but both countries securities laws mandate the creation of broker dealer associations charged with developing and enforcing membership rules as well as enforcing members' compliance with securities laws and ethical codes. A similar government mandated broker-dealer association exists in Iran.

exchanges exercising extensive delegated regulatory power without SRO designation (scored 2), c) full SRO statutes but no exchanges or industry associations falling under their purview (scored 2), or d) possess statutes that merely mentions self-regulation (scored 1). A full description of all countries with non-zero scores can be found in the Appendix V.

While nearly all exchanges exercise some self-regulatory power, officially sanctioned self-regulation is rare with the average SRO score during the 1988-2012 period being 0.9. The median country received a score of 1. The average exhibits little change with only a slight uptick beginning in the mid-1990s (see Figure 5.1). Overall and within country variation across the sample is also muted with overall and within standard deviations of 1.25 and 0.65 respectively.

Figure 5.1



Geographically, self-regulation (i.e. non-0 scores) is largely concentrated in North America (Canada, US), Asia (Japan, Korea, Taiwan, Malaysia, Indonesia and Thailand) and to an increasing extent Latin America and the Caribbean (Colombia, Brazil, Mexico, Panama, Trinidad and Tobago, Dominican Republic, Barbados, Bahamas, and formerly

Argentina). Self-regulatory arrangements within securities markets are the rarest in Western Europe. A review of Spearman's rank order correlations between the SRO variable on the one hand and electoral competition and veto players on the other yields no meaningful correlations. Self-regulation does appear to have a modest positive correlation with measures of stock market development and liberalization

Table 5.5
(Self-Regulation and Financial Development Correlations)

Market Capitalization (% of GDP)	.16**
Value Traded (% of GDP)	.15**
Stock Price Volatility	0
Domestic Credit Provided by Financial Sector (% of GDP)	-.02
Privatization of Bank Sector	.15**
Stock Market Liberalization (First ADR or Country Fund)	.12**
Overall Financial Liberalization	-0.03
p<.05*, p<.01**	

Global leadership in terms of securities markets also appears to have little relationship with self-regulatory intensity. The world's ten largest exchanges by market capitalization are located in nine regulatory jurisdictions. Of these nine jurisdictions, four rely extensively on self-regulatory arrangements (United States, Canada, Japan, and Brazil) while four do not (Germany, Australia, Hong Kong, United Kingdom).

Combined Indicator: DSRO

To reiterate the argument of Chapter 2, politicians often have difficulty credibly committing to investor protection and market integrity. In order to overcome this commitment problem, they often delegate regulatory power to public agencies. The findings of previous chapters suggest that this delegation is effective in terms of credibility and these credibility effects increase with political independence. The same

should hold true for stock exchanges and broker dealer associations. Delegation to stock exchanges and other industry actors should only be credibility enhancing to the degree that they are actually private actors (i.e. not government dominated) and are free from politicized governance. Therefore, an accurate measure of self-regulation should take into account *both* the intensity with which self-regulatory practices are explicitly promoted by the state via statute *and* the role of politicians and other public regulators in operating market infrastructures. Only by measuring both traits can researchers understand the degree to which the securities markets of the world are *privately* self-regulated**.** This section will combine the four indicators of politicized exchange governance with my ordinal measure of self-regulation to create a composite measure of private and depoliticized self-regulation or *DSRO*.

The *DSRO* measure is composed of the following indicators: 1) government board members/delegates on exchange boards, 2) regulator board members/delegates on exchange boards, 3) appointees of state owned financial institutions on exchange boards, 4) government appointments to or approval power over exchange boards, and 5) the ordinal SRO intensity indicator.[51] As before, I estimate a graded response model in order to measure regulatory jurisdictions' latent levels of depoliticized self-regulation. I then min-max normalized country-year latent scores onto a 0-1 scale in order to produce an

[51] The ownership measures were excluded from the graded response models because they lack independence from the Government Appointee and Government Owned Bank Appointee indicators. The inclusion of indicators with axiomatic dependence could bias estimates of discrimination parameters and factor scores.

easily interpretable composite measure of private and apolitical self-regulation (*DSRO*).[52] Once again, a score of 0 corresponds to highest level of political domination in the sample. 1 corresponds to the highest level of depoliticized private self-regulation (*DSRO*) and would characterize a country with no political or regulatory appointments on the stock exchange board, a full SRO statute, and an SRO recognized under that statute. Countries with no SRO statute but fully depoliticized exchange boards (e.g. most of contemporary Western Europe) have scores of 0.80 or greater. Modified factor loadings and descriptive statistics can be seen below.

Table 5.6
(*DSRO Factor Loadings*)

	Modified Factor Loadings
Government Board Members/Delgates	0.99
Regulator Board Members/Delegates	0.7
Government Owned Bank Appointees	0.33
Government Appointees/Approval	0.6
SRO Intensity	0.47

	Mean	Median	Std. Dev
Overall	0.703	0.8	0.25
Between	--	--	0.24
Within	--	--	0.105

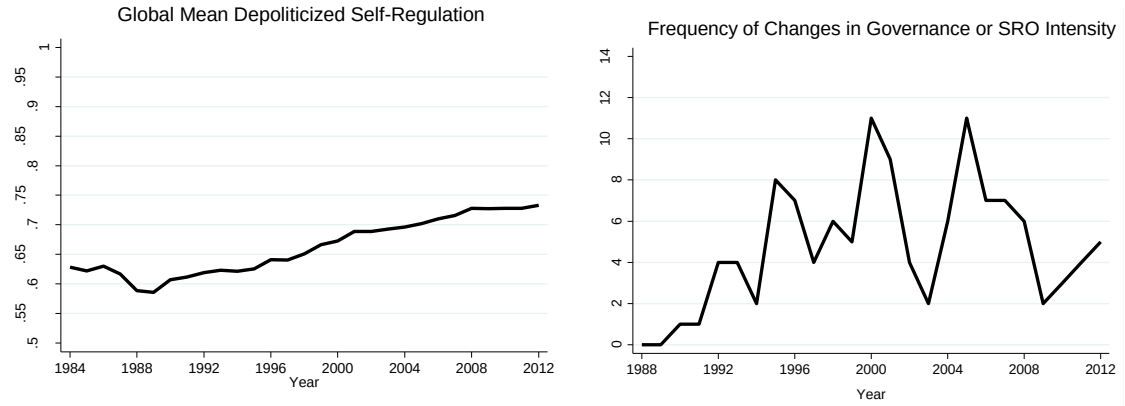
As with its two component indicators, *DSRO* is slowly moving with only 120 changes across the world during the 1988-2012 period. Most changes occurred from the

[52] The normalization was calculated in the following way: (*DSRO* - $DSRO_{(minimum)}$)/(*DSRO* $_{(maximum)}$ - $DSRO_{(minimum)}$). In order to ensure that middle category inflation does not throw off inferences. All analyses in this chapter were reestimated with raw scores of *DSRO* and *DSRO* z-standardized (*DSRO*- *DSRO*(sample μ))/std.dev(*DSRO* in sample). Qualitative findings were left unchanged and p-values were very similar.

mid-1990s until the early 2000s (Figure 5.2b). Overall, *DSRO* is gradually increasing over the sample period (Figure 5.2a).

Figure 5.2
(*DSRO* Global Trends)

(a) **(b)**



Pairwise correlations suggest a moderately strong association between depoliticized self-regulation on the one hand and democracy on the other. DSROs pairwise correlations with political constraint and electoral competition are 0.25 and 0.44 respectively.

Depoliticized Self-Regulation and Stock Market Development and Performance

Now that I have a measure of depoliticized self-regulation (*DSRO*) across the world's securities markets, I can answer a similar question to the one posed in Chapter 3: To what extent is state sanctioned depoliticized self-regulation associated with stock market development in general and market performance more specifically? If delegation of regulatory power to independent public regulators mitigates politicians' credibility

problems vis-à-vis minority shareholders and retail investors, delegation to depoliticized private regulatory organizations could be similarly credibility enhancing. As in previous chapters, overall stock market development will be measured in terms of the natural logarithm of stock market capitalization as a percentage of GDP. National market performance is measured as annual percentage price changes in stock markets covered by the S&P/IFCI and S&P/Frontier BMI country indices. The remainder of this chapter will investigate the following closely related hypotheses:

Hypothesis Ia: There is a positive association between depoliticized self-regulation and stock market development measured in terms of market capitalization as a percentage of GDP.

Hypothesis Ib: There is a positive association between the extent of depoliticized self-regulation and stock market performance measured as price growth in national market indices.

Hypothesis II: The previously demonstrated positive association between public regulatory independence and stock market size will remain even after controlling for self-regulatory practices.

In addition to these hypotheses, I will investigate whether any positive association between self-regulation and stock market development is larger when political institutions undermine politicians' credibility. More specifically, I will test the following:

Hypothesis III: the association between DSRO and market capitalization will grow stronger as veto players become fewer in number and elections more majoritarian.

In light of the Chinese experience, I will investigate whether the positive effects of self-regulation can only emerge in contexts where leaders are held accountable through electoral competition.

Hypothesis IV: The positive effects of self-regulation on market capitalization will only emerge when elections are minimally competitive.

As before, I will utilize fixed effects estimators with Huber/White standard errors clustered by country. Models will include a lagged dependent variable and will be variations on the following equation:

$$Y_{it} = \gamma Y_{it-1} + \alpha_i + \beta_1 * P_{it} + \beta_2 * X_{it} + \varepsilon_{it}$$

The dependent variable Y_{it} represents stock market capitalization/GDP for country i in year t and Y_{it-1} is the same dependent variable lagged by one year. The vector P_{it} contains my measures of consensual political institutions, competing political controls, and my measures of depoliticized self-regulation and public regulatory independence. X_{it} contains macroeconomic controls. β_1, β_2, and γ are vectors of estimated coefficients. αi are country dummies and ε_{it} is the remaining error. Given the coefficients for lagged market capitalization are roughly 0.63 and the average panel lengths are between 16 and 17, the lagged dependent variable will be downwardly biased by approximately 0.10.

Once again, in order to ensure that my inferences are not faulty, Blundel-Bond, Prais-Winsten, and Cochrane-Orcutt models will be estimated for robustness. Estimations of stock index price growth will be identical to the market capitalization models above but without a lag of the dependent variable.

Analysis

An initial series of models begins with *DSRO* alone and then adds additional macro-economic controls (see Table 5.12A). Results lend some support to Hypothesis I, but *DSRO*'s coefficient declines in both strength and significance as macroeconomic controls are added. When estimated alone with only a lagged DV, a change from minimum to maximum levels of depoliticized self-regulation is associated with a statistically significant 27 percent *contemporaneous* increase in stock market size and an even larger long-run multiplier of around 80 percent. However, when controls move beyond economic development and growth, *DSRO* loses significance at conventional levels and suggest that a maximum increase would result in only 17 to 21 percent contemporaneous increases in stock market size. The importance of *DSRO* for capital market development becomes clearer with the addition of political controls (see Table 5.13A). Although a control for electoral competition does little in terms of increasing the magnitude of *DSRO*s coefficient relative to its standard errors, the addition of political constraint and checks pushes *DSRO* into more forgiving levels of significance ($p \approx 0.10$). More dramatically, when electoral proportionality is controlled for, *DSRO* is once again associated with a nearly 27 percent increase in stock market size. This is equivalent to

roughly half of the overall and over 70 percent of the within standard deviation in market capitalization to GDP. In sum, there does appear to be a statically significant positive relationship between depoliticized self-regulation and stock market size, but the significance of this relationship is dependent upon the inclusion of veto player and electoral proportionality controls.

In the dynamic LSDV models below, I introduce a control for public regulatory independence and *DSRO*'s effects are sensitive to its inclusion (see Table 5.7). In contrast, regulatory independence's coefficients are largely unaffected by *DSRO*. When both variables are included in the same models along with veto player and macroeconomic controls, it is regulatory independence that emerges as statistically significant while *DSRO*'s p-values inflate to over 0.21.

Overall, *DSRO* performs better with the addition of an electoral proportionality control. When proportionality is included, *DSRO* returns to conventional levels of significance ($p<.05$) and its coefficient becomes roughly two times larger than the coefficient for public regulatory independence (Models 4 and 6). In light of these findings, Hypothesis I(a) and Hypothesis II are generally supported. Public regulatory independence continues to be significantly related to stock market size even after controlling for self-regulation, but the latter is associated with increases in stock market size that are 20 to 30 percent larger.[53]

[53] Similar to the findings regarding regulatory independence in Chapter 3, neither *DSRO* or independence were robust to the inclusion of year fixed effects.

TABLE 5.7
(*DSRO*: Market Capitalization)

DV: ln(MarketCap)	(1)	(2)	(3)	(4)	(5)	(6)
$ln(MarketCap)_{t-1}$	0.64***	0.64***	0.63***	0.64***	0.65***	0.64***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Depoliticized Self-Regulation	0.15	0.15	0.17	0.19**	0.11	0.21**
	(0.14)	(0.14)	(0.14)	(0.09)	(0.14)	(0.09)
Regulatory Independence	0.13**	0.13**	0.13**	0.10**	0.11*	0.09*
	(0.06)	(0.06)	(0.05)	(0.05)	(0.06)	(0.05)
Electoral Competition		-0.007				
		(0.01)				
Political Constraint			0.19**			0.16*
			(0.07)			(0.08)
Electoral Proportionality				0.10***		0.10***
				(0.03)		(0.03)
General Government Consumption					-0.01**	
					(0.006)	
GDP Growth	0.01***	0.01***	0.01***	0.01**	0.01**	0.01**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
ln(GDPperCapita)	0.06	0.06	0.06	0.01	0.05	0.01
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
ln(Trade)	0.32***	0.32***	0.32***	0.35***	0.30***	0.36***
	(0.07)	(0.07)	(0.07)	(0.08)	(0.07)	(0.08)
Capital Account Openness	0.20***	0.20***	0.20***	0.24***	0.21***	0.25***
	(0.07)	(0.07)	(0.07)	(0.06)	(0.06)	(0.06)
Bank Crisis	-0.15***	-0.15***	-0.16***	-0.16***	-0.15***	-0.16***
	(0.03)	(0.03)	(0.04)	(0.04)	(0.03)	(0.04)
ln(Inflation)	0.0004	-0.0001	-0.001			
	(0.02)	(0.02)	(0.02)			
ΔAll World Stock Index	0.30***	0.30***	0.30***	0.29***	0.29***	0.29***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Constant	-0.96**	-0.91**	-1.09***	-0.90**	-0.58	-1.02**
	(0.40)	(0.41)	(0.41)	(0.38)	(0.37)	(0.39)
Observations	1,730	1,722	1,722	1,689	1,829	1,688
Adjusted R^2	0.69	0.69	0.69	0.70	0.68	0.70
Overall R^2	0.84	0.83	0.83	0.81	0.84	0.80
Number of countries	107	106	106	102	109	102

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Given the sensitivity of these results to the addition or subtraction of particular control variables and the threat of Nickel bias in the presence of a lagged dependent

variable, I reestimated the models with two different GMM estimators (Table 5.8), a Prais-Winsten fixed effects estimator (Models 1-3, Table 5.14A), and a Cochrane Orcutt random effects estimator (Models 4-6, Table 5.14A). The two GMM estimators are closely related: Models 1-3 utilize the estimator developed by Arellano and Bond (1991) while models 4-6 are nearly identical to the first three models but with added level equation instruments in the form of lagged differences of market capitalization (Arellano and Bover 1995, Blundell and Bond 1998). Tests for serial correlation in the errors at orders higher than one came back negative suggesting that moment conditions of both sets of models are valid with only a one year lag of the dependent variable.

Models 1-3 tell a very similar story to Table 5.7. Although the size of the *DSRO* coefficients is sometimes larger, only regulatory independence is significant at conventional levels. Coefficients for regulator independence suggest a minimum to maximum increase would result in a 20 to 25 percent contemporaneous increase in stock market size (Models 1-3). As before, the size of regulatory independence's coefficient decreases but remains marginally significant with the introduction of a control for electoral proportionality (Model 2). When lagged differences of the dependent variable were included as instruments, regulatory independence fares poorly in terms of both coefficient size and conventional significance (Models 4-6). Independence's coefficients roughly resemble those in Table 5.7, but the addition of a control for electoral proportionality cuts their magnitude by over half (Model 5). In contrast to Arellano-Bond estimations (Models 1-3;Table 5.8), Blundell-Bond estimations produced *DSRO* coefficients that were very large in magnitude and significant beyond conventional levels.

Maximum increases in self-regulation are associated with contemporaneous increases in market size of between 39 to 58 percent (Models 4-6;Table 5.8). As before, the largest increases in *DSRO* effects and decreases in regulatory independence effects emerged when a control for electoral proportionality was included.

Table 5.8
(*DSRO*: Market Capitalization(GMM))

DV:ln(Market Capitalization per Capita)	(1) Arellano -Bond	(2) Arellano-Bond	(3) Arellano-Bond	(4) Blundell-Bond	(5) Blundell -Bond	(6) Blundell -Bond
$\ln(MarketCap)_{t-1}$	0.46***	0.45***	0.45***	0.65***	0.64***	0.65***
	(0.06)	(0.08)	(0.06)	(0.04)	(0.05)	(0.04)
Depoliticized Self-Regulation	0.25	0.29	0.24	0.38**	0.58***	0.40**
	(0.23)	(0.22)	(0.23)	(0.19)	(0.23)	(0.19)
Regulatory Independence	0.24**	0.21*	0.25**	0.13	0.05	0.13
	(0.11)	(0.11)	(0.10)	(0.09)	(0.09)	(0.09)
Electoral Competition	0.01			0.01		
	(0.01)			(0.01)		
Electoral Proportionality		0.05			0.04	
		(0.04)			(0.04)	
Political Constraint			0.31***			0.29***
			(0.12)			(0.11)
GDP Growth	0.008**	0.007**	0.008**	0.007*	0.006	0.007*
	(0.003)	(0.003)	(0.003)	(0.004)	(0.004)	(0.004)
ln(GDPperCapita)	0.03	0.004	0.04	0.004	-0.003	0.005
	(0.08)	(0.07)	(0.08)	(0.04)	(0.04)	(0.04)
ln(Trade)	0.75***	0.79***	0.77***	0.35***	0.36***	0.37***
	(0.12)	(0.13)	(0.12)	(0.11)	(0.12)	(0.11)
Capital Account Openness	0.34***	0.23**	0.34***	0.20*	0.14	0.20*
	(0.12)	(0.11)	(0.12)	(0.11)	(0.10)	(0.11)
Bank Crisis	-0.21***	-0.25***	-0.22***	-0.14***	-0.18***	-0.15***
	(0.06)	(0.05)	(0.06)	(0.05)	(0.04)	(0.05)
ΔAll World Stock Index	0.28***	0.28***	0.28***	0.31***	0.30***	0.31***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Constant	-2.26***	-2.13***	-2.48***	-0.95*	-0.93*	-1.06**
	(0.75)	(0.73)	(0.77)	(0.51)	(0.49)	(0.51)
Observations	1,725	1,574	1,723	1,846	1,689	1,845
Number of countries	107	99	107	108	102	108

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Overall, results are mixed depending upon which GMM estimator is utilized. Models 1-3 give strong support to Hypothesis II (i.e. positive association between independence and market size after controlling for *DSRO*) but only weak support for Hypothesis I(a) (i.e. positive association between DSRO and market size). In contrast, Models 4-6 give very strong support for Hypothesis I(a) and weaker support for Hypothesis II. In a final attempt to settle whether *DSRO* and regulatory independence are both significantly related to larger stock markets, I estimated a series of Prais-Winsten fixed effects and Cochrane-Orcutt random effects models with common AR(1) disturbance terms (Table 5.14A). As before, both *DSRO* and public regulatory independence appear to be positively associated with stock market size with the former association being larger in magnitude. That said, the coefficients of both variables were inconsistent in terms of conventional significance within the fixed effect Prais-Winsten models (Models 1-3). In the Cochrane-Orcutt estimations, both variables were significant at conventional levels and also had stable positive coefficients.

Despite sensitivities to estimation approaches and controls, the whole of the evidence supports Hypothesis 1(a) and Hypothesis II. Both depoliticized self-regulation and regulatory independence are positively related to stock market size even when both are included in the same estimation. While the effects of *DSRO* are typically larger, regulatory independence is generally more robust to alternative specifications and control variables.

Across several different estimators, coefficients appeared highly sensitive to the inclusion of electoral proportionality. The statistical significance and magnitude of depoliticized self-regulation is particularly affected by its inclusion. There are two possibilities as to why this is the case. First, the inclusion of the proportionality measure involves the exclusion of all countries without meaningful electoral institutions and it may be this exclusion of autocracies that is behind the sensitivity. Second, like public independence, *DSRO* could be genuinely sensitive to the different levels of proportionality in electoral institutions. In order to directly probe this sensitivity, I estimated a series of models in which I interact *DSRO* with my combined executive-legislative electoral competition index (Table 5.9) and my measure of electoral proportionality (Table 5.10).

The results below provide support for Hypothesis IV and suggest that the positive effects of depoliticized self-regulation are highly dependent upon the existence of meaningful electoral competition. Excluding model 3 which includes the control for proportionality, the positive interaction effects are all significant at p-values between 0.014 and 0.097. The positive and significant interaction effects are robust to all macroeconomic control variables, both veto player measures, year fixed effects, static reestimation (not shown), and both GMM estimators (Table 5.15A).

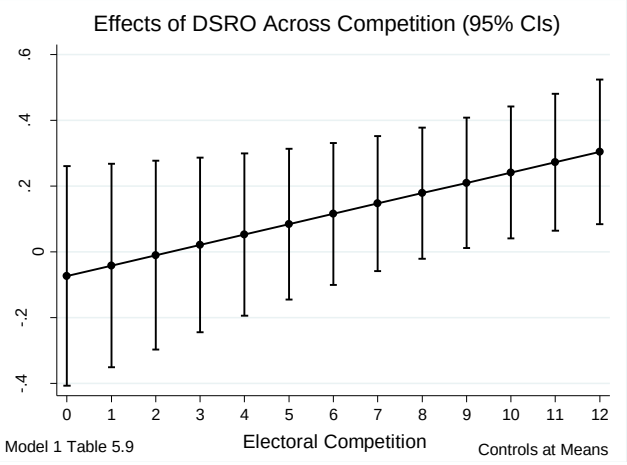
Table 5.9
(*DSRO*-Electoral Competition Interaction: Market Cap)

DV:ln(Market Capitalization %GDP)	(1)	(2)	(2)	(4)	(5)	(6)
$\ln(MarketCap)_{t-1}$	0.66***	0.63***	0.63***	0.63***	0.64***	0.64***
	(0.02)	(0.03)	(0.03)	(0.03)	(0.02)	(0.03)
Depoliticized Self-Regulation	-0.07	-0.13	-0.14	-0.12	-0.03	-0.19
	(0.17)	(0.17)	(0.18)	(0.17)	(0.24)	(0.17)
Electoral Competitiveness	-0.02*	-0.02*	-0.03**	-0.03**	-0.03	-0.037***
	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)
Self-Regulation X. Electoral Competition	0.031**	0.03*	0.03*	0.02*	0.02	0.04**
	(0.02)	(0.01)	(0.016)	(0.01)	(0.02)	(0.02)
Regulatory Independence			0.12**	0.07	0.09*	0.11*
			(0.06)	(0.06)	(0.05)	(0.06)
Political Constraint			0.25***	0.28***	0.18**	0.25***
			(0.08)	(0.08)	(0.08)	(0.08)
Electoral Proportionality					0.100***	
					(0.027)	
General Government Consumption						-0.014**
						(0.006)
GDP Growth	0.01***	0.01***	0.01***	0.01***	0.01**	0.006**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
ln(GDPperCapita)	0.02	0.03	0.05	0.03	0.01	0.05
	(0.03)	(0.07)	(0.04)	(0.06)	(0.04)	(0.04)
ln(Trade)	0.27***	0.23***	0.32***	0.24***	0.36***	0.31***
	(0.06)	(0.08)	(0.06)	(0.08)	(0.07)	(0.07)
Capital Account Openness	0.24***	0.17***	0.21***	0.17***	0.24***	0.22***
	(0.05)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Bank Crisis		-0.13***	-0.15***	-0.12***	-0.16***	-0.16***
		(0.04)	(0.04)	(0.04)	(0.04)	(0.03)
ΔAll World Stock Index	0.29***		0.29***		0.29***	0.29***
	(0.01)		(0.01)		(0.01)	(0.01)
Constant	-0.34	-0.04	-0.66	-0.09	-0.75	-0.41
	(0.33)	(0.66)	(0.40)	(0.67)	(0.45)	(0.39)
Observations	1,948	1,859	1,845	1,845	1,688	1,818
Adjusted R^2	0.67	0.69	0.68	0.69	0.70	0.68
Overall R^2	0.85	0.85	0.83	0.84	0.80	0.83
Year FE	NO	YES	NO	YES	NO	NO
Number of countries	108	108	108	108	102	108

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Figure 5.3 provides a graphical representation of *DSRO*'s increasing marginal effects as electoral competition increases.

Figure 5.3



Using Model 1 as a guide and holding all variables at their means, the positive effects of self-regulation are only statistically distinguishable from 0 at electoral competition levels of 9 and above. This suggests that in order for *DSRO* to have significant positive effects, multiple political parties must be legally allowed to compete in both executive and legislative elections. However, *DSRO*'s positive effects would still exist even if 1 political party garnered larger than 75 percent of the vote in *both* executive and legislative elections. As countries move toward a situation in which no party exceeds a 75 percent vote share (i.e. 12), the marginal effect of a maximum increase in depoliticized self-regulation increases to around 30 percent.

Disregarding confidence intervals, Figure 1 indicates that *DSRO*'s effects will only be positive in countries where *any* elections are held even if those elections only feature one candidate or have only one party with multiple candidates. In order to see if it

was executive or legislative competition that was driving the relationship, I reran the analyses of Table 5.9 with the executive and legislative electoral competition subcomponents. The executive-SRO interaction failed to reach even more forgiving levels of significance with p values ranging between 0.145 and 0.330. In contrast, p-values for the legislative competition subcomponent were routinely significant at conventional levels with p-values ranging between 0.004 and 0.07. In short, the depoliticization of self-regulation is most meaningful for market development when there is some semblance, no matter how limited, of legislative electoral competition. This lends further support for Gehlbach and Keefer (2011) as well as Jensen et. al's (2013) respective findings regarding the importance of ruling party institutionalization and authoritarian legislatures for financial development.

Given the importance of electoral institutions mere existence, I estimated a series of regressions to see if the type of electoral competition mattered. Like regulatory independence, I expect delegation to depoliticized self-regulatory organizations to be the most credibility enhancing when electoral institutions are majoritarian rather than proportional (i.e. Hypotheses III). Results provide some support for this assertion. The positive effects of *DSRO* on stock market size are larger in countries with majoritarian rather than proportional elections. Table 5.10 below suggests that this relationship is weakened by public regulatory independence (Model 3) and strengthened by year fixed effects (Models 2 and 5). Overall, p-values for the interaction term range from 0.03 to 0.14.

Table 5.10
(*DSRO*-Proportionality Interaction: Market Cap)

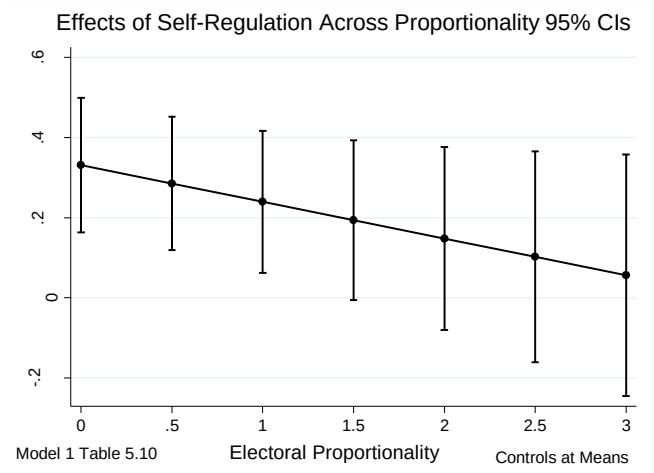
DV: ln(Market Capitalization %GDP)	(1)	(2)	(3)	(4)	(5)	(6)
$\ln(\text{MarketCap})_{t-1}$	0.64***	0.63***	0.64***	0.64***	0.63***	0.64***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Depoliticized	0.33***	0.26***	0.25***	0.34***	0.27***	0.28***
Self-Regulation	(0.08)	(0.08)	(0.09)	(0.08)	(0.08)	(0.10)
Electoral	0.17***	0.17***	0.15***	0.16***	0.17***	0.15***
Proportionality	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Self-regulation X	-0.09*	-0.10**	-0.07	-0.09*	-0.10**	-0.07
Proportionality	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
GDP Growth	0.007**	0.008**	0.007**	0.007**	0.008**	0.006*
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Regulatory			0.10**			0.07
Independence			(0.05)			(0.04)
Political C				0.18**	0.22**	0.17**
onstraint				(0.08)	(0.09)	(0.08)
General Government						-0.01**
Consumption						(0.005)
ln(GDPperCapita)	0.02	-0.01	0.01	0.02	-0.01	0.02
	(0.03)	(0.06)	(0.03)	(0.04)	(0.06)	(0.03)
ln(Trade)	0.36***	0.27***	0.35***	0.37***	0.27***	0.35***
	(0.07)	(0.09)	(0.08)	(0.07)	(0.08)	(0.07)
Capital Account	0.26***	0.23***	0.24***	0.27***	0.24***	0.25***
Openness	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Bank Crisis	-0.16***	-0.14***	-0.16***	-0.16***	-0.14***	-0.17***
	(0.036)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)
ΔAll World Stock	0.28***		0.28***	0.28***		0.29***
Index	(0.01)		(0.01)	(0.01)		(0.01)
Constant	-1.06***	-0.32	-0.95**	-1.18***	-0.36	-0.93**
	(0.36)	(0.69)	(0.37)	(0.37)	(0.68)	(0.39)
Observations	1,702	1,702	1,689	1,701	1,701	1,664
Adjusted R^2	0.70	0.71	0.70	0.70	0.71	0.71
Overall R^2	0.80	0.82	0.80	0.80	0.82	0.81
Year FE	NO	YES	NO	NO	YES	NO
Number of countries	102	102	102	102	102	102

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Based upon Model 1, Figure 5.4 below presents the marginal effects of *DSRO* across levels of proportionality with all control variables held at their means. While *DSRO* has

positive marginal effects across all electoral institutions, those effects are only distinguishable from 0 in countries where electoral institutions are more majoritarian than they are proportional.

Figure 5.4



Using main effects as a guide, maximum increases in depoliticized self-regulation would result in market size increases of between 22 and 34 percent when elections are purely majoritarian. The main effects are also notable in another way. They highlight the power of proportional representation in easing investors' concerns with market integrity. Even if stock market governance were completely dominated by politicians, regulators, *and* their appointees, a maximum 0 to 3 increase in proportionality would result in at least a 45 percent increase in stock market size even after controlling for public regulatory independence, political constraint, and government consumption's share of the economy.

Despite the apparent strength of evidence in favor of Hypothesis III, they should be treated with caution.[54] The interaction effects in Table 5.10 disappear in both static and GMM reestimations. In static estimations the interaction effect maintains a negative sign, but falls short of significance with p-values ranging from 0.124 to 0.252. The interaction effects in GMM models are even weaker; coefficients are positive and have standard errors that are often three times their size. Furthermore, I probed the interaction between veto-players and *DSRO*. Regardless of chosen estimator, veto-players measure, included controls, or static versus dynamic modeling, there is no evidence suggesting that the effects of *DSRO* change across veto players. P-values were large (>0.24),unstable, and inconsistent in sign (not shown). Overall, Hypothesis III receives only tentative support with regard to electoral institutions and no support with regards to veto players.

The results of the previous section suggested that self-regulation had large positive effects on stock market size even after controlling for the effects of political institutions. The results of Table 5.16A suggest a similar relationship to stock index price growth. Across all political controls, *DSRO* is positive and significant lending some support to Hypothesis I(b). Varying only slightly from model to model, a maximum 0 to 1 increase in self-regulation is associated with roughly 30 percent additional annual price growth (Table 5.16A). That is over twice the size of the between country standard deviation and around 65 percent of the within and overall standard deviations. Only when

[54] When the electoral proportionality variable is transformed into a dummy variable that takes on a value of 1 for all countries that are not overwhelmingly majoritarian (e.g. .1= all scores greater than .05), interaction effects were negatively signed and had p-values ranging from 0.038 to 0.20.

all political institutional controls are added together does *DSRO* drift into insignificance (p=0.2).

However, the addition of regulatory independence reduces *DSRO*s coefficient by around 25 percent (see Table 5.11 below). When both independence and *DSRO* are included, maximum increases in both variables are associated with roughly 18 and 24 percent added price growth respectively. When both regulatory measures are estimated with all political control variables, only regulatory independence is robust at levels approaching conventional significance (Model 6, p=.09).

Support for Hypothesis 1(b) is weakened when year fixed effects are introduced. Only regulatory independence remains significant at conventional levels and its coefficients remain relatively unchanged. In contrast, year fixed effects reduces *DSRO* coefficients by 50 to 75 percent and p-values increase to well above 0.4 (not shown). In short, two way fixed effect models suggest that it is regulatory independence rather than self-regulation that is the larger and more consistent driver of annual stock index price increases.[55]

[55] I also investigate if there were any interaction effects between *DSRO* and political institutions with regard to index price growth. No interactive relationships were detected. Interaction coefficients were small, standard errors large, and signs inconsistent.

Table 5.11
(*DSRO* and %ΔS&P Index)

DV:%ΔS&P Price Index	(1)	(2)	(3)	(4)	(5)	(6)
Depoliticized	22.88**	22.8**	22.7**	24.5**	23.0**	12.4
Self-Regulation	(10.30)	(10.2)	(10.2)	(10.6)	(10.8)	(13.0)
Regulatory	19.11***	18.4**	19.42***	19.10***	16.54**	16.94*
Independence	(7.09)	(7.28)	(7.11)	(7.17)	(7.74)	(10.1)
Electoral		-1.35				-0.61
Competition		(2.12)				(3.42)
Political			-16.2			-15.5
Constraint			(13.6)			(12.1)
Checks				0.16		
				(1.05)		
Electoral					5.11	5.13**
Competition					(3.1)	(2.5)
General Government						-4.35
Consumption						(4.96)
GDP Growth	0.64*	0.67*	0.66*	0.65*	0.63	0.18
	(0.38)	(0.38)	(0.38)	(0.39)	(0.40)	(0.60)
ln(GDPperCapita)	-2.94	-2.58	-3.19	-2.76	-2.27	-1.23
	(3.21)	(3.28)	(3.21)	(3.22)	(3.36)	(4.31)
ln(Trade)	22.0**	21.9**	20.8**	22.2**	23.8**	21.8*
	(10.3)	(10.3)	(10.2)	(10.4)	(10.8)	(12.4)
Capital Account	-8.2	-8.7	-8.23	-8.38	-5.53	-10.4
Openness	(11.4)	(11.5)	(11.4)	(11.5)	(12.8)	(13.8)
Bank Crisis	-24.0***	-24.0***	-23.6***	-24.1***	-24.1***	-21.3***
	(4.92)	(4.94)	(4.88)	(4.96)	(5.09)	(4.72)
ln(Inflation)	1.73	1.86	2.05	1.88	2.82	0.74
	(5.75)	(5.82)	(5.82)	(5.78)	(6.93)	(4.36)
ΔAll World	35.7***	35.7***	35.6***	35.6***	36.4***	37.0***
Stock Index	(2.51)	(2.49)	(2.49)	(2.50)	(2.81)	(2.90)
Constant	-84.5**	-71.6	-71.6*	-88.5**	-108.3**	-7.12
	(40.0)	(45.8)	(40.1)	(42.1)	(47.1)	(66.0)
Observations	1,138	1,130	1,130	1,127	1,081	1,070
Adjustment R^2	0.24	0.23	0.23	0.23	0.23	0.25
Overall R^2	0.18	0.18	0.18	0.18	0.17	0.12
Number of countries	79	78	78	78	73	73

Huber/White Robust standard errors clustered by (*** p<0.01, ** p<0.05, * p<0.1)

Additional Robustness Tests

In order to ensure that the positive relationship between *DSRO* and stock market size is not dependent upon the latter's transformation, I reestimated the models from Tables 5.7 but with the original untransformed version of market capitalization. Even after controlling for public agency independence and additional political controls introduced one at a time, results were similar in terms of both the conventional significance and the substantive magnitude of the coefficients (Table 5.17A).

Like public agency independence, I also explored whether depoliticized exchange governance encourages foreign equity portfolio flows and whether the inclusion of portfolio equity flows alters previous findings with regards to market size and performance. Although coefficients are positive, there is little evidence to suggest that less politicized self-regulatory arrangements encourage portfolio equity flows after macroeconomic and other political factors are controlled for. In all models found in Table 5.18A, standard errors are larger than the coefficients for *DSRO*.

Controlling for portfolio equity flows modestly strengthened the association between *DSRO* on the one hand and market capitalization on the other in dynamic fixed effects models (Table 5.19A; Models 1-4). This strengthening was expressed in terms of smaller standard errors and slightly larger coefficients as compared to the findings in Table 5.12A and Table 5.13A. The decline in standard errors and enlargement of coefficients was especially pronounced when a control for public agency independence was included. Blundell-Bond GMM estimations with portfolio controls produced

comparable results for *DSRO* when no political variables were included. However, when political constraint was introduced, the coefficient for *DSRO* declined slightly from 0.34 to 0.29 and lost significance at conventional levels (p=.12). The coefficients of the interaction effects between *DSRO*, electoral competition, and electoral proportionality were the most sensitive to controls for portfolio flows. When the analyses in Tables 5.9 and 5.10 were reestimated with portfolio flows, both lost significance and produced p-values between 0.17 and 0.55 (not shown). Despite the sensitivity of market capitalization models, the S&P Index Price growth results found in Table 5.5 saw virtually no change when portfolio flows were introduced (not shown).

Conclusion

Although typically associated with both the promise and the peril of free market capitalism, stock markets in many countries are politicized tools of government elites. Some exist as state owned enterprises and even when they do not, their governance may still be dominated by politicians, regulators, or their appointees. Since politicians often delegate significant regulatory to duties to stock market operators, exchange boards' varying levels of politicization can have profound effects on regulatory outcomes and investor confidence. While nearly every stock exchange wields some regulatory power, there is wide variation in the degree to which exchanges and industry associations are complements or even substitutes to public regulatory arrangements. In some instances, they are able to raise industry standards well beyond those that could be achieved through

the legislative process. In other instances, SROs assume regulatory roles that rival public agencies.

This chapter sought to take a first step in understanding if the relationship between private (i.e. apolitical) self-regulation and stock market development and performance. Results paint a positive picture of self-regulation that is free from the most direct forms of political control. I find that depoliticized self-regulation has a substantive and significant positive association with stock market size. However, this positive relationship's statistical significance is dependent upon political controls and its substantive significance appears to be dependent upon meaningful electoral competition. Like independent regulatory agencies, there is also tentative evidence that higher levels of depoliticized self-regulation are more strongly associated with stock market size when electoral institutions are majoritarian. Overall, the effects of depoliticized self-regulation on market capitalizations appear to be larger in comparison to regulatory independence.

Although slightly weaker in terms of magnitude, public regulatory independence continues to be positively related to stock market size even after controlling for levels of self-regulation. However, self-regulation does seem to make regulatory independence more sensitive to alternative specifications, estimators, and the inclusion of controls for foreign portfolio equity flows. The opposite is true with regards to stock market performance. The coefficients for *DSRO* continue to be larger than those for regulatory independence, but the latter is estimated with far less error and is robust to a wider variety of political controls and year fixed effects. Furthermore, the relationship between

both public and private regulators' political autonomy and stock index price growth is almost completely unaffected by flows of foreign equity. Overall, it seems that *both* the depoliticization of securities industry self-regulation and the increasing political independence of public regulators make their own unique contributions to stock market development and performance. While not perfect or costless solutions to politicians' commitment problems, credibility seeking politicians should look to both private self-regulation and independent regulators as potentially valuable contributors to their nation's financial development.

Chapter 6

Institutional Credibility in Times of Crisis

The Chinese securities industry is dominated by the state. Local governments own many brokerage firms and listed companies are overwhelming state owned. Each of China's exchanges is operated by a president and general manager who are both appointed and removable at will by China's Securities Market Regulatory Commission. Despite the Communist Party's strong preference for social stability and the government's tight hold on the economy, they were unable to prevent Chinese stock markets from descending into chaos during the latter half of 2015. Between June and July, China's blue chip stock index crashed by a third. Additional though less spectacular drops followed in August of 2015 and January of 2016. Yet in contrast to Bangladesh's 2010 Stock Market Scam, the official response was aggressive and immediate. Under orders from the Central Government, regulators and stock exchanges implemented trading halts on individual stocks and the markets as whole; temporary bans on short-selling; margin requirements adjustments; a moratorium on IPOs; limits on blockholders selling activity; and emergency financing for distressed brokerage companies. In the hopes of boosting prices and adding liquidity, the Chinese government directly purchased securities and pressured state-run brokerage firms and pension funds to do the same. By November of 2015, state linked shareholders controlled nearly 6 percent of the free-floating Chinese stock market. The effectiveness of these actions in terms of boosting prices and curbing volatility was uneven. In some cases, such as establishing price limit

circuit breakers, Chinese authorities were forced to back track after it became clear that their actions exacerbated rather than reduced volatility. Yet even with these missteps, government interventions had restored calm by the Spring of 2016. Although unique in some important respects, many of the Communist regime's actions were not all that out of the ordinary. Or as economists Jeffry Frankel argues:

> According to the conventional wisdom, the authorities consistently intervened not only to try to boost the market after the collapse, but also during its year-long run-up, when the Shanghai Stock Exchange composite index more than doubled. The finger-wagging implication is that Chinese policymakers, particularly the stock-market regulator, have only themselves to blame for the bubble. There is undoubtedly some truth to this story…But what many commentators fail to note is that China's regulatory authorities took action to try to dampen prices over the last six months of the run-up. They tightened margin requirements in January, and again in April, when they also facilitated short-selling by expanding the number of eligible stocks. The event that ultimately seems to have pricked the bubble was the China Securities Regulatory Commission's June 12th announcement of plans to limit the amount that brokerages could lend for stock trading. This is precisely the kind of counter-cyclical macroprudential policy that economists often recommend. But, whereas advanced economies rarely implement this advice, China and many other developing countries do…(56)

Frankel's account suggests that Chinese politicians' lack of constraint may have both undermined and strengthened their policy responses to the bubble and the crash that followed. More specifically, the State Council's influence over the CSRC and as well as their bubble inducing financial policies clearly reflected a lack of policy consistency. However, the fact that unconstrained Chinese authorities were able to implement politically unpopular counter-cyclical policies as well as make decisive market interventions in the heat of the crisis suggests that their lack of constraint strengthened

[56] http://www.theguardian.com/business/2015/sep/07/chinese-market-interventions-yuan-stock-markets

policy decisiveness when swift action was needed. This raises the following question: do institutions that enhance credibility during normal times reduce credibility in times of crisis when decisive, coordinated, but politically unpopular policies may be the most warranted?

The goal of this chapter is to answer this question and better understand how political institutions and regulatory organizations shape the severity of financial crises from the standpoint of equity investors. I take it for granted that governments and regulators will make mistakes and engage in trial and error. Choosing among various crisis response policies is not an exact science. As a result, what is often most important is that politicians and regulators act quickly and definitively. The results of previous chapters established that more numerous veto players, electoral proportionality, politically independent regulatory agencies, and privately governed self-regulatory organizations strengthen politicians' commitments to investor protection and market integrity over the long run. This chapter finds that these same institutional qualities continue to provide credibility benefits during times of crisis. *However, they also create costs in terms of added volatility*. In sum, it is during times of crisis that the Janus faced nature of political consensualism and regulatory autonomy is most clearly revealed to politicians, regulators, and investors alike.

This insight is not new. MacIntyre (2001) and Angkinand (2005) both suggest that excessive numbers of veto players can lead to damaging policy rigidity during crisis. If politicians must engage in costly and time consuming negotiation with other veto players,

crisis responses can be delayed or indecisive. Although not directly addressed in their work, their arguments can be extended to regulatory agencies and industry self-regulation. Public and private regulators' independence from political officials may allow them to develop policy preferences that differ substantially from those of politicians. These differing preferences and de facto veto power over some aspects of regulatory action may extend bargaining and/or undermine inter-organizational cooperation during crisis. When the time comes to develop coordinated responses to market instability as well as allocate the economic and political costs of crisis, consensual political institutions and regulatory autonomy may become institutional vices from the standpoint of swiftly calming market volatility.

Yet as MacIntyre (2001) and Angkinand (2005) also point out, a complete lack of veto players can also undermine crisis response. Without partisan veto players, what prevents governments from reversing or watering down their chosen crisis response policies? What is to stop the government from opportunistically nationalizing firms or pursuing forced mergers that benefit politically connected business elites? In addition to these acts of commission, a lack of partisan contestation may allow politicians to look the other way as allied corporate insiders save themselves by raiding their firms at the expense of shareholders and other stakeholders. In light of these threats to investors, consensual political institutions and regulatory independence remain credibility enhancing even as they contribute to market volatility. Proportional electoral institutions may extend debates among coalition partners, but they should also increase the chances that investor interests are politically represented as crisis responses are being crafted.

More numerous veto players may slow the speed of response, but they should also give non-controlling owners a larger number of potential partisan allies with which to block policy responses that go against their interests. Independent regulators and apolitical SROs likely heighten coordination costs, but they also restrain politicians from using crises to opportunistically manipulate corporate governance and securities regulation to their own benefit or to the benefit of allied corporate and financial industry insiders.

In sum, consensual institutions and politically autonomous regulators (both public and private) will have both costs and benefits in times of crisis. As will be demonstrated in the empirical analysis below, the costs come primarily in the form of the added stock market volatility. As partisan veto players and regulatory organizations jockey for influence, shift blame, negotiate compromise policy responses, and coordinate their actions, investor uncertainty will increase leading to greater variation in crisis period stock index prices. However, the benefits of these same institutions are even more impressive: they prevent catastrophic crisis period stock price declines.

Since veto players, proportional representation, partisan contestation, and public and private regulatory independence can reduce government opportunism and increase investors' political representation, minority shareholders will be less likely to view financial crises as grave events that demand the complete liquidation of their shareholdings. In addition, to the extent consensual institutions and regulatory independence prevented the deterioration of MSP and market integrity in the past, the

corporate governance problems revealed by crisis should be less severe.[57] In environments where politicians lack constraint and regulators are politicized, financial crises may be viewed in more apocalyptic terms; investors will do anything to liquidate their shareholdings for cash regardless of the discount demanded by buyers. Furthermore, past accumulations of corporate governance weakness are also likely to be more severe in these less consensual and politicized regulatory environments. This leads to my first hypothesis.

Hypothesis I: As political consensualism, partisan contestation, and regulatory independence (both public and private) increases, systemic financial crises should produce smaller price declines in national stock market indices.

While fewer veto points, less electoral competition, and politicized regulators may undermine politicians' credibility with regard to protecting investor interests, these same institutional features may make it far easier for authorities to respond to financial crises in a quick and coordinated matter. This greater coordination, swiftness, and ability to directly intervene in stock exchange governance should dampen (though not eliminate) stock market volatility even if prices continue to decline. Stated differently:

Hypothesis II: As political consensualism, electoral competition, and regulatory independence (both public and private) decrease, financial crises should produce less volatility in the prices of national stock market indices.

[57] For more on how crisis conditions facilitate shareholder expropriation as well as reveal past weaknesses in corporate governance see Johnson et al 2000; Young et al 2008; Mitton 2002; Kirkpatrick 2009

Variables

Empirical models will utilize many of the same explanatory and control variables as found in previous chapters with a few important exceptions. Macroeconomic and financial controls will include GDP per Capita, GDP growth, trade as a percentage of GDP (natural log), capital account openness, inflation (natural log), domestic bank credit provided to the private sector as a percentage of GDP, and changes in the MSCI All World Securities Index. These variables should sufficiently account for the various economic drivers (both foreign and domestic) of index price growth and volatility. In order to compare countries that differ widely in terms of the technological sophistication of their stock trading infrastructures and the depth of their brokerage industries, I will also control for the stock market turnover ratio: ln(value traded/market capitalization). The turnover ratio measures how often shares change hands and is widely used in the financial literature to gauge liquidity, transaction costs, and the overall efficiency of the stock market.[58] In line with previous findings, I expect the turnover ratio to be positively related to volatility (Amiram et. al. 2015). Once again, I utilize Henisz's *Political Constraint III* index as a measure of veto players; Pagano and Volpin's measure of electoral proportionality; a combined [0,12] measure of legislative and executive electoral competitiveness taken from Keefer's DPI; my measure of regulatory independence; and my measure depoliticized self-regulation. I also include two additional political controls for robustness: change in general government final consumption

[58] Turnover ratio had an extreme positive skew with numerous extreme outliers. For this reason and ease of interpretation, the ratio was natural log transformed. Utilizing an untransformed version of the variable did not substantively alter any results.

expenditure (%GDP) and a dummy variable for center-right government. Both are included under the assumption that investors may be sensitive to increases in the size and ideological orientation of government. Finally, I include a dummy variable for banking crises taken from the World Bank Database on Banking Crises.[59]

My measures of annual percentage index price growth and volatility are based upon the country level subcomponents of the S&P/IFCI and S&P/Frontier BMI composite stock market indices. Volatility is measured as a relative standard deviation (i.e. coefficient of variation) and is typically expressed as a percentage. It is calculated as the standard deviation of index prices for country i in year t divided by the annual mean index price for country i in year t. The division by the annual mean is what allows volatility levels to be compared across countries. Overall, this volatility measure is available for 82 countries with an average of 16.7 observations per country. However, after a full battery of controls is included, most models include between 69 to 76 countries with average panel sizes ranging from 12 to 15 years.

Augmented Dickey-Fuller Panel Unit Root Tests of volatility reject the null hypothesis that all panels contain unit root at $p<.05$ for all lags except the 2nd. Since the rejection of the null hypothesis was only borderline significant at the second lag ($p\approx.09$),

[59] The World Banks defines banking crises according to the criteria identified by Laevan and Valencia (2008): "a country's corporate and financial sectors experience a large number of defaults and financial institutions and corporations face great difficulties repaying contracts on time. As a result, non-performing loans increase sharply and all or most of the aggregate banking system capital is exhausted. In some cases, the crisis is triggered by depositor runs on banks, though in most cases it is a general realization that systemically important financial institutions are in distress… As a cross-check on the timing of each crisis, we examine whether the crisis year coincides with deposit runs, the introduction of a deposit freeze or blanket guarantee, or extensive liquidity support or bank interventions."

I estimated Phillips-Perron panel unit root tests for robustness. The Phillips-Perron tests were even clearer: at all lags the null hypothesis that all volatility panels contained unit roots could be rejected at p<.01 (see Table 6.1).

Table 6.1
(Index Volatility Panel Unit Root Tests)

Relative Std. Dev. of S&P Benchmark Country Index Prices			Relative Std. Dev. of S&P Benchmark Country Index Prices		
Augmented Dickey-Fuller			Phillips-Perron		
No Lag			No Lag		
	Test-Statistic	**p-value**		Test-Statistic	**p-value**
Inverse Chi-sqrd	287.39	**0**	Inverse Chi-sqrd	287.39	**0**
Inverse Normal	-5.28	**0**	Inverse Normal	-5.28	**0**
Inverse Logit	-6.04	**0**	Inverse Logit	-6.04	**0**
Modified Inverse Chi-Sqrd	7	**0**	Modified Inverse Chi-Sqrd	7	**0**
First Lag			First Lag		
	Test-Statistic	**p-value**		Test-Statistic	**p-value**
Inverse Chi-sqrd	431.8	**0**	Inverse Chi-sqrd	297.9	**0**
Inverse Normal	-9.6	**0**	Inverse Normal	-5.95	**0**
Inverse Logit	-11.8	**0**	Inverse Logit	-6.6	**0**
Modified Inverse Chi-Sqrd	15.1	**0**	Modified Inverse Chi-Sqrd	7.6	**0**
2nd Lag			2nd Lag		
	Test-Statistic	**p-value**		Test-Statistic	**p-value**
Inverse Chi-sqrd	177.7	**0.09**	Inverse Chi-sqrd	305.4	**0**
Inverse Normal	-1.4	**0.08**	Inverse Normal	-5.8	**0**
Inverse Logit	-1.5	**0.07**	Inverse Logit	-6.7	**0**
Modified Inverse Chi-Sqrd	1.4	**0.09**	Modified Inverse Chi-Sqrd	8	**0**
3rd Lag			3rd Lag		
	Test-Statistic	**p-value**		Test-Statistic	**p-value**
Inverse Chi-sqrd	189	**0.02**	Inverse Chi-sqrd	312.4	**0**
Inverse Normal	-1.41	**0.07**	Inverse Normal	-5.6	**0**
Inverse Logit	-1.9	**0.03**	Inverse Logit	-6.7	**0**
Modified Inverse Chi-Sqrd	2.25	**0.01**	Modified Inverse Chi-Sqrd	8.3	**0**
μT=16.7, #of Panels=82			μT=16.7, #of Panels=82		

Index volatility levels range widely between 2.4 and 141 percent. It has a mean of 24, a median of 21, an overall standard deviation of around 14, and a within standard

deviation of 10.[60] The mean volatility level is 22 percent during non-crisis years and 33 during crisis years. This difference in means is highly significant ($p<.001$). Annual percentage index price growth ranges from -84 to 912 percent with a mean of 12.5 percent, median of 10 percent, and overall/within standard deviations of around 45 percent. During non-crisis and crisis years average annual index price growth is 15.5 percent and -7 percent respectively. Once again, this difference in means is highly significant ($p<0.001$). The difference in median levels across crisis and non-crisis periods is even larger at around 27 percent.

Methods

The models below will include several different types of estimators. Models of index price growth will be static fixed effect models with Huber-White standard errors clustered by country. As discussed in previous chapters, a static model was selected because the coefficients for lagged index price growth only approached the most liberal levels of conventional significance ($p>0.10$). Given that there are well over 50 reasonably balanced country clusters, the use of "cluster-robust" standard errors should produce unbiased and consistent estimates even in the presence of within panel serial correlation and heteroskedasticity (Stock and Watson 2008). Year fixed effects and country fixed effect Prais-Winsten estimators will be introduced as a robustness check. My models of market volatility will be more varied. Although static models will be estimated as a robustness check, most models will utilize country fixed effect estimators with a one-year

[60] The variable is slightly skewed. All models were reestimated with volatility natural log transformed for normality, and qualitative inferences were left unaffected.

lagged dependent variable and cluster robust standard errors. As with the price growth models, year fixed effects and fixed effect Prais-Winsten estimators will be used as a robustness check. While this dynamic approach is likely appropriate given the data generating process, it comes with a set of challenges.

Given that the average number of observations per panel is only around 14, any substantive correlation between unobserved panel-level effects and the lagged dependent variable could make Nickel Bias particularly severe (i.e. lagged dependent variable downwardly biased). In order to ensure that this bias is not undermining the integrity of inferences, I will also utilize generalized method of moments (GMM) estimators in the volatility models. More specifically, I estimate one-step system GMM models as developed by Arellano and Bover (1995) and Blundell and Bond (1998).[61] Their estimator uses both lagged differences *and* lagged levels as moment conditions making the estimator more robust to the presence of large autoregressive parameters and more consistent when the ratio of panel-level effect variance to idiosyncratic error variance is very large. However, in order for me to unambiguously satisfy the identifying moment conditions and eliminate all serial correlation in the first-differenced errors beyond the first order, I must include three lags of the dependent variable. Overall, utilizing the GMM estimator involves a nearly 15% reduction in country-year observations as compared to the fixed effect models (873< 1024).

[61] This estimator was implemented by the xtdpdsys command in Stata 12.

In order to understand how political and regulatory institutions are related to price growth and volatility during crisis, key independent variables will be interacted with the systemic banking crisis dummy variable. As a result, interaction coefficients will reveal how the effects of banking crises change as political institutions become more or less consensual and regulatory institutions more or less autonomous from political actors. When index price growth is the dependent variable, I will estimate the following equation:

$$y_{it} = \alpha_i + \beta X^* B_{it} + \zeta C_{it} + \varepsilon_{it}$$

When the dependent variable is stock index price volatility (i.e. relative standard deviation), I will estimate the following equation along with GMM models for robustness:

$$y_{it} = \alpha_i + \beta X^* B_{it} + \zeta C_{it} + \gamma y_{it-1} + \varepsilon_{it}$$

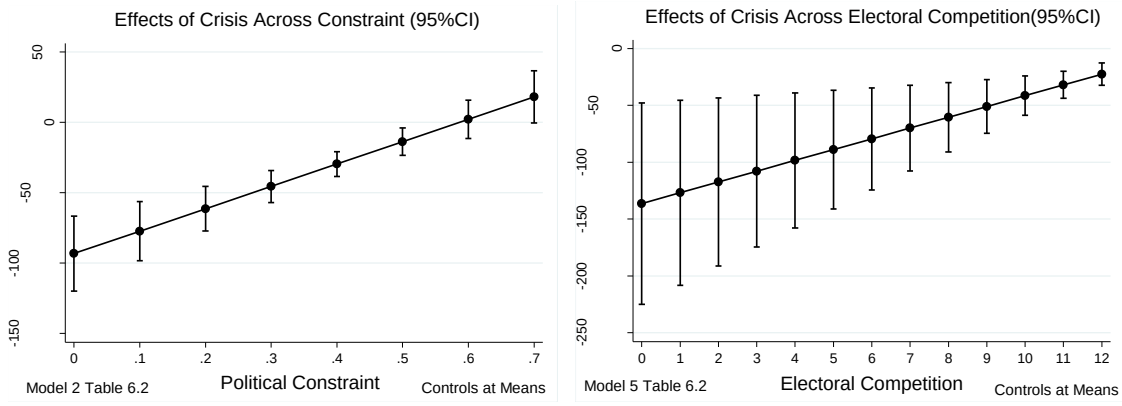
The dependent variable y_{it} represents either annual percentage price growth or the relative standard deviation of stock market index prices in country i year t. The vector X_{it} is a vector of explanatory political and regulatory variables interacted with the banking crisis dummy B_{it}. C_{it} is a vector of macroeconomic and financial market controls. α_i represents country specific intercepts while β, ζ and γ are vectors of estimated coefficients. ε_{it} is a residual country year disturbance that remains after unobservable individual specific effects are absorbed by country dummies αi.

Institutions, Crisis, and Index Price Declines

Results largely confirm my theoretical expectations: consensual political institutions and electoral competition minimize the price declines caused by systemic banking crises. Stated differently, increased political constraint and electoral competition both result in less negative percentage index price changes. Both results are robust at conventional levels of significance ($p<.05$) to year fixed effects, controls for public and private regulatory institutions, and other political controls (e.g. government spending growth and partisanship). Main effects and Figure 6.1(a) suggest that as political constraint approaches minimum levels, banking crises will be associated with massive price declines of around 90 percent.

Figure 6.1
(Marginal Effects of Crisis across Veto Players and Competition: %ΔS&P Indices)

(a) (b)



This 90 percent decline is roughly 5 times larger than the median index decline during financial crisis. Increases in political constraint to levels equivalent to the United States under divided government (≈.40) would be associated with crisis period index price

declines of roughly half that size (35 to 45 percent) holding all other controls at their means. By the time political constraint reaches its 90th percentile (.55), banking crises lead to declines that are indistinguishable from 0.[62]

Figure 6.1(b) and Models 4,5, and 6 of Table 6.2 suggest that movement toward meaningful electoral competition also leads to significantly smaller declines in index prices due to banking crisis. This positive interaction effect emerges even after controlling for veto players and regulatory institutions. The introduction of a control for the proportionality of electoral institutions slightly increases the size of the interaction effects but reduces statistical significance (p-values range from 0.07 to 0.15, not shown). The extremely large confidence intervals exhibited in Figure 6.1b at the lower end of the electoral competition scale makes it hard to come to any definitive conclusions regarding the price effects of banking crises within autocracies. Obviously, declines greater than 100 percent are impossible. But what Figure 6.1(b) does suggest is that as electoral competition approaches minimum levels, banking crises have the potential to trigger truly catastrophic drops in stock market indices. In stark contrast, countries with full electoral competition and average levels of constraint would see sizable though less severe index price declines of around 25 percent.[63]

[62] When checks is substituted for constraint, interaction coefficients remain positive but are insignificant (.307<p<.347). When checks is logged transformed, it provides stronger confirmation of the relationship found above. The interaction coefficient is positive and becomes marginally significant (.09<p<.12). However, logged checks proves much more sensitive to the inclusion of year fixed effects

[63] For frame of reference, the Dow Jones Industrial average declined by 22% on Black Tuesday in 1929.

Table 6.2
(Veto Players and Competition in Crisis: %ΔS&P Price Index)

DV: %ΔS&P Price Index	(1)	(2)	(3)	(4)	(5)	(6)
Political Constraint	-36.3**	-46.2***	-24.7**		-13.9	1.9
	(14.6)	(13.3)	(10.7)		(13.1)	(10.6)
Electoral Competition				-0.94	-1.61	-1.6
				(2.23)	(1.91)	(1.74)
Bank Crisis	-85.4***	-93.2***	-69.1***	-132***	-136***	-81.17**
	(13.61)	(13.55)	(8.41)	(45.14)	(45.25)	(35.43)
Constraint X Bank Crisis	144***	159***	117***			
	(29.85)	(30.23)	(18.8)			
Competition X Bank Crisis				9.18**	9.49**	5.39*
				(3.76)	(3.77)	(2.98)
Regulatory Independence		19.1**	15.7*		17.7**	15.9*
		(9.3)	(9.15)		(8.37)	(8.27)
Depoliticized Self-Regulation		15.7	2.57		21.7**	6.02
		(9.7)	(9.89)		(9.82)	(9.99)
Electoral Proportionality		7.8***	3.37			
		(2.8)	(3.77)			
ln(GDPperCapita)	-1.19	-3.94	-36.2**	-1.747	-5.52	-36.4**
	(3.66)	(3.41)	(16.24)	(3.67)	(3.73)	(17.8)
GDP Growth	0.72	0.68	1.43*	0.62	0.66	1.41*
	(0.494)	(0.542)	(0.855)	(0.43)	(0.44)	(0.72)
Capital Account Openness	0.37	1.36	-6.11	-2.66	-5.88	-13.1
	(10.9)	(12.9)	(13.1)	(11.2)	(11.7)	(12.5)
ln(Trade)	23.3**	23.2**	-7.70	24.3**	19.4*	-10.8
	(9.58)	(10.9)	(17.7)	(9.86)	(10.4)	(18.7)
ln(Inflation)	0.79	2.05	4.07	1.41	1.68	3.73
	(4.88)	(5.85)	(5.46)	(5.42)	(5.51)	(5.11)
Private Credit by Banks	0.005	0.034	-0.035	0.008	0.041	-0.039
	(0.05)	(0.05)	(0.06)	(0.06)	(0.06)	(0.06)
ln(Turnover Ratio)	2.27	1.29	-1.17	2.8	2.48	-0.44
	(3.25)	(3.49)	(4.51)	(3.25)	(3.29)	(4.44)
ΔAll World Index	35.3***	36.48***		35.48***	35.82***	
	(2.56)	(2.87)		(2.61)	(2.61)	
Constant	-75.5**	-83.5**	318.0	-78.2*	-38.3	345.1
	(33.77)	(40.15)	(191.9)	(40.54)	(38.86)	(212.6)
Observations	1,158	1,065	1,065	1,158	1,114	1,114
Adjusted R^2	0.24	0.25	0.31	0.23	0.23	0.30
Overall R^2	0.16	0.17	0.10	0.16	0.17	0.09
Year FE	NO	NO	YES	NO	NO	YES
Number of countries	79	73	73	79	78	78

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.10)

The interaction of electoral proportionality and banking crises tells a similar if less dramatic story as compared to political constraint and electoral competition. Regardless of whether political and regulatory controls are included, interaction coefficients of proportionality and banking crises are positive and suggest that a maximum increase in proportionality reduces predicted crisis price declines from 35 to 20 percent. However, no firm conclusions can be drawn. Regardless of controls, p-values are 0.30 or greater for interaction terms (not shown).

Overall, the results are clear with regard to veto players and electoral competition: more political constraint and full partisan contestation seem to temper sell-offs during systemic crisis. In other words, when leaders are constrained and/or more electorally accountable, crisis period price declines will be more manageable. When leaders are unconstrained by other veto players or electoral competition, price declines can be catastrophic. However, political leaders are not the only actors who play influential roles in crisis response. Effective actions by regulators may also stem price declines.

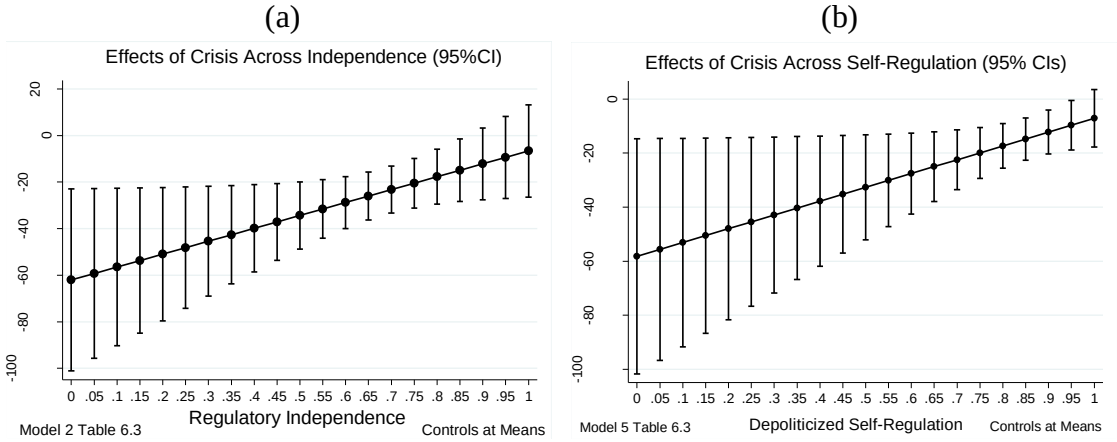
As expected, increases in regulatory independence and depoliticized self-regulation (*DSRO*) seem to reduce price declines during banking crises (Table 6.3). After controlling for veto players, electoral institutions, and self-regulation, banking crises are associated with index price drops of between 42 and 62 percent when public securities regulators are maximally politicized (Figure 6.2a; Models 1-3, Table 6.3).[64] In contrast, when regulatory agencies enjoy the highest levels of formal independence (and other variables are at their means) price declines are indistinguishable from 0. This result is

[64] Models 1-6 of Table 6.3 do not feature a control for electoral competition. Its introduction left interaction coefficients, standard errors, and p-value virtually unchanged.

robust to year fixed effects (Model 3) and relatively insensitive to a plethora of other political economic controls (not shown). Overall, evidence suggests that regulatory independence likely restrains crisis period index price declines.

Self-regulatory institutions perform similarly in terms of crisis period index price movement (Figure 6.2b; Models 4-6, Table 6.3). More specifically, as politicians and regulators are increasingly absent from exchange governance, price declines are less dramatic.

Figure 6.2
(Marginal Effects of Independence in Crisis: %ΔS&P Indices)



Despite the very large confidence intervals at lower levels of *DSRO*, point estimates suggest that when stock exchange governance is completely dominated by politicians, regulators, and their appointees, banking crises can lead to potentially massive index price declines. More specifically, after controlling for political institutions and public regulatory independence (i.e. Model 5), estimated marginal effects of banking crisis bottom out at negative 60 percent when stock market governance is maximally politicized. In contrast, when exchange governance is completely depoliticized and

recognized SROs are in existence, crisis period price declines are indistinguishable from 0 (holding all other variables at their means).

Table 6.3
(Independence and DSRO in Crisis: %ΔS&P Index Price)

DV:%ΔS&P Index Price	(1)	(2)	(3)	(4)	(5)	(6)
Regulatory	12.3	9.51	9.03		18.3**	13.3
Independence	(7.53)	(8.52)	(8.64)		(8.61)	(8.15)
Depoliticized		18.5**	4.46	24.9**	17.8*	1.07
Self-Regulation		(8.96)	(9.38)	(9.72)	(9.8)	(10.18)
Bank Crisis	-62.0***	-62.0***	-42.9***	-52.2**	-52.6**	-58.2**
	(18.4)	(19.9)	(13.4)	(23.2)	(23.3)	(22.1)
Independence	55.7**	55.3*	37.0*			
X Bank Crisis	(26.0)	(28.0)	(19.1)			
DSRO X				35.1	35.3	51.0**
Bank Crisis				(26.6)	(26.8)	(25.5)
Political		-19.2	-3.71		-18.92	-2.86
Constraint		(13.6)	(11.3)		(13.6)	(11.5)
Electoral		4.98	0.92		4.16	-0.58
Proportionality		(3.05)	(3.74)		(3.27)	(3.91)
ln(GDPperCapita)	-4.29	-5.32	-38.2**	-3.57	-4.24	-41.1**
	(3.57)	(3.59)	(17.0)	(3.76)	(3.87)	(18.4)
GDP Growth	0.72	0.74	1.47*	0.65	0.63	1.45*
	(0.49)	(0.52)	(0.83)	(0.42)	(0.45)	(0.8)
Capital Account	-5.42	-3.73	-10.7	-7.763	-6.53	-13.7
Openness	(11.3)	(12.4)	(12.66)	(11.0)	(12.8)	(12.7)
ln(Trade)	22.2**	21.2*	-11.1	24.0**	20.5*	-13.7
	(10.6)	(11.2)	(18.4)	(10.5)	(11.1)	(19.7)
ln(Inflation)	1.49	2.77	4.58	1.61	3.1	4.79
	(5.04)	(6.23)	(5.71)	(5.47)	(6.73)	(5.89)
Private Credit	0.03	0.04	-0.03	0.01	0.04	-0.04
by Banks	(0.06)	(0.06)	(0.07)	(0.06)	(0.06)	(0.06)
ln(Turnover Ratio)	3.01	2.18	-0.82	2.64	2.37	-0.58
	(3.2)	(3.5)	(4.58)	(3.22)	(3.45)	(4.5)
ΔAll World Index	35.6***	36.6***		35.6***	36.3***	
	(2.6)	(3.0)		(2.5)	(2.8)	
Constant	-66.4**	-65.4*	346.4*	-86.5**	-75.2*	384.6*
	(32.7)	(38.1)	(201.3)	(35.2)	(40.2)	(220.6)
Observations	1,153	1,065	1,065	1,132	1,065	1,065
Adjusted R^2	0.24	0.24	0.30	0.23	0.23	0.30
Overall R^2	0.17	0.19	0.09	0.18	0.19	0.08
Year FE	NO	NO	YES	NO	NO	YES
Number of countries	80	73	73	79	73	73

Huber/White Robust standard errors clustered by county (*** p<0.01, ** p<0.05, * p<0.10)

The *DSRO* interaction results are somewhat weak by conventional standards with p-values ranging from 0.049 to 0.19 (Models 4-6). That said, the results are suggestive. Like politically dependent public regulators and less consensual political institutions, the politicization of stock market governance appears to magnify stock index declines during times of systemic financial distress.

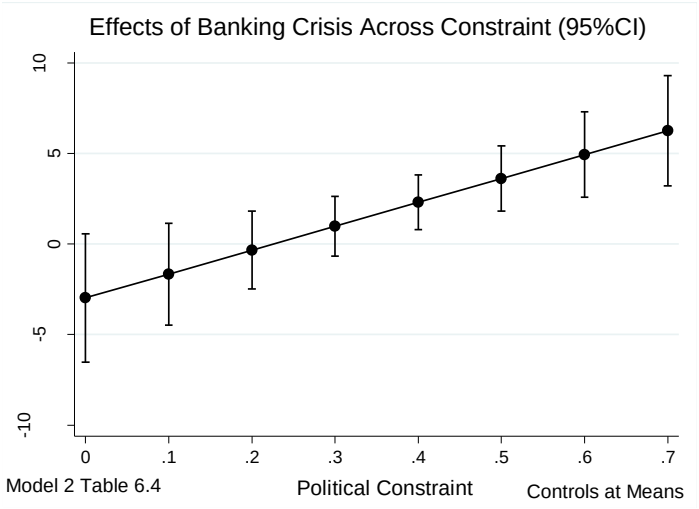
Thus far, the effects in terms of index price declines are catastrophic for autocratic countries or those with politicized securities market regulation. In democratic countries with average to high levels of political constraint and regulatory independence, declines are much less severe. However, this success in terms of preventing price declines is not mirrored in terms of minimizing price volatility. As the results below suggest, the same political and regulatory weaknesses that rob political leaders of policy credibility may give those same leaders the tools necessary to contain price volatility in the heat of crisis.

Institutions, Crisis and Index Volatility

The findings of Table 6.4 suggest that higher levels of political constraint amplify the volatility effects of banking crises. Interaction coefficients are positive, stable, and significant at conventional levels across both dynamic estimators and as additional controls are added to the models. Using the Model 3 estimates with all controls at their means, predicted marginal effects of banking crises are indistinguishable from zero at constraint levels level below the post-1988 median (Figure 6.3). In other words, only in countries where power is more centralized than in the UK's Westminster system ($< \approx 3.4$) will banking crises *not* contribute to annual index volatility in ways that are statistically

discernable from 0. Where leaders are more constrained than those in a fully democratic Westminster system, volatility effects of crisis will be statistically significant and increasing with the number and fractionalization of veto players.

Figure 6.3



Coefficients suggest that the maximum levels of political constraint found in the sample (.77) would add just over 6 percent to price volatility during the year of a systemic banking crisis holding all other variables at their means. This is just under half the overall standard deviation and 60 percent of the within standard deviation in price volatility. While this may sound small, it is important to remember that this is the volatility produced after the volatility created by macroeconomic factors (i.e. declines in economic growth) and share turnover is taken into account.

Table 6.4
(Veto Players in Crisis: Index Volatility)

DV: Stock Price Volatility	(1)	(2)	(3)	(4) Blundell-Bond	(5) Blundell-Bond	(6) Blundell-Bond
Stock Price Volatility$_{t-1}$	0.57***	0.51***	0.49***	0.68***	0.55***	0.59***
	(0.04)	(0.03)	(0.03)	(0.10)	(0.04)	(0.04)
Stock Price Volatility$_{t-2}$				-0.24***	-0.22***	-0.27***
				(0.04)	(0.04)	(0.03)
Stock Price Volatility$_{t-3}$				0.025	0.07	0.11***
				(0.04)	(0.05)	(0.04)
Political Constraint	0.39	1.68	2.25	0.33	4.73*	3.97
	(3.66)	(2.7)	(2.73)	(5.03)	(2.86)	(3.51)
Bank Crisis	-4.69*	-2.97	-2.01	-5.32**	-2.18	-1.43
	(2.39)	(1.81)	(1.92)	(2.33)	(2.71)	(3.19)
Constraint X Bank Crisis	15.4***	13.2***	11.4**	19.7***	16.2**	13.6**
	(4.6)	(4.28)	(4.4)	(4.78)	(6.41)	(6.38)
Regulatory Independence		2.53	4.24**		1.85	3.3
		(2.06)	(1.76)		(3.75)	(3.62)
Depoliticized Self-Regulation		1.3	3.2		-4.54	-5.1
		(2.65)	(2.74)		(5.75)	(5.18)
Electoral Competition			-0.20			0.20
			(0.20)			(0.46)
Electoral Proportionality			-1.63			-0.37
			(1.25)			(1.61)
ln(GDPperCapita)	-3.56***	-3.61***	-3.58***	-5.39***	-3.87***	-3.55***
	(0.98)	(0.89)	(0.93)	(1.43)	(1.04)	(1.13)
GDP Growth	-0.77***	-0.69***	-0.70***	-0.81***	-0.78***	-0.82***
	(0.11)	(0.11)	(0.12)	(0.12)	(0.12)	(0.13)
Capital Account Openness	3.84**	3.88**	2.76	-1.23	-0.054	0.703
	(1.64)	(1.89)	(1.95)	(2.46)	(3.04)	(2.91)
ln(Trade)	2.56	1.24	1.22	1.55	-1.27	0.12
	(2.13)	(2.19)	(2.25)	(3.06)	(2.51)	(2.44)
ln(Inflation)	1.24**	1.38***	1.19*	1.03**	1.14**	1.29**
	(0.47)	(0.50)	(0.62)	(0.41)	(0.57)	(0.62)
Domestic Credit by Banks	0.01	0.01	0.01	0.05***	0.03**	0.02
	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.02)
ln(Turnover)	1.97**	2.3***	2.24***	1.36	2.48***	2.54***
	(0.79)	(0.70)	(0.72)	(1.12)	(0.865)	(0.889)
ΔAll World Stock Index	1.02***	0.88**	0.81*	0.83***	0.71**	0.69*
	(0.35)	(0.42)	(0.43)	(0.32)	(0.34)	(0.37)
Constant	20.3**	23.0**	26.8**	47.4***	43.0***	32.1**
	(9.98)	(10.6)	(12.0)	(11.2)	(12.3)	(12.8)
Observations	1,054	1,027	968	937	916	867
Adjusted R^2	0.52	0.51	0.51	--	--	--
Overall R^2	0.67	0.67	0.67	--	--	--
Number of countries	77	77	72	75	75	70

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

The introduction of year fixed effects to Models 1-3 does slightly reduce the magnitude of interaction coefficients, but they remain significant at conventional levels (not shown). A fixed effects Prais-Winsten estimator also produces very similar results (not shown). Although interactions continue to have positive signs, static reestimations of Models 1-3 produce interaction coefficients that are roughly 50 percent smaller than those in Table 6.3 and assume p-values greater than 0.5 (not shown). Among all estimation approaches, it is the Blundell-Bond estimations that produce the largest interaction effects (Models 4-6).

Electoral competition produces a similar positive interaction effect with banking crisis (see Table 6.5). At lower levels of electoral competition, confidence intervals are very large and estimated marginal volatility effects of banking crises are indistinguishable from zero. However, as competition increases to levels where neither executive nor legislative parties are hegemonic, banking crises once again exacerbate volatility. However, this effect is small and maxes out at positive 4.5 percent when holding the other variables at their means (Figure 6.4).

Figure 6.4

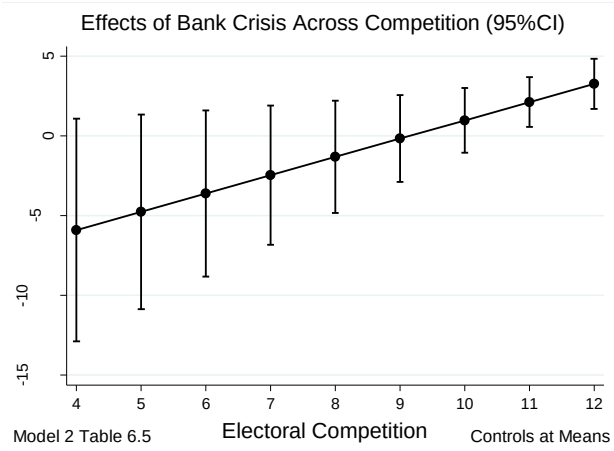


Table 6.5
(Electoral Competition in Crisis: Index Volatility)

DV: Stock Index Price Volatility	(1)	(2)	(3)	(4) Blundell-Bond	(5) Blundell-Bond	(6) Blundell-Bond
Stock Price Volatility$_{t-1}$	0.57***	0.51***	0.49***	0.69***	0.57***	0.59***
	(0.046)	(0.027)	(0.03)	(0.10)	(0.04)	(0.04)
Stock Price Volatility$_{t-2}$				-0.25***	-0.23***	-0.28***
				(0.04)	(0.04)	(0.031)
Stock Price Volatility$_{t-3}$				0.02	0.07	0.11***
				(0.04)	(0.05)	(0.04)
Electoral Competition	0.144	0.16	-0.42**	0.33	0.403	-0.07
	(0.17)	(0.19)	(0.17)	(0.342)	(0.323)	(0.44)
Bank Crisis	-10.6**	-10.4*	-11.1*	-10.33**	-8.90*	-10.2
	(4.89)	(5.38)	(6.23)	(4.09)	(4.55)	(6.52)
Electoral Competition X Bank Crisis	1.09**	1.14**	1.2**	1.18***	1.21***	1.26**
	(0.43)	(0.46)	(0.51)	(0.34)	(0.41)	(0.52)
Regulatory Independence		2.60	3.98**		2.38	3.13
		(2.0)	(1.7)		(3.49)	(3.53)
Depoliticized Self-Regulation		1.74	3.52		-3.89	-4.41
		(2.65)	(2.67)		(5.41)	(5.14)
Political Constraint		3.94	4.68*			7.25***
		(2.83)	(2.79)			(2.75)
Electoral Proportionality			-1.67			-0.403
			(1.33)			(1.59)
ln(GDPperCapita)	-3.85***	-3.92***	-3.64***	-5.84***	-4.31***	-3.53***
	(1.01)	(0.92)	(0.92)	(1.46)	(1.11)	(1.14)
GDP Growth	-0.70***	-0.69***	-0.71***	-0.79***	-0.78***	-0.83***
	(0.11)	(0.11)	(0.12)	(0.11)	(0.11)	(0.13)
Capital Account Openness	3.60**	3.64*	2.57	-1.73	-0.714	0.52
	(1.58)	(1.85)	(1.96)	(2.4)	(2.87)	(2.96)
ln(Trade)	2.51	1.07	1.41	0.857	-2.22	0.161
	(2.2)	(2.22)	(2.32)	(3.5)	(2.67)	(2.56)
ln(Inflation)	1.33**	1.48***	1.25*	1.12***	1.32**	1.38**
	(0.51)	(0.53)	(0.65)	(0.42)	(0.55)	(0.63)
Domestic Credit by Banks	0.01	0.019	0.01	0.06***	0.04***	0.01
	(0.01)	(0.01)	(0.01)	(0.018)	(0.01)	(0.015)
ln(TurnoverRatio)	2.04**	2.36***	2.24***	1.52	2.68***	2.69***
	(0.81)	(0.73)	(0.74)	(1.13)	(0.862)	(0.89)
ΔAll World Stock Index	1.06***	0.92**	0.85*	0.86***	0.76**	0.75**
	(0.35)	(0.42)	(0.43)	(0.31)	(0.34)	(0.37)
Constant	21.5**	24.6**	28.3**	49.8***	46.4***	33.0***
	(9.66)	(10.4)	(12.1)	(11.9)	(12.2)	(12.5)
Observations	1,054	1,103	968	937	916	867
Adjusted R^2	0.51	0.51	0.51	--	--	--
Overall R^2	0.66	0.63	0.57	--	--	--
Number of countries	78	78	72	75	75	70

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

As Table 6.5 indicates, the interaction coefficient is remarkably stable in terms of both magnitude and significance across both types of dynamic estimations. Static reestimation, year fixed effects, and country fixed effect Prais-Winsten models also produce very comparable results (not shown). Interaction effects are also robust to additional controls for government partisanship and growth in government spending. Regardless of estimator, a clear conclusion emerges: despite their lack of accountability to voters, countries with weak to non-existent electoral competition are associated with more minimal levels of volatility during systemic financial crises. It is only when winning party vote shares dip below 75 percent in executive and legislative elections do banking crises add to volatility in ways that are statically distinguishable from zero.

Unlike veto players and electoral competition, the policy consensualism of proportional elections does not seem to amplify the effects of banking crises. In fact, there is some very tentative evidence that it may reduce the volatility effects of crisis as indicated by negative interaction coefficients. In terms of estimation error, the interaction's statistical and substantive strength is not strong. In Table 6.6 below, interaction coefficient p-values range from 0.07 to 0.13. If year fixed effects are introduced, coefficients grow smaller and standard errors increase even more. Although interaction terms remain negatively signed, static estimations as well as fixed effect Prais-Winsten estimators also produce null results at conventional levels.

Table 6.6
(Proportionality in Crisis: Index Volatility)

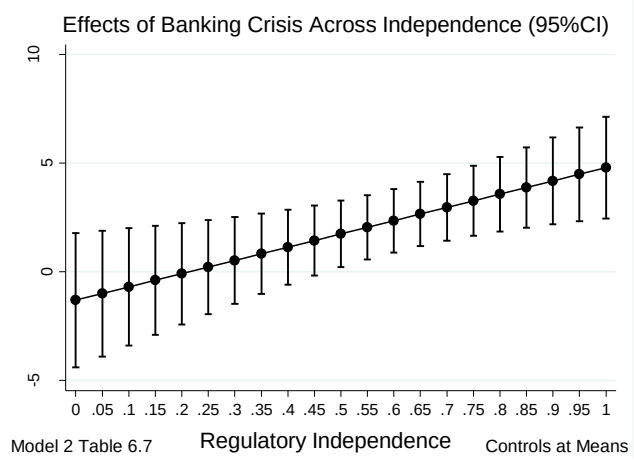
DV: Stock Index Price Volatility	(1)	(2)	(3)	(4) Blundell-Bond	(5) Blundell-Bond	(6) Blundell-Bond
Stock Price Volatility $_{t-1}$	0.56***	0.49**	0.49***	0.72***	0.61***	0.60***
	(0.04)	(0.03)	(0.03)	(0.07)	(0.04)	(0.04)
Stock Price Volatility $_{t-2}$				-0.31***	-0.285***	-0.28***
				(0.03)	(0.03)	(0.03)
Stock Price Volatility $_{t-3}$				0.06	0.11***	0.11***
				(0.06)	(0.04)	(0.04)
Electoral Proportionality	-2.789	-1.84	-1.95*	-2.84	-0.239	-0.28
	(1.70)	(1.17)	(1.17)	(2.79)	(1.38)	(1.47)
Bank Crisis	4.24***	5.06***	4.91***	6.95***	7.18***	6.74***
	(1.13)	(1.2)	(1.21)	(1.89)	(2.20)	(2.20)
Proportionality X Bank Crisis	-0.81	-0.97*	-0.97*	-1.65*	-1.42	-1.24
	(0.51)	(0.53)	(0.52)	(0.93)	(0.89)	(0.89)
Regulatory Independence		4.64***	4.29**		3.51	2.94
		(1.63)	(1.66)		(3.10)	(3.19)
Depoliticized Self-Regulation		3.80	3.61		-2.97	-4.02
		(2.73)	(2.79)		(5.04)	(5.12)
Political Constraint			4.4			6.27**
			(2.86)			(3.04)
Electoral Competition			-0.21			0.20
			(0.23)			(0.43)
ln(GDPperCapita)	-3.68***	-3.95***	-3.79***	-4.54***	-3.47***	-3.52***
	(0.97)	(0.94)	(0.95)	(1.234)	(0.96)	(1.11)
GDP Growth	-0.70***	-0.69***	-0.69***	-0.85***	-0.84***	-0.83***
	(0.122)	(0.12)	(0.12)	(0.13)	(0.131)	(0.13)
Capital Account Openness	2.69*	2.25	2.29	-2.11	-0.544	0.34
	(1.55)	(1.78)	(1.92)	(2.45)	(2.58)	(2.75)
ln(Trade)	2.26	0.75	1.04	1.26	-1.43	-0.55
	(2.08)	(2.20)	(2.29)	(3.38)	(2.66)	(2.7)
ln(Inflation)	1.09*	1.26*	1.18*	1.17**	1.41**	1.32**
	(0.59)	(0.65)	(0.65)	(0.51)	(0.62)	(0.65)
Domestic Credit by Banks	0.01	0.01	0.01	0.03*	0.02	0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
ln(TurnoverRatio)	1.86**	2.27***	2.23***	1.47	2.62***	2.55***
	(0.82)	(0.71)	(0.71)	(1.20)	(0.87)	(0.88)
ΔAll World Stock Index	0.95***	0.79*	0.78*	0.73**	0.62	0.65
	(0.35)	(0.42)	(0.43)	(0.36)	(0.39)	(0.40)
Constant	29.4**	30.2**	29.2**	47.6***	40.2***	33.3**
	(11.1)	(11.9)	(12.1)	(15.8)	(13.1)	(13.8)
Observations	992	968	968	887	867	867
Adjusted R^2	0.51	0.50	0.53	--	--	--
Overall R^2	0.56	0.54	0.54	--	--	--
Number of countries	72	72	72	70	70	70

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Even if the largest interaction coefficient above is taken at face value, the difference in predicted crisis volatilities between a purely majoritarian and a purely proportional country is only around 5 percent. Although suggestive, results are too weak to draw any definitive conclusions regarding electoral proportionality's impact on crisis period volatility.

Unlike proportionality and in line with my initial hypotheses, there is a robust interactive relationship between regulatory independence and crisis volatility (Table 6.7). This result is consistently significant across both types of dynamic estimator with interaction effects being somewhat larger in GMM estimations.

Figure 6.5



Judging from Figure 6.5 above, independence above the 30th percentile of the sample exacerbates banking crisis index price volatility. In contrast, regulation by politicians and politicized regulators is associated with the almost complete suppression of crisis volatility (see negative main effects in Table 6.7).

Table 6.7
(Independence in Crisis: Index Volatility)

DV: Stock Index Price Volatility	(1)	(2)	(3)	(4) Blundell-Bond	(5) Blundell-Bond	(6) Blundell -Bond
Stock Price Volatility$_{t-1}$	0.51*** (0.02)	0.51*** (0.03)	0.48*** (0.03)	0.57*** (0.04)	0.57*** (0.04)	0.59*** (0.04)
Stock Price Volatility$_{t-2}$				-0.24*** (0.045)	-0.23*** (0.045)	-0.28*** (0.031)
Stock Price Volatility$_{t-3}$				0.084 (0.054)	0.078 (0.051)	0.111*** (0.04)
Regulatory Independence	1.6 (2)	1.95 (1.93)	3.25** (1.62)	0.032 (3.31)	1.5 (3.23)	2.59 (3.2)
Bank Crisis	-1.49 (1.51)	-1.31 (1.58)	-0.83 (1.75)	-0.54 (1.8)	-0.84 (1.77)	0.120 (2.05)
Independence x Bank Crisis	6.3*** (2.22)	6.1** (2.32)	5.7** (2.51)	8.30*** (2.63)	8.44*** (2.66)	6.53*** (2.47)
Depoliticized Self-Regulation		1.85 (2.74)	3.46 (2.87)		-2.56 (5.52)	-4.47 (5.08)
Political Constraint			4.7* (2.77)			6.86** (2.91)
Electoral Proportionality			-2.23* (1.28)			-0.723 (1.56)
Electoral Competition			-0.221 (0.205)			0.166 (0.427)
ln(GDPperCapita)	-3.83*** (0.99)	-3.98*** (1.0)	-3.86*** (0.986)	-4.2*** (0.99)	-4.11*** (0.95)	-3.64*** (1.11)
GDP Growth	-0.69*** (0.11)	-0.70*** (0.11)	-0.69*** (0.12)	-0.82*** (0.12)	-0.82*** (0.11)	-0.825*** (0.13)
Capital Account Openness	3.15* (1.76)	3.17* (1.80)	2.22 (1.94)	-1.50 (3.03)	-1.23 (2.99)	0.28 (2.86)
ln(Trade)	1.18 (2.16)	1.21 (2.18)	1.45 (2.27)	-1.64 (2.51)	-1.76 (2.49)	0.08 (2.54)
ln(Inflation)	1.50*** (0.53)	1.46*** (0.54)	1.22* (0.65)	1.37*** (0.53)	1.32** (0.56)	1.35** (0.64)
Domestic Credit by Banks	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.031** (0.01)	0.03** (0.01)	0.02 (0.02)
ln(TurnoverRatio)	2.53*** (0.73)	2.44*** (0.72)	2.32*** (0.73)	2.97*** (0.9)	2.95*** (0.87)	2.8*** (0.90)
ΔAll World Stock Index	0.90** (0.42)	0.90** (0.42)	0.87* (0.43)	0.82** (0.33)	0.81** (0.34)	0.78** (0.38)
Constant	27.1** (10.8)	27.0** (10.7)	29.2** (12.4)	46.2*** (11.3)	46.7*** (11.2)	32.3** (13.2)
Observations	1,048	1,035	968	931	924	867
Adjusted R^2	0.503	0.506	0.504	--	--	--
Overall R^2	0.637	0.631	0.534	--	--	--
Number of countries	78	78	72	76	76	70

Huber/White standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

The interaction effect above is also remarkably robust. Coefficients remain stable with the inclusion of year fixed effects and additional controls for government partisanship and growth in government spending. Fixed effects Prais-Winsten models inflate standard errors, but interaction coefficients resemble those in Models 1 thru 3. Finally, static reestimations are not only highly significant by conventional standards ($p<.01$), but interaction coefficients almost double in size (≈10, not shown). Regardless of estimation approach, results are clear: politicized regulators contain the volatility effects of banking crisis while independent regulators exacerbate it.

Like public regulators, self-regulators' political autonomy is also related to increases in the volatility effects of banking crises (Table 6.8). Holding public regulatory independence and macroeconomic conditions at their means, maximum levels of *DSRO* may add an additional 5 percent to index prices' relative standard deviations (see Figure 6.6). In contrast, the presence of politicians and regulators on stock exchange supervisory boards is associated with negligible crisis period increases in index price volatility.

Figure 6.6

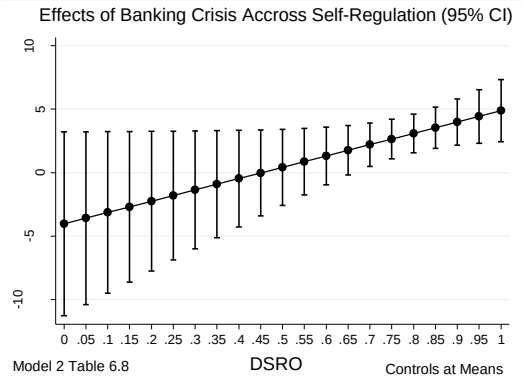


Table 6.8
(*DSRO* in Crisis: Index Volatility)

DV: Stock Index Price Volatility	(1)	(2)	(3)	(4) Blundell-Bond	(5) Blundell-Bond	(6) Blundell-Bond
Stock Price Volatility$_{t-1}$	0.55***	0.50***	0.48***	0.66***	0.57***	0.59***
	(0.02)	(0.03)	(0.04)	(0.06)	(0.03)	(0.04)
Stock Price Volatility$_{t-2}$				-0.26***	-0.24***	-0.28***
				(0.05)	(0.05)	(0.03)
Stock Price Volatility$_{t-3}$				0.03	0.08	0.11***
				(0.05)	(0.05)	(0.04)
Depoliticized	1.27	0.81	2.46	-18.1	-3.65	-4.63
Self-Regulation	(2.2)	(2.62)	(2.64)	(13.7)	(5.89)	(5.38)
Bank Crisis	-11.01	-4.03	-2.72	-10.4	2.49	5.31
	(6.94)	(3.7)	(3.23)	(8.09)	(3.84)	(3.52)
Self-Regulation x	17.0**	8.90*	7.46*	17.6*	3.01	-1.02
Bank Crisis	(8.41)	(4.6)	(4.04)	(9.85)	(4.57)	(4.26)
Regulatory		2.69	3.92**		2.68	3.7
Independence		(1.76)	(1.52)		(3.4)	(3.31)
Political			4.52			6.71**
Constraint			(2.74)			(3.07)
Electoral			-1.94*			-0.67
Proportionality			(1.08)			(1.57)
Electoral			-0.15			0.23
Competitiveness			(0.22)			(0.43)
ln(GDPperCapita)	-3.84***	-3.8***	-3.73***	-4.74***	-3.99***	-3.63***
	(0.94)	(0.93)	(0.93)	(1.22)	(0.98)	(1.12)
GDP Growth	-0.71***	-0.69***	-0.68***	-0.86***	-0.82***	-0.82***
	(0.12)	(0.11)	(0.12)	(0.11)	(0.11)	(0.13)
Capital Account	2.61	3.02*	2.15	-1.48	-0.77	0.732
Openness	(1.57)	(1.76)	(1.93)	(2.69)	(3.03)	(2.93)
ln(Trade)	2.47	1.11	1.34	-0.532	-2.29	-0.367
	(2.25)	(2.27)	(2.38)	(3.01)	(2.67)	(2.72)
ln(Inflation)	1.40***	1.52***	1.24*	1.08**	1.34**	1.31**
	(0.47)	(0.52)	(0.64)	(0.50)	(0.58)	(0.65)
Domestic Credit	0.01	0.01	0.011	0.05***	0.033**	0.019
by Banks	(0.01)	(0.01)	(0.01)	(0.017)	(0.01)	(0.017)
ln(TurnoverRatio)	2.14***	2.47***	2.34***	1.83*	2.90***	2.76***
	(0.707)	(0.685)	(0.7)	(1.09)	(0.87)	(0.91)
ΔAll World Stock	0.99***	0.87**	0.83*	0.65*	0.73**	0.69*
Index	(0.35)	(0.412)	(0.43)	(0.35)	(0.36)	(0.39)
Constant	23.15**	26.12**	27.67**	63.81***	47.64***	32.29**
	(9.14)	(10.39)	(11.72)	(15.95)	(11.50)	(14.07)
Observations	1,043	1,035	968	930	924	867
Adjusted R^2	0.522	0.507	0.505	--	--	--
Overall R^2	0.643	0.632	0.55	--	--	--
Number of countries	78	78	72	76	76	70

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

This positive interaction effect is robust to year fixed effects, and static reestimations lead to interaction coefficients that are double the size of those found in Models 1-3 above. Fixed effect Prais-Winsten estimations also produce qualitatively similar results (not shown). In contrast to previous models, the interaction effect is highly sensitive to additional controls beyond those found in Model 1. More specifically, the addition of controls for public regulatory independence or growth in government spending noticeably decreases the magnitude of interaction effects and push coefficients to insignificance. Despite this sensitivity, it is important to point out that static estimations can withstand the inclusion of regulatory independence and government spending growth both individually and together. Interaction coefficients in those static models are around 20 and p-values range from 0.07 to 0.08 (not shown). On balance, results still suggest that more politicized regimes of exchange governance are volatility suppressing during periods of crisis.

The results of this chapter indicate that the politicization of both public and private regulators has ambiguous effects during crisis. In countries with politically dependent regulatory agencies and politicized exchange governance, banking crises are associated with larger index price declines than in countries where regulators and exchanges are independent. At the same time, the political dependence of regulators and exchanges seems to reduce crisis period volatility. In order to ensure that it is actually the politicization of regulators that produces these effects rather than the idiosyncrasies of my measurement models, I created a simple additive variable called, *apolitical organization*. The variable has 4 "ex-officio" subcomponents: 1) politicians on securities agency

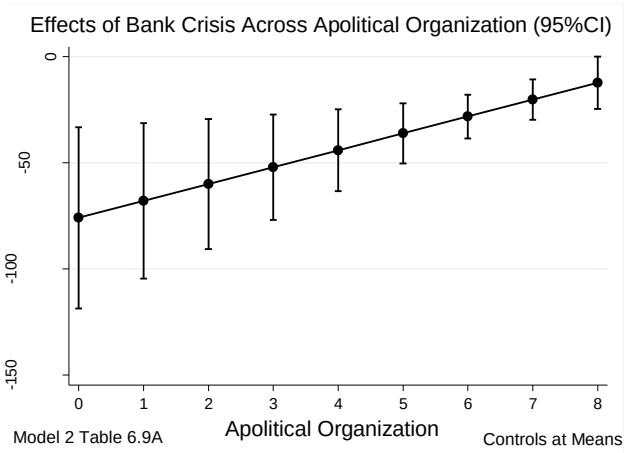
boards; 2) non-securities regulators on securities agency boards; 3) politicians on stock exchange boards; and 4) public regulators of any kind on stock exchange boards.[65] Each subcomponent is scored on a 0 to 2 scale with 0 indicating multiple ex-officio members, 1 indicating a single ex-officio member, and 2 indicating no ex-officio members. For example, if country X's securities regulator has a central banker and two government ministers sitting on its board of directors, it would get a score of 0 on subcomponent 1 and a score of 1 on subcomponent 2. If one member of country X's regulator agency then gets to sit on the board of directors of country X's stock exchange and all other board members were neither politicians nor regulators, subcomponent 3 would be scored a 2 and subcomponent 4 a 1. As a result, country Xs total *apolitical organization* score would be a 4 out of a possible 8. A score of 0 indicates minimum apolitical regulatory organization (or maximum politicization) and corresponds to the following: multiple non-securities regulators and multiple politicians sitting on the securities agency board, and multiple regulators of any type along with multiple politicians sitting on the board of the stock exchange. A score of 8 indicates a maximum level apolitical organization and corresponds to the following: the securities market regulator supervisory board is free from politicians AND non-securities market regulators, while the stock exchange board of directors is free from politicians and regulators of any type.

In line with the findings thus far, I expect *apolitical organization* to dampen the index price declines while amplifying the index price volatility caused by financial crisis.

[65] I consider central bankers to be regulators. The direct representatives or delegates of regulators or politicians are treated as identical to regulators and politicians.

Tables 6.9A and 6.10A in Appendix VI confirm this expectation. As public and private regulatory organizations become free from outside regulators and politicians, price declines are less severe (Table 6.9A). More specifically, at maximum levels of apolitical regulatory organization (i.e. 8 out of 8), banking crises are associated with marginal decreases in index price growth of around 12 percent (see Figure 6.7).

Figure 6.7

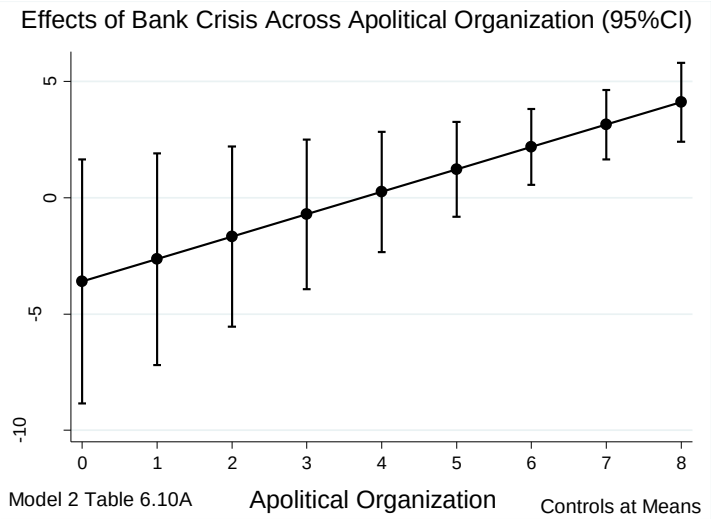


This is just slightly less than the median crisis period decline of 15 percent. When regulatory regimes are maximally politicized, banking crises have very large marginal effects on index price growth: banking crises are associated with roughly 75 percent declines in stock index prices holding political constraint and all other variables at their means. The addition of year fixed effects does lead to more than trivial declines in interaction coefficients, but results maintain significance at conventional levels (not shown). The introduction of a control for growth in government spending leads to similarly sized interaction coefficient declines as year fixed effects, but interaction effect

p-values remain between 0.049 and 0.09 (not shown). Fixed effects Prais-Winsten estimations produce interaction effects that are nearly identical to those found in Models 1-3 of Table 6.9A.

In line with expectations, the beneficial effects of apolitical regulatory organization do not extent to volatility (Table 6.10A; Appendix VI). According to the predicted marginal effects in Figure 6.8, banking crises significantly contribute to volatility once apolitical organization exceeds its post-1988 mean level (i.e. 5.7). When outside regulators and politicians are widely distributed across both public and private regulatory organizations (apolitical < 4), banking crises may even decease stock index price volatility during crisis. Figure 6.8 demonstrates the full range of these changing marginal effects of banking crisis on volatility. Political constraint and macroeconomic controls are all held at their means:

Figure 6.8



This positive interaction effect on volatility is robust across a traditional fixed effects dynamic model (Model 1-3, Table 6.10A), a fixed effect Prais-Winsten model (not shown), and an alternative GMM estimator (Model 4-6, Table 6.10A). Unsurprisingly, the interaction effect is highly significant and twice as large when a static estimation is used. Despite slight declines in the magnitude of interaction coefficients, Models 1-3 remain stable after the addition of year fixed effects and additional political controls for government partisanship and growth in government spending.

Overall, results are clear. Banking crises have negligible to negative marginal effects on index volatility when regulatory organizations are highly politicized. However, these same politicized organizations are associated with potentially massive index price declines during crisis. When public and private regulatory organizations are free from politicians and non-securities regulators, these associations change direction. Highly apolitical regulatory organizations seem to muffle banking crisis price declines, while amplifying crisis period volatility.

Portfolio Equity Flows in Times of Crisis

Given the key role that portfolio capital flows play in both revealing and driving international financial contagion, I evaluate how political and regulatory institutions shape crisis period equity flows and how net equity flows affect the relationship between these institutions and stock index price changes. An initial series of both bivariate and multivariate regressions suggest that there is no systematic relationship between systemic banking crisis and annual net portfolio equity flows. In most estimations, the standard

errors of the banking crisis coefficients are at least as large as the crisis dummies' coefficient (not shown). Even more interesting is the fact that the coefficient on the banking crisis dummy is positive suggesting that systemic banking crises do not lead to an outflow of portfolio equity. Unlike depositors, it appears that international portfolio investors are less shaken by crises in the banking system. These null-results extend to interactions between banking crisis and political and regulatory institutions on the one hand, and net portfolio flows on the other. Stated differently, neither consensual political institutions nor public and private regulator independence appears to moderate portfolio equity flows during crisis periods (not shown). Despite the null results that emerge when net portfolio equity flows are the outcome variable, including portfolio flows as a right-hand side control did attenuate *some* of the relationships uncovered in previous sections of this chapter.

Previous findings regarding the ability of political constraint and electoral competition to ameliorate crisis period index declines (see Table 6.1) are left qualitatively unchanged with the inclusion of a control for portfolio equity flows. P-values of interaction coefficients remain less than 0.10 and the magnitude of the positive interaction coefficients remain remarkably similar (see Table 6.11A). The same cannot be said for regulatory independence and depoliticized self-regulation. Although interaction coefficients remain positive and are typically larger than their standard errors, the results for both independence and *DSRO* lose statistical significance. Both coefficients are cut by at least half and p-values are frequently greater than 0.30 when portfolio flows are included. That said, the main effects of both regulatory variables remain significant, and

predicted margins still suggest that both independence and *DSRO* ameliorate crisis period stock declines. Holding all other variables at their means, point estimates suggest that stock indices decline by roughly 40 percent when either regulatory measure is at its minimum. In contrast, when either variable is at its maximum, annual crisis-period index declines are between 15 to 18 percent. Once again, it remains important to highlight that both interactions fail to approach conventional levels of significance when portfolio flows are controlled for (Table 6.12A).

Controlling for equity flows also weakens some of the stock price volatility results. In terms of political institutions, the results are very similar. Electoral competition and political constraint interactions are nearly identical in terms of both the significance and the magnitude of their positive coefficients (Table 6.13A). These similarities occur across both dynamic fixed effect and Blundell-Bond GMM estimators. In fact, the strength of the interaction effect for electoral competition increases slightly as compared to the findings of Table 6.4. This suggests that even after controlling for portfolio flows, veto players and electoral competition do in fact exacerbate crisis period volatility. My previous findings regarding proportionality's ability to ameliorate crisis-period volatility receive even less support when a control for proportionality is included (Model 5-6, Table 6.13A). Although the sign of the coefficient is still negative, the inclusion of a portfolio control reduces the magnitude of the coefficient and increases the standard errors.

The impact of portfolio flows on the regulatory institution interactions is mixed. After controlling for flows, independence continues to have a statistically significant positive interaction ($p<.05$) effect with banking crisis (Models 1-2, Table 6.14A). The size of interaction coefficients does decrease in comparison to the models without portfolio controls, but the substantive conclusion is the same: regulatory independence exacerbates crisis period volatility. In contrast, the *DSRO*-crisis interaction is weakened significantly by the inclusion of the portfolio flow control. P-values of the interaction coefficient that hover around 0.10 without the control (see Table 6.7), inflate dramatically to well over 0.3 (Model 3-4,Table 6.14A). Furthermore, the sign of the *DSRO*-crisis coefficient lacks consistency across the dynamic fixed effects and GMM estimations.

Even in light of the inconsistencies outlined above, my alternative *apolitical regulatory organization* measure continues to perform as expected even after a control for portfolio equity flows is introduced. In terms of crisis period index price declines, the interaction term declines in size by around 40%, but still remains positive and significant with p-values ranging between 0.04 and 0.13 (not shown). This once again suggests that apolitical regulatory organization enhances politicians' credibility and therefore lessens crisis period stock index declines. The differences between portfolio controlled and non-controlled estimations are even less significant with regards to price volatility. In both fixed effect and Blundell-Bond estimations, interaction coefficients remain positive, significant ($p<.04$), and stable in magnitude (not shown). In sum, when regulatory agencies and stock exchange governing boards are free of political officials, crisis period stock index declines will be less severe and index volatility will be more severe. This

relationship holds even after controlling for the actions of foreign portfolio equity investors.

Conclusion

Investors, corporate insiders, and the public demand two things from their political leaders in times of crisis: 1) that their economic interests are protected, and 2) that uncertainty is reduced and market volatility calmed. Achieving the second goal demands quick and decisive action. Accommodating the first goal often requires extended negotiation and the crafting of complex policy compromises that are faithfully implemented. The achievement of both goals is the ideal, but political and regulatory institutions may facilitate the achievement of one at the expense of the other. This chapter provides evidence of this tradeoff.

When veto players are few, electoral competition minimal, and regulatory organizations politicized, the volatility effects of systemic banking crises are reduced. Political leaders can choose a crisis response without difficult and sustained negotiations with other veto players or fear of future electoral punishment. Controversial and costly interventions such as bailouts, government stock purchases, and forced mergers can be more swiftly and widely pursued. Regulators and/or stock exchange officials, lacking formal independence, simply implement the orders of their political principals. Even if crisis resolution policies are less than ideal from a technical standpoint, the *quick and decisive* implementation of admittedly sub-optimal policies may still curb volatility.

However, the reductions in market volatility just described may come at the expense of credibility with regard to MSP and market integrity. Stated differently, the same institutional configurations that reduce volatility may also contribute to larger and possibly catastrophic declines in stock prices. More specifically, findings suggest that when veto players are fewer, elections less than competitive, and regulators and exchanges politicized, banking crises lead to more negative price changes in stock market indices. These more substantial crisis period price declines may reflect a number of factors.

First, crises often reveal past accumulations of financial and corporate governance weakness. Investors reassess their portfolios in light of this startling new information and seek to liquidate their equity holdings in companies that are more poorly governed than they had originally thought. Second, investors' lack of political representation may make them fear that their interests will be sacrificed when government responses are being crafted. Knowing that there are fewer veto players to defend them and their ability to punish incumbents in the future is limited, investors may seek to liquidate their equity holdings. This process will be accelerated if investors fear that less than independent regulators (public or private) will do little to protect them.

This raises the possibility that the reductions in volatility associated with unconstrained politicians and politicized regulators may be caused by equity investors' wholesale abandonment of equity markets rather than the calming effects of policy decisiveness. With fewer investors making speculative trades on policy uncertainty or

responding to policy interventions once they are finally announced, markets are less volatile. However, this reduced volatility only emerges because equity markets are deserted. If this is the case, the abatement in volatility achieved by unconstrained politicians and politicized regulators are a pyric victory. Given my current research design, there is no way discern whether it is policy decisiveness, investor abandonment, or both that causes volatility reductions.

In summation, to the extent political institutions are more consensual and elections more competitive, the interests of investors are more likely to be taken into account when crisis responses are devised. Furthermore, regulator independence and apolitical exchange governance should ensure more impartial and consistent implementation of crisis policies. These credibility effects should reduce crisis period stock index price declines even as they open the door to greater volatility. In the end, results suggest that political and regulatory institutions can deliver control and credibility, but they cannot simultaneously maximize both.

Chapter 7

Conclusion

How do political and regulatory institutions affect economic outcomes? This question stands at the center of a large institutional literature in economics and political science. Policy making veto players, electoral competition, proportional representation, and delegation to politically independent organizations have all been identified as essential to understanding a diverse array of economic and financial outcomes. However, the connection between institutions and stock market development has received little attention. This lack of emphasis is understandable. Stock markets play essential roles in corporate finance and governance in only a handful of primarily Anglo-American countries. In the rest of the world, bank lending and retained earnings remain the dominant motor of business expansion. However, this situation is changing and scholars have work to do in terms of understanding the sources and implications of this change.

Despite being criticized as financial side-shows or glorified casinos, the ubiquity of equity markets is remarkable. Stock exchanges have been established in nearly every country of the world. Governments that struggle to feed their citizens, maintain their territorial integrity, or respect human rights still dedicate scarce resources to the creation and encouragement of equity markets. The reasons behind stock exchange establishment differs from country to country and includes post-colonial economic indigenization; economic prestige, growth, and competitiveness; pursuit of financial independence and resilience; and the promotion of corporate efficiency. Even more remarkable than the

diffusion of stock exchanges across countries are their growth since the late 1980s. In lower and middle income countries, average value traded as a percentage of GDP has increased from 13 to 60 percent between 1994 and 2014. In that same group of countries, average market capitalization as a percentage of GDP increased from 37 to 62 percent between 2003 and 2015. Even regions that are considered international laggards in terms of stock market development have seen significant increases. For example, post-communist Central Europe and the Baltics experienced roughly a doubling of both value traded and market capitalization to GDP between 1998 and 2012.

Political scientists should take note: low levels of equity market development should not be construed as political irrelevance. The 2010 Stock Market Scam in Bangladesh precipitated riot activity, street fighting, and political scandal even though market capitalization and value traded made up only 14 and 15 percent of Bangladesh's GDP. When a botched IPO touched off protests and riots in Shenzhen during the "August 10 Incident" of 1992, Chinese authorities considered it the most serious social disturbance since Tiananmen Square. Yet in the year of the "The Incident," market capitalization and value traded made up only four percent of China's GDP.

In many ways, the events in Bangladesh and China were echoes of similar crises experienced by the U.S. and Canada in 1929. The details may vary across countries, but the story is the same. Weak and inconsistent regulation combined with poorly supervised self-regulatory arrangements precipitated crash or damaging price volatility in economically small but rapidly growing equity markets. Even absent dramatic price drops

or violent price swings, repeated breaches of market integrity or acts of insider opportunism can create more slow-moving crises of investor confidence. In response, politicians attempt to reinforce market integrity and investor protection through the passage of shareholder friendly financial legislation. But as over a century of crisis, panic, fraud, and scandal demonstrate, these legislative commitments are rarely credible across booms and busts in asset values. The reasons behind this lack of credibility are numerous and have been discussed at length in previous chapters. However, the following reality cannot be emphasized enough: in the vast majority of countries a vast majority of time, it is the losers of stock market development and who hold the upper hand in lobbying and political mobilization. The winners of stock market development and investor protection almost always fight an uphill political battle, and their policy gains are often confined to the immediate aftermath of crisis or scandal. As a result, neglecting investor protection and market integrity is the path of least resistance for politicians and the executive bureaucrats they control.

Although these asymmetries in interest group mobilization are daunting, many stock markets continue to grow and objective measures of investor protection continue to improve. This suggests that while all political commitments to investor protection and market integrity are vulnerable, not all commitments are equally lacking in credibility. As the findings of this dissertation demonstrate, political and regulatory institutions are the key to understanding this variation in credibility as well as the patterns of stock market development that result from it.

Findings Summarized

My analysis of within country stock market size and performance finds general support for the theoretical expectations detailed in Chapter 2. I expected that both regulatory independence and depoliticized self-regulation would increase politicians' credibility with regard to MSP and market integrity. In Chapter 3, I find convincing evidence in support of this expectation. When at least some aspects of regulatory rulemaking and enforcement are removed from the political uncertainties and instabilities that permeate finance ministries, stock markets tend to be larger and better performing. However, results indicate that delegation is not the only way that politicians' credibility can be enhanced. Consensual political institutions (i.e. more numerous veto players and electoral proportionality) also appear to strengthen politicians' commitments to investor protection. They accomplish this by reducing the frequency and severity of regulatory policy change, facilitating contentious corporate governance reforms, and diluting the influence of corporate and industry insiders. Given that both regulatory independence and consensual political institutions are related to stock market growth and performance, I investigated whether the two sets of institutions could act as functional substitutes in terms of safeguarding investor protections and promoting equity market development. Results confirmed my expectations. Politically independent public regulators have their largest effects on stock market size when veto players are fewer in number and where elections are more majoritarian than they are proportional.

I also explored Rajan and Zingales' (2003) claim that industrial and financial incumbents have particularly strong reasons to oppose stock market development and that these interests should be especially powerful in financially underdeveloped countries. Since regulatory independence and consensual political institutions' credibility effects stem in part from their ability to dilute corporate insider lobbying, they should have their greatest effects in countries where these interests are particular strong. Although not completely robust across estimations, there is evidence supporting this contention. The effects of political constraint (i.e. veto players), electoral proportionality, and regulatory independence are larger in countries with less developed credit markets. In more financially mature countries that are home to more pluralistic interest group environments, political and regulatory institutions have smaller effects.

The ability of regulatory independence to enhance stock market development stems from two closely related sources: 1) their ability to boost investor confidence, and 2) their capacity to make corporate insiders (i.e. executives and controlling shareholders) more cognizant of investors' rights. In Chapter 4, I explore this second source by comparing legal expert evaluations of investor protection strength with the evaluations of senior executives. More specifically, I investigate the institutional drivers of executive awareness of shareholder rights. Since an independent regulator should more consistently, impartially, and stringently enforce minority shareholder protection, I expect executives to have a firmer grasp of the strength of minority shareholder protections (MSP) in countries with more independent regulators. My findings confirm this expectation. As regulatory independence increases, executive and legal expert

evaluations of shareholder protections converge. This convergence effect is confined largely to countries where executives express overconfidence in the strength of minority shareholder protection relative to the experts and where stock markets are not the most highly developed. In sum, the more consistent investor protection that results from regulatory independence should be the most jarring to corporate elites in richer countries with histories of weak MSP and underdeveloped stock markets (e.g. Germany, Austria, Switzerland, Finland, Qatar, Jordan, and Bahrain). In contrast, executive opinions in Anglo-American countries with well-developed markets and poorer countries with incomplete property rights seem less affected by regulatory independence. In the former case, shareholders hold greater economic power due to more active markets for corporate control and the disciplinary effects of stock market liquidity and corporate transparency. Since common law affords shareholders better opportunities to defend themselves through litigation, they may also be less dependent upon the administrative protections enforced by regulators. In the case of poorer countries with weak legal systems, regulators' formal protections from political interference are more likely to be ignored in the same way that property rights are ignored. As a result, the formal independence of agencies should have a lesser impact on agency performance and therefore a lesser impact on executive opinion.

In Chapter 5, I present my new measure of depoliticized exchange governance and self-regulation (*DSRO*). I then evaluate whether more apolitical exchange governance and greater delegation to SROs is positively associated with stock market development and performance. Although sensitive to included controls and alternative

estimators, my expectations are mostly confirmed. Self-regulation is positively related to both stock market size and performance. Furthermore, this positive relationship survives (in many specifications) controls for public regulatory agency independence. This suggests that the political autonomy of *both* public and private regulators make *distinct* contributions to stock market development. Like public regulatory independence, there is some tentative evidence that the positive relationship between *DSRO* and stock market size is stronger when elections are more majoritarian.

As my brief vignette of the Chinese case suggests, the depoliticized governance of stock exchanges and a minimal level of democratic accountability are both essential foundations of effective self-regulation. Without the former, politicians are free to directly undermine the integrity of self-regulatory arrangements for their own gain. Without the latter, they can exploit stock market infrastructures without fear of electoral punishment. My findings provide evidence for this assertion in two ways. First, of all the indicators that make up my *DSRO* measure, the indicators regarding the presence of politicians, political appointees, and public regulators on exchange boards are the most discriminatory. A more barebones measure of SRO intensity without these depoliticized exchange governance indicators fails to provide evidence of a link between self-regulation and stock market development. This suggests that self-regulation will do little to boost investor confidence as long as politicians' credibility problems are directly intertwined with exchange governance. Second, analyses of the interaction effects between self-regulation and electoral competition suggests that self-regulation's positive effects are only distinguishable from zero if multiple political parties compete in

legislative *and* executive elections. In other words, effective self-regulation is at least partially dependent upon a competitive political foundation.

In Chapter 6, I explore the credibility effects of regulatory independence, self-regulation, and political institutions in the context of systemic financial crisis. For a variety of reasons, minority shareholders and retail investors are particularly vulnerable to insider opportunism, market manipulations, and even expropriation during periods of systemic instability. As a result, political constraint, meaningful electoral competition, regulatory independence, and depoliticized self-regulation should all be especially important during crisis. Results provide evidence of this assertion. Although sensitive to controls for portfolio equity flows, more numerous veto players, electoral competition, independence, and depoliticized self-regulation all ameliorate crisis period stock index price declines. Stated differently, when politicians face future elections, are constrained by other veto players, and are prevented from directly interfering in the conduct of regulatory agencies and SROs, equity investors have greater confidence in times of crisis. However, results also indicate that these positive credibility effects come with costs in the form of added stock price volatility.

If veto players are more numerous and public and private regulators more independent from politicians, coordinating swift and decisive crisis responses can become more costly and difficult. More exactly, as executives, legislators, regulators, and industry actors haggle over the appropriate policy responses and market interventions, stock indices may swing wildly as investors attempt to anticipate the precise shape of the

ultimate crisis response. These expectations are largely confirmed by empirical models. Higher levels of political constraint, regulatory independence, and depoliticized self-regulation are all positively related to crisis period index price volatility. This suggests that the beneficial credibility effects of these institutions are not without a costly downside. That said, this downside is likely worth the costs. While stock prices may swing more violently as political constraint and regulatory independence (both public and private) increases, the market as whole will ultimately come to rest at higher levels than it would if veto players were fewer or regulators more politicized.

Contributions to the Literature

The first and most obvious contribution of this dissertation comes in the form of two one of a kind datasets. Although previous researchers have measured the formal independence of regulatory agencies, my measure of securities market agency independence is unique in terms of its greater number of indicators (25), its country coverage (N>130), and temporal scope (1988-2012). In addition to sharing the public regulator dataset's country coverage and time period, my dataset of exchange governance, state ownership, and self-regulation is even more novel. No other researcher has assembled a complete list of recognized SROs along with stock exchange ownership and board governance data. Furthermore, the measures that emerged from both of the datasets are only weakly correlated with existing measures of minority shareholder protection. This should be a warning to scholars of the regulatory state. Regulatory organization and regulatory rules are distinct and may have different effects on regulatory

outcomes. Overall, both datasets should be useful to any scholar interested in the politics and governance of equity markets.

In addition to two new datasets, my results also speak to several debates within the political science literature. Most broadly, when evaluating the impact of institutions on economic outcomes, scholars of political institutions cannot neglect regulatory organization. If sufficiently independent, regulatory agents can become influential veto players like any other. As a result, institutionalists must expand their purview beyond courts and politicians so that the regulatory state is directly incorporated into their theoretical and empirical studies. My results also call into question the findings of Keefer and Stasavage (2002) who claim that more numerous veto players are a prerequisite of credibility enhancing delegation. Like Gilardi (2007), I find the opposite. At least in terms of equity investors' judgements of politicians' regulatory commitments, evidence suggests that more numerous veto players are a functional substitute rather than a complement to independent regulators. In short, there is more than one way for politicians to achieve credibility. If consensual (majoritarian) political institutions already enhance (diminish) policy stability and consistency, then delegation may be less (more) important. Scholars should continue to investigate the interconnections between veto players, delegation, and political independence so that any inconsistencies can be resolved.

Although the finding that more numerous veto players encourages stock market development is far from unexpected given previous research, the positive relationship

between increasing electoral proportionality and stock market size and performance contradicts previous work. More exactly, Gourevitch and Shinn (2005) claim that consensual political institutions (i.e. many veto players and proportional elections) underpin corporatist compromises between insider labor and block shareholders. They argue that these compromises come at the clear expense of minority shareholders and stock market development. I do not contest that consensual political institutions may have once fulfilled this function particularly in Western Europe. Instead, my results highlight the temporal and geographic limitations of Gourevitch and Shinn's argument. My results highlight that the connection between consensual political institutions and stock market stagnation grows more tenuous as the scope of study moves beyond the first three decades of post-War Western Europe.

Limitations and Future Avenues for Research

Although robust, my findings have clear limitations. First, my results establish long-run macro correlations between annual country-level political economic measures on the one hand, and stock market outcomes on the other. This highly aggregated approach inevitably involves the destruction of important information. In order to get a firmer grasp of the causal mechanisms involved, future research on regulatory independence and stock market performance should utilize comparative analyses of individual countries at lower levels of temporal aggregation (Freeman 2002). A more quasi-experimental set-up may reveal institutional dynamics and interrelations that are hidden by my more long-run macro approach. For instance, an analysis of abnormal stock

returns following the announcement of regulatory agency reorganization could be extraordinarily helpful in understanding how investors respond to regulatory change.

Other limitations are measurement related. First, I utilize primarily formal or de jure indicators. Future work would verify my results with a de facto measure of independence such as turnover among agency heads or board members. Second, this project did not incorporate measures of individual regulators' interests. As Adolph's (2013) research on central bank independence demonstrates, the preferences and interests of nominally 'apolitical' and technocratic experts matter for economic outcomes. Perhaps even more disturbingly, their preferences may be shaped by "shadow principals" in private industry rather than their formal principals in government. Given that I evaluate the financial sector, past career socialization and future career prospects are likely to be powerful shapers of regulators' policy preferences. As a result, measuring securities regulators' educational experiences and career paths would be revealing. Ideally, future work would investigate how regulatory institutions, regulators' interests, and interactions between interests and institutions jointly determine patterns of stock market development, performance, and stability. Finally, future research on regulatory independence would benefit from the adoption of a Bayesian approach to latent measurement. While a maximum likelihood approach comes with few costs when measures have many indicators and large sample sizes, the ability to incorporate measurement error in empirical models has real advantages that should not be neglected by researchers indefinitely.

In addition to addressing these questions of measurement, researchers should also explore how stock market regulation and development shapes political struggles in other policy areas. Most obviously, the perceived integrity of stock markets as well as their performance will profoundly shape the political feasibility and sustainability of multi-pillar pension reforms and privatization. If the general public views financial markets as riven with opportunism, fraud, and deceit, movement towards and the success of defined contribution retirement plans will suffer. Scholars interested in the politics of inequality could also benefit from a closer examination of financial market regulation. Currently, the empirical evidence regarding the connection between financial and stock market development on the one hand and income inequality on the other is mixed. Possible non-linearity, period effects, differences between developed and developing countries, and inconsistences across estimation approaches have prevented a scholarly consensus from emerging (Paşalı 2013). Instead of looking at how financial sector development writ large affects inequality, scholars should investigate how specific patterns of regulatory rules and organization can make financial development more or less egalitarian in the short and long-term.

Takeaways

The recent financial crisis highlighted dramatic short-comings in the U.S. and other countries' regulatory frameworks. The crisis provided yet more examples of how the politicization and industry capture of regulatory organizations can undermine their performance. That said, judging the legitimacy and effectiveness of regulators based only

upon their most recent and spectacular failures is likely to produce a distorted picture. If researchers deliberately search for instances regulatory agency failure or capture, they will always be able to find it. But they will find similar failures and equally troubling examples of corporate and industry influence within legislatures and executive bureaucracies. The most important question is not whether real-life regulatory organizations fall short of some perfectly impartial publically interested ideal, but whether real-life regulatory organizations with more political independence produce superior outcomes to organizations with less independence. This relative judgement should be made over the long run and include periods of normalcy as well as crisis. To reiterate, scholars, commentators, and the public should be under no illusions. Regulatory organizations have their flaws and their personnel are often far from being completely neutral technocrats. However, as the financial sector grows more complex and dynamic, the delegation of rulemaking and enforcement power to independent regulatory agencies and SROs will remain important if not indispensable. This delegation will not be costless nor will it prevent crisis or instability. The isolation of public regulatory agencies and private SROs from the public's political representatives will continue to fit awkwardly with most citizens' closely held democratic commitments. Ultimately, politicians' commitments to stock market development and financial liberalization more generally are political as well as economic challenges. Neither commitment can be sustained without some minimal level of public support and participation. Ironically, my findings suggest that this public support and participation should be *more* forthcoming when the public's

political representatives play a *smaller* role in upholding the public interest in investor protection and market integrity.

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Appendix III(a)

Table 3.13A
(Untransformed DV)

DV: Market Capitalization%GDP	(1)	(2)	(3)	(4)	(5)	(6)
Market Cap $_{t-1}$	0.55***	0.55***	0.54***	0.53***	0.54***	0.54***
	(0.08)	(0.08)	(0.09)	(0.08)	(0.08)	(0.08)
Regulatory	6.84**	6.85**	6.94**	6.96**	6.97**	6.71**
Independence	(3.09)	(3.14)	(3.31)	(3.18)	(3.12)	(3.32)
Political		4.29				
Constraint		(2.62)				
Electoral			1.41			
Proportionality			(1.0)			
Left				0.89		
Government				(1.33)		
Electoral					-0.25	
Competitiveness					(0.25)	
Government						-0.77
Consumption						(0.55)
GDP Growth	0.63***	0.60***	0.66***	0.45***	0.60***	0.56***
	(0.15)	(0.15)	(0.16)	(0.14)	(0.15)	(0.16)
ln(GDPperCapita)	1.45	1.54	1.04	3.04*	1.51	2.05
	(1.34)	(1.4)	(1.38)	(1.59)	(1.39)	(1.55)
ln(Trade)	14.6***	14.3***	15.5***	16.4***	14.3***	14.2***
	(4.32)	(4.38)	(5.00)	(4.83)	(4.33)	(4.44)
Capital Account	10.84***	11.01***	11.3***	8.89***	10.9***	11.0***
Openness	(3.11)	(3.17)	(3.33)	(3.16)	(3.15)	(3.22)
ΔAll World	14.7***	15.0***	15.1***	14.7***	15.0***	14.9***
Stock Index	(1.59)	(1.6)	(1.7)	(1.57)	(1.59)	(1.6)
Constant	-68.0***	-69.5***	-71.4***	-86.2***	-65.4***	-58.2***
	(21.7)	(23.0)	(24.8)	(26.4)	(23.4)	(17.8)
Observations	2,027	2,015	1,832	1,937	2,016	1,998
R-squared	0.44	0.44	0.44	0.44	0.44	0.44
Number of countries	110	109	103	110	109	110

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Table 3.14A
(Blundell-Bond GMM Estimations)

DV: ln(Market Capitalization%GDP)	(1)	(2)	(3)	(4)	(5)	(6)
$\ln(MarketCap)_{t-1}$	0.69***	0.67***	0.66***	0.67***	0.67***	0.66***
	(0.03)	(0.04)	(0.05)	(0.04)	(0.04)	(0.04)
Regulatory Independence	0.17**	0.19**	0.16**	0.20**	0.19**	0.20**
	(0.08)	(0.08)	(0.08)	(0.09)	(0.09)	(0.09)
Political Constraints		0.29**				
		(0.11)				
Electoral Proportionality			0.04			
			(0.04)			
Left Partisanship				-0.06		
				(0.04)		
Electoral Competition					0.01	
					(0.014)	
General government consumption						-0.02
						(0.01)
GDP growth	0.01**	0.005	0.005	0.006	0.006	0.004
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.003)
ln(GDPperCapita)	-0.02	-0.001	-0.001	-0.001	-0.000	0.02
	(0.03)	(0.04)	(0.04)	(0.03)	(0.03)	(0.04)
ln(Trade)	0.31***	0.41***	0.35***	0.37***	0.38***	0.35***
	(0.10)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)
Capital Account Openness	0.25**	0.186*	0.16*	0.19*	0.19*	0.21**
	(0.11)	(0.11)	(0.09)	(0.10)	(0.11)	(0.11)
Banking crisis		-0.14***	-0.16***	-0.14**	-0.14***	-0.15***
		(0.05)	(0.04)	(0.05)	(0.05)	(0.06)
ΔAll World Index	0.31***	0.31***	0.30***	0.31***	0.31***	0.31***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Constant	-0.42	-1.00**	-0.65	-0.71	-0.90*	-0.48
	(0.43)	(0.48)	(0.45)	(0.47)	(0.50)	(0.46)
Observations	2,027	1,926	1,750	1,937	1,927	1,909
Number of countries	110	109	103	110	109	110

Huber/White robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Table 3.15A
(Blundell-Bond GMM Estimations)

DV: ln(Market Capitalization%GDP)	(1)	(2)	(3)	(4)	(5)
$\ln(MarketCap)_{t-1}$	0.54***	0.67***	0.66***	0.67***	0.65***
	(0.04)	(0.03)	(0.04)	(0.03)	(0.05)
Regulatory	0.36*	0.31*	0.48***	0.22	0.24*
Independence	(0.18)	(0.17)	(0.16)	(0.16)	(0.13)
Political	0.42	0.52*	0.76***		
Constraint	(0.29)	(0.27)	(0.24)		
Checks				0.02	0.02
				(0.02)	(0.02)
Independence X	-0.31	-0.39	-0.84**		
Constraint	(0.41)	(0.37)	(0.33)		
Independence X				-0.011	-0.022
Checks				(0.03)	(0.02)
Electoral			0.005		0.008
Competition			(0.02)		(0.026)
Electoral			0.05		0.05
Proportionality			(0.03)		(0.03)
General government			-0.0193*		-0.017*
consumption			(0.01)		(0.01)
GDP Growth	0.009***	0.006	0.002	0.005	0.003
	(0.003)	(0.004)	(0.003)	(0.004)	(0.004)
ln(GDPperCapita)	0.05	-0.006	-0.007	0.008	0.008
	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)
ln(Trade)	0.27***	0.41***	0.38***	0.39***	0.36***
	(0.10)	(0.11)	(0.11)	(0.11)	(0.11)
Capital Account	0.42***	0.19*	0.19**	0.16	0.18*
Openness	(0.13)	(0.11)	(0.09)	(0.11)	(0.10)
Bank Crisis		-0.14***	-0.17***	-0.15***	-0.18***
		(0.05)	(0.05)	(0.05)	(0.05)
ΔAll World Index		0.31***	0.30***	0.30***	0.30***
		(0.01)	(0.01)	(0.01)	(0.02)
Constant	-0.70	-1.05**	-0.75	-0.91*	-0.60
	(0.46)	(0.49)	(0.50)	(0.48)	(0.50)
Observations	2,015	1,926	1,724	1,913	1,712
Number of countries	109	109	103	109	103

Robust standard errors clustered by country in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Table 3.16A
(Blundell-Bond GMM Estimations)

DV: ln(Market Capitalization %GDP)	(1)	(2)	(3)	(4)	(5)	(6)
$\ln(MarketCap)_{t-1}$	0.69***	0.66***	0.69***	0.66***	0.67***	0.65***
	(0.04)	(0.04)	(0.04)	(0.044)	(0.04)	(0.04)
Regulatory	0.21	0.29**	0.24	0.323**	0.30**	0.36**
Independence	(0.15)	(0.15)	(0.16)	(0.149)	(0.14)	(0.15)
Electoral	0.06	0.09	0.07			
Proportionality	(0.06)	(0.06)	(0.06)			
Proportional				0.211	0.18	0.31*
Dummy				(0.179)	(0.17)	(0.17)
Independence X	-0.05	-0.08	-0.06			
Proportionality	(0.06)	(0.065)	(0.06)			
Independence X				-0.29*	-0.27	-0.35*
Dummy				(0.17)	(0.17)	(0.19)
Political		0.20*	0.23*		0.21*	0.256**
Constraint		(0.12)	(0.12)		(0.12)	(0.124)
Electoral			0.01			0.003
Competition			(0.03)			(0.026)
General government			-0.01			-0.02*
consumption			(0.01)			(0.01)
GDP Growth	0.007**	0.004	0.006*	0.004	0.004	0.002
	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)	(0.003)
ln(GDPperCap)	-0.02	-0.01	-0.02	0.0002	-0.003	0.001
	(0.03)	(0.03)	(0.036)	(0.03)	(0.03)	(0.04)
ln(Trade)	0.28***	0.36***	0.29***	0.34***	0.36***	0.37***
	(0.09)	(0.11)	(0.10)	(0.11)	(0.11)	(0.11)
Capital Account	0.25***	0.17*	0.27***	0.18**	0.18**	0.22**
Openness	(0.09)	(0.09)	(0.089)	(0.09)	(0.09)	(0.09)
ΔAll World	0.30***	0.30***	0.31***	0.30***	0.30***	0.31***
Stock Index	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)
Bank Crisis		-0.17***		-0.16***	-0.16***	-0.17***
		(0.05)		(0.05)	(0.05)	(0.05)
Constant	-0.31	-0.81*	-0.35	-0.67	-0.79*	-0.65
	(0.37)	(0.46)	(0.46)	(0.45)	(0.45)	(0.51)
Observations	1,832	1,749	1,806	1,750	1,749	1,724
Number of countries	103	103	103	103	103	103

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1

Table 3.17A
(Regulatory Established: Market Capitalization)

DV: ln(Market Capitalization %GDP)	(1)	(2)	(3)
$\ln(MarketCap)_{t-1}$	0.65***	0.65***	0.65***
	(0.02)	(0.02)	(0.02)
Regulator Established	0.07*	0.07**	0.07**
	(0.03)	(0.03)	(0.03)
Electoral Proportionality	0.10***	0.09***	0.09***
	(0.0272)	(0.02)	(0.02)
Political Constraint	0.16**	0.18**	0.18**
	(0.08)	(0.07)	(0.07)
Electoral Competitiveness		-0.008	-0.008
		(0.01)	(0.01)
General Government Consumption		-0.01**	-0.01**
		(0.005)	(0.005)
GDP Growth	0.006**	0.005*	0.005*
	(0.002)	(0.002)	(0.002)
ln(GDPperCapita)	0.01	0.02	0.02
	(0.03)	(0.03)	(0.03)
ln(Trade)	0.36***	0.34***	0.34***
	(0.07)	(0.07)	(0.07)
Capital Account Openness	0.25***	0.25***	0.25***
	(0.06)	(0.06)	(0.06)
Bank Crisis	-0.16***	-0.16***	-0.16***
	(0.03)	(0.03)	(0.03)
ΔAll World Index	0.28***	0.28***	0.28***
	(0.01)	(0.01)	(0.01)
Constant	-0.99**	-0.75*	-0.75*
	(0.37)	(0.39)	(0.39)
Observations	1,774	1,749	1,749
Adjusted R^2	0.70	0.68	0.71
Overall R^2	0.80	0.84	0.81
Year FE	NO	NO	NO
Number of countries	103	103	103

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Table 3.18A
(Regulator Established-Interactions)

DV: ln(Market Capitalization %GDP)	(1)	(2)	(3)	(4)
$\ln(MarketCap)_{t-1}$	0.65***	0.64***	0.65***	0.64***
	(0.02)	(0.02)	(0.02)	(0.02)
Regulator	0.19***	0.15**	0.11**	0.06
Established	(0.06)	(0.06)	(0.05)	(0.05)
Electoral	0.09***	0.09***	0.12***	0.13***
Proportionality	(0.02)	(0.02)	(0.03)	(0.03)
Political	0.48***	0.53***	0.18**	0.21**
Constraint	(0.13)	(0.12)	(0.07)	(0.08)
Reg. Est. X Political	-0.34**	-0.36***		
Constraint	(0.14)	(0.13)		
Reg. Est. X			-0.03	-0.03
Proportionality			(0.02)	(0.02)
Electoral	-0.01	-0.01	-0.008	-0.008
Competitiveness	(0.01)	(0.01)	(0.01)	(0.01)
General Government	-0.010**	-0.01**	-0.011**	-0.015**
Consumption	(0.005)	(0.004)	(0.005)	(0.006)
GDP Growth	0.005*	0.007**	0.005*	0.007**
	(0.003)	(0.003)	(0.003)	(0.003)
ln(GDPperCapita)	0.026	-0.02	0.02	-0.07
	(0.035)	(0.06)	(0.03)	(0.07)
ln(Trade)	0.35***	0.24***	0.34***	0.23**
	(0.07)	(0.08)	(0.07)	(0.09)
Capital Account	0.26***	0.23***	0.26***	0.22***
Openness	(0.06)	(0.06)	(0.06)	(0.06)
Bank Crisis	-0.16***	-0.15***	-0.16***	-0.17***
	(0.03)	(0.03)	(0.03)	(0.03)
ΔAll World Index	0.28***		0.28***	
	(0.01)		(0.01)	
Constant	-0.81**	0.18	-0.80**	0.64
	(0.38)	(0.67)	(0.39)	(0.83)
Observations	1,749	1,749	1,749	1,718
Adjusted R^2	0.71	0.73	0.71	0.73
Overall R^2	0.81	0.83	0.81	0.82
Year FE	NO	YES	NO	YES
Number of countries	103	103	103	102

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Table 3.19A
(Regulator Established-Interactions: S&P Index Annual % Price Δ)

DV: %ΔS&P Indices	(1)	(2)	(3)	(4)	(5)	(6)
Regulatory	6.71	4.50	9.83	4.47	-10.61	-22.62
Framework	(4.87)	(5.52)	(18.4)	(17.18)	(8.10)	(14.24)
Established						
Political		-21.68*	-10.14	-4.02	-23.11**	-8.15
Constraint		(11.4)	(38.34)	(35.30)	(11.47)	(11.05)
Electoral		6.00**	6.06**	1.76	-2.46	-12.35*
Proportionality		(2.77)	(2.75)	(2.79)	(4.74)	(7.25)
Reg. Est. X Political			-12.68	-4.35		
Constraint			(38.42)	(34.47)		
Reg. Est X					8.39**	13.72**
Proportionality					(3.60)	(5.82)
Electoral		-0.59	-0.59	-1.20	-0.73	-1.01
Competition		(3.01)	(3.00)	(2.51)	(2.95)	(2.55)
General Government		-2.77	-2.73	-3.33	-2.83	-5.26
Consumption		(2.96)	(2.98)	(2.73)	(2.95)	(4.56)
GDP Growth	0.66**	0.28	0.28	1.05**	0.25	0.79
	(0.33)	(0.44)	(0.44)	(0.48)	(0.44)	(0.49)
ln(GDPperCapita)	-2.1	-1.54	-1.64	-32.6***	-1.70	-44.3**
	(3.1)	(3.51)	(3.41)	(11.12)	(3.47)	(20.60)
ln(Trade)	24.1***	23.8**	24.01**	-11.8	22.4**	-23.5
	(8.67)	(9.71)	(9.61)	(17.51)	(9.49)	(25.19)
Capital Account	-1.28	-2.26	-2.11	-6.52	-2.29	-4.75
Openness	(8.48)	(9.53)	(9.52)	(9.71)	(9.47)	(10.3)
Bank Crisis	-20.3***	-18.8***	-18.9***	-13.6***	-18.8***	-14.1***
	(4.59)	(4.46)	(4.49)	(3.92)	(4.46)	(4.25)
ΔAll World	35.5***	36.4***	36.4***		36.3***	
Stock Index	(1.8)	(1.94)	(1.95)		(1.94)	
Constant	-80.0***	-27.8	-33.2	378.6*	-2.08	584.4*
	(26.6)	(59.9)	(64.07)	(191.0)	(61.97)	(336.6)
Observations	1,277	1,180	1,180	1,180	1,180	1,163
Adjusted R^2	0.22	0.23	0.23	0.29	0.32	0.30
Overall R^2	0.16	0.14	0.14	0.08	0.06	0.07
Year FE	NO	NO	NO	YES	NO	YES
Number of countries	82	76	76	76	76	76

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Table 3.20A
(Institutions and Net Foreign Portfolio Equity Inflows)

DV: Net Portfolio Equity Inflows (Millions)	(1)	(2)	(3)	(4)	(5)	(6)
Net Portfolio $_{1}$	0.44***	0.45***	0.44***	0.44***	0.44***	0.44***
Inflows $_{t-1}$	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)
Regulatory	879.3	841.3	1100	834.7	1188	857.0
Independence	(1454)	(1471)	(1830)	(1472)	(1533)	(1504)
Political Constraint		120.7				
		(829.3)				
Electoral			-269.1			
Proportionality			(206.5)			
Left Government				1045		
				(823.6)		
Electoral					-173.6**	
Competition					(76.58)	
Government						-54.75
Consumption						(68.89)
GDP Growth	-56.11*	-57.65*	-64.14	-57.03*	-55.22	-64.91*
	(33.79)	(33.95)	(41.34)	(34.05)	(33.49)	(37.44)
ln(GDPperCapita)	1287**	1294**	1247*	1325**	1308**	1352**
	(574.0)	(580.1)	(706.1)	(590.5)	(584.0)	(605.2)
ln(Trade)	2551*	2436*	2836	2358*	2608*	2780*
	(1453)	(1457)	(1875)	(1391)	(1481)	(1546)
Capital Account	-313.3	-286.0	-164.3	-214.5	-313.7	-380.9
Openness	(759.3)	(758.8)	(908.7)	(729.7)	(769.6)	(799.1)
ΔAll World Stock	3132***	3097***	3237***	3139***	3135***	3220***
Index	(1,092)	(1,096)	(1,180)	(1,093)	(1,105)	(1,121)
Constant	-19979**	-19570**	-20664*	-19813**	-18753*	-20543**
	(9804)	(9843)	(12337)	(9750)	(9720)	(9941)
Observations	2394	2380	2091	2394	2369	2337
R-squared	0.21	0.21	0.21	0.21	0.21	0.21
Number of country	125	124	118	125	123	125

Huber/White robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Table 3.21A
(Net Foreign Portfolio Equity Flows as Control)

DV: ln(Market Capitalization %GDP)	(1) LSDV	(2) Blundell-Bond	(3) LSDV	(4) LSDV	(5) LSDV	(6) LSDV
ln(Market Capitalization) $_{t-1}$	0.67***	0.70***	0.67***	0.67***	0.67***	0.67***
	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)
Regulatory Independence	0.13***	0.13	0.12**	0.24***	0.18**	0.27***
	(0.05)	(0.08)	(0.054)	(0.08)	(0.07)	(0.08)
Political Constraint	0.14**	0.21*		0.35***	0.13*	0.15**
	(0.07)	(0.11)		(0.11)	(0.08)	(0.07)
Electoral Proportionality			0.05**		0.082***	
			(0.02)		(0.03)	
Independence x Constraint				-0.34**		
				(0.16)		
Independence x Electoral Proportionality					-0.04	
					(0.03)	
Domestic Credit						0.001**
						(0.0006)
Independence x Domestic Credit						-0.002***
						(0.0006)
Net Portfolio Equity Inflows	.000001**	.000001***	.000001***	.000001***	.000001***	.000001***
	(.0000005)	(.0000006)	(.0000004)	(0.0000005)	(.0000004)	(.0000005)
GDP Growth	0.01***	0.007*	0.01***	0.01***	0.01***	0.01***
	(0.003)	(0.004)	(0.003)	(0.003)	(0.003)	(0.003)
ln(GDPperCapita)	-0.007	-0.05*	-0.02	-0.008	-0.015	-0.01
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
ln(Trade)	0.29***	0.32***	0.30***	0.29***	0.31***	0.30***
	(0.06)	(0.108)	(0.07)	(0.06)	(0.07)	(0.06)
Capital Account Openness	0.25***	0.28***	0.27***	0.26***	0.28***	0.26***
	(0.05)	(0.10)	(0.05)	(0.05)	(0.05)	(0.05)
ΔAll World Stock Index	0.29***	0.31***	0.29***	0.29***	0.29***	0.29***
	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Constant	-0.43	-0.32	-0.40	-0.49	-0.56*	-0.55*
	(0.29)	(0.42)	(0.32)	(0.29)	(0.33)	(0.31)
Observations	1,830	1,830	1,701	1,830	1,700	1,800
R-squared	0.716		0.714	0.716	0.715	0.716
Number of countries	103	103	98	103	98	103

Huber/White robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Table 3.22A
(Net Foreign Portfolio Equity Flows as Control (Δ%S&P Index))

DV: %ΔS&P Country Index	(1)	(2)	(3)	(4)	(5)	(6)
Regulatory Independence	16.2** (7.33)	16.8** (7.29)	12.4* (7.231)	29.3 (17.95)	35.9** (14.30)	-6.46 (8.81)
Political Constraint		-21.4* (11.5)		0.99 (32.0)		-22.6* (11.7)
Checks					3.27 (2.02)	
Electoral Proportionality			3.63 (3.89)			-4.84 (5.97)
Independence x Constraint				-32.8 (42.3)		
Independence x Checks					-5.32* (3.14)	
Independence x Proportionality						10.7** (5.18)
Net Portfolio Equity Inflows	0.00001 (0.00003)	0.00002 (0.00003)	0.00001 (0.00003)	0.00002 (0.00003)	0.00001 (0.00003)	0.00001 (0.00003)
GDP Growth	1.34*** (0.39)	1.36*** (0.39)	1.33*** (0.41)	1.35*** (0.39)	1.31*** (0.40)	1.30*** (0.40)
ln(GDPperCapita)	-6.26** (2.97)	-6.51** (2.94)	-5.81* (3.17)	-6.81** (2.88)	-7.01** (3.04)	-6.32** (3.06)
ln(Trade)	15.3* (9.18)	13.5 (9.07)	15.8* (9.49)	13.7 (9.11)	15.9* (9.28)	12.7 (9.11)
Capital Account Openness	8.86 (8.12)	8.03 (7.92)	10.16 (8.81)	8.71 (8.01)	11.38 (8.04)	9.59 (8.60)
ΔAll World Stock Index	36.6*** (1.81)	36.4*** (1.82)	36.9*** (1.86)	36.4*** (1.80)	36.5*** (1.86)	36.7*** (1.85)
Constant	-22.52 (23.8)	-4.53 (24.4)	-32.8 (26.2)	-11.3 (26.6)	-31.6 (26.6)	8.73 (31.2)
Observations	1,218	1,206	1,160	1,206	1,201	1,159
R-squared	0.31	0.31	0.31	0.31	0.31	0.32
Number of countries	79	78	74	78	78	74

Huber/White robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

APPENDIX III(b)

Regulatory Independence Item Indicators w/Discrimination Parameters
(95% Confidence Intervals in Parentheses)

1) *Agency Head Term Length*

Discrimination Parameter: **4.9** (4.0, 5.9)
0 -- No fixed term or term length at discretion of appointer
1 -- < 4 year term
2 -- 4 or 5 year term
3 -- 6 years or greater

2) *Board Term Length*

Discrimination Parameter: 4.7 (3.9, 5.6)
0 -- No fixed term or term length at discretion of appointer
1 -- < 4 year term
2 -- 4 or 5 year term
3 -- 6 years or greater

3) *Board Appointments Staggered*

Discrimination Parameter: **2.1** (1.6, 2.7)
0 -- No
1 -- Yes

4) *Agency Head Appointment Procedure*

Discrimination Parameter: **5.7** (4.3, 7.0)
0 -- Executive Officials alone or executive official with non-binding consultation with actors outside of the executive

1 -- Parliament/Legislative Body Alone
2 -- More than one veto player must agree or more than one actor has appointment power (e.g. nominated by executive branch and confirmed by legislative branch, majority decision of agency board which must then be approved by another actor, executive must select from a list provided by outside group and cannot ignore or demand a new list)
2 -- Selection by another regulator that is separate from the executive bureaucracy or selection by Central Bank
3 -- Board selects agency head and the selection was not subject to prior approval by a political actor

5) *Board Appointment Procedure*

Discrimination Parameter: **4.0** (3.1, 4.9)
0 -- Executive Officials alone or executive official with non-binding consultation with actors outside of the executive
1 -- Parliament/Legislative Body Alone
2 -- More than one veto player must agree or more than one actor has appointment power (e.g. nominated by executive branch and confirmed by legislative branch, majority decision of agency board which must then be approved by another actor, executive must select from a list provided by outside group and cannot ignore or demand a new list)
2 -- Selection by another regulator that is separate from the executive bureaucracy or selection by Central Bank
3 -- Agency Head selects board and the selection was not subject to prior approval by a political actor

6) *Agency Head Removal*

Discrimination Parameter: **6.8** (4.7, 8.8)
0 -- Executive Officials alone or executive official with non-binding consultation with actors outside of the executive
1 -- Parliament/Legislative Body Alone
2 -- More than one veto player must agree
2 -- Removal by another regulator that is separate from the executive bureaucracy or removal by Central Bank
3 -- Decision of the Agency Board or Judiciary Alone

7) *Board Member Removal Procedure*

Discrimination Parameter: **4.0** (2.9, 5.2)
0 -- Executive Officials alone or executive official with non-binding consultation with actors outside of the executive
1 -- Parliament/Legislative Body Alone
2 -- More than one veto player must agree
2 -- Removal another regulator that is separate from the executive bureaucracy or removal by Central Bank
3 -- Decision of the Agency Board or Judiciary Alone

8) *Chief Executive or Management Board Appointment Procedure*

Discrimination Parameter: 5.0 (3.4, 6.5)
0 -- Executive Officials alone or executive official with non-binding consultation with actors outside of the executive
1 -- Parliament/Legislative Body Alone
2 -- More than one veto player must agree or more than one actor has appointment power (e.g. nominated by executive branch and confirmed by legislative branch, nominated by agency and confirmed by executive or legislative branch, selection from a list provided by outside group and political appointer cannot ignore or demand a new list)
2 -- Selection by another regulator that is separate from the executive bureaucracy or selection by Central Bank
3 -- Agency Alone

9) *Chief Executive/Management Board Removal Procedure*

Discrimination Parameter: **5.1** (3.4, 6.7)
0 -- Executive or Legislative Officials alone or executive/legislature with non-binding consultation with actors outside of the executive
1 -- More than one veto player must agree
1 -- Removal by another regulator that is separate from the executive bureaucracy or removal by Central Bank
2 -- Decision of the Agency Board or Judiciary Alone

10) *Chief Executive or Management Board Term Length*

Discrimination Parameter: **5.0** (3.9, 6.2)
If appointed by actors outside of agency
0 -- <3 years or no term length.
1 -- 3 or 4 years
2 -- 4 or 5 years years
3 -- ≥6 years

If appointed by agency
3 -- At agency's discretion alone

11) *Government Ex-Officio Membership*

Discrimination Parameter: **5.0** (4.1, 5.9)
0 -- More than 1 elected/government officials are ex-officio members of agency supervisory/executive board
1 -- 1 elected/government official sits on agency supervisory/executive board
2 -- No elected/government officials are ex-officio members of agency supervisory/executive board

Note: Observers are not considered Ex-Officio Members, only those with voting, that ability to require second deliberations, or formal agenda setting power are counted as Ex-Officio members

12) *Outside Regulator Ex-Officio Membership*

Discrimination Parameter: **5.3** (4.4, 6.1)
0 -- More than 1 outside regulatory official is ex-officio member of agency supervisory/executive board (includes central bankers)
1 -- 1 outside regulatory official sits on agency supervisory/executive board
2 -- No outside regulatory officials are ex-officio members of agency supervisory/executive board

Note: Observers are not considered Ex-Officio Members, only those with voting, that ability to require second deliberations, or formal agenda setting power are counted as Ex-Officio members

13) *Budgetary Independence*

Discrimination Parameter: **2.1** (1.6, 2.6)
0 -- Agency is partially or completely dependent upon government
1 -- Agency has complete budgetary independence from government and (%>90) of funding comes from industry fees, levies, tariffs, penalties, and grants from NGOs.

14) *Budget Allocation Approval*

Discrimination Parameter: **2.0** (1.5, 2.4)
0 -- Planned agency budget expenditures and/or allocations must be approved by elected officials
1 -- Planned agency budget expenditure and allocations are not subject to ex ante approval of elected officials

15) *Rule Approval*

Discrimination Parameter: **3.6** (3.1, 4.1)
0 -- Ministers/executive/legislative officials are the dominant issuers of regulations or write a majority of rules.
1 -- Regulatory agency makes rules and issues regulations, but ***all*** regulations and rules must be approved or can be vetoed by executive officials, ministers of finance, or legislative committees
2-- Regulatory agency is a significant rule maker, but executive officials retain rulemaking power over select areas of substantive importance
3 -- Regulatory agency is the dominant regulatory rule maker; executive officials do NOT have veto power over issued regulations and retain a minor to nonexistent role in rulemaking.

16) *Government Directions*

Discrimination Parameter: **5.7** (4.7, 6.7)

0 -- Government can issue binding directions to agency about SPECIFIC policies, rules, and cases of enforcement
1 -- Government can issue binding directions to agency about GENERAL policy issues and priorities
2 -- Government CANNOT issue binding directions of any form to agency

17) *Statement of Independence*

Discrimination Parameter: **3.5** (2.9, 4.1)
0 -- No explicit statement of agency independence or autonomy from government officials/ministries within agency statute
1 -- Explicit statement of agency independence or autonomy from government officials/ministries within agency statute

18) *Ban on Political/Partisan Officials*

Discrimination Parameter: **3.0** (2.4, 3.5)
0 -- No explicit ban on agency officials holding other positions/membership within government, political, or partisan organizations
1 -- Explicit ban on agency officials holding other positions/membership within government, political, or partisan organizations

19) *Agency Head Term Renewal*

Discrimination Parameter: **2.3** (1.3, 3.3)
0 -- No limits on term renewal
1 -- Agency head term can only be renewed once
2 -- Agency head can serve for only one term

20) *Board Member Term Renewal*

Discrimination Parameter: **2.4** (1.3, 3.4)
0 -- No limits on term renewal
1 -- Board member term can only be renewed once
2 -- Board member can serve for only one term

21) *Chief Executive/Management Board Term Renewal*

Discrimination Parameter: **1.7** (0.9, 2.6)
0 -- No limits on term renewal
1 -- Management member term can only be renewed once
2 -- Management member can serve for only one term

22) *Political Dismissal Language*

Discrimination Parameter: **3.0** (2.5, 3.5)
0 -- Serve at will of appointer or no policy specified
1 -- Language is broader and does NOT indicate that dismissal involves ONLY gross incompetence, criminal guilt, or financial insolvency; language does not rule out dismissal on grounds of policy disagreement
2 -- Language indicates dismissal can ONLY be based upon gross incompetence or negligence, criminal guilt, or financial insolvency

23) *Annual Report Reception*

Discrimination Parameter: **3.3** (2.7, 3.9)
0 -- Report sent to minister or executive branch alone
1 -- Report sent to both minister/executive branch AND a legislative body
2-- Report sent to parliament/legislature only
3 -- Report sent to a specialized government auditing body, comptroller, Central Bank, or no specific requirement

24) *Fee Approval*

Discrimination Parameter: **2.4** (1.8, 3.0)
0 -- Fees and levies of agency are either decided or must be approved by an executive official
1 -- Fees and levies of agency determined by legislative statute or must be approved by legislative committees
2 -- Agency can has full autonomy to decide its own fee schedule, tariff levels, and penalties

25) *Organizational Approval*

Discrimination Parameter: **2.7** (2.1, 3.3)
0 -- Organizational structure of agency is either decided or must be approved by an executive official
1 -- Organizational structure of agency determined by legislative statute or must be approved by legislative committee
2 -- Agency can has full formal autonomy to decide its own organizational structure

APPENDIX III(c)

Summary Statistics and Correlation Matrices

Variable		Mean	Std. Dev.	Min	Max	Observations
Market Capitalization (% of GDP)	overall	47.46	58.58	0.00	606.00	N = 2310
	between		46.34	0.07	312.66	n = 115
	within		32.76	-156.80	460.70	T-bar = 20.087
ln(1+Market Cap/GDP)	overall	3.26	1.20	0.00	6.41	N = 2310
	between		1.12	0.07	5.64	n = 115
	within		0.65	-0.51	5.65	Year Obs.(μ) = 21
Regulatory Independence	overall	0.52	0.34	0.00	1.00	N = 3213
	between		0.21	0.00	0.96	n = 133
	within		0.27	-0.35	1.35	Year Obs.(μ) = 24
ΔRegulatory Independence (Excluding Years w/ no Change)	Overall	0.34	0.35	-0.88	.9753876 |	N= 205
	between		0.29	-0.88	0.95	n = 120
	within		0.24	-0.19	0.90	Year Obs.(μ) = 1.7
Regulatory Independence Frequency of Δ	overall	1.62	1.13	0.00	7.00	N = 3346
	between		1.13	0.00	7.00	n = 134
	within		0.00			Year Obs.(μ) = 25
ln (GDP/capita)	overall	8.19	1.55	4.58	11.63	N = 3207
	between		1.46	5.35	10.95	n = 132
	within		0.50	6.38	9.95	Year Obs.(μ) = 24
GDP Growth(%)	overall	3.60	5.76	-50.25	88.96	N = 3175
	between		2.18	-1.10	12.38	n = 132

	within		5.38	-51.76	80.53	Year Obs.(μ) = 24
ln(1+Inflation)	overall	1.96	1.15	-2.92	8.92	N = 2866
	between		0.75	0.20	4.06	n = 130
	within		0.88	-2.38	8.17	Year Obs.(μ) = 22
Capital Account Openness	overall	0.54	0.37	0.00	1.00	N = 3036
	between		0.31	0.00	1.00	n = 130
	within		0.20	-0.26	1.16	Year Obs.(μ) = 23
ln (Trade/GDP)	overall	4.32	0.54	2.58	6.11	N = 3144
	between		0.49	3.04	5.88	n = 132
	within		0.20	2.68	5.09	Year Obs.(μ) = 24
MSCI All World Securities Index (Price Hundreds)	overall	2.40	0.84	1.14	4.03	N = 3346
	between		0.02	2.40	2.62	n = 134
	within		0.84	1.02	4.03	Year Obs.(μ) = 25
Banking Crisis (Dummy)	overall	0.10	0.30	0.00	1.00	N = 3167
	between		0.10	0.00	1.00	n = 132
	within		0.29	-0.27	1.06	T = 24
Lending-Deposit Interest Rate Spread	overall	13.70	263.47	-1027.89	14526.86	N = 3171
	between		50.82	0.63	547.78	n = 125
	within		258.65	-1561.96	13992.78	Year Obs.(μ) = 25
ln(Domestic Credit to Private Sector/ GDP)	overall	3.56	0.96	-0.04	5.77	N = 3046
	between		0.87	1.09	5.26	n = 131
	within		0.44	1.22	5.40	Year Obs.(μ) = 23

Executive Constraint (Polity II)	overall	5.10	2.05	1.00	7.00	N = 255
Executive Constraint (continued)	between		1.88	1.00	7.00	n = 125
	within		0.87	-0.14	10.56	Year Obs.(μ) = 24
Political Constraint III (Heinsz)	overall	0.30	0.21	0.00	0.72	N = 3199
	between		0.17	0.00	0.70	n = 133
	within		0.12	-0.20	0.67	Year Obs.(μ) = 24
Electoral Proportionality (Pagano and Volpin)	overall	1.55	1.32	0.00	3.00	N = 2660
	between		1.27	0.00	3.00	n = 125
	within		0.39	-0.70	3.95	Year Obs.(μ) = 21
Left- Wing (Dummy)	overall	0.28	0.45	0.00	1.00	N= 3345
	between		0.31	0.00	1.00	n=134
	within		0.32	-0.68	1.24	Year Obs.(μ) = 25
Center-Left (Dummy)	overall	0.36	0.48	0.00	1.00	N = 3345
	between		0.34	0.00	1.00	n = 134
	within		0.34	-0.60	1.32	Year Obs.(μ) = 25
Right-Wing (Dummy)	overall	0.25	0.43	0.00	1.00	N = 3345
	between		0.29	0.00	1.00	n = 134
	within		0.32	-0.67	1.21	Year Obs.(μ) = 25

Political Variables Correlation Matrix

	ln(MarketCap)	Regulatory Ind.	Political Constraint	Executive Constraint	Proportionality	Left	Right	Common Law
ln(MarketCap)	1							
Regulatory Ind.	0.06***	1						
Political Constraint	0.16***	0.37***	1					
Executive Constraint	0.15***	0.39***	0.77***	1				
Proportionality	-0.13***	0.08***	0.32***	0.33***	1			
Left	-0.013	0.01	0.03**	0.14***	0.1***	1		
Center-Left	-0.001	0.03**	0.14***	0.21***	0.16***	0.85***		
Right	0.04*	0.10***	0.31***	0.32***	0.08***	-0.35***	1	
Common Law	0.14***	-0.09***	-0.10***	-0.05***	-0.44***	-0.02	0.02	1

Economic Variable Correlation Matrix

	ln(Mrktcap)	ln(GDPperCapita)	GDP Growth	ln(1+Inflation)	ln(Trade)	Capital Account Openness	ln(Domestic Credit to Private Sector/ GDP)	Lending-Deposit Interest Rate Spread
ln(Mrktcap)	1							
ln(GDPperCapita)	0.55***	1						
GDP Growth	0.03*	-0.06***	1					
ln(1+Inflation)	-0.39***	-0.43***	-0.13***	1				
ln(Trade)	0.20***	0.27***	0.06***	-0.25***	1			
CapitalAccountnt Openness	0.35 ***	0.61***	-0.01	-0.45***	0.26***	1		
ln(Domestic Credit to Private Sector/ GDP)	0.57***	0.66***	-0.10***	-0.41***	0.17 ***	0.42***	1	
Lending-Deposit Interest Rate Spread	-0.09***	-0.027	-0.07***	0.28***	-0.01	-0.03 *	-0.03	1

APPENDIX IV(a)

Table 4.4A
(Executive Opinions: Prais-Winsten)

DV: Executive Opinions	Prais-Winsten	Prais-Winsten	Prais-Winsten	Prais-Winsten	Prais-Winsten
Regulatory	-0.12***	-0.12***	-0.10***	-0.09***	-0.17***
Independence	(0.03)	(0.03)	(0.03)	(0.03)	(0.05)
Formal MSP Expert	0.17***	0.17***	0.17***	0.07**	0.041
Assessment	(0.04)	(0.04)	(0.03)	(0.02)	(0.03)
Electoral		-0.007***	-0.006**	-0.005*	-0.009***
Competition		(0.002)	(0.002)	(0.003)	(0.003)
Rule of Law		0.007***	0.009***	0.008***	0.01***
		(0.003)	(0.002)	(0.002)	(0.004)
Common Law				0.14***	0.17***
				(0.01)	(0.02)
Political			-0.04	-0.04	-0.05
Constraints			(0.03)	(0.03)	(0.06)
Electoral			-0.016***	0.0003	0.01*
Proportionality			(0.006)	(0.005)	(0.006)
Center-Right			0.003	0.002	0.004
			(0.008)	(0.008)	(0.01)
ln(GDPperCapita)	0.06***	0.05***	0.04***	0.05***	0.05***
	(0.008)	(0.008)	(0.009)	(0.01)	(0.01)
GDP growth	0.002	0.002	0.002	0.002*	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.003)
Capital Account	0.02	0.01	0.01	0.03	0.07*
Openness	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)
ln(Trade)	-0.003	-0.008	-0.01	-0.015	-0.02
	(0.02)	(0.02)	(0.019)	(0.02)	(0.01)
ln(1+Inflation)					-0.004
					(0.008)
Banking crisis					-0.08***
					(0.01)
Stock price					-0.001*
volatility					(0.0006)
Constant	-0.078	0.05	0.104	-0.008	0.112
	(0.09)	(0.11)	(0.10)	(0.10)	(0.11)
Observations	860	848	796	796	455
R^2	0.56	0.57	0.58	0.61	0.69
Number of countries	121	119	114	114	73

Panel Corrected Standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)/Common AR(1)

Table 4.5
(Additional Controls)

DV: Formal Bias	(1) Random Effects GLS	(2) Random Effects GLS	(3) GLS Cochrane-Orcutt	(4) Prais-Winsten w/PCSE
Regulatory Independence	0.14*** (0.04)	0.12** (0.05)	0.10** (0.04)	0.12** (0.06)
Regulatory Quality	-0.1 (0.06)	-0.06 (0.05)	-0.07** (0.03)	-0.06** (0.02)
Electoral Competition	0.02*** (0.005)	0.02*** (0.004)	0.02*** (0.004)	0.02*** (0.004)
Rule of Law	-0.0001 (0.009)	0.009 (0.009)	0.004 (0.005)	0.004 (0.004)
Political Constraints	0.10 (0.07)	0.10* (0.06)	0.04 (0.049)	0.03 (0.06)
Common Law	0.12** (0.05)	0.08 (0.05)	0.09** (0.05)	0.09*** (0.04)
Center-Right Government	-0.01 (0.01)	-0.01 (0.01)	-0.001 (0.01)	0.0001 (0.01)
ln(GDPperCapita)	0.04 (0.03)	-0.04 (0.03)	0.02 (0.01)	0.009 (0.01)
GDP Growth	-0.001 (0.001)	-0.0005 (0.001)	-0.0015 (0.001)	-0.0007 (0.001)
Capital Account Openness	-0.09 (0.07)	-0.03 (0.07)	-0.1** (0.05)	-0.1 (0.04)
ln(Trade)	0.06 (0.04)	0.05 (0.05)	0.04 (0.03)	0.02 (0.02)
ln(Inflation)	-0.009 (0.006)	-0.005 (0.008)	-0.004 (0.005)	-0.002 (0.006)
Banking Crisis	0.09*** (0.01)	0.06*** (0.02)	0.07*** (0.02)	0.06*** (0.02)
Stock Index volatility	0.002** (0.0007)	0.001 (0.001)	0.001** (0.0005)	0.001* (0.001)
ln(Stock Traded)	-0.02** (0.01)	0.01 (0.01)	-0.02*** (0.01)	-0.03*** (0.01)
Constant	-0.99** (0.39)	-0.31 (0.38)	-0.59*** (0.22)	-0.42** (0.20)
Observations	480	480	480	480
Overall R^2	0.21	0.18	0.21	0.20
Within R^2	0.31	0.44	0.29	--
Year FE	NO	YES	NO	NO
Number of countries	76	76	76	76

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Table 4.6A
(w/ County Fixed Effects)

DV: Formal Bias	(1) Fixed Effects	(2) Fixed Effects	(3) FE: Prais-Winsten	(4) Fixed Effects	(5) Fixed Effects
Regulatory Independence	0.08**	0.06*	-0.008	0.10***	0.06*
	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)
Regulatory Quality				-0.02	-0.01
				(0.05)	(0.05)
Electoral Competition	0.004	0.001	0.006**	0.005	0.002
	(0.004)	(0.003)	(0.003)	(0.004)	(0.003)
Rule of Law	-0.001	0.004	0.002	0.001	0.006
	(0.01)	(0.009)	(0.006)	(0.01)	(0.01)
Center-Right Government	-0.01	-0.01	-0.005	-0.009	-0.006
	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)
ln(GDPperCapita)	0.08***	-0.11**	-0.01	0.10***	-0.10**
	(0.02)	(0.04)	(0.01)	(0.03)	(0.04)
GDP Growth	-0.005***	-0.001	-0.002***	-0.005***	-0.0008
	(0.001)	(0.001)	(0.0006)	(0.001)	(0.001)
Capital Account Openness	-0.10	-0.08	-0.03	-0.15**	-0.13**
	(0.07)	(0.06)	(0.04)	(0.07)	(0.06)
ln(Trade)	0.17***	0.06	-0.01	0.16***	0.08
	(0.05)	(0.06)	(0.02)	(0.06)	(0.07)
ln(StocksTraded)	-0.03***	0.001	-0.04***	-0.03***	0.003
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Constant	-1.47***	0.64	0.28***	-1.56***	0.48
	(0.41)	(0.61)	(0.04)	(0.40)	(0.57)
Observations	733	733	632	640	640
Overall R^2	0.0013	0.101	0.12	0.001	0.09
Within-R^2	0.22	0.38	0.12	0.23	0.41
Year FE	NO	YES	NO	NO	YES
Number of countries	101	101	99	100	100

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Table 4.7A
(Independence-Market Depth Interaction w/Fixed Effects)

DV: Formal Bias	(1) Country FE	(2) Country FE	(3) FE: Prais-Winsten	(4) Country FE	(5) Country FE	(6) FE: Prais-Winsten
Regulatory	0.22***	0.17***	0.03	0.36***	0.32***	0.24**
Independence	(0.07)	(0.06)	(0.07)	(0.11)	(0.10)	(0.12)
ln(StockTraded)	-0.003	0.028**	-0.037**	0.0238	0.061***	-0.0001
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
Independence X	-0.05**	-0.04**	-0.01	-0.07**	-0.06**	-0.05*
ln(StockTraded)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)
Electoral	0.003	0.001	0.006**	0.02***	0.01***	0.01**
Competition	(0.003)	(0.003)	(0.002)	(0.006)	(0.005)	(0.004)
Rule of Law	-0.001	0.003	0.002	0.004	0.01	0.013
	(0.01)	(0.009)	(0.005)	(0.013)	(0.012)	(0.009)
Center-Right	-0.01	-0.01	-0.005	-0.01	-0.01	-0.01
Government	(0.01)	(0.01)	(0.01)	(0.01)	(0.08)	(0.01)
Regulatory				-0.07	-0.05	-0.06
Quality				(0.07)	(0.06)	(0.04)
Political				0.11	0.12*	0.05
Constraint				(0.07)	(0.06)	(0.05)
ln(GDPperCapita)	0.08***	-0.12**	-0.01	0.07*	-0.10	0.002
	(0.02)	(0.04)	(0.01)	(0.04)	(0.06)	(0.02)
GDP Growth	-0.005***	-0.001	-0.002**	-0.002	-0.0005	-0.002*
	(0.001)	(0.001)	(0.0007)	(0.002)	(0.001)	(0.001)
Capital Account	-0.11	-0.09	-0.03	-0.11	-0.05	-0.02
Openness	(0.07)	(0.07)	(0.04)	(0.11)	(0.09)	(0.06)
ln(Trade)	0.16***	0.06	-0.02	0.13*	0.04	-0.01
	(0.05)	(0.06)	(0.03)	(0.07)	(0.09)	(0.04)
ln(Inflation)				-0.01**	-0.005	-0.001
				(0.007)	(0.008)	(0.005)
Bank Crisis				0.09***	0.06***	0.05***
				(0.019)	(0.02)	(0.01)
Stock Index				0.001	0.0004	0.0001
Volatility				(0.001)	(0.001)	(0.001)
Constant	-1.52***	0.58	0.27***	-1.65***	0.23	-0.25***
	(0.40)	(0.61)	(0.04)	(0.54)	(0.82)	(0.08)
Observations	733	733	632	480	480	404
Overall R^2	0.0	0.10	0.12	0.06	0.13	0.12
Within R^2	0.22	.37	0.12	0.30	0.42	0.19
Year FE	NO	YES	NO	NO	YES	NO
Number of countries	101	101	99	76	76	76

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Table 4.8A
(Independence-Market Interaction with Additional Controls)

DV: Formal Bias	(1) Random Effects	(2) Random Effects	(3) GLS Cochrane–Orcutt	(4) Prais-Winsten w/ PCSE (AR1)
Regulatory	0.41***	0.35***	0.32***	0.39***
Independence	(0.09)	(0.08)	(0.09)	(0.09)
ln(StockTraded)	0.03**	0.06***	0.02	0.039**
	(0.01)	(0.01)	(0.02)	(0.019
Independence X	-0.08***	-0.07***	-0.07***	-0.09***
Stock Traded	(0.02)	(0.02)	(0.03)	(0.03)
Electoral	0.02***	0.01***	0.01***	0.02***
Competition	(0.005)	(0.003)	(0.004)	(0.004)
Regulatory Quality	-0.1	-0.06	-0.07**	-0.06**
	(0.06)	(0.05)	(0.03)	(0.02)
Rule of Law	-0001	0.008	0.003	0.003
	(0.009)	(0.009)	(0.005)	(0.004)
Political Constraint	0.10	0.10*	0.04	0.02
	(0.07)	(0.06)	(0.04)	(0.05)
Common Law	0.13***	0.09*	0.10**	0.10***
	(0.04)	(0.04)	(0.04)	(0.03)
Center-Right	-0.01	-0.01	-0.0006	0.002
Government	(0.01)	(0.01)	(0.01)	(0.01)
ln(GDPperCapita)	0.04	-0.04	0.02	0.008
	(0.03)	(0.031)	(0.01)	(0.01)
GDP Growth	-0.002	-0.0003	-0.001	-0.0005
	(0.001)	(0.001)	(0.001)	(0.001)
Capital Account	-0.09	-0.04	-0.09*	-0.07
Openness	(0.07)	(0.07)	(0.04)	(0.04)
ln(Trade)	0.05	0.05	0.03	0.01
	(0.04)	(0.04)	(0.03)	(0.02)
ln(Inflation)	-0.009	-0.005	-0.004	-0.002
	(0.006)	(0.008)	(0.005)	(0.007)
Bank Crisis	0.09***	0.06***	0.07***	0.06***
	(0.01)	(0.02)	(0.01)	(0.02)
Stock Index Volatility	0.001*	0.0008	0.0009*	0.001*
	(0.0008)	(0.001)	(0.0005)	(0.0007)
Constant	-1.11***	-0.43	-0.70***	-0.56***
	(0.37)	(0.37)	(0.22)	(0.21)
Observations	480	480	480	480
Overall R^2	0.32	0.21	0.24	0.23
Within R^2	0.24	0.44	0.30	--
Year FE	NO	YES	NO	NO
Number of countries	76	76	76	76

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Table 4.9A
(Independent Regulatory Framework Established)

DV: Formal Bias	(1) Random Effects	(2) Country FE	(3) Random Effects	(4) Country FE	(5) GLS Cochrane–Orcutt	(6) Prais-Winsten w/ PCSE and
Regulator Established	0.12*	0.10	0.06	0.05	0.06	0.07
	(0.06)	(0.06)	(0.05)	(0.06)	(0.04)	(0.06)
ln(Stock Traded)	-0.01	-0.01	0.01	0.01	-0.01	-0.007
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
Reg. Est. x ln(Stock Traded)	-0.03**	-0.03**	-0.02	-0.01	-0.02	-0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)
Electoral Competition	0.009**	0.004	0.003	0.001	0.007**	0.009***
	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)	(0.003)
Rule of Law	-0.007	0.001	0.007	0.005	-0.003	-0.002
	(0.006)	(0.01)	(0.006)	(0.009)	(0.004)	(0.003)
Common Law	0.06		0.001		0.04	0.03
	(0.05)		(0.04)		(0.04)	(0.02)
Center-Right Government	-0.02	-0.01	-0.01	-0.01	-0.006	-0.003
	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)
logGDPcapCur	0.05**	0.09***	-0.07***	-0.12**	0.01	-0.003
	(0.02)	(0.03)	(0.02)	(0.05)	(0.01)	(0.01)
GDP Growth	-0.005***	-0.005***	-0.001	-0.001	-0.003***	-0.002*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Capital Account Openness	-0.11*	-0.11	-0.05	-0.08	-0.07**	-0.04
	(0.06)	(0.07)	(0.06)	(0.07)	(0.03)	(0.03)
ln (Trade)	0.07**	0.17***	0.05	0.06	0.02	-0.002
	(0.03)	(0.06)	(0.04)	(0.06)	(0.02)	(0.02)
Constant	-0.74***	-1.54***	0.14	0.63	-0.25*	-0.04
	(0.22)	(0.41)	(0.24)	(0.60)	(0.15)	(0.16)
Observations	739	739	739	739	739	708
Overall R^2	0.05	0.003	0.11	0.09	0.11	0.08
Within R^2	0.20	0.22	0.37	0.36	0.17	--
Year FE	NO	NO	YES	YES	NO	NO
Number of countries	101	101	101	101	101	100

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Appendix IV(b)
Table 4.10A
(Variable Summary)

Variable		Mean	Std. Dev.	Min	Max	Observations
Formal Bias	overall	-0.01	0.22	-0.59	0.59	N = 924
	between		0.21	-0.47	0.46	n = 126
	within		0.09	-0.39	0.40	μT = 7.33333
Protection of minority shareholders' interests (WEF)	overall	0.480706	0.20	0.00	1.00	N = 819
	between		0.19	0.08	0.91	n = 124
	within		0.07	0.26	0.72	μT = 6.60484
Strength of Minority Investor Protection (World Bank)	overall	0.448975	0.19	0.00	1.00	N = 1049
	between		0.18	0.00	1.00	n = 134
	within		0.05	0.09	0.67	μT = 7.82836
Regulatory Independence	overall	0.71	0.20	0.00	1.00	N = 925
	between		0.17	0.00	0.99	n = 133
	within		0.09	0.04	1.36	μT = 6.95
Regulatory Quality	overall	0.21	0.90	-2.21	1.93	N = 922
	between		0.90	-1.82	1.92	n = 132
	within		0.12	-0.57	0.78	μT = 6.98
Electoral Competition	overall	10.61	2.84	0.00	12.00	N = 1038
	between		2.64	1.00	12.00	n = 130
	within		1.05	0.11	18.86	μT = 7.98
Rule of Law	overall	8.92	4.53	0.00	16.00	N = 1061
	between		4.51	0.00	16.00	n = 133
	within		0.55	5.29	12.79	μT = 7.97744
Political Constraint	overall	0.31	0.19	0.00	0.71	N = 1057
	between		0.17	0.00	0.70	n = 133
	within		0.08	-0.10	0.63	μT= 7.9
Center-Right Government	overall	0.30	0.46	0.00	1.00	N = 1072
	between		0.39	0.00	1.00	n = 134
	within		0.25	-0.58	1.17	μT = 8
ln(GDP per Capita)	overall	8.73	1.45	5.36	11.63	N = 1059
	between		1.44	5.36	11.51	n = 133
	within		0.22	7.72	9.37	μT = 7.96
GDP Growth	overall	4.12	4.49	-17.95	34.50	N = 1057
	between		2.62	-1.38	14.42	n = 133
	within		3.65	-16.40	24.47	μT = 7.95
Capital Account Openness	overall	0.63	0.37	0.00	1.00	N = 1031
	between		0.36	0.00	1.00	n = 130
	within		0.08	0.06	1.01	μT =7.99
ln(Trade%ofGDP)	overall	4.43	0.48	3.10	6.11	N = 1026
	between		0.48	3.22	6.00	n = 133
	within		0.09	4.07	5.02	μT = 7.77
ln(Inflation)	overall	1.71	0.79	-2.92	7.00	N = 1011
	between		0.75	-0.12	6.36	n = 131
	within		0.88	-2.13	3.56	μT = 7.71
Bank Crisis	overall	0.11	0.31	0.00	1.00	N = 934
	between		0.23	0.00	0.71	n = 133
	within		0.22	-0.61	0.97	μT = 7.02
Stock Price Volatility (Std.Dev Index Price/μIndexPrice)	overall	22.51	11.40	2.39	141.58	N = 548
	between		7.90	6.23	58.83	n = 82
	within		8.52	-16.47	105.27	μT = 6.68293
ln(Stocks Value Traded%GDP)	overall	2.25	1.74	0.00	6.61	N = 854
	between		1.69	0.00	6.10	n = 110
	within		0.49	-0.16	4.53	μT = 7.76364

Table 4.11A
(Correlation Matrix)

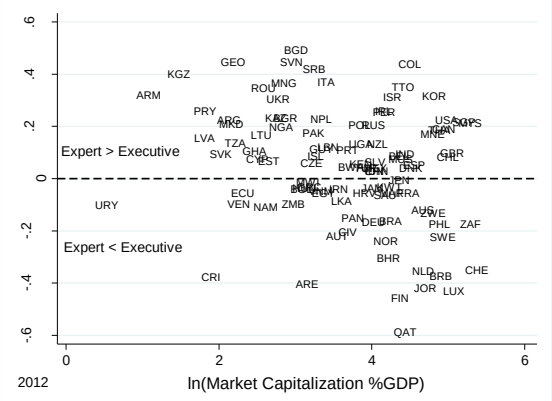
	Formal Bias	MSP(Expert)	MSP(Executive)	ln(ValueTraded)	ln(MarketCap)	Regulatory Independence	Regulatory Quality
Formal Bias	1***						
MSP(Expert)	.52***	1.00					
MSP(Executive)	-.60***	.35***	1.00				
ln(ValueTraded)	-.24***	.32**	.55***	1.00			
ln(MarketCap)	-.26***	.27**	.54***	.70***	1.00		
Regulatory Independence	.23***	.13**	-.25***	-.12***	-.14***	1.00	
Regulatory Quality	-.21***	0.44***	.61***	0.50***	.39***	.21***	1.00

Correlation Matrix Continued

	ln(GDPperCap)	Electoral Competition	Rule of Law	Common Law	Political Constraint	
ln(GDPperCap)	1.00					
Electoral Competition	.07**	1.00				
Rule of Law	.61***	.49***	1.00			
Common Law	-.15	-.15***	-.05	1.00		
Political Constraint	.28***	.57***	.58***	-.12***	1.00	

Figure 4.5A
(Formal bias and Market Development)

Liquidity



Size

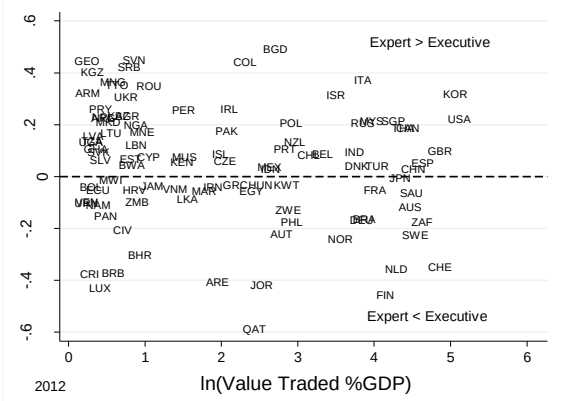
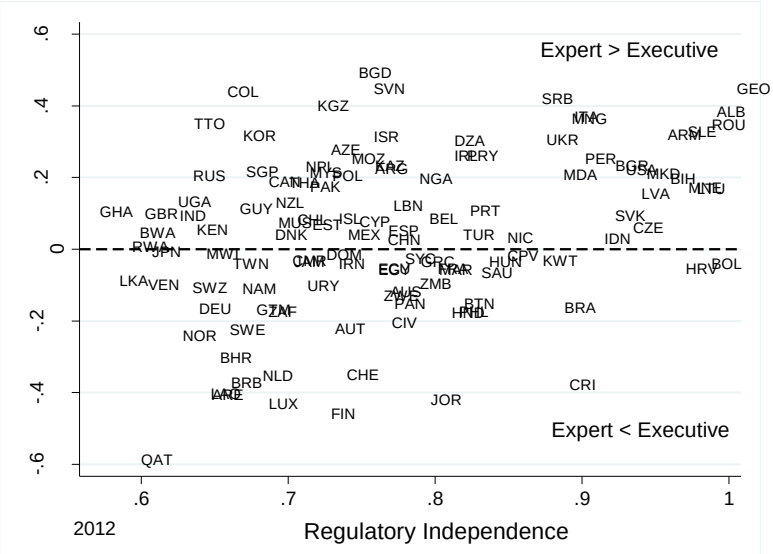


Figure 4.6A
(Formal bias and Regulatory Independence (2012))



APPENDIX V(a)

Table 5.12A
(*DSRO* w/Economic Controls Only: Market Cap)

DV: ln(Market Capitalization %GDP)	(1)	(2)	(3)	(4)	(5)
$\ln(\text{MarketCap})_{t-1}$	0.70***	0.67***	0.62***	0.64***	0.64***
	(0.01)	(0.02)	(0.02)	(0.02)	(0.03)
Depoliticized	0.27***	0.24**	0.19	0.16	0.21
Self-Regulation	(0.09)	(0.10)	(0.11)	(0.12)	(0.13)
GDPgrowth		0.01***	0.01***	0.01**	0.01***
		(0.003)	(0.003)	(0.002)	(0.002)
ln(GDPcapCur)		0.06**	0.04	0.05	0.07*
		(0.03)	(0.03)	(0.04)	(0.04)
ln(Trade)			0.21***	0.32***	0.32***
			(0.06)	(0.06)	(0.06)
lnInflation					-0.001
					(0.01)
Capital Account			0.27***	0.21***	0.20***
Openness			(0.05)	(0.05)	(0.06)
Bank Crisis				-0.14***	-0.15***
				(0.04)	(0.04)
ΔAll World Stock				0.29***	0.29***
Index				(0.02)	(0.02)
Constant	0.82***	0.37*	-0.32	-0.91**	-1.09***
	(0.07)	(0.20)	(0.31)	(0.35)	(0.39)
Observations	2,075	2,065	1,972	1,882	1,753
μ Panel Size	18	18	17	17	16
Adj. R^2	0.60	0.60	0.60	0.67	0.68
Number of countries	112	112	109	109	107

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Table 5.13A
(*DSRO* w/Political Economic Controls Only: Market Cap)

DV: ln(Market Capitalization %GDP)	(1)	(2)	(3)	(4)	(5)
$\ln(\text{MarketCap})_{t-1}$	0.64***	0.64***	0.64***	0.64***	0.64***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Depoliticized	0.19	0.21*	0.19*	0.26***	0.27***
Self-Regulation	(0.12)	(0.11)	(0.12)	(0.09)	(0.10)
Electoral	-0.005				-0.01
Competition	(0.008)				(0.01)
Political		0.22***			0.21***
Constraint		(0.07)			(0.08)
Checks			-0.003		
			(0.008)		
Electoral				0.11***	0.10***
Proportionality				(0.02)	(0.02)
Left Government					-0.01
					(0.02)
Government					-0.01**
Consumption					(0.005)
GDP growth	0.007**	0.007**	0.007**	0.007**	0.005*
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
lnGDPperCapita	0.05	0.05	0.06*	0.01	0.03
	(0.04)	(0.04)	(0.038)	(0.03)	(0.04)
ln(Trade)	0.31***	0.32***	0.31***	0.35***	0.35***
	(0.067)	(0.067)	(0.07)	(0.07)	(0.07)
Capital Account	0.21***	0.22***	0.20***	0.25***	0.25***
Openness	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Bank Crisis	-0.13***	-0.14***	-0.14***	-0.15***	-0.17***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
ΔAll World	0.29***	0.29***	0.29***	0.28***	0.28***
Stock Index	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Constant	-0.84**	-1.02***	-0.96***	-0.99***	-0.87**
	(0.36)	(0.36)	(0.36)	(0.37)	(0.39)
Observations	1,859	1,858	1,847	1,702	1,677
μ obs per panel	17	17	17	17	16
Adj. R^2	0.67	0.68	0.67	0.70	0.70
Overall R^2	0.83	0.83	0.83	0.80	0.80
Number of countries	108	108	108	102	102

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Table 5.14A
(*DSRO* & Independence: Market Cap AR(1))

DV: ln(Market Capitalization% GDP)	(3) Prais-Winsten w/ Country FE	(1) Prais-Winsten w/ Country FE	(2) Prais-Winsten w/ Country FE	(6) Cochrane-Orcutt	(4) Cochrane-Orcutt	(5) Cochrane-Orcutt
Depoliticized Self-Regulation	0.28*	0.25	0.28*	0.35**	0.32**	0.34**
	(0.15)	(0.17)	(0.15)	(0.148)	(0.16)	(0.14)
Regulatory Independence	0.12	0.22**	0.12	0.22**	0.23***	0.22**
	(0.09)	(0.09)	(0.09)	(0.08)	(0.09)	(0.09)
Electoral Competition	-0.004			0.005		
	(0.009)			(0.008)		
Electoral Proportionality		0.11**			-0.01	
		(0.04)			(0.03)	
Political Constraint			0.24**			0.33***
			(0.10)			(0.10)
GDP Growth	0.01***	0.012***	0.01***	0.009***	0.01***	0.009***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
ln(GDPperCapita)	0.06	0.05	0.05	0.39***	0.37***	0.39***
	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)
ln(Trade)	0.54***	0.56***	0.51***	0.72***	0.68***	0.72***
	(0.08)	(0.08)	(0.079)	(0.08)	(0.08)	(0.08)
Capital Account Openness	0.31***	0.33***	0.32***	0.42***	0.44***	0.43***
	(0.09)	(0.09)	(0.09)	(0.08)	(0.08)	(0.09)
Bank Crisis	-0.3***	-0.32***	-0.29***	-0.25***	-0.27***	-0.25***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
ΔAll World Stock Index	0.20***	0.20***	0.20***	0.23***	0.22***	0.23***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Constant	0.14	-0.14	0.13	-4.19***	-3.71***	-4.24***
	(0.10)	(0.10)	(0.10)	(0.45)	(0.45)	(0.44)
Observations	1,831	1,665	1,830	1,940	1,768	1,939
Adjusted R^2	0.17	0.19	0.17	0.43	0.43	0.44
Overall R^2	0.10	0.05	0.11	0.24	0.24	0.24
Number of countries	108	100	108	109	103	109

Standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Table 5.15A
(*DSRO*-Electoral Competiveness Interaction: Market Cap)

DV: ln(Market Capitalization %GDP)	(1) Blundell-Bond	(2) Blundell-Bond	(3) Blundell-Bond	(4) Arellano-Bond	(5) Arellano-Bond	(6) Arellano-Bond
$\ln(MarketCap)_{t-1}$	0.68***	0.65***	0.63***	0.53***	0.44***	0.44***
	(0.03)	(0.03)	(0.04)	(0.05)	(0.06)	(0.07)
Depoliticized Self-Regulation	-0.21	-0.15	-0.33	-0.12	-0.19	-0.54
	(0.34)	(0.32)	(0.40)	(0.35)	(0.36)	(0.40)
Electoral Competitiveness	-0.04***	-0.03**	-0.05**	-0.03*	-0.03	-0.064***
	(0.01)	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)
Self-Regulation X Competitiveness	0.08***	0.07***	0.09**	0.07**	0.05*	0.08**
	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.03)
Regulatory Independence		0.11	0.02		0.24**	0.20*
		(0.09)	(0.08)		(0.10)	(0.10)
Political Constraint		0.26**	0.18		0.30**	0.24*
		(0.12)	(0.13)		(0.12)	(0.13)
Electoral Proportionality			0.04			0.04
			(0.03)			(0.04)
GDP Growth	0.008**	0.007*	0.006	0.01***	0.008**	0.007**
	(0.003)	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)
ln(GDPperCapita)	-0.02	-0.005	-0.008	-0.06	0.03	0.01
	(0.03)	(0.03)	(0.03)	(0.06)	(0.08)	(0.07)
ln(Trade)	0.28***	0.36***	0.38***	0.64***	0.76***	0.81***
	(0.10)	(0.10)	(0.11)	(0.10)	(0.11)	(0.13)
Capital Account Openness	0.27**	0.18	0.14	0.44***	0.33***	0.23**
	(0.11)	(0.11)	(0.10)	(0.10)	(0.12)	(0.11)
Bank Crisis		-0.14***	-0.17***		-0.21***	-0.25***
		(0.05)	(0.04)		(0.06)	(0.05)
ΔAll World Stock Index	0.30***	0.30***	0.30***	0.28***	0.28***	0.27***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Constant	-0.18	-0.66	-0.47	-1.1	-2.12**	-1.69**
	(0.49)	(0.51)	(0.49)	(0.69)	(0.83)	(0.75)
Observations	1,948	1,845	1,688	1,827	1,723	1,572
Number of countries	108	108	102	107	107	99

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

f

Table 5.16A
(*DSRO* w/Political Economic Controls Only: %ΔS&P Price Index)

DV:%ΔS&P Price Index	(1)	(2)	(3)	(4)	(5)	(6)
Depoliticized	28.9***	27.5**	27.7**	29.4**	26.6**	16.1
Self-Regulation	(10.2)	(11.1)	(11.1)	(11.6)	(11.7)	(12.7)
Electoral		-1.52				-0.78
Competition		(2.1)				(3.33)
Political			-15.9			-14.9
Constraint			(13.9)			(12.2)
Checks				0.05		
				(1.08)		
Electoral					5.39*	5.41**
Proportionality					(3.12)	(2.51)
General						-4.36
Government						
Consumption						(4.96)
GDP Growth	0.67*	0.67*	0.65*	0.64	0.63	0.17
	(0.38)	(0.38)	(0.38)	(0.39)	(0.39)	(0.60)
ln(GDPperCapita)	-2.56	-1.90	-2.52	-2.12	-1.85	-0.67
	(3.22)	(3.3)	(3.24)	(3.24)	(3.4)	(4.41)
ln(Trade)	25.0**	25.0**	24.1**	25.3**	26.3**	24.3**
	(9.99)	(10.0)	(9.94)	(10.1)	(10.6)	(12.1)
Capital Account	-7.30	-8.34	-7.84	-7.99	-4.74	-9.80
Openness	(10.8)	(11.0)	(10.9)	(10.9)	(12.3)	(13.4)
Bank Crisis	-24.0***	-24.2***	-23.8***	-24.3***	-24.1***	-21.4***
	(4.96)	(4.96)	(4.91)	(4.98)	(5.09)	(4.67)
ln(Inflation)	1.51	1.47	1.63	1.49	2.43	0.32
	(5.61)	(5.79)	(5.79)	(5.75)	(6.89)	(4.34)
ΔAll World	35.8***	35.7***	35.6***	35.6***	36.5***	37.0***
Stock Index	(2.51)	(2.49)	(2.5)	(2.51)	(2.82)	(2.91)
Constant	-93.0**	-79.4*	-81.9**	-97.7**	-114.3**	-12.6
	(40.9)	(46.4)	(40.9)	(42.5)	(47.2)	(63.7)
Observations	1,148	1,131	1,131	1,128	1,082	1,071
Adjusted R^2	0.23	0.23	0.23	0.23	0.23	0.25
Overall R^2	0.17	0.17	0.17	0.17	0.17	0.12
Number of countries	79	78	78	78	73	73

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Table 5.17A
(Untransformed Market Capitalization)

DV: Market Capitalization%GDP	(1)	(2)	(3)	(4)	(5)	(6)
Market Cap $_{t-1}$	0.53***	0.54***	0.54***	0.54***	0.53***	0.53***
	(0.09)	(0.08)	(0.08)	(0.08)	(0.09)	(0.09)
Depoliticized Exchange	19.9**	18.5**	20.7***	19.1**	24.5***	18.8**
Governance	(8.41)	(7.78)	(7.74)	(7.86)	(8.11)	(8.68)
Regulatory		2.56		2.44	1.97	1.96
Independence		(2.69)		(2.63)	(2.86)	(2.96)
Political			5.91**	5.39*		
Constraint			(2.81)	(2.74)		
Electoral					1.32	
Proportionality					(1.12)	
Electoral	-0.33					-0.34
Competition	(0.28)					(0.28)
Government	-0.72					-0.74
Consumption	(0.58)					(0.59)
GDP Growth	0.53***	0.64***	0.60***	0.62***	0.70***	0.55***
	(0.15)	(0.15)	(0.15)	(0.15)	(0.17)	(0.16)
ln(GDPperCap)	1.73	0.79	1.25	0.88	0.462	1.354
	(1.57)	(1.31)	(1.36)	(1.36)	(1.30)	(1.58)
ln(Trade)	13.9***	14.0***	13.7***	13.6***	14.8***	14.0***
	(4.65)	(4.48)	(4.55)	(4.54)	(5.15)	(4.71)
Capital Account	11.2***	10.7***	11.2***	10.9***	11.3***	11.0***
Openness	(3.17)	(3.05)	(3.10)	(3.10)	(3.20)	(3.18)
ΔAll World Stock	15.2***	14.8***	15.0***	15.1***	15.3***	15.3***
Index	(1.62)	(1.61)	(1.60)	(1.61)	(1.71)	(1.63)
Constant	-61.8***	-69.6***	-75.2**	-71.9***	-77.2***	-58.6***
	(20.2)	(22.5)	(24.0)	(23.7)	(26.0)	(20.1)
Observations	1,920	1,945	1,947	1,933	1,770	1,906
R-squared	0.44	0.44	0.44	0.44	0.44	0.44
Number of countries	108	109	108	108	102	108

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Table 5.18A
(*DSRO*: Net Portfolio Equity Flows)

DV: Net Portfolio Equity Flows	(1)	(2)	(3)	(4)	(5)	(6) Blundell-Bond GMM
Portfolio Equity $_{t-1}$	0.41***	0.41***	0.42***	0.42***	0.41***	0.38**
	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	(0.15)
Depoliticized Exchange	1652	1750	1867	2093	2015	2020
Governance	(1974)	(1949)	(1952)	(2226)	(2107)	(4865)
Regulatory		-418.0	-509.7	-724.4	-423.4	823.1
Independence		(1593)	(1577)	(1746)	(1626)	(4336)
Political			486.6			4135
Constraint			(1031)			(3467)
Electoral				-272.9		
Proportionality				(169.9)		
Electoral					-109.8**	
Competitiveness					(48.8)	
Government					-43.6	
Consumption					(94.2)	
GDP Growth	-69.8	-75.1	-76.3	-85.9	-86.4	-78.3
	(50.3)	(51.2)	(51.8)	(58.8)	(55.1)	(92.0)
ln(GDPperCapita)	1212**	1237*	1246*	1182	1332*	2715
	(558.5)	(634.7)	(639.9)	(745.5)	(689.5)	(2033)
ln(Trade)	2919*	3199*	3054*	3153	3288*	6918
	(1700)	(1821)	(1829)	(2167)	(1911)	(5036)
Capital Account	-811.4	-800.9	-767.4	-667.5	-875.9	-1485
Openness	(743.6)	(700.4)	(706.6)	(824.3)	(708.1)	(2320)
ΔAll World Stock	3234***	3202***	3167***	3261***	3269***	3754***
Index	(1118)	(1122)	(1126)	(1198)	(1160)	(1312)
Constant	-21178**	-22395**	-22052*	-22336	-21785*	-52584
	(9812)	(11204)	(11250)	(13035)	(11020)	(32209)
Observations	2,100	2,087	2,073	1,908	2,044	1,932
R-squared	0.18	0.19	0.19	0.19	0.19	
Number of countries	121	120	119	114	119	117

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Table 5.19A
(*DSRO w/Portfolio Flow Control)*

DV:ln(Market Capitalization %GDP)	(1)	(2)	(3)	(4)	(5) Blundell-Bond GMM	(6) Blundell-Bond GMM
ln(MarkCap) $_{t-1}$	0.66***	0.66***	0.66***	0.67***	0.69***	0.67***
	(0.02)	(0.02)	(0.03)	(0.02)	(0.04)	(0.03)
Depoliticized	0.24***	0.20**	0.21**	0.18*	0.33*	0.28
Self-Regulation	(0.08)	(0.9)	(0.09)	(0.10)	(0.20)	(0.20)
Regulatory		0.08	0.07	0.07	0.08	0.08
Independence		(0.05)	(0.05)	(0.05)	(0.09)	(0.09)
Political		0.15**				0.21*
Constraint		(0.07)				(0.11)
Electoral			0.05**			
Proportionality			(0.02)			
Electoral				0.006		
Competition				(0.006)		
Government				-0.01**		-0.01*
Consumption				(0.004)		(0.008)
Portfolio Equity	.000001**	.000001**	.000001**	.000001**	.000002***	.000002***
Flows	(.0000005)	(.0000005)	(.0000004)	(.0000005)	(.0000006)	(.0000005)
GDP Growth	0.01***	0.01***	0.01***	0.01***	0.01**	0.01
	(0.003)	(0.003)	(0.004)	(0.003)	(0.003)	(0.003)
ln(GDPper Capita)	-0.004	-0.006	-0.017	-0.01	-0.04	-0.04
	(0.03)	(0.03)	(0.03)	(0.03)	(0.031)	(0.031)
ln(Trade)	0.29***	0.29***	0.29***	0.28***	0.26**	0.29***
	(0.065)	(0.06)	(0.07)	(0.07)	(0.11)	(0.11)
Capital Account	0.24***	0.24***	0.26***	0.23***	0.27***	0.35***
Openness	(0.05)	(0.05)	(0.05)	(0.05)	(0.100)	(0.10)
ΔAll World	0.29***	0.29***	0.29***	0.29***	0.31***	0.32***
Stock Index	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Constant	-0.489*	-0.518*	-0.487	-0.31	-0.17	-0.10
	(0.29)	(0.31)	(0.33)	(0.31)	(0.43)	(0.45)
Observations	1,788	1,762	1,653	1,740	1,774	1,739
R-squared	0.70	0.71	0.70	0.71		
Number of countries	103	102	97	102	103	102

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

APPENDIX V(b)
Overview of Non-Public Ownership and Governance

Country	Year	Non-Private Ownership/Governance
Albania	1996-2012	1996-2001: Central Bank owenrship and Central Bank board representation/appointment ex-officio. 2002-2012:Owned 100% by ministry of finance so they can select the whole board.
Alexandria/Cairo/Egypt Exchange	1992-2012	Public institutions with multiple regulator ex-Officio members 1992-1996 then only one regulator ex-officio member until 2012. 1992-2008 government appointed an additional member. From 2009 and after the government appoints multiple members to the board.
Algeria	1997-2012	100% Ownd by state-owned banks who make up the enterity of the board.
Austria	1989-2012	Privately owned, but a government appointed commissioner is appointed to the exchange and they posess powers separate from those exercised by the regulator
Azjerbaijan	2000-2012	Minority owned by banks that are in turn minority owned by government.
Bahrain	1987-2009	Multiple ministers sit on board and other members selected by government. Previously a government organization, it was recently corporatized in 2010, but government of Bahrain remains its controlling shareholder and political officials still dominate its governance.
Bangladesh	1988-2012	Mandated representation of the central government in the governing body of a stock exchange or any of its committees until 1992. From 1992 until 2012 the Securities Comission gets representation.
Barbados	1987-2001	Mutual organization with multiple ministers and central banker sitting on the board of directors
Belarus	1998-2012	Owned by government. Mulitple political officials, political appointees, and central bank officials sitting on board
Bhutan	1993-1995:1996-2012	After initially being owned by Bhutan Monetary Authority, the exchange separated from BMA in 1996 and was then run and owned by state owned development banks along with a representative of the government and a reprentative from the monetary authority
Botswana	1994-2012	After informal trading began in 1991, the BSE becamse a public entitiy in 1994; 3 members get appointed by the Minister.
Bulgaria	1991-2012	Majority owned by government. Government, as shareholder, gets to appoint multiple board members

Non-private Ownership/Governance Continued…

Cambodia	2010-2012	Korea exchange 49% shareholder, government 51% shareholder. 2 ministers ,1 regulator (Bank of Cambodia) sits on board with remaining members and executive management chosen/nominated by Minister of Finane. KRX can make only 2 nominations
Cape Verde		Minister/government appoints board.
China		Prior to 1998, exchanges were owned by local governments so they could control board appointments. 1998 and on the regulator could select the general manager/President of the exchange. The brokerage houses selected the rest, but many of them are partially or completely owned by the state.
Croatia		In 2007, state owned banks took a minority share in the exchange
Cyrpus		Public entity with an executive council appointed by government. From 1994 until 2000, there was a government appointed commissioner at the exchange.
Czech Republic		From 1992 until 2002 there was a mixture of ownership between government, the Central Bank, and commerical banks whose majority shareholder was the state. Board of directors reflected this mixture
Denmark	1986-1996	Civil association with an exechange board/council was appointed by government on nomination by several groups.
Estonia	1995-2001	No appointments, but the State, Central Bank, and state owned banks all held minority shares
Fiji	1979-2012	Multiple members of the board of directors appointed by banks/financial institutions owned by the state
France	1988-1995	Government appointed commissioner at exchange. After
Hungary	1990-2000	1990-1995: Regulator appoints exchange commissioner who can "observe and check trading on the exchange, and to attend the general meeting of the exchange, and the meetings of the Board of Directors of the exchange and of the professional committees."1996-1999: "The representative of the Supervisory Commission shall be entitled to attend the general meeting of the exchange, the meetings of the board of directors of the exchange, supervisory board and the professional committees with a right of consultation."
Iceland	1993-1997	Both the Central Bank and the government appoint one member
India	1988-2012	Prior to 1992, government could appoint multiple public interest directors to exchanges. After 1992, regulator can appoint multiple "public interest" directors to exchanges.
Indonesia	1977-1991	During this period the exchange operation is overseen by Capital Market Supervisory Agency (Bapebam), which was a Directorate General of the Ministry of Finance. Bapebam appoints multiple board members

Non-private Ownership/Governance Continued…

Iran	1988-2004	Exchange is operated and regulated by its board of directors which included mulitple government ministers and a senior official of the Central Bank of Iran. Remaining board members are appointed by decision of Iran's governing Council
Israel	1987-2014	Both the Ministry of Finance and the Bank of Israel get to appoint one member of the board; there is also a nominating committee that appoints other "outside" members that includes a representative of the Ministry of Justice, the Chairman of the ISA, chairman of the Exchange, and an outside expert. This committee's appointments are not coded since no single actor can dictate nomination (which must also be approved by the ISA as a whole)
Italy	1975-1995	Prior to 1995, exchanges owned by local chambers of commerce which are considered public entities. Milan Stock exchange (precursor Borsa Italia) finish privatization by 1996. Prior to 1996, all members appointed by decision of government of which one is nominated by Tresury or Ministry of Finance depending upon the time period. Central Bank also got 1 nomination. Ex-Officio all receive 0 because government ministry and Central Bank do not appoint direct delegates only make nominations.
Jamaica	1993-2012	Both Minister of Finance and senior official of the Central Bank of Jamaica sit on the board of directors of the stock exchange
Jordan	1988-1998	Exchange is both operated and regulated by a government dominated board of directors that was appointed by executive decree, and included mulitple ministers and a senior official of the Central Bank of Jordan
Kazakstan	1997-2010	During the 1997 to 2010 period, there was either a senior official of the Central Bank or a regulator from the Financial center at Almaty sitting on the board. From 2011 there were multiple Central Bank officials. 1997-2012: Board members included senior officials from commercial banks that were controlled by government shareholders. 1997 thru 2012: other members were also appointed by either the Central Bank or officials form the Financial Centre at Almaty.
Kuwait	1984-2012	Exchange both operated and regulated by a government dominated board that includes multiple ministers and a senior official of the Central Bank of Kuwait. Remainder of the board is appointed by executive decree.
Laos	2000-2012	2 members from Bank of Lao; multiple members(standing and non-standing) appointed by Bank of Lao in conjunction with Korea Exchange
Lebanon	1983-2012	1 Minister serves on board with the remainder appointed by Executive Decree
Lithuania	1992-2005	Regulator or direct representative can attend and participate in meetings of Board of Directors

Non-private Ownership/Governance Continued…

Luxembourg	1974-1997	A commissioner from the Ministry of Finance sits on board of directors with the power to challenge exchange decisions. 1998-2006 Commissioner becomes a representative of the Financial Sector Supervision Commission
Malawi	1990-2012	Majority owned by Central Bank, Central Bank can appoint multiple members
Malaysia	1984-2012	Minister of Finance appoints multiple members to exchange board of directors to uphold the "public interest"
Maldives	2002-2007	From 2002 until 2007, the Capital Market Development Authority operated an exchange trading floor. The executive board included a member of the Maldives Monetary Authority, Minister of Finance, and the Registrar of Companies who is an official of the Ministry of Economic Development. The remaing exchange officials were employees of the CMDA.
Malta	2002-2012	Executive board appointed by Government given the Government's 100% shareholding in the Exchange
Mongolia	1995-2012	Government (State Property committee) appoints multiple members to the board as sole owner of exchange. These appointment typcially include multiple officials from government ministries and a member from the financial regulator
Morocco	1975-2012	1975-1992: Exchange adminstrative council was chaired by a representative of the Minister of Finance. Council also included a member from the Bank of Morocco and representatives from several government owned development banks who were appointed (along with a director) by royal decree. From 1993-2012 exchange regulation was handed to a regulatory agency and the exchange was managed by mostly private trading participants. However, the government still has a direct delegate that regulates and participates in exchange governance.
Mozambique	1998-2012	The exchange is a institution of public capital whose board is appointed by the government.
Namibia	1992-2012	1992-2000; A delegate of the Ministry of Finance served as the stock exchange registrar and could participate in exchange governance. 2001-2012: The registrar became a delegate of an independent financial regulator
Nepal	1994-2012	Exchange board of directors consists of two representatives of the government, 2 senior officials of the Central Bank, and 1 appointed by a government owned development bank.
Norway	1988-1999	Government appointed board of directors

Non-private Ownership/Governance Continued…

Oman	1989-2012	1989-1997 exchange governed and regulated by a government appointed board of directors that included mulitple government officials and a senior official of the Central Bank of Oman. From 1998 -2012 two members of the board were appointed by the regulator (Capital Markets Authority) and the board also consists of a delegate of the Capital Markets Authority as well as a delegate of the Central Bank of Oman
Poland	1991-2012	As the majority and controlling shareholder of the exchange, the Ministry of Finance can appoint multiple members to the board of directors
Qatar	1997-2012	1997-2005: the governing board had mulitple government officials and a representative of the Qatar Financial Centre Regulatory Authority. 2006-2012: the governing board had mulitple government officials and a representative of the Qatar Financial Centre Regulatory Authority. The remainder of the board is directly appointed by the government (100% shareholder of the exchange). One of those government appointees is a representative of Qatar's soveriegn wealth fund (Qatar Investment Authority).
Romania	1995-2004	Regulator could appoint one member of the exchange to monitor exchange governance and act as a liason with the regulatory authority
Russia	1992-2012	Coded for Russian Interbank Currency Exchange and then the Moscow exchange: At least 1 member is appointed by the Central Bank and multiple appointments made by commerical and development banks that are either owned by the government or the Central Bank
Rwanda	2011-2012	One representative of a Government Ministry with the remainder of the board appointed by the government
Saudi Arabia	2002-2012	Missing data prior to 2002. The Saudi Exchange's board of directors includes several delegates of two government ministries and a representative of the Saudi Monetary Agency. The remainder of the board is appointed by executive decree
Serbia	1994- 2012	1994-2005: There is a government appointed commission (responsible to the government) who "has the right to attend meetings of all organs of the stock exchange and to point to the omissions and irregularities in the application of the laws and regulations of the Exchange.The Commissioner is required to take measures to remedy the identified irregularities." 1994-2012: As block shareholders both the government of Serbia and commercial banks majority owned by the government have appointed at least one member of the board each. However, their appointmentss still must be approved by the regulator.

Non-private Ownership/Governance Continued…

Singapore	1988-1999	Statute states: "Nothing in this section shall preclude the Minister from time to time appointing any person or persons, who is or are knowledgeable about the securities industry and who is or are not associated with a stockbroker or dealer, to be on the committee of the stock exchange to represent the public interest and the person or persons so appointed — (a) shall have the same rights, powers, duties and obligations, liberties and privileges as any other member of the committee of the stock exchange; and (b) shall hold office for a period specified by the Minister who may at any time revoke such an appointment.
Slovak	1992-2012	1992-1999: Supervision is carried out by a stock exchange commissioner (and his deputy) appointed and recalled at will by the government ministers. Commissioner can particpate in Stock Exchange chamber meetings and suspend its decisions . From 2000-2012 a representative of the regulator exercises many of the same participatory and suspending powers as previously exercised by the government appointed commissioner. 1992-2004, the government, as a minority shareholder could appoint at least one member to the exchange chamber. From 2005-2012, the government became the majority owner and therefore has the ability to appoint multiple members to exchange governing bodies. From 1992-2000, government owned banks held minority block shares in the exchange entitling to make at least one appointment to exchange governing bodies
Slovenia	1991-2007	Commerical banks owned by government had block ownership from 1990-1994 entitling them to make multiple appointments. From 1995-2007 government owned commerical banks held minority stakes in the exchange. They typcially could make only a single appointment to the exchange
South Africa	1985-2011	1985-1989: Stock exchange Registrar (representing Finance Ministry) both helped to regulate and participated in the governance of the exchange. From 1990 until 2011, the registrar was a delegate of the Financial regulator, but exercised similar powers
South Korea	Pre-1988 and 2005-2012	Prior to 1988, the government made multiple appoints to the exchange board. Following privatization, the government approved of all appointments. From 2005 until today, both the President and ministries combine to appoint multiple members while the regulator appoints multiple members as "outside" public interest directors
Sri Lanka	1991-2012	Minister appoints at least 4 members of exchange board of directors
Sudan	1995-2012	Government minister and senior official of Central Bank sit on board of directors. Remainder of board members appointed by executive decree.

Non-private Ownership/Governance Continued…

Sweden	1979-1991	Government Appointed board of directors of the Stockholm Stock Exchange
Syria	2006-2011	Financial Regulator and Central Banker both sit on the board of the exchange. The remainder of the board is appointed by Executive Decree
Taiwan	1989-2012	Coded for Taiwan Stock Exchange: 1989-2012: A representative of the Bank of Taiwan sits on the board, while representatives of state owned enterprises make multiple appointments to exchange board. 1987 until 2002 the financial regulator (part of the ministry of finance) appointed multiple outside/independent directors. From 2003-2012, the financial regulator (independent) appoints multiple "outside/independent directors"
Tanzania	1994-2012	Regulator can appoint 1 member to the board.
Thailand	1992-2012	Regulator makes mulitple appointments to governing board
Trinidad and Tobago	1981-1994	Minister of Finance appoints 2 members of the board of directors
Tunisia	1989-2012	1989-1994: Government dominated board of directors both operated and regulated the exchange. Board had mulitple government ministers and mulitple board members appointed by government owned commerical, development, and agricultural banks. 1995-2012; In addition to the regulatory agency, "A government commissioner appointed by the Minister of Finance is placed with the Stock Exchange and is charged with monitoring compliance with legal and regulatory rules." All board appointments approved by finance minister with multiple appointments being made by financial institutions owned by the state.
Turkey	1984-2012	1984-2012: Multiple Exchange commissioners can be appointed by Captial Markets Board charged with "surveillance of the Exchange operations in the name of the CMB and for general administration of service units reporting to the commissioner." Furthermore "Chairman, members, Secretary General, and Department Heads of the CMB, and other assignees of the CMB and the Exchange commissioner may attend the Exchange's General Assembly meetings without any voting rights." The Government of Turkey, due to the exchanges status as a public institution, appointed at least 1 board member and also designated another member from a State-owned enterprise/financial institutions. 2012: Government, as majority shareholder, makes multiple appointments to governing board

Non-private Ownership/Governance Continued…

Uganda	1997-2012	Regulator reserves right to appoint a single director to the board of the exchange
Ukraine	1996-2012	Regulator Appoints delegate/commissioner to exchange and charges them with overseeing compliance and governance.
United Arab Emerites	2000-2012	Government appoints boards of Abu Dhabi and Dubai Financial Market by executive decree
Uzbekistan	1991-2012	Exchange organized as a State agency. Executive Board appointed by Government
Venzuela	1975-2009	Caracas Stock Exchange had a delegate representing the securities commission on the executive board
Vietanam	2000-2012	From 2000 until 2006 multiple government officials sat on board including a representative of the securities commission (part of the Ministry of Finance). From 2007 until 2012 only one member of the government sat on the board. From 2000 until 2012, all members of the board are appointed by executive decree
Zimbabwe	1975-2007	Government appoints multiple members to the board of directors

Overview of Self-Regulatory Organizations

Country	Year	Exchange Statute	SRO Type
Argentina	1975-2011	Full exchange statute	Exchange SRO
Armenia	2000-2006	Full exchange statute (2000-2006); Self-regulation mentioned 2007-2012	Exchange SRO
Australia	2001- 2009	No specific mention of SROs , but in 2001 Company law charges ASX to not only enforce business rules, but all statutes in the Securities chapter of the Company law as well as licesensing requirements. From 2010 on, ASX transferred its regulatory duties to public regulator.	Strong Exchange SRO
Azerbaijan	2000-2012	Full SRO statute and exchange is designated SRO	Exchange SRO
Bahamas	2012--	Full statute in 2012 with exchange is a designated SRO	Exchange SRO
Bahrain	2008-2012	Mention of self-regulation, but no full statute	
Bangladesh	1992-2012	Regulators duty to encourage self-regulation but not full statute	
Barbados	2002-2012	Full statute and exchange is designated as SRO	Exchange SRO
Bosnia and Hersgovina	2001-2012	Full statute, but independent member-SRO only recieves official designation in 2003	Independent Member SRO
Botswana	2006-2012	Full statute, but exchange remains a public organization	
Brazil	2007-2012	Full statute, with exchange receiving recognition in 2007 and then an independent member SRO established in 2009	Exchange and Member SRO
Canada	1990-2012	Mention of self-regulation from 1990-1993 during which time the Toronto exchange exercised signifcant SRO responsibility. In 1994 both the TSX and Investment Dealers Association (“IDA”) are officially recognized under statute as SROs. As of 2002, both the IDA and TSX regulatory powers were assumed by a national Independent SRO (Investment Indusrty Regulatory Organization of Canada)	Exchange and Member SRO
China	1998-2012	Prior to 1997 exchanges are dominated by local governments. Full exchange statute passed in 1998. Independent SRO officially recognized in 1998 and both Chinese Exchanges exercise significant regulatory duties	Exchange and Member SRO
Colombia	2005-2012	Full statute enacted in 2005. Independent member SRO recognized in 2006	Member SRO
Dominican Republic	2000-2012	Statute declares exchange an SRO	Exchange SRO
Ecuador	1993-2012	Full statute and exchange is designated as SRO	Exchange SRO
Estonia	2001-2012	Full statute and exchange is designated as SRO	Exchange SRO
Georgia	1999-2012	Full SRO statute, and GSE is registered as an SRO. It defines an SRO as : "Self-Regulatory Organization or SRO means a Stock Exchange, a Central Depository and any other organizations which make and enforce rules approved by the Commission relating to its members or participants under Article 41 of this Law."	Exchange SRO

Overview of Self-Regulatory Organizations Continued…

Guyana	1998-2012	Full statute with Guyana Stock Exchange Registered under the Act	Exchange SRO
Hong Kong	1988-2012	Only a mention of public regulator's duty to "promote and develop appropriate degree of self-regulation in the securities and futures industry", but no full statute. However, Stock Exchange of Hong Kong was officially registered and overseen by a public regulator from 1989 until it lost many of its self-regulatory powers in 2000	Defacto Exchange SRO prior to 1989
Hungary	1990-2000	Exchange designated an SRO under the statute	Exchange SRO
India	1992-2012	Mention of self-regulation until 2003. Then a full SRO framework established in 2004. Throughout period Bombay Stock Exchange wields significant regulatory power	Strong Exchange SRO
Indonesia	1995-2012	It states the exchange has self-regulatory powers	Exchange SRO
Iran	2005-2012	2005-6 full statute exists, member SRO recognized in 2007	Member SRO
Japan	1988-2012	Full SRO statute with both exchanges and and independent SRO as officially desiganted SROs	Strong Exchange and Member SROs
Kazakstan	2003-2012	Full SRO statute, however the exchange is not officially registered as an SRO under the statute	
Kenya	2011-2012	Full SRO statute, but neither the Narobi stock exchange or an independent SRO registered under the act before 2013	
Kyrgyzstan	1998-2012	Full statute, but exchange is not officially registered as an SRO under the act	
Macedonia	2005-2012	Full statute and exchange is designated as an SRO	Exchange SRO
Malawi	1990-2012	Full statute and exchange is designated as an SRO	Exchange SRO
Malaysia	2003-2012	2007-2012 full statute, but Bursa Malaysia does not fall under statute despite exercising considerable powers as both an SRO and frontline regulator.	Exchange SRO
Mauritius	2005-2012	Full SRO statute, but the exchange has yet to secure SRO status	
Mexico	1975-2004	Mention of self-regulation 1975 until 2004;After 2004 full SRO statute and exchange is registered under the statute	Exchange SRO
Moldova	1998-2012	Full statute passed in 1998, exchange gains recognition in 2000	Exchange SRO
Montenegro	1993-2012	Until independence in 2006, Montenegro operated under Serbian law which allowed for the formation of Securities associations with disciplinary powers. 2006 creates full SRO statute for authorized participants. No independent member SROs have formed and the exchange does not fall under the statute	
Morocco	1993-2012	Statutes created the "Professional Association of Stockbroking Firms" designed to ensure compliance with public law	Independent Member SRO

Overview of Self-Regulatory Organizations Continued…

Nigeria	1999-2012	Full SRO statue and exchange is registered under the the statute	Exchange SRO
Oman	2002-2012	Statute mandates "Companies operating in the field of securities shall form an association or a guild to ensure the adherence to justice, integrity and efficiency in practicing brokerage business. Such association or guild shall establish a fund to protect the interests of investors who deal with Securities or stocks" This became the Omani Securities Association	Independent Member SRO
Pakistan	1998-2012	Regulator is charged with "promoting and regulating self-regulatory organizations including securities industry and related organizations such as Stock Exchanges and associations of mutual funds, leasing companies and other NBFIs"	Exchange SRO
Panama	1999-2012	Full statute and exchange is registered under statute until 2011 when market regulation is spun off into a separate entity	Exchange SRO
Poland	1992-2012	There is a Brokers and Investment Advisers association, that has official rights to act a representative of the community to government. However, membership is not mandatory and they are not considered an SRO despite the fact they administer exams, hold trainings, and enforce a code of conduct/ethics	
Portugal	2007-2012	The securities code states: "Article 372 Self-regulation 1. Within the limits of the law and regulations, the management entities of the regulated markets, MTFs, settlement systems, central counterparty or clearing house and central securities depositories may autonomously regulate the activities managed."	
Romania	2002-2005	Full Statute created in "Emergency Ordinance No. 28 of 13 March 2002 regarding securities, financial investment services and regulated markets"TITLE VIII states:) An entity authorized by CNVM as powerfully self-regulatory body may associates: financial investment companies, regulated markets, stock exchanges, banks, clearing, settlement, depository and registrar and associations thereof." Its not clear if the exchange ever registered under the statute The SRO statute was repealed by a regulated market statute in 2004	
Russia	1995-2012	Full statute passed in 1995, and independent broker-dealer member SRO established in 1996	Independent Member SRO
Serbia	1996-2001, then 2011-2012	Full statute regarding "Associations" of market intermediaries. No specific statute after 2001. Then from 2011 -2012 there are two references to self-regulatory codes of conduct with regards to investment advice and recommendations. Articl 87-88	
Singapore	1988-2012	No specific reference to self-regulation, but the Singapore Exchange is a powerful front-line regulator with significant self-regulatory power	
South Africa	1988-2012	1988-2012. JSE is the only regulator of securities issuers's IPOs and continuous disclosure requirements. As a result, it is a fairly powerful SRO despite there being no "full" statute with regard to self-regulation prior to 2005. Due to the passage of the Securities Services Act in 2004, the JSE is a registered SRO from 2005 on.	Exchange SRO

Overview of Self-Regulatory Organizations Continued…

South Korea	1977-2012	Full statute establishes Korean Securities Dealers Associations. This SRO merges with other member based SROs in 2009 to for the Korean Financial Investments Association. The Korea Exchange also has significant responsibilities as a Front Line regulator but is not considered an SRO	Independent Member SRO
Sudan	1995-2012	Mandates creation of a Brokers Association that can create regulations (which the exchange council approves) that are binding upon members.	Member SRO
Switzerland	1995-2012	1995-2007, mention of self-regulation under statute. In 2008 financial regulator releases more extentive regulation regarding SRO rulemaking. However, the Swiss exchange is not a registered SRO and no Independent Member securities market SRO existed as of 2012	
Taiwan	1956-2012	Originally founded as the Taipei Securities Dealers association in 1956. In 1999, a merger of all member SROs created the Taiwan Securities Association which was recognized by the secretary of the interior	Independent Member SRO
Thailand	1992-2012	Besides the TSE acting as a front-line regulator, the 1992 statute has a section regarding "Associations Related to Securities Business." That must have their regulation approved regulator and the Associations must be able to discipline their members with the object of "promoting the securities business". In 2012 the Association of Securities Companies of Thailand assumed Self-Regulatory Responsibilties. Thai Bond Market Association assumed full SRO powers over the bond market in 2005	Independent Member SRO
Trinidad & Tobago	1981-2012	1981-1994: TTSE board was both the operator and regulator of the exchange. 1995-2012 a full SRO statute designated the TTSE as an SRO	Exchange SRO
Turkey	1999-2012	Statute mandates creation of the "Association of Capital Markets Intermediaries" in 1999, it was officially formed in 2001.	Independent Member SRO
Uganda	1997-2012	Mention of Self-Regulation	
Ukraine	1996-2012	Full SRO Statute creates an independent broker-dealer SRO	Member SRO
United Kingdom	1975-1997	Private (non-registered) SRO's operate without public backing until 1985. In 1986, they are officially recognized by public authorities (Securities Investments Board). They include: Association of Futures Brokers and Dealers (AFBD), the Financial Intermediaries, Managers and Brokers Regulatory Association (FIMBRA), the Investment Management Regulatory Organisation (IMRO), the Life Assurance and Unit Trust Regulatory Organisation (LAUTRO), and The Securities Association (TSA). The Investment Management Regulatory Organisation (IMRO), the Personal Investment Authority (PIA) in place of the FIMBRA and the LAUTRO in 1994, and the Securities and Futures Authority (SFA) replacing the AFBD and TSA in 1991. Self-Regulation is ended by Labour government in 1997	Independent Member SRO

Overview of Self-Regulatory Organizations Continued…

United States	1935-2012	Maloney Act of 1938 creates SRO statute and the National Association of Securities Dealers emerges. Exchanges also assume SRO responsibility. However, following consolidation, NYSE spins off regulatory arm into NYSE regulation in 2005. NYSE regulation merges with NASD in 2010 to form the Financial Industry Regulatory Authority. However both, Nasdaq and NYSE took back some of its regulator power between 2013-2015. Other regulatory duties still conducted by a non-profit subsidiary of NYSE that is organizationally separate	Independent Member and Exchange SRO
Uruguay	1996-2008	Mention of self-regulation	
Zambia	1993-2012	Mention of self-regulation. Duty of regulator it to promote self-regulation by the securities exchange	

APPENDIX VI

Table 6.9A
(Apolitical Organization in Crisis:%ΔS&P Index)

DV:%ΔS&P Price Index	(1)	(2)	(3)	(4)	(5)	(6)
Apolitical	0.73	0.87	0.64	0.83	0.83	0.46
Organization	(0.95)	(0.96)	(1.05)	(1.01)	(1.03)	(1.04)
Bank Crisis	-76.8***	-75.8***	-77.0***	-49.4***	-49.4***	-50.9***
	(21.6)	(21.7)	(23.3)	(14.6)	(14.6)	(15.5)
Apolitical Org. x	8.08**	7.95**	8.06**	4.95**	4.95**	5.06**
Bank Crisis	(3.16)	(3.17)	(3.4)	(2.13)	(2.13)	(2.2)
Political		-14.7	-13.5		-0.69	1.57
Constraint		(15.3)	(14.2)		(12.0)	(11.6)
Electoral			-1.57			-1.76
Competition			(2.63)			(2.26)
Electoral			6.69**			1.53
Proportionality			(3.35)			(4.12)
ln(GDPperCapita)	-3.83	-4.24	-3.48	-34.5**	-34.5**	-37.1**
	(3.68)	(3.68)	(3.79)	(16.6)	(16.7)	(17.0)
GDP Growth	0.65	0.68	0.63	1.38*	1.39*	1.40*
	(0.48)	(0.48)	(0.50)	(0.746)	(0.74)	(0.80)
Capital Account	-6.0	-6.29	-3.13	-13.6	-13.5	-10.7
Openness	(11.1)	(11.1)	(12.4)	(11.8)	(11.8)	(12.5)
ln(Trade)	21.3**	20.0**	21.7**	-8.97	-9.13	-11.50
	(9.8)	(9.7)	(10.2)	(17.5)	(17.5)	(18.4)
ln(Inflation)	1.33	1.64	2.68	3.68	3.71	4.6
	(5.29)	(5.35)	(6.52)	(4.98)	(5.00)	(5.91)
Domestic Credit	0.02	0.03	0.02	-0.05	-0.05	-0.05
by Banks	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
ln(TurnoverRatio)	2.47	2.52	1.63	-0.27	-0.344	-1.32
	(3.39)	(3.402)	(3.57)	(4.35)	(4.4)	(4.53)
				(27.8)	(28.2)	(29.7)
ΔAll World	35.9***	35.8***	36.6***			
Stock Index	(2.68)	(2.68)	(2.99)			
Constant	-58.8*	-45.9	-51.3	312.7	313.0	364.6*
	(32.1)	(32.7)	(50.1)	(195.2)	(195.6)	(198.3)
Observations	1,120	1,112	1,063	1,120	1,112	1,063
Adjusted R^2	0.24	0.23	0.24	0.30	0.30	0.30
Overall R^2	0.18	0.18	0.17	0.10	0.09	0.09
Year FE	NO	NO	NO	YES	YES	YES
Number of countries	79	78	73	79	78	73

Huber/White Robust standard errors clustered by country(*** p<0.01, ** p<0.05, * p<0.1)

Table 6.10A
(Apolitical Regulatory Organization in Crisis: Index Volatility)

DV: Stock Index Price Volatility	(1)	(2)	(3)	(4) Arellano-Bond	(5) Arellano - Bond	(6) Arellano - Bond
Stock Price Volatility$_{t-1}$	0.50***	0.50***	0.48***	0.57***	0.55***	0.59***
	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)
Stock Price Volatility$_{t-1}$				-0.24***	-0.23***	-0.28***
				(0.04)	(0.04)	(0.03)
Stock Price Volatility$_{t-1}$				0.07	0.07	0.11**
				(0.05)	(0.05)	(0.04)
Apolitical Organization	0.28	0.20	0.46*	0.50	0.26	0.48
	(0.30)	(0.30)	(0.26)	(0.40)	(0.42)	(0.39)
Bank Crisis	-3.09	-3.60	-1.89	-4.75	-4.53	-2.44
	(2.80)	(2.67)	(2.70)	(3.41)	(3.36)	(4.30)
Apolitical Org. x Bank Crisis	0.90**	0.96**	0.72**	1.47***	1.43***	1.03*
	(0.38)	(0.37)	(0.36)	(0.50)	(0.50)	(0.57)
h_polcon3		4.81*	5.01*		7.51***	6.39**
		(2.70)	(2.79)		(2.71)	(2.97)
Electoral Competiveness			-0.19			0.03
			(0.15)			(0.40)
Electoral Proportionality			-1.73			-0.50
			(1.26)			(1.72)
ln(GDPperCapita)	-3.72***	-3.71***	-3.50***	-4.40***	-4.44***	-3.93***
	(0.93)	(0.94)	(0.91)	(1.04)	(1.05)	(1.14)
GDP Growth	-0.70***	-0.69***	-0.70***	-0.82***	-0.77***	-0.82***
	(0.11)	(0.11)	(0.12)	(0.12)	(0.12)	(0.13)
Capital Account Openness	3.19*	3.41*	2.23	-1.77	-0.92	-0.40
	(1.72)	(1.81)	(1.81)	(2.84)	(2.85)	(2.64)
ln(Trade)	1.18	1.51	1.71	-1.39	-0.97	0.50
	(2.11)	(2.15)	(2.18)	(2.28)	(2.38)	(2.41)
ln(Inflation)	1.45***	1.40***	1.18*	1.38***	1.29**	1.36**
	(0.51)	(0.49)	(0.63)	(0.50)	(0.52)	(0.60)
Domestic Credit by Banks	0.008	0.001	0.01	0.03*	0.03**	0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
ln(TurnoverRatio)	2.35***	2.30***	2.21***	2.84***	2.70***	2.76***
	(0.71)	(0.69)	(0.72)	(0.83)	(0.86)	(0.86)
ΔAll World Stock Index	0.90**	0.93**	0.86*	0.83**	0.83**	0.80**
	(0.42)	(0.42)	(0.44)	(0.33)	(0.34)	(0.37)
Constant	26.2**	23.4**	26.0**	44.8***	41.8***	30.4**
	(10.5)	(10.7)	(11.9)	(11.2)	(12.3)	(13.1)
Observations	1,036	1,028	969	925	917	868
Adjusted R^2	0.50	0.50	0.50	--	--	--
Overall R^2	0.63	0.63	0.56	--	--	--
Number of countries	78	77	72	76	75	70

Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Table 6.11A
(Veto Players and Competition w/ Portfolio Controls: %ΔS&P Indices)

DV: %ΔS&P Price Indices	(1)	(2)	(3)	(4)	(5)	(6)
Political Constraint	-31.9**	-32.8**	-32.8**			-10.0
	(12.9)	(12.9)	(13.2)			(14.0)
Electoral Competition				-1.01	-1.03	-0.79
				(1.58)	(1.41)	(1.41)
Bank Crisis	-74.3***	-74.5***	-76.4***	-94.9***	-94.5***	-93.8***
	(11.4)	(11.4)	(13.5)	(17.5)	(14.5)	(14.6)
Constraint x Crisis	120.4***	120.2***	123.3***			
	(23.8)	(24.0)	(27.7)			
Competition x Crisis				6.22***	6.17***	6.12***
				(1.60)	(1.38)	(1.39)
Regulatory Independence		16.8**	15.6*		15.5**	15.9**
		(8.02)	(8.68)		(7.66)	(7.77)
Depoliticized Self-Regulation		18.0*	16.2*		21.0**	20.9**
		(9.35)	(9.35)		(9.39)	(9.36)
Electoral Proportionality			7.925**			
			(3.185)			
Portfolio Equity Flows	0.00003	0.00004	0.00003	0.00002	0.00003	0.00003
	(0.00003)	(0.00003)	(0.00003)	(0.00003)	(0.00003)	(0.00003)
ln(GDPperCapita)	-2.56	-5.11	-4.62	-2.29	-4.97	-5.22
	(3.54)	(3.51)	(3.79)	(3.86)	(3.90)	(3.83)
GDP Growth	0.50	0.59	0.50	0.54	0.63	0.62
	(0.49)	(0.50)	(0.50)	(0.49)	(0.50)	(0.50)
Capital Account Openness	-0.21	-2.14	0.41	-3.22	-4.88	-4.90
	(10.5)	(10.9)	(12.2)	(10.7)	(11.1)	(11.1)
ln(Trade)	23.7**	18.6*	20.3*	24.0**	18.8*	17.9
	(10.1)	(10.5)	(11.3)	(10.4)	(10.9)	(10.8)
ln(Inflation)	-3.59	-3.35	-3.46	-3.62	-3.36	-3.19
	(2.32)	(2.34)	(2.79)	(2.32)	(2.34)	(2.35)
Domestic Credit	-0.004	0.02	0.02	-0.01	0.01	0.01
	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)	(0.06)
ln(TurnOverRatio)	2.00	2.00	1.20	2.17	2.12	2.25
	(3.03)	(3.02)	(3.23)	(3.12)	(3.14)	(3.15)
ΔAll World Stock Index	35.0***	35.4***	35.6***	35.2***	35.6***	35.6***
	(2.02)	(2.03)	(2.13)	(2.10)	(2.12)	(2.11)
Constant	-57.3*	-38.8	-59.2*	-59.5	-40.7	-34.3
	(30.8)	(30.5)	(33.6)	(36.6)	(36.1)	(35.5)
Observations	1065	1035	998	1065	1035	1035
R-squared	0.35	0.36	0.36	0.34	0.35	0.35
Number of countries	76	75	71	76	75	75

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Table 6.12A
(Independence and DSRO in Crisis w/Portfolio Controls: %ΔS&P Indices)

DV: %ΔS&P Price Indices	(1)	(2)	(3)	(4)	(5)	(6)
Regulatory	14.7*	13.7*	11.3		18.1**	15.5**
Independence	(7.51)	(7.63)	(8.30)		(7.40)	(7.66)
Depoliticized		19.4**	18.8**	22.9**	18.2**	18.3*
Self-Regulation		(8.79)	(9.10)	(10.37)	(9.15)	(9.58)
Bank Crisis	-40.7***	-40.7***	-37.3**	-53.3**	-36.3**	-33.3**
	(13.4)	(13.4)	(15.1)	(23.1)	(15.1)	(15.0)
Independence x	27.5	27.9	23.0			
Crisis	(18.9)	(18.8)	(20.7)			
Depoliticized SRO				15.6	18.6	15.4
X Crisis				(20.0)	(18.2)	(18.3)
Political		-11.0	-9.97		-10.9	-11.9
Constraint		(13.8)	(13.7)		(13.7)	(13.7)
Electoral			5.74			5.39
Proportionality			(3.52)			(3.60)
Electoral				-1.47	-0.01	1.74
Competition				(2.02)	(1.64)	(1.66)
Portfolio Equity	0.00002	.00002	0.00002	0.00002	0.00003	0.00003
Flows	(.00003)	(.00003)	(.00003)	(.00003)	(.00003)	(.00003)
ln(GDPperCapita)	-3.58	-5.22	-4.68	-3.09	-4.43	-4.34
	(3.85)	(3.81)	(4.13)	(3.89)	(3.96)	(4.18)
GDP Growth	0.60	0.68	0.61	0.65	0.66	0.61
	(0.49)	(0.51)	(0.50)	(0.43)	(0.50)	(0.50)
Capital Account	-5.43	-5.90	-3.98	-8.98	-7.09	-4.49
Openness	(10.9)	(10.8)	(12.0)	(11.1)	(11.1)	(12.5)
ln(Trade)	19.9*	17.2	18.0	24.1**	17.0	17.5
	(11.0)	(11.0)	(11.6)	(10.4)	(11.0)	(11.5)
ln(Inflation)	-3.15	-3.05	-3.51	1.53	-2.95	-3.39
	(2.30)	(2.36)	(2.76)	(5.65)	(2.38)	(2.78)
Domestic Bank	0.009	0.01	0.01	0.02	0.01	0.008
Credit	(0.06)	(0.06)	(0.06)	(0.05)	(0.06)	(0.06)
ln(TurnoverRatio)	2.70	2.51	1.75	2.56	2.52	1.87
	(3.10)	(3.11)	(3.28)	(3.21)	(3.13)	(3.31)
ΔAll World	35.3***	35.6***	35.7***	35.6***	35.4***	35.7***
Stock Index	(2.07)	(2.09)	(2.19)	(2.54)	(2.04)	(2.16)
Constant	-54.9	-38.4	-51.5	-71.9*	-45.5	-73.8*
	(34.3)	(33.3)	(35.6)	(40.6)	(38.0)	(39.4)
Observations	1,062	1,035	998	1,115	1,035	998
R^2	0.34	0.35	0.35	0.24	0.35	0.35
Number of countries	77	75	71	78	75	71

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Table 6.13A
(Institutions in Crisis w/Portfolio Controls: Index Volatility)

DV: Stock Price Volatility	(1)	(2) Blundell-Bond	(3)	(4) Blundell-Bond	(5)	(6) Blundell-Bond
Stock Price Volatility $_{t-1}$	0.49*** (0.036)	0.53*** (0.04)	0.49*** (0.03)	0.54*** (0.04)	0.49*** (0.03)	0.57*** (0.04)
Stock Price Volatility $_{t-2}$		-0.23*** (0.04)		-0.24*** (0.04)		-0.27*** (0.03)
Stock Price Volatility $_{t-3}$		0.08 (0.06)		0.08 (0.05)		0.10** (0.04)
Political Constraint	2.98 (2.90)	5.12 (3.33)	5.56* (2.8)		5.17* (2.9)	6.47** (3.20)
Electoral Competition	-0.11 (0.20)		-0.40*** (0.15)	0.38 (0.30)	-0.12 (0.23)	0.20 (0.41)
Electoral Proportionality	-0.90 (0.93)		-0.74 (0.83)		-1.26 (1.01)	0.10 (1.44)
Bank Crisis	-2.16 (2.28)	-1.31 (3.33)	-15.2** (6.12)	-9.52** (4.31)	4.19*** (1.16)	4.66** (2.31)
Constraint x Bank Crisis	11.0** (4.93)	14.5** (7.07)				
Competition x Crisis			1.52*** (0.51)	1.28*** (0.38)		
Proportionality X Crisis					-0.75 (0.50)	-0.37 (0.91)
Regulatory Independence	4.05** (1.84)		3.73** (1.77)		4.12** (1.76)	2.93 (2.76)
Depoliticized Self-Regulation	2.49 (2.65)		2.76 (2.54)		2.72 (2.74)	-6.35 (5.45)
Portfolio Equity Flows	.00001 (.000009)	.00002 (.00001)	.00001 (.000009)	.00001 (.00001)	.00001 (.00001)	.00001 (.00001)
ln(GDPper Capita)	-3.33*** (0.89)	-3.61*** (1.05)	-3.29*** (0.86)	-4.01*** (1.170)	-3.45*** (0.95)	-3.15** (1.26)
GDP Growth	-0.78*** (0.103)	-0.86*** (0.133)	-0.800*** (0.102)	-0.85*** (0.124)	-0.77*** (0.10)	-0.91*** (0.13)
Capital Account Openness	3.01 (1.86)	-2.282 (3.300)	2.85 (1.86)	-2.93 (3.17)	2.60 (1.85)	-0.69 (3.05)
ln(Trade)	2.01 (2.14)	-1.420 (2.408)	2.30 (2.20)	-2.25 (2.53)	1.82 (2.25)	-0.60 (2.80)
ln(Inflation)	1.47** (0.58)	1.242** (0.614)	1.55** (0.601)	1.40** (0.59)	1.46** (0.60)	1.53** (0.70)
ln(Turnover Ratio)	2.24*** (0.69)	2.69*** (0.84)	2.22*** (0.71)	2.87*** (0.83)	2.26*** (0.69)	2.68*** (0.87)
ΔAll World Stock Index	0.76** (0.38)	0.68* (0.37)	0.81** (0.38)	0.73** (0.35)	0.75* (0.39)	0.587 (0.439)
Constant	19.1* (10.8)	41.1*** (13.5)	19.8* (10.6)	45.2*** (13.4)	20.8* (11.2)	32.7** (15.1)
Observations	930	890	930	890	930	835
R^2	0.52		0.52		0.51	
Number of countries	71	73	71	73	71	69

Huber/White Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)

Table 6.14A
(Independence & DSRO in Crisis w/Portfolio: Index Volatility)

DV: Stock Price Volatility	(1)	(2) Blundell-Bond	(3)	(4) Blundell-Bond
Stock Price Volatility $_{t-1}$	0.50***	0.53***	0.50***	0.53***
	(0.03)	(0.03)	(0.03)	(0.04)
Stock Price Volatility $_{t-2}$		-0.22***		-0.21***
		(0.04)		(0.04)
Stock Price Volatility $_{t-3}$		0.072		0.06
		(0.05)		(0.05)
Regulatory Independence	1.17	0.03	2.49	
	(1.95)	(3.18)	(1.855)	
Depoliticized Self-Regulation	1.02	-6.77	0.232	-7.22
	(2.86)	(5.96)	(2.802)	(6.20)
Bank Crisis	-2.51*	-0.12	-0.14	6.27*
	(1.46)	(1.94)	(3.75)	(3.59)
Independence X Bank Crisis	7.59***	7.20**		
	(2.08)	(2.85)		
Depoliticized SRO X Bank Crisis			3.54	-1.92
			(4.45)	(4.16)
Political Constraint	5.42**	7.36***	4.59*	6.15**
	(2.50)	(2.63)	(2.73)	(2.72)
Portfolio Equity Flows	0.00001	0.00001	0.00001	0.00002*
	(0.000001)	(0.00001)	(0.00001)	(0.00001)
ln(GDPperCapita)	-3.63***	-3.48***	-3.54***	-3.51***
	(0.96)	(1.1)	(0.96)	(1.13)
GDP Growth	-0.74***	-0.87***	-0.73***	-0.86***
	(0.09)	(0.12)	(0.09)	(0.12)
Capital Account Openness	3.48*	-2.49	3.78**	-2.18
	(1.86)	(3.19)	(1.89)	(3.03)
ln(Trade)	2.07	-1.78	1.57	-2.33
	(2.12)	(2.54)	(2.27)	(2.61)
ln(Inflation)	1.63***	1.28**	1.67***	1.27**
	(0.49)	(0.64)	(0.49)	(0.645)
Domestic Bank Credit	0.008	0.01	0.009	0.024
	(0.01)	(0.01)	(0.01)	(0.017)
ln(TurnoverRatio)	2.35***	2.96***	2.37***	2.92***
	(0.69)	(0.88)	(0.70)	(0.87)
ΔAll World Stock Index	0.85**	0.71*	0.78**	0.60
	(0.36)	(0.39)	(0.36)	(0.40)
Constant	19.4*	45.1***	17.9*	44.8***
	(10.6)	(13.8)	(10.4)	(14.2)
Observations	977	873	977	873
R^2	0.520		0.517	
Number of countries	75	73	75	73

Robust standard errors clustered by country (*** p<0.01, ** p<0.05, * p<0.1)