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REFORM AND DEVELOPMENT OF INVESTOR PROTECTION LAWS IN THE NEW ERA: THE CASE OF THE BLUE SKY LAWS AND THEIR IMPACTS ON MARKET STRUCTURE AND FIRM STRATEGY

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Abstract

During the early 20th century, especially in the United States, contemporaries worried that the expropriation of minority investors by controlling shareholders would resort to securities fraud. Recent literature has found that cross-country differences in laws and their enforcement affect corporate policies: dividend payout, market valuation, and ownership structure. After constructing a panel data set for 70 firms of the oil and gas industry in 25 states for the years 1911 to 1923, we examine the passage of state investor protection statutes ("blue sky laws" or BSLs) that aim to prevented the sale of fraudulent securities in the U.S. during the early 20th century to estimate the effects of BSLs on firm financing and investment decisions. Regression estimates suggest that the passage of BSLs causes the sample firms to decrease financial leverage through equity issuance, pay out greater dividends, and grow in size. More generally, results from political economy hypotheses and theories for the adoption of the BSLs for the measured changes in corporate policies, which seem to be understudied in economic analyses of investor protection laws, have limited explanatory power and should be more explicitly and more carefully incorporated into the analysis of temporal and spatial variations in securities law fraudulent prevention.

INTRODUCTION

> *Too often, investors are the target of fraudulent schemes disguised as investment opportunities. As you know, if the balance is tipped to the point where investors are not confident that there are appropriate protections, investors will lose confidence in our markets, and capital formation will ultimately be made more difficult and expensive.*
>
> *Mary Schapiro, the 29th Chairperson on the U.S. Securities and Exchange Commission.*

Corporate governance and securities laws - collectively known as "investor protection" - refer to those features of the legal, institutional, regulatory environment, and characteristics of firms or projects that smooth financial contracting between inside

owners and outside investors. The relationship among investor protection laws and the corporate financing decisions of firms and the operation of financial markets is crucial because in many countries expropriation of minority shareholders, particularly unskilled investors, and creditors by the controlling shareholders is extensive. Expropriation exists in many forms. For example, insiders simply steal the profits or transfer of assets out of a firm for the benefit of the firm's controlling shareholders. But, in general, expropriation is closely related to the agency problem described by Alchian and Demsetz (1972) and Jensen and Meckling (1976), who observe that the return of the cash flows from projects to investors cannot be taken for granted, and that the insiders of firms may use these resources to their own advantage.

Moreover, recent work has drawn a connection between investor protection laws and the efficiency of equity market. For example, Shleifer and Wolfenzon (2002) present a simple model of an entrepreneur going public in an environment with poor legal protection of outside shareholders. The model incorporates elements of Becker's (1968) classic "crime and punishment" framework into the corporate finance environment of Jensen and Meckling (1976) to examine the entrepreneur's decision and the market equilibrium. This model shows that better legal protection of outside shareholders is associated with:
(1) More valuable stock markets;
(2) A higher number of listed firms;
(3) Larger listed firms in terms of their sales or assets;
(4) Higher valuation of listed firms relative to their assets;
(5) Greater dividend payouts;
(6) Lower concentration of ownership and control;
(7) Lower private benefits of control; and
(8) Higher correlation between investment opportunities and actual investments.

Additionally, Klapper and Love (2002) use data from a report by Credit Lyonnais Securities Asia (CLSA) that constructed corporate governance rakings for 495 firms across 25 emerging markets and 18 sectors to show that:
(1) Firms in countries with weak overall legal systems had on average lower governance rankings;
(2) Firm-level governance was correlated with variables related to the extent of the asymmetric information;
(3) Firms that traded shares in the U.S. had higher governance rankings, especially so in countries with weak legal systems;
(4) Good governance was positively correlated with market valuation and operating performance; and
(5) This relationship was stronger in countries with weaker legal systems.

Furthermore, Morck et al., (2000) examine the relationship between legal institutions, the availability and precision of information on firms, and the efficiency of stock prices. Their study suggests that in countries where legal institutions do not protect shareholders effectively, domestic stock prices move together, so there is less information in individual stock prices.

Arguments and Contributions

The impact of investor protection laws should be of interest to investors, specifically outside (minority) shareholders, creditors, economists, legal scholars, political scientists, historians and regulators today. Drawing from Beck and Levine (2003), for example, between the opinion that the legal system should simply support private contractual arrangements and that it should have specific laws concerning shareholder and creditor rights, Coasians hold that the legal system should simply enforce private contract. Effective legal institutions allow knowledgeable and experienced financial market participants to design a vast array of sophisticated private contracts to ameliorate complex agency problems (Coase, 1960; Stigler, 1964). However, enforcing complex private contracts is too cumbersome. Thus, developing investor protection laws that provide a framework for organizing financial transactions and protecting minority shareholders is plausible; it is also a significant determinant of financial development.

Consistent with the dominance of interest group politics, successful legal protection reforms have occurred only when the special interests could be destroyed or appeased. In this respect, James Willard Hurst, in *Law and Social Order in the United States* (1977), observes, almost any major area of the history of public policy, especially in the area of legal protection, in the United States has involved three dimensions of social experience. He argues that social institutions, integrating ideas, and inertia in social affairs have been the primary dimensions that determine law's functions in the society. Therefore, these factors could explain in large part impacts on the U.S. oil and gas industry in the early 20th century. He argues that "law itself is an institution, as are the family, the church, publicly and privately organized education and philanthropy, science and technology, and the market." Two principal factors can be seen as contributing to the function of law in developing institutions as instrument of social order. One was education, an important source of value for the citizens. To some extent it helps instill in future citizens, the bases of social order, and eases concern for the existence and functioning of other-than-legal institutions because "public policy had to rely largely on these to achieve over-all social cohesion." The other one, more broadly, was that law claimed for itself the legitimate monopoly of force in the society.

The second major factor in the development of public policy, particularly investor protection law, in the United States stems from the fact that the formulation and application of concepts to integrate values into some ordered patterns of social living. The extent of middle-class attitudes and the importance of values with which an individual could act independently to shape the country's public policy over nearly two hundred years confronted more established legislation and economic systems. Hurst notes that attitudes and values, effectively known as ideas, "held together as a working philosophy that prevailed through large areas of our uses of law." He summarizes:

> *[Integrating ideas] included (1) regard for rational, peaceful order under the constitutional ideal, (2) favor for a diversity of outlets for active will, (3) belief in people's capacity to erect ideal values on an increasing material base as the foundation of justice, and (4) assertion of the quality of the individual life as the ultimate criterion of the good society.*

The result, however, is that conflict over assertions of the political and the private claims of individuals to make their own distinctive contributions to the whole is continued to escalate despite the society's professions of continued high regard for individuality.

The development of public policy and legislation in the U.S. also relied on the unplanned course of events, better known as inertia in social affairs, according to Hurst. For instance, facts of place and time take shape as an impending occurrence in the setting of public policy, and the timing of events often not planned. Therefore, Hurst argues, the lack of a politically effective demand for such unplanned course of events ran too broad and deep in the whole structure of the society to be attributed simply to the legal order. By conjecturing that the law focused heavily on women, minorities and the poor in many respects and lent its tacit support to social practices that discriminated in favor of men, special interest groups and the rich, Hurst was able to argue that "a majority of the U.S. Court have been hesitant to treat differences as suspect classifications in measuring the validity of legislation and seem prepared to allow legislatures the same range of discretionary choice of policy in drawing lines on account of differences as in the case of ordinary economic regulatory statutes." The implication, therefore, is that the drawing of legal lines due to unplanned of events is so broadly implicated in a complex of community values, tensions and practices that lawmakers should not be asked to assume the full responsibility for the outcome.

the full responsibility for the outcome.

Key Theories and Approaches of the Paper

In this paper we examine the determinants of the passage of state investor protection statutes ("blue sky laws" or BSLs) in the United States during the early 20th century to estimate the effects of BSLs on corporate policies and firm leverage. We focus on the oil and gas industry because firms in this sector were considered among those most likely to

commit shareholder expropriation (Macey & Miller, 1991). After constructing a panel data set for 70 firms of the oil and gas industry from 1911 to 1923 in 25 states that passed BSLs to prevent the sale of fraudulent securities, we use a simple ordinary least square (OLS) regression testing model to carry out the causal impact of BSLs on firm financing and investment decisions. We then compare the impact of the BSLs on the financing and investment decisions of firms in states which passed the BSLs during the sample period to those of firms in other states. This approach allows us to identify specific characteristics of the legal and financial systems that are associated with long-term financing and investment of firm growth; thus it overcomes the potential biases resulting from unobserved differences among states.

In essence, we provide a micro-level test of the hypothesis, partly advanced by Mahoney (2003), that the degree to which corporate policy and intermediaries are developed is a determinant of economic growth. Hence, this paper is built upon the agency framework of Alchian and Demsetz (1972), and Jensen and Meckling (1976) and ideas from the law and finance literature by La Porta et al., (1997, 1998, 2000 and 2002) to investigate the empirical implications of investor protection, i.e., the BSLs, using structural equations derived from a model of inside ownership and investment.

Our paper, therefore, addresses several crucial limitations of previous empirical studies on the impact of investor protection law on corporate financial behavior and performance. Focusing on cross sectional and time series variation in investor protection laws within a single common law country is the primary distinguishing characteristic of this paper. In further contrast to previous research, structural equations of the OLS regression model help us to understand the implications of unobserved heterogeneity resulting from the econometrician's incomplete measurement of investor protection. Moreover, we employ political economy theories of investor protection laws that are likely independent of unobserved variables which otherwise impact firm financing and investment decisions to analyze explanations drawn from the literature on the BSLs. For example, following Mahoney (2003) and others, we conjecture that public choice theories more than often oppose models that incorporate ideology or other non-self-interested explanations for securities regulation. In contrast, as described in Section 3, public interest typically supports rigorous regulation of securities markets.

Main Findings

After controlling for firm-specific variables, the results of regression estimates suggest that the passage of the BSLs led firms to increase dividend payouts, issue more equity, and grow in size in ways that are consistent with the model's predictions. In addition, the

effects of the covariates on the adoption of the BSLs led firms to improved market valuations have limited explanatory power. Also, we find that the BSLs reflect increases in industrial product market power, which would allow the sample (incumbent) firms to increase profits by producing fewer quantities of goods at higher prices. Furthermore, my analytical evidence offer limited insight into the modern worries about adverse selection as well as moral hazard associated with risk reduction of expropriation by controlling shareholders, and the BSLs proved to have only a nominal effect. Moreover, the impact of the BSLs in providing investors of information from the corporations appears to be driven by improvements in statutory stock exchange listing standards. Overall, the results provide support for an argument that legal protection of investors is critical.

The remainder of this paper is as follows. Section 2 provides the literature review and related ideas and theories behind research to date. Section 3 contains hypotheses development, and enumerates the hypotheses to be tested. Section 4 describes econometric testing model, data, and empirical results with robustness checks. We finally provide some concluding remarks, policy implications, and justifications for the Federal Securities Act of 1933 in section 5.

LITERATURE REVIEW

> *In appearance, it is merely the solution of a technical problem; but through it, a whole type of society emerges.*
> *Michel Foucault, Discipline and Punish*

Legislators' motivations for passing the BSLs in virtually all U.S. states between 1911 and 1931 have been widely debated. For example, Seligman's (1983) public interest explanation argues that the laws were passed to reduce securities fraud during the early twentieth century. Moreover, many legal scholars like Mahoney (2003) and Romano (1998) argue that the laws aided in protecting the assets of public company investors by forcing security issuers and salesmen to register with state governments and introduce penalties for securities fraud. On the other hand, some scholars like Macey and Miller (1991), and Volpin and Pagano (2001) argue that private interests motivated the adoption of these laws. Traditionally, public interest refers to the "common well-being" or "general welfare." Both the case law and the political and ideological play an important role in interpreting public interest within the context of protecting legal relations and avoiding conflict of interest between diverging rights. On the other hand, private interest of economic theory refers to those who are in the private sector and they are motivated by a specific concept of self-interest such as wealth, fame, and power. For instance, Macey and Miller (1991) offer a public choice explanation for the adoption of the BSLs, whereas Volpin and Pagano (2001) suggest that the passage of the BSLs had deleterious effects on firm corporate policies and performance. Still another explanation for the adoption of the

BSLs is a variant of the political economy hypothesis developed by Rajan and Zingales (2003) who suggest that incumbent firms in various states were instrumental at promoting the adoption of state investor protection statues to limit entry.

A large empirical development links several strands of literature in investor protection, finance, macroeconomics, entrepreneurship dynamics and dynamic entrepreneurial finance. For example, Albuquerque and Wang (2008) develop an equilibrium model of investment and asset price under imperfect investor protection. They show that the firm over-invests, the cost of capital is higher, and Tobin's *q* is lower when investor protection is weaker. The investment-capital ratio, risk premium, and Tobin's *q* for both insiders and outside investors are all constant. Further, DeMarzo and Urosevic (2006) develop a dynamic model of ownership for the large shareholder in light of the trade-off between monitoring incentives and diversification to analyze the optimal ownership and consumption policy of a large shareholder/manager of a publicly traded company whose holdings can affect company's future dividends and, therefore, the stock price. Their results generalize several previously known static results. More importantly, Himmbelberg et al., (2002) develop a two-period model where the risk-averse entrepreneur chooses ownership concentration by trading off the benefit of diversification with the cost of raising capital under imperfect investor protection. This implies that good investor protection can lower the cost of capital, and that the quality of investor protection influences funding supply.

"Blue Sky" Laws: History and Intent

The origin of the colloquial name of "Blue Sky" laws (BSLs) is unclear, but the first use of the term is attributed to the opinion of Justice Joseph McKenna of the United States Supreme Court in *Hall v. Geiger-Jones* (1917). Justice McKenna wrote the Court's opinion dealing with the constitutionality of state securities regulations:

> *The name that is given to the law indicates the evil at which it is aimed, that is, to use the language of a cited case, "speculative schemes which have no more basis than so many feet of 'Blue Sky'"; or, as stated by counsel in another case, "to stop the sale of stock in fly-by-night concerns, visionary oil wells, distant gold mines, and other like fraudulent exploitation." Even if the descriptions be regarded as rhetorical, the existence of evil is indicated, and a belief of its detriment; and we shall not pause to do more than state that the prevention of deception is within the competency of government and that the appreciation of the consequences of it is not open for our review.*

They are known as "Blue Sky" laws because one of their supporters claimed many securities salesmen were so dishonest that they would sell "building lots in the Blue Sky" (Loss & Cowett, 1958; Mahoney, 2003). In essence, a BSL is a state law that regulates the offering and sale of securities to protect the public from the sale of fraudulent securities,

specifically by way of expropriation and tunneling by insiders such as managers and securities dealers. Though the specific provisions of these laws varied among states, all required the registration of all securities offerings and sales, as well as of stockbrokers and brokerage firms. Moreover, each state's BSL was administered by an appropriate regulatory agency and most provided private causes of action for private investors injured by securities fraud (Reed & Washburn 1921).

The first BSL was adopted in Kansas in 1911 and served as a model for similar statutes in other states, excluding Nevada (Macey & Miller 1991). The BSLs gave the banking commissioner the "merit review" authority to approve or reject offerings. According to the Kansas Session Laws (1911), the commissioner could reject an offering if he concluded that the issuer "does not intend to do a fair and honest business" or "does not promise a fair return on the stocks, bonds, or other securities by it offered for sale." Regardless of the language chosen by a state in its adoption of the BSLs, each of the states adopted the following criteria to be used in a "merit review"; they determined whether or not:

(1) Equity capital invested was insufficient in relation to the total capitalization that would exist after the offering was complete;

(2) Excessive amounts of "cheap stock" had been issued to promoters and insiders at prices significantly less than the eventual public offering price;

(3) Excessive numbers of options and warrants had been issued or would be issued in relation to the total capital structure which would exist after the offering was complete;

(4) A proposed public offering price was too high in relation to the market price, if one existed, or in relation to the issuer's earnings, or history, etc.;

(5) Excessive underwriter's commissions and/or selling expenses had been incurred;

(6) The shares being offered to the public carried inequitable voting rights;

(7) Historical earnings were insufficient to cover interest on debt securities, or to pay preferred dividends on the equity preferred shares which would be issued.

However, the BSLs fell into two categories: *ex ante* fraud statutes and *ex post* fraud statutes. *Ex ante* fraud statutes sought to prevent fraud before its perpetration by supervising the sellers of securities or the securities themselves (Romano, 1998). These statutes required states' approval for issues and transactions in certain securities, and exempted certain securities such as government bonds or public utility securities. On the other hand, *ex post* fraud statutes provided for the detection and punishment of security frauds after they had been committed. These statutes did not require the disclosure of information at the time of sale; thus they added nothing to the information to investors (Ashby, 1926). Table 1 shows the year of adoption of each state's BSL and its type.

TABLE 1. YEAR OF ADOPTION OF "BLUE SKY" LAWS

Year	Merit View	*Ex Ante* Fraud	*Ex Post* Fraud
1911	Kansas		
1912	Arizona		Louisiana
1913	Arkansas, Idaho, Michigan, Montana, North Dakota, Ohio, South Dakota, Tennessee, Vermont, West Virginia	California, Florida, Georgia, Iowa, Missouri, Nebraska, North Carolina, Texas, Wisconsin	Maine, Oregon
1915		South Carolina	
1916		Mississippi, Virginia	
1917		Minnesota	New Hampshire
1919		Alabama, Illinois, Oklahoma, Utah, Wyoming	
1920		Indiana, Kentucky	Maryland, New Jersey
1921		Massachusetts, New Mexico, Rhode Island	New York
1923		Colorado, Washington	Pennsylvania
1929			Connecticut
1931			Delaware

Source: State session laws

BSLs have a few common features worth noting. They often treated banks more leniently than other securities issuers and sellers (Mahoney, 2003). In most cases, the BSLs exempted bank securities from registration, and in some cases exempted any securities sold by a bank. Others exempted banks from registration as brokers or dealers. Therefore, banks were among the most likely to approach investors with intangible assets and highly speculative business plans that would later turn out to be facades for fraudulent operations. In addition, according to Ashby (1926), BSLs were drafted only to apply to "speculative" securities, including those whose assets consisted in large measure of intangibles, mining claims, or undeveloped real estate.

Other commentators, however, have challenged the effectiveness of BSLs in providing investors with information about the corporation for several reasons. First, the BSLs were easily and often avoided through interstate transactions. For example, in 1915, the Investment Bankers Associated had reported to its members that they could ignore all the BSLs by making offerings across state lines through the mail (Parrish 1970; Feldman 1934). Second, the BSLs were passed with exceptions, including total exemptions for securities listed on an accredited stock exchange; to wit, the BSLs exempted bank securities from registration, and in some cases exempted any securities sold by a bank (Ashby, 1926). Third, each state required and produced information that was significantly different from the others, thus making comparisons among corporations difficult

(Meeker, 1926). Fourth, Jennings et al., (1986) findings demonstrate that there may have been some arbitrariness and over-zealousness in the application of merit review standards. In particular, Arizona's merit review process created a barrier to the free flow of capital to a small group of viable firms. Moreover, Mulvey (1914) investigated the file of the Kansas Bank Commissioner's office and found that its commissioner's merit review claims about the number of companies refused permission to do business in the state were unsupported; thus the ability of the Kansas law to prevent fraud was doubtful. To an extent, Mulvey found "no basis whatever" for the Kansas commissioner's claims that he had saved as much as six million dollars for the people of Kansas: "there were no statistics or other evidence in the office of the Bank Commissioner in May, 1913, upon which such a statement could be founded" (Mulvey, 1914). Finally, not very many states committed sufficient resources to the enforcement of the BSLs (Parrish, 1970). For example, by 1933, only 8 states had developed separate commissions devoted to full time analysis, investigation, and regulation of securities; in the other states, the enforcement of the BSLs was conducted by agencies that were not specialized in securities protection (Feldman, 1934). While disagreements remain, learning what we can about the successes and shortfalls of the BSLs can help to sort out these competing views and, among other things, to better regulate securities markets in the United States.

Evidence from History: The Blue Sky Cases of 1917

In the following three major cases that involved different BSLs from Ohio, South Dakota and Michigan, with varying degrees of regulation, we examine the difference in court rulings on these cases which reflect the different ways in which certain forms of investor protection law have been treated by the legal system.

In *Hall v. Geiger-Jones Co*. (1917), defendant Geiger-Jones was an Ohio corporation, engaged in the business of buying and selling investment securities, and of buying and selling the stocks and bonds of industrial corporations. Its clients were stockholders in Ohio and other states. William R. Rose, one of the appellees, alleged himself to be a citizen of Ohio and engaged in that state in the business of buying and selling investment securities. He was arrested and indicted for doing business across the border of Ohio. Acting as the superintendent of banks and banking for the state of Ohio, Hall was obligated to cancel appellees' license, and that this resulted in irreparable injury to appellees and to their security holders from the publicity they would receive. Justice McKenna, in delivering the opinion of the court, stated the issue of determination: "It will be observed that these cases bring here for judgment an asserted conflict between national power and state power, and bring, besides, power of the state as limited or forbidden by the nation Constitution." Although upholding the BSLs' regulation of securities firms and practices within each state, even if there were some multi-state

involvement in the marketing or management of securities sales personnel, Justice McKenna made clear that it imposed no inhibition on the transportation of securities to a state, only on the sale or disposition of securities once they had entered the state's borders. Moreover, Justice McKenna observed that promotion of a security by interstate mail or telephone calls could not be regulated by the BSLs. Therefore, the potential shortfall of BSLs was that states would incur an insurmountable risk of invalidation if they tried to regulate the promotion of securities by means of media for a purpose of proposed a transaction to take place outside of the state's borders.

In *Caldwell v. Sioux Falls Stock Yards Co*. (1917), defendant Sioux Falls Stock Yard Company was a Colorado corporation, and its owners, the Morleys, were residents and citizens of Iowa. At the time this case was being argued and decided, the Sioux Falls Stock Yard Company was engaged in building and constructing a stock yard in Sioux Falls, South Dakota, and in selling a certain amount of its capital stock to raise capital to complete the construction of the stock yard. Caldwell, as Attorney General for the State of South Dakota, filed suit against the Morleys for violation of the statute of the state of South Dakota relating to the sale of securities. In essence, the statute imposed a burden upon that practically amounted to a prohibition of interstate commerce. Justice McKenna delivered the opinion of the court, in part: "that the [Morleys] be enjoined from instituting and prosecuting any actions, civil or criminal, against [the State of South Dakota] under the 14th Amendment and the commerce clause of the Constitution of the United States." Justice McKenna further observed that the BSLs of South Dakota differed in some details from the BSLs of Ohio, but in its purpose and general provisions it is the same. The clear implication was that, from the Court's standpoint, it was appropriate that state legislature determinations of the unrestricted securities marketing demanded local solutions. By the same token, the decision of this case confirmed that a state's police power would pass constitutional due process muster, even if it involved interstate transactions.

The Michigan BSLs in *Merrick v. Halsey* (1917) involved the same principle as the BSLs of Ohio and South Dakota, involved in *Hall v. Geiger-Jones Co*., and *Caldwell v. Sioux Falls Stock Yards Co*., respectively. However, only the Michigan BSL represented a true test case for the securities industry. Nevertheless, it was sustained over constitutional objections for the same reasons as in the previous two cases. The issue in this case was whether "the dealing in stocks and other securities, or sale of their own issues by corporations, require governmental regulation for the prevention of fraud, and whether such regulation should be by executive control or otherwise are questions for the state legislature, and unless its judgment in these regards, or the execution of it, be palpably arbitrary, the courts will not interfere." Justice McKenna, in delivered the opinion of the court, held that it was within

a state's police power to prevent deception in the sale of securities. He stated the applicable rule to this case:

> *In prevention of fraud, the regulatory power of state is not necessarily confined to those classes of business which by their nature or as generally conducted involve or encourage fraud; it may extend to those in which fraud usually, when it arises, is occasional and confined to individual transactions, but which may nevertheless be conducted for fraudulent purposes.*

Effectively, the statute burdened dishonest business as well as honest businesses. It followed that such a ruling would cause expense and inconvenience to potential business in general. To combat this view, Justice McKenna noticed that "to arrest the power of the state by such considerations would make it impotent to discharge its function. It costs something to be governed." Further, with respect to the alleged burdens on interstate commerce, McKenna held that "the statute in [this case] applied only to dispositions of securities within the state; therefore, upon their transportation into the state there is no impediment. [Consequently] the interference with interstate commerce was only incidental and therefore within the state's constitutional authority."

In summary, in each of the three cases, the Court determined that state regulation of securities firms and practices within each state was constitutional, even if they affected interstate markets. These rulings, in effect, would draw a wave of concerns about speculative securities sales and registrations at the federal level, which eventually led to the enactment of the Federal Securities Act of 1933.

Justifications for the "Blue Sky" Laws

> *Please set forth as explicitly as possible the actual measures by which competition can be effectively regulated. The more explicit we are on this point, the more completely will the enemies guns be spiked.*
>
> *Woodrow Wilson to Louis Brandeis on September 27, 1912.*

Due to the increasing complexity of financial regulation and the securities industry practice, many state BSLs, while generally well-intentioned, often missed addressing the problems of reforming securities practices. As discussed earlier in this paper, many states adopted their BSLs after existing state regulations unrelated to the complicate nature of securities practices, thus BSLs were not effective in regulating of securities registration, trading, or penalties. Nevertheless, BSLs were a way to stop unscrupulous financial hucksters from selling honest investors everything "but the blue sky." Therefore, it may be fruitful to examine the policy implications invoked by the proponents of the BSLs.

Public Interests: Fraud Prevention

Preventing fraud in the sale of securities has become a topic *de jure* among policy makers across the globe. The Asian financial crisis of 1997, the financial fraud at Enron and WorldCom of 2002, and the worldwide 2007-2008 financial crisis have made the prevention of fraud a potentially appealing public-interest justification for investor

protection laws. From the public-interest standpoint, Macey and Miller (1991) argued that "even if no fraud occurred in the sale of securities, and even if the consumer were fully informed about the riskiness of the securities in question prior to sale, there would still be a justification for regulation on the ground that the consumer simply did not know his or her own best interests." Evidently, J.N. Dolley, a Kansas Banking Commissioner, remarked that "It has been said that the people do not need a guardian to supervise their investments, but I want to say to you…that a large [percent] of them do need a guardian, especially in matters of this kind." In line with the same opinion made above, the President of the Florida Bankers' Association made his claim that "we should have some legislation in this State to protect the public against its own weakness. I refer to the means by which the public is tempted by the prospect of quickly acquired wealth, to part with its money in exchange for securities that are steeped in fraud." Therefore, the public should deserve better legislation to cope with fraud so that minority shareholders would continue to purchase *bona fide* sales of securities.

Agency Conflicts: Patterns of Ownership and Control

As documented in section 1, numerous studies show, both theoretically and empirically, that the agency conflicts arose out of extraction of private benefits by corporate insiders. Such distortions have significant effects on firms' overall performance. Assuming that expropriations do happen within firms, then the notion of ownership and control of private benefits becomes a substantial part of the firm value. This observation motivates stronger investor protection legislation; consequently, greater investor protection laws lead to better regulate of ownership and control concentration within firms. The call of this implication, therefore, embedded in several avenues of current research that explore the impacts of investor protection laws on corporate governance. For example, Albuquerque and Wang (2008) have begun to research this area. Perhaps most obviously, Klapper and Love (2002) have examined firm-level corporate governance across 14 emerging markets and find that there is large variation in firm-level governance across countries in the sample and that the average firm-level governance is lower in countries with weaker legal systems. They also find that firm-level corporate governance provisions matter more in countries with weak legal environments. It follows that the implication of this evidence for the research of corporate governance is inconsistence with the Berle and Means corporation in most countries in the world. For instance, the fundamental agency problem is not the Berle and Means conflict between outside investors and managers, but rather that between outside investors and controlling shareholders, who in particular have nearly full control over the managers (Shleifer & Vishny, 1997; La Porta et al., 1999). Thus, a call for better mechanisms through which

investor protection laws and agency conflicts may be related is deemed relevant in this line of inquiry.

Allocation of Real Resources: Economic Performance

A logical prediction of legal policy implication is that strong investor protection promotes the growth of financial markets. Once effective protection laws are strictly enforced, securities trading are more attractive to investors. It follows then, as the heart of our paper examines, that shareholder rights encourage the development of equity markets, as measured by the valuation of firms through market value, level of firm production, and, among other things, dividend payouts. Altogether, this strong force influences the national economic performance through several avenues. According to Beck et al., (2000), financial development can improve economic growth in three ways: saving, capital accumulation, and resource allocation efficiency. Until recently, many leading research by prominent economists and scholars examine the link between the components of financial market development and those of economic growth. For instance, Wurgler (2000) finds that financially developed countries allocate investment across industries more in line with growth opportunities in these industries than do the financially underdeveloped countries. To demonstrate the fact that financial development improves resource allocation, Morck et al., (2000) find that stock markets in developed countries incorporate firm-specific differences in financial systems and legal institutions better. Through this channel, strong investor protection positively impacts the allocation of real resources and national economic performance.

Investor Protection Models of Perfect and Imperfect in the Commons

Himmelberg et al., (2002) drew upon the agency theory of the firm, with risk diversification incentives for insiders, to propose the following models of perfect and imperfect of investor protection. In essence, the models capture the notion that principal-agent problems between insiders and outsiders lead insiders to retain a larger share in their firm than they would under a perfect risk diversification system. As the models predict, a higher share of insider ownership and the exposure of insiders to higher idiosyncratic risk will result in underinvestment and a higher cost of capital. Therefore, the results of the study imply that government and state legislation targeted at improving investor protection laws and their enforcement will enhance capital allocation and result in higher growth.

The Model

Consider a two-period model where an insider with invested liquid wealth W_{it} in a project which yields a total return of Π (K_{it}, θ_{it}), where K_{it} is the stock of fixed capital. In the first period, an outsider can sell equity, X_{it}, to a fraction $1 - \alpha_{it}$ of future dividends, or

borrow (at the rate r_{t+1}) to finance capital, K_{it}, and consumption, C_{it}. The model assumes that equity is the natural instrument for sharing the firm's idiosyncratic risk.

Insiders can steal or divert a fraction s_{it+1} of firm profits to themselves before paying dividends, and they cannot costlessly commit in period one to the level of stealing in period two. Thus, there is a monetary cost to discouraged stealing, it is $c(\phi_{it}, s_{it}) = \frac{1}{2}\phi_{it}\, s_{it}^2$ where ϕ_{it} is a quantitative index of investor protection, and higher values of ϕ_{it} indicate a higher cost of stealing, leading to better protection. Furthermore, stealing at a rate s_{it} yields a direct benefit of $(s_{it} - c(\phi_{it}, s_{it}))\ \Pi\ (K_{it}, \theta_{it})$ for insiders, which leave $(1 - s_{it})\ \Pi\ (K_{it}, \theta_{it})$ to be divided up among shareholders. Therefore, the firm's net return N_{it+1} in period $t+1$ from operating is

$$N_{it+1} = [\alpha_{it}\ (1 - s_{it+1}) + s_{it+1} - c(\phi_{it}, s_{it+1})]\ \Pi\ (K_{it+1}, \theta_{it+1}) \quad (1)$$

Recall that X_{it} is equity financing, if investors value next-period cash flows according to the stochastic discount factor M_{t+1}, then proceeds from selling a fraction $1 - \alpha_{it}$ of the equity is

$$X_{it} = E_t\ [M_{t+1}\ (1 - \alpha_{it})\ ((1 - s_{it+1})\ \Pi\ (K_{it+1}, \theta_{it+1}))] \quad (2)$$

The equation (2), represents the investors' participation constraint. If stealing happens in the second period after the proceeds X_{it} have been raised, then the second-period level of stealing maximizes equation (1) and is defined by the first-order condition

$$c_s\ (\phi_{it}, s_{it+1}) + \alpha_{it} = 1$$

where $c_s\ (\phi_{it}, s_{it+1})$ is the derivative of c with respect to s_{it+1}. The equation above suggests that, at the optimum, the marginal cost of stealing, $c_s\ (\phi_{it}, s_{it+1})$, plus the marginal reduction of the insiders' dividends, α_{it}, equals one. Additionally, to establish the insider's incentive compatibility constraint, we need to assume that stealing is monotonically increasing in outside ownership as the cost-of-stealing function is monotonically increasing. Thus, the optimal stealing, or the insider's incentive compatibility constraint is given by

$$s_{it+1} = \phi_{it}^{-1}(1 - \alpha_{it}) \quad (3)$$

Therefore, in period one, both constraints, (2) and (3), must be recognized by the insiders and investors when choices of α_{it}, K_{it+1}, and C_{it} are made. The insider's problem is to choose the vector $\{\alpha_{it}, K_{it+1}, s_{it+1}, C_{it}\}$ to maximize total expected utility, which is

$$u\ (C_{it}) + \beta\ E_t\ [u\ (C_{it+1})], \quad (4)$$

subject to equations (1), (2), and (3) and the budget constraint, which is

$$C_{it+1} = N_{it+1} + A_{it}\,(1 + r_t), \tag{5}$$

where $A_{it} = W_{it} + X_{it} - K_{it+1} - C_{it}$ is the insider's overall position in the market asset. Note that the model does not place any constraints or penalties on the amount of saving or default-free borrowing since, generally, debt reduces the free cash flows from which insiders can steal.

Case one: Perfect Investor Protection

In period two, if investor protection were "perfect" (i.e., $\phi_{it} = \infty$) then the insider would optimally choose not to steal. It follows then that diversification motives make it optimal to sell all of the equity to outside investors. Therefore, the first-order condition for capital is

$$E_t\,[M_{t+1}\,\Pi^K_{it+1}] = 1, \tag{6}$$

where $\Pi^K_{it+1} = \partial \Pi_{it+1} / \partial K_{it+1}$ is the marginal value of capital. To expand equation (6), we first denote the total return on capital by $\Pi_{it} = \pi_{it} + (1 - \delta)\,K_{it}$, where π_{it} is the current level of profit, δ is the rate of physical depreciation on capital, and $(1 - \delta)\,K_{it}$ is the resale value of the capital stock. To proceed further, the model assumes the market's stochastic discount factor(SDF)* [If there are n assets with initial prices $p_1, \ldots, p_n$ at the beginning of a period and payoffs $\tilde{x}_1, \ldots, \tilde{x}_n$ at the end of the period, where x's are random variables, then SDF is any random variable $\tilde{m}$ satisfying $E(\tilde{m}\,\tilde{x}_i) = p_i, \forall i$. The name SDF reflects the fact that the price of an asset can be computed by "discounting" the future cash flow $\tilde{x}_i$ by the stochastic factor $\tilde{m}$ and then taking the expectation] satisfies $E_t\,[M_{t+1}] = (1 + r^f_{t+1})^{-1}$, where r^f_{t+1} is the risk-free rate. Therefore, equation (6) can be rewritten as

$$\mathrm{E}_t\,[\pi^K_{it+1}] = r^f_{t+1} - \frac{Cov_t[M_{t+1}, \pi^K_{it+1}]}{E_t[M_{t+1}]} + \delta, \tag{7}$$

where $\pi^K_{it+1} = \partial \pi_{it+1} / \partial K_{it+1}$ is the marginal profit of capital. Therefore, the expected marginal profit of capital is equal to the firm's "user cost of capital," which is the sum of the risk-adjusted opportunity cost of funds and depreciation costs. Further, the covariance between the market's SDF and the marginal profit of capital is non-zero (i.e., firm profits are affected by aggregate shocks). As such, $Cov_t[M_{t+1}, \pi^K_{it+1}] < 0$ implies a positive risk premium. Formally, idiosyncratic shocks to the marginal profit of capital are not priced because they can be costlessly diversified by outside investors. In summary, if investor protection were perfect, the model suggests that an insider should invest up to the point where the expected marginal profit of capital equals the user cost of capital.

Case two: Imperfect Investor Protection

If investor protection were "imperfect" (i.e., when exogenous costs of stealing are not infinite, or $\phi_{it} < \infty$), then the insider would optimally choose to steal, and agency conflicts arise. It follows then that diversification motives make it optimal not to sell all of the equity to outside investors. Therefore, the first-order condition for capital is

$$g_{it}\, E_t\, [m_{it+1}\, \Pi^K_{it+1}] + h_{it}\, E_t\, [M_{t+1}\, \Pi^K_{it+1}] = 1 \quad (8)$$

where $\Pi^K_{it+1} = \partial \Pi_{it+1} / \partial K_{it+1}$ is the marginal value of capital, and

$m_{it+1} = \beta \frac{u'(C_{it+1})}{u'(C_{it})}$ is the SDF for the insider* [The insider is also free to borrow and lend at the rate r_{t+1}. Thus, the first-order condition for consumption is $E_t\, [m_{it+1}\, (1+ r_{t+1})] = 1$] (9)

$$g_{it} = \alpha_{it}\, (1 - s_{it+1}) + s_{it+1} - \tfrac{1}{2}\, \phi\, s^2_{it+1} \quad (10)$$

$$h_{it} = (1 - \alpha_{it})\, (1 - s_{it+1}) \quad (11)$$

where s_{it+1} is the optimal level of stealing in period two, recall that it is equal to $\phi^{-1}_{it}\, (1 - \alpha_{it})$. The first-order condition for capital, equation (8), can be written as

$$E_t\, [\pi^K_{it+1}] \approx r^f_{t+1} + \delta - g_{it} \frac{Cov_t[m_{it+1}, \pi^K_{it+1}]}{E_t[m_{it+1}]} - h_{it} \frac{Cov_t[M_{t+1}, \pi^K_{it+1}]}{E_t[M_{t+1}]} \quad (12)$$

To be clear, $\frac{Cov_t[m_{it+1}, \pi^K_{it+1}]}{E_t[m_{it+1}]}$ denotes the covariance between the insider's SDF and the marginal profit of capital; thus, when a fraction of the insider's income is taken from the profitability of the firm, his or her consumption is exposed to idiosyncratic risk, which implies $Cov_t[m_{it+1}, \pi^K_{it+1}] < 0$. Further, $\frac{Cov_t[M_{t+1}, \pi^K_{it+1}]}{E_t[M_{t+1}]}$ denotes the compensation for non-diversifiable risk. Therefore, in equation (12), the risk adjustment to the user cost of capital is the sum of the covariance and the compensation. For example, if the equilibrium level of stealing is nominal, then g_{it} and h_{it} closely equal α_{it} and $1 - \alpha_{it}$, respectively; thus, the fraction of equity held by insiders reflects idiosyncratic as opposed to systematic risk. In case $\alpha_{it} = 0$, where outside investors own all of the equity, only the systematic risk of the firm is priced; on the other hand, when $\alpha_{it} = 1$, the total risk of the firm is priced according to the insider's SDF.

We could further refine the risk premiums by the insiders' ownership choice. The first-order condition for ownership reflects

$$g^{\alpha}_{it}\, E_t\, [m_{it+1}\, \Pi_{it+1}] + h^{\alpha}_{it}\, E_t\, [M_{t+1}\, \Pi_{it+1}] = 0 \quad (13)$$

where $g^{\alpha}_{it} = \partial g_{it} / \partial \alpha_{it} = 1 - s_{it}$ and $h^{\alpha}_{it} = \partial h_{it} / \partial \alpha_{it} = 2 s_{it} - 1$. Therefore, equation (13) can be express as

$$E_t\, [m_{it+1}\, \Pi_{it+1}] = \left(\frac{1-2s_{it}}{1- s_{it}}\right) E_t\, [M_{t+1}\, \Pi_{it+1}] \quad (14)$$

and equation (14) suggests that

$$E_t\, [m_{it+1}\, \Pi_{it+1}] < E_t\, [M_{t+1}\, \Pi_{it+1}] \quad (15)$$

Equation (15) means that insiders allot a lower value to risky profits than do outside investors; thus, if investor protections were perfect, the level of stealing would be zero and the two variables would be equal. However, if investor protections were imperfect, insiders allot a lower value to stochastic profits because they discounted for idiosyncratic risk.

Additionally, if the value function Π_{it+1} is homogenous of degree one (that is, $\Pi_{it+1} = K_{it+1}\Pi^{K}_{it+1}$) in the capital stock, then we could combine equation (8) and equation (13) to derive an alternative form for the first-order condition for capital, which is

$$(g^{\alpha}_{it}\ h_{it} - g_{it}\ h^{\alpha}_{it})\ E_t\ [M_{t+1}\ \Pi^{K}_{it+1}] = 1 \tag{16}$$

Recall that the cost of stealing, $g^{\alpha}_{it}\ h_{it} - g_{it}\ h^{\alpha}_{it}$, equals $1 - \frac{1}{2}\ s_{it}\ (3 + \alpha_{it})$, thus we could rewrite equation (16) as

$$(1 - \tfrac{1}{2}\ s_{it}\ (3 + \alpha_{it}))\ E_t\ [M_{t+1}\ \Pi^{K}_{it+1}] = 1 \tag{17}$$

Equation (17) implies that $E_t\ [M_{t+1}\ \Pi_{it+1}] > 1$, meaning, from the market's perspective, the marginal value of profit exceeds its purchase price.

Consequently, costs of capital differences are large enough to have first-order effects on firm size and the growth and development of firms and industries. This implies that good investor protection can lower the cost of capital, and that quality of investor protection influences funding supply; thus stricter legal protections make it less costly for investors to buy securities from firms (La Porta et al., 1998 and 2002). We combine this important insight to develop a new hypothesis regarding the impact of the BSLs and how the sample firms choose to issue shares. More generally, in Hypothesis 2, we hypothesize that the BSLs increase the demand for equity from minority investors through firm issuance of common stock shares.

Regulatory Capture

In their effort to explain government decision-making, economists have devoted a lot of time to answering question like the following: Is regulation a channel in which special interests contend for the right to use government intervention or power for narrow advantage? This proposition of the regulatory process, to a greater extent, is the notion of externalities serving to map out the proper role of government, and illuminates the government's role in fixing market imperfections that result from negative externalities. This hypothesis, therefore, known variously as the regulatory capture, government-services theory of regulation, or Congressional abdication theory, has been used to explain the role of interest groups in shaping public policy since the mid-1960s. Formally, regulatory capture is the process through which special interests affect government intervention in various forms; in a narrower view, it is the process through which

regulated monopolies influenced the government agencies (the regulators) that are supposed to control them.

Downs (1957) and Olson (1965) advocated the modern "capture" theory and applied economics to political behavior to explain and predict political responses by using individual maximization models in conjunction with recognition of transaction and information costs. In Downs's view, individuals are willing to make campaign contributions and expend resources to enhance their utility positions, including wealth and social ranking. As such, these particular groups of individuals or firms become the political sponsors to politicians or bureaucrats who can draft or revise public policies that improve their utility positions. Therefore, in the process of making or revising public policies, lawmakers will weigh the total benefits and total costs of pleasing the coalitions necessary to preserve them in their current status, given the crucial fact that their sponsors' desire is to influence government to act in their favor. It follows that, as Downs argued, those policies most likely produce the most private gain net of information, monitoring, organization, and influence costs.

Applying the foundation of work on political behavior by Downs (1957) and Olson (1965) to regulatory behavior, Stigler (1971) and Peltzman (1976) strengthened the prediction of how the regulation of contemporary business comes to be. In particular, Stigler (1971) incorporated Olson's (1965) views that large stakes have high benefits from mobilizing, and since they are fairly homogeneous they have no difficulty with collective action problems; small firms do not organize for political reasons because of low potential benefits i.e., collective action problems; consumers do not organize for political reasons because the costs of doing so outweigh the benefits; thus consumers remain rationally ignorant. Although the logic is Olsonian, Stigler (1971) argued that the producers' pressure, organize, or lobby is always more effective than that of the consumers; Thus a regulator (Congress, state, lawmaker, etc.) passes regulations only for the benefit of large firms, not for the benefit or protection of consumers. To a greater extent, in deciding between direct subsidy and protectionism that a producer may seek of the government for help or push for regulation, regulators favor protectionism because it limits potential entrants into the market. Hence, direct subsidies encourage new entrants into the market.

Stigler postulated two primary premises for his argument. First, the state – the machinery and power of the state – has the ultimate "power to coerce" and "these powers provide the possibilities for the utilization of the state by an industry to increase its profitability." Second, there are costs associated with obtaining legislation or the state's coercive power. To formulate his model, Stigler presented a simple study of the regulation of trucks in

the United States in the early 1930s. In particular, he sought to determine the pattern of weight limits on trucks that would emerge in response to the economic interests of the concerned parties (i.e., railroads). There are three main factors that should affect the demand for regulation:

(1) Heavy trucks would be allowed in states with a substantial number of trucks on farms. Thus, railroads would have a harder time facing the agricultural interests and making weights limits less likely.
(2) The longer the average rail haul is, the less the railroads will be opposed to trucks.
(3) The better the state highway system, the heavier the trucks that would be permitted.

With these assumptions, Stigler measured the degree of regulatory favors to railroads by looking at the weight limits on trucks, one for 4-wheel trucks (X_1) and one for 6-wheel trucks (X_2). Thus, he may then calculate two equations:

$$X_1 \text{ (or } X_2) = a + bX_3 + cX_4 + dX_5, \tag{18}$$

where X_3 = trucks per 1000 agricultural labor force, by 1930,

X_4 = average length of railroad haul of freight traffic, by 1930,

X_5 = percentage of state roads with high-quality surface, by 1930.

Overall, all the explanatory variables appeared significant in the cross-state regressions analysis of state weight limits on trucks.

However, Stigler's approach to regulatory capture has some drawbacks. For example, Stigler does not give as much serious attention as he should to the supply side – that is, he neglects the regulator's motivations. As such, by underemphasizing the supply side, Stigler comes short with an unrealistic conclusion that consumers always lose, and producers always win. Furthermore, Posner (1974) pointed out that a problem with Stigler's argument was the lack of clear implications of groups that benefited from regulation. Stigler suggested that industries like banking, mining, and oil and gas with concentrated ownership would have an easier time overcoming the barriers of collective action. But, the facts stipulate that large firms could easily attract favorable regulation by vote-seeking regulators.

In the wake of the emergence of powerful consumer groups in the 1970s, Peltzman (1976) refined and expanded Stigler's ideas to capture these groups into his model to present a balanced theory of supply and demand of regulation. Incidentally, Peltzman's motivation was to displace Stigler's vague notion of a "regulator" with the idea of a "legislator," resulting in far more realistic predictions.

Peltzman postulated three primary premises for his argument:

First, regulation redistributes wealth;

Second, regulators or legislators desire to remain in office; thus legislation will always be written to maximize political support; and

Third, interest groups compete by tendering support in exchange for favorable legislation.

Part of Peltzman's model focuses on price-entry regulation where it rationalizes intervention in industries that have both small and large numbers of beneficiaries, as in the case of the oil and gas industry in this paper. From this model, Peltzman saw a role for legislators to weigh competing interests and not always choose an outcome that favors business. Peltzman's model has three types of players: a politician, a producer, and a consumer. As always, the politician wants to maximize his power as observed by $M = M(p, \pi)$, where p is the price paid by consumers and π is the profits for producers. Thus, the model assumes that the politician's power increases when π is high and decreases when p is high. Further, both of these effects are assumed to be of marginally decreasing intensity. It follows that: $M_p < 0$, $M_\pi > 0$, $M_{pp} < 0$, $M_{\pi\pi} < 0$, and $M_{p\pi} = 0$ when the marginal effects of prices are unchanged by the level of profits and vice versa. Peltzman captured all the supply and demand information in the function $\pi = f(p, c)$, where $c = c(q)$ are the production costs of firms. Assume $f_p \geq 0$, $f_{pp} < 0$, and $f_c < 0$. The politician will determine to obtain the price in order to maximize his power $M(p, \pi)$ subject to the constraint $\pi = f(p, c)$, giving $Max\ M[p, f(p, c)]$. The first-order condition of this problem is $M_p + M_\pi \frac{df}{dp} = 0 \rightarrow M_p = -M_\pi \frac{df}{dp}$. Therefore, from the model, the political price will lie between competitive and pure monopoly levels, and regulation neither yields perfect producer protection nor provides perfect protection of consumers against market power. In this paper where industry of oil and gas is fully monopolistic, incentives for regulator entry appear highest because the power gains from moving the price towards a middle range are highest. Hence, monopolies such as oil and gas will attract regulation because a politician would trade nominal political losses with producers for a substantial political gain among consumers. This regulator's intervention is beneficial for social welfare. The model also provides the same approaches for regulatory intervention in competitive industries seeking for favorable regulation.

The further building block developed by Laffont and Tirole (1991, 1993) was to emphasize a three-tier principal-agent model where influence and regulatory discretion are linked among the various interest groups and between the interest groups and the bureaucrats in the exchange of favors and asymmetric information. Essentially, this is the set-up used

to analyze incentive problems among a three-tier hierarchy including a political principal (the government), a regulator, and an agent (the firm). The introduction of a third player allows differentiation between the government and the regulator. Thus, the third player (the regulator) allows us to analyze how the political principal might want to respond to the risk that its delegate may be captured. In this model, there are two stages. In the first stage, the model deals with regulation of a monopolist with unknown marginal costs. Since the agent has private information on its costs and the political principal is unsure how high a price the firm should be allowed, the best response for the regulator is to offer a second-best contract to the firm. This approach would limit the benefit the agent could gain from the asymmetric information. Thus, in situations where costs are low, the contract offered to the agent would leave some rents to him. In the second stage, the model assumes that the regulator is an expert in a given industry and he may find out the true costs of the agent. In this case, the agent has an incentive to bribe the regulator for not telling the truth to the political principal when costs are low. If the regulator accepted the bribe from the agent and concealed the truth, the contract offered to the agent would leave some rents to him, too. However, the political principal could foresee the whole picture beforehand, thus it has an incentive to offer the regulator a contract not to lie and to offer a contract to the agent that reduces incentives for collusion with the regulator* [See Appendix for proofs of Optimal Contracts under Asymmetric Information and Optimal Contracts under Collusion].

The regulated BSL bodies in each of the sample states in this paper are most likely not exempted from these regulatory capture forces described earlier by Stigler (1971), Peltzman (1976) and Laffont and Tirole (1991 and 1993). Incidentally, such bodies are more likely candidates for capture for two reasons. First, the commissioners who are in charge of the regulation writing divisions often find their best post-state employment opportunities working for the regulatees. Second, the sophisticated layers of the institutions of the regulated BSL bodies and their regulatory resources create enormous fixed costs that regulators of influence should not diminish in order to be rational and effective. Therefore, at their face values, these two forces are the main drivers that shape the regulated BSL bodies in the way of effective legislation changes that help rather than hurt the interest groups of the oil and gas industry.

Application of Regulatory Capture: Evidence from the Timing of BSLs Adoption

Following Stigler (1971) and Fishback and Kantor (1998), Mahoney (2003) employs an event history model that estimates the effects of a set of time-dependent covariates on the probability of adoption of a blue-sky statue. The model is a discrete-time system, and the effect of the covariates on the adoption is analyzed using a logistic regression. Thus, the

probability that a state will adopt a BSL in a given state-year, given that it has not already done so (P_{BS}), is a function of the following form:

$$\log\left(\frac{P_{BS}}{1-P_{BS}}\right) = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3, \quad (19)$$

where X_1 is a vector of covariates measuring the incidence of fraud and X_2 and X_3 are vectors of covariates measuring the influence of small banks and the prevalence of populist and progressive political groups, respectively. The effects of the covariates on the adoption of a BSL are reported in Table 2.

TABLE 2. EFFECT OF EXPLANATORY VARIABLES ON THE ADOPTION OF A "BLUE SKY" LAW

Variable	Coefficient	Standard Error	*p*-Value	Marginal Probability
Baseline probability	N/A	N/A	N/A	0.039
Securities fraud cases	-0.198	0.188	0.294	-0.016
Log of average bank assets	0.551	1.099	0.616	0.024
Agricultural employment	0.064	0.052	0.219	0.078
Roosevelt's share of popular vote in 1912	0.109	0.046	0.018	0.056
Progressive laws index	0.999	0.284	0.000	0.136
Democratic governor	-1.476	0.797	0.064	-0.021
Democrat share of legislature	0.039	0.020	0.055	0.059
Other parties' share of legislature	0.035	0.059	0.557	0.003
IBAA member offices	0.011	0.024	0.643	0.003
Stockbrokers as % of employed	-23.566	10.283	0.022	-0.028
Mining employed	-0.059	0.077	0.443	-0.011
New England states	1.265	1.699	0.456	0.019
Eastern states	-0.732	1.471	0.619	-0.012
Southern states	2.320	1.580	0.142	0.045
Midwestern states	0.535	1.079	0.620	0.004
Western states	1.183	1.076	0.272	0.015

Source: Mahoney. (2003).

Mahoney also add a second step to the analysis and examine the choice among the three basic types of BSLs – namely *ex post* fraud, *ex ante* fraud, and merit review. The results are consistent with Macey and Miller's (1991) qualitative discussion. That is, small banks lobbied in favor of stricter statutes, while stockbrokers opposed merit review. Additionally, "progressive political coalitions seem to have had little impact on the type of statute even though they strongly influenced the rapidity with which a state adopted a blue-sky law" (Mahoney 2003). Finally, a related inquiry of Mahoney is whether the enactment of a BSL was in fact beneficial to small banks. To test this hypothesis, he

measured average annual profitability of each state's country banks for the 5 years prior to enactment of a BSL and the 5 years after enactment. Table 3 shows the results of the BSLs and rural banks profits.

TABLE 3. "BLUE SKY" LAWS AND RURAL BANK PROFITS

Type of statute	Coefficient	Standard Error	*p*-Value	Adjusted R^2
All	0.334	0.853	0.695	0.487
Ex post fraud	-0.205	0.781	0.794	0.939
Ex ante fraud	0.255	1.033	0.828	0.471
Merit review	4.987	1.877	0.009	0.765

Source: Mahoney. (2003).

In summary, the type of law adopted was influenced by the prevalence of small banks that faced competition for depositors' funds from securities salesmen. In addition, in the 5 years following adoption of a merit review statute, bank profits increased on average by nearly 5 percentage points, controlling for state and year.

HYPOTHESES DEVELOPMENT

This section develops several testable hypotheses in the following order. First, we propose some common financial variables and discuss their characteristics, which are believed to influence leverage in the sample firms. Then, we examine the theoretical relation between BSLs and capital structure, namely institutions, environments, and firm characteristics. Finally, we raise the issue of the potential influence of state-specific factors on capital structure.

Financial Variables and Firm Characteristics

Modigliani and Miller's (1958, 1961 and 1963) seminal work – better known as the Modigliani-Miller Theorem, a cornerstone of modern corporate finance – is related to the so-called dividend puzzle (Black, 1976). The assumption of perfect capital markets made by the theorem, however, is unrealistic, and thus an optimal capital structure does not exist. Therefore, choice of capital structure is crucial with the objective of firm-value maximization. Nevertheless, the theorem suggests a relation between leverage and corporate performance and posits four distinct propositions:

(1) A firm's debt-equity ratio does not affect its market value;
(2) A firm's leverage has no effect on its weighted average cost of capital;
(3) Firm market value and shareholder wealth are independent of dividend payout policy; and
(4) Equity-holders are indifferent to the firm's financial policy.

Generally, there are three different ratios used to identify firm leverage:

(1) Total debt ratio (ie., total liabilities divided by book value of total assets);

(2) Long-term book-debt ratio (i.e., long-term debt divided by the book value of total assets); and
(3) Long-term market-debt ratio (i.e., long-term debt divided by the market value of total assets).

This paper calculates the total debt ratio as total liabilities divided by book value of total assets. Harris and Raviv (1991) and Rajan and Zingales (1995) argued that the determinants of capital structures are highly sensitive to choice of leverage. Therefore, this paper finds the following firm-level control variables have influenced on the capital structure and might be correlated with firm leverage: profitability, growth opportunities, firm size, asset structure, and firm market value.

Profitability

Several studies have focused on the idea that firms pay dividends to signal future profitability (Bhattacharya, 1979; Ambarish et al., 1979; Miller & Rock, 1985). The key point is that investors can not sufficiently predict managers' minds, but they have learned from managers' actions. Thus, managers know that when dividends increase or payments of dividends are frequent, investors will have confidence in the firm's cash flow and earnings. Further, because dividend-payout policy is costly to firms that do not have the cash to support it, dividends signal a company's ability to maintain adequate cash to sustain the dividend payments. Therefore, it is not surprise to find that firms eliminate, or cut, dividends experience share price decreases (Aharony & Swary, 1980; Asquith & Mullins, 1983). As such the announcements of dividend cuts or increases are known as the information content of dividends. For instance, Healy and Palepu (1988) found that the announcement of a company's first dividend payment resulted in an average rise of 4% in its stock price.

Other studies, conversely, have focused on dividend payout policies that address agency problems between corporate insiders and outside shareholders (Easterbrook, 1984; Jensen, 1986; Myers, 1998). In regard to the dividend payout policy, Lintner's (1956) work established that corporations follow extremely deliberate dividend payout strategies. He suggested several key points on firms about their dividend-payout policies:

(1) Firms have long-run target dividend-payout plans;
(2) Managers pay attention more to dividend changes than to absolute levels, and hence firms are willing to pay a higher dividend if they could, and this is a better financial decision than to pay a lower dividend;
(3) Dividends are much more stable than earnings because dividend changes follow paths in long-run sustainable earnings;

(4) Managers are reluctant to make dividend changes that may have to be reversed, as such they are worried about having to cut dividends;
(5) Mature firms with stable earnings usually have a higher dividend payout ratio than growth firms; and
(6) Transitory changes in earnings usually do not affect dividend payouts.

The dividend puzzle, in addition, gets more complex when the issue of taxation is involved (Poterba & Summers, 1985; Allen & Michaely, 1997). Nevertheless, scholars have proposed a number of explanations of the dividend puzzle. In essence, these theories, collectively known as the "outcome" agency model of dividends, addressed several key points:

(1) Shareholders may be diverted of their dividends by the insiders for other use;
(2) Failure to disgorge cash in term of dividends leads to its diversion or waste, which is detrimental to outside shareholders' interest; and
(3) Shareholders prefer dividends (a bird in hand) over retained earnings (a bird in the bush) because the latter might never equate to future dividends (fly away).

Therefore, the agency approach differs from the propositions of the Modigliani-Miller theorem in that the investment policy of the firm depends on its dividend policy, and dividends would affect the efficiency of marginal investments. This is possible because many investors look to their stock portfolios for a steady source of cash to live on and dividends are regarded as spendable "income." Therefore, a dividend is a wealth transfer mechanism. Further, the payment of dividends allows firms to engage in the capital markets in the future to raise external funds, and this exposes outside investors to an opportunity to exercise some control over the insiders for a period of time (Easterbrook 1984). Secondly, profit payouts of the firm to shareholders may increase the firm market value. Apparently, the impact of payout policy is an argument about market imperfections and inefficiencies. For example, there is a clientele of investors who are willing to pay a premium for high-payout stock; as such these clients increase the price of the stock through their demand for a dividend paying stock. Thus, increase in dividend increases firm value. We carry these assumptions going forward to formulate my first testable hypothesis.

> ***Hypothesis 1:*** *The "outcome" agency model of dividends is an effective measurement that forces corporate insiders to disgorge cash to minority shareholders, all else equal, under strong enforcement of the Blue Sky Laws.*

Under this view, dividends are an outcome of the strong enforcement of the BSLs. In other words, under effective BSLs, minority shareholders could exercise their power to force companies to disgorge cash by voting for directors who support dividend polices, or suing companies that divert dividends to insiders.

Growth Opportunity

A vast literature initiated by La Porta et al., (1997 and 1998) and Shleifer and Wolfenzon (2002) has established that investor protection affects how a firm's cash flows are divided between security benefits, which measure and distribute to all shareholders pro-rata, and private benefits, which measure and distribute only to the controlling shareholders. Further, the use of debt may involve the agency costs resulting from the interest conflict of stockholders and bondholders (Jensen & Meckling, 1976; Myers, 1977). Thus, the problem from the conflict of interest is that debt holders earn future cash flows generated by profitable projects, thereby lowering the net present value of the project. This explains why a project will be less attractive when debt holders extract its net present value. As a result, firms financing with high debt and liabilities (i.e., highly levered) are more likely to abstain from good investment opportunities than firms carrying less debt. It follows, then, that investor protection affects the equity-holding of different classes of investors. For example, controlling shareholders with access to both private and security benefits are willing to pay more for a stock than shareholders who can only enjoy security benefits. Effectively and particularly, minority investors find that the price of stock is higher than valued or so high that the expected return is too low. This asymmetrical information scenario and lack of legal protection thus reduces the incentives to participate in the equity markets for minority investors.

Furthermore, investor protection affects how firms choose to issue shares of common stock. Generally there are three types of issue: public offerings, private placements, and rights offerings. Public offerings are related to minority and/or unskilled investors who can do little to influence the firm; thus these investors have much to gain from legal protections. For instance, the firm in a public offering has more information than the typical investor, thus the investor has little incentive to extract information from the firm. In this situation, an individual investor in a public offering typically has a small stake in the firm, and probably will not influence the firm. It follows, then, that the cost of issuing by public offering (i.e., laws that mandate disclosure and reduce expropriation, and the efficient enforcement of such laws ought to benefit public offering investors) should decline with investor protection, thereby increasing investors' willingness to invest (McLean et al., 2001). Conversely, private placement investors are more sophisticated and able to influence the decisions of the firm. These investors will also benefit from legal protections, yet the cost of issuing by private placement should decline with investor protection though perhaps less so than for public offerings. On the other hand, rights offerings involve the sale of shares to existing shareholders, especially to controlling shareholders, who would then preserve ownership concentration and control. Zingales

(1995) has established that investor protection reduces the benefits of inside control; thus investor protection can make rights offerings less interesting to outside investors. However, at the same time, legal protection attracts more outside investors by making raising capital less costly. As a result, firms with investor protection in place issue shares of common stock more by public offerings and private placements, which dilute ownership concentration, and less by rights offerings, which preserve ownership concentration and control. This paper uses the logarithms of common stock shares as a proxy for growth opportunity. This leads to a second testable hypothesis.

> ***Hypothesis 2:*** *Blue Sky Laws increase the demand for equity from minority investors through firm issuance of common stock shares.*

Firm Size and Asset Structure

One of the predictions of the trade-off theory of capital structure is that there is a positive relation between firm size and leverage. In addition, large firms are more diversified and have lower financial distress costs than small firms. Thus, firm size is commonly used in the finance literature as an instrument for the information of outside investors. For example, if the degree of asymmetric information is lower in large firms, then stockholders demand large firms more, leading to a negative relation between firm size and leverage. Furthermore, large firms are more likely to be researched by analysts, thus the advantage of such research is likely to lower the degree of asymmetric information of large firms than small firms. Consequently, the role of debt finance based on the information asymmetry hypotheses is ambiguously related to leverage.

Under weak legal protection, the controlling shareholders divert private benefits from the firm's assets in place, and the controlling shareholders' private return to capital is higher than the observed public return to capital. In addition, in equilibrium, the controlling shareholders' net private benefits of control increase with firm size. It is natural then, to maximize their lifetime utility, the controlling shareholders have incentives to grow the firm at a rate that is larger than socially optimal by choosing investments and payout policies with a marginal cost lower than their private marginal return. To a greater extent, weak legal protection for outside shareholders, particularly minority ones, generate overinvestment (Jensen, 1986) and a high mean output growth rate (Castro et al., 2004) in spite of higher volatility of investment and output in the economy. Therefore, strong investor protection laws not only reduce unnecessary overinvestment and increase the value of assets in place, but also solve the agency problem. This inspires a third testable hypothesis. This paper uses the logarithms of assets as a proxy for firm size.

> ***Hypothesis 3:*** *Blue Sky Laws lead firms to an increase in size through an increase in firm assets.*

Market Value

As discussed in Hypothesis 3, strong investor protection mitigates the extent to which the controlling shareholders have incentives to overinvest; that is, the controlling shareholders have incentives to grow the firm at a rate that is larger than socially optimal by choosing investments and payout policies with a marginal cost lower than their private marginal return. In other words, the controlling shareholders' decision to overinvest intertemporally lowers firm value or capitalization beyond the direct cash diversion effect as in Shleifer and Wolfenzon (2002) and La Porta et al., (2002). The intuition is that weak investor protection leads to larger agency costs, which correlates with firm cash flow. It follows then – in term of cash-flow rights and control rights, better known as ownership concentration – that the investment-cash flow sensitivity is larger when the controlling shareholder's ownership is smaller (Jensen & Meckling 1976). Hence, a larger wedge between cash-flow and control rights is associated with a declining market valuation (Claessens et al., 2002). To support their expropriation hypothesis that greater investor protection will lead to improved market valuations through reduced risk of insider expropriation, Shleifer and Vishny (1997) established, that "as ownership gets beyond a certain point, the large owners gain nearly full control and prefer to use firms to generate private benefits of control that are not shared by minority shareholders." On the other hand, La Porta et al., (2002) claimed that the lower the risk of expropriation, the higher the market value of equity. Following Rajan and Zingales (1995), this paper employs market-to-book ratio (MB), which is defined as the market value of equity divided by the book value of equity, as a proxy for firm market value. This motivates our fourth testable hypothesis.

Hypothesis 4: *Blue Sky Laws are associated with increases in firm market value.*

State-specific Factors

The differences of leverage across sample firms suggest that state-specific factors such as legal and institutional would help to explain the variation of capital structure. Accordingly, the goal of this section is to verify whether structural and legal features can improve the explanation and knowledge of the capital structures of the sample firms. This paper selects three factors that might be correlated with aggregate leverage in sample states: state-specific BSLs, inflation, and taxes.

State-specific BSLs

This section attempts to understand whether cross-state differences in leverage are attributed to investor protection, particularly the BSLs. In essence, this section argues that firms in states with poor investor protection tend to have high leverage because such firms tend to have a higher supply of debt and thus use more debt than equity. In contrast,

firms in states with high quality protection for investors tend to use more equity. This argument suggests a negative relation between investor protection and leverage. Thus, it is fruitful to examine the differences between the states adopting the BSLs. Between 1911-1913, the states adopting BSLs (see Table 1 for details) were generally ones without a significant investment banking industry and with powerful farming interests. On the other hand, states rejecting BSLs tended to fall into one of two categories: states that were rural and bidding for corporate charters - namely, Delaware, Maine, Maryland, and Nevada, and states with large securities or manufacturing interests, such as New York, Pennsylvania, Massachusetts, Illinois, and Indiana. The remainder of the states that adopted BSLs appear to have effected a compromise between competing political forces (Macey & Miller, 1991). Therefore, our inference is that states with farming interests have better investor protection because they were the earlier adopters of BSLs, but the matter is conjectural without firmer evidence.

Inflation

So far in our discussion of the relation between investor protection and leverage, we have ignored the effects of inflation on the cost of borrowing. The Fisher equation, named for Irving Fisher, one of the great monetary economists of the twentieth century, states that the nominal interest rate i equals the real interest rate r plus the expected rate of inflation π^e:* [A more precise formulation of the Fisher equation is $i = r + \pi^e + (r \times \pi^e)$ because $1 + i = (1 + r)(1 + \pi^e) = 1 + r + \pi^e + (r \times \pi^e)$ and subtracting 1 from both sides give us the first equation. For small values of r and π^e, the term $(r \times \pi^e)$ is so small that we ignore it, as in equation (20)]

$$i = r + \pi^e \tag{20}$$

Rearranging terms, one finds that the expected inflation rate equals the nominal interest rate minus the real interest rate:

$$\pi^e = i - r \tag{21}$$

The Fisher equation, in essence, predicts the relation between expected inflation rate and the nominal interest rate, in which the rate of debt interest is expressed. Therefore, when the expected inflation rate is increasing, firms prefer debt financing to enhance their assets and collect the residuals from the inflated assets and the fixed amount of liabilities. As such, this is the case where the level of inflation is expected to positively relate to leverage. In contrast, a high interest rate increases debt costs, and firms are less likely to use debt when the interest rates are high. It follows that firms' preference for debt over equity based on cost considerations suggests a negative relationship between inflation and leverage. Cheng and Shiu (2007) support this argument and help to explain the variation of capital structure of the sample firms in this paper.

Taxes

In addition to cross-state differences in the BSLs and inflation, taxation may influence the analysis of the effect of corporate taxes on leverage. Modigliani and Miller (1963) posit one major reason for the preference of firms for debt over equity is that the interest paid serves as a tax-shield. Therefore, the tax burden of firms is positively related to leverage. Previous works employed effective tax rates as a proxy for tax shields. However, this technique is inaccurate because effective tax rates also serve as a proxy for profitability where less profitable firms pay fewer taxes, or even pay no taxes, compared to their counterparts. Incidentally, regardless of the method used to measure the tax effectiveness for individual firms, the influence of taxation on leverage is difficult to obtain because tax treatment is homogenous across the sample states since this paper is focusing on a single common law country, the United States.

Nevertheless, researchers disagree on the effects of taxes on the valuation of dividends (Poterba & Summers, 1985). On one side of the issue, many of them think that heavy taxation of dividends, particularly at the corporate level in the United States, would prevent firms from paying out dividends rather than retaining earnings; on the other side, many of them view that cash has to be paid out as dividends sooner or later, and therefore paying it earlier in the form of current dividends imposes no greater a tax burden on shareholders than does the delay (King, 1977; Auerbach, 1979). Therefore, the latter view of the issue holds that taxes do not deter dividend payments, and Harris et al., (1997) strengthen this view. Furthermore, La Porta et al., (2000) include a measure of the tax disadvantage of dividends based on Poterba and Summers (1985) into their empirical work to assess the effect of taxes on dividend policies of large corporations in 33 countries around the world. They find no conclusive evidence on the effect of taxes on dividend policies. This insightful result would shed light on the dividend policies of the sample firms in this paper.

Alternative Hypotheses: Sensitivity Checks

In this section we provide a number of sensitivity checks, or alternative explanations of our testable hypotheses. We include measures of political economy hypotheses, theories for the adoption of the BSLs, and observation on uncertainty and the market.

Political Economy Hypotheses

As discussed earlier in this paper, the legislature's motivations for passing the BSLs in virtually all U.S. states between 1911 and 1931 have been widely debated. Seligman's (1983) public interest explanation argues that the laws were passed to reduce securities

fraud during the early 20th century. However, another explanation for the adoption of the BSLs is a variant of the political economy hypothesis developed by Rajan and Zingales (2003) who suggest that incumbent firms in various states were instrumental at promoting the adoption of state investor protection statues to limit entry. Such promotion would suggest that the adoption of the BSLs could increase the market power of incumbent firms by limiting entry by competitors. We combine this assumption with the important insight from a model of imperfect product market competition, which posits that increased market power should lead to a decrease in the quantities of goods sold and an increase in prices, to develop a new hypothesis regarding BSLs and how incumbent firms increase profits due to improved monopoly power in product markets, which would cause a decrease in quantities and increase in prices of goods sold.

The following hypothesis development presents the main economic intuition of product market competition as a determinant of BSLs in the quantities of goods sold, particularly in the well-established oil and gas firms observed in this sample. Generally, product market competition is not directly observable, but it leads to lower profit margins and reduces the value of the firm. However, firms in the oil and gas industry are in low competitive environments that have more opportunities for growth, leading to higher earnings-to-price ratios. In other words, these firms have monopoly power in product markets. According to a generally accepted model of imperfect product market competition, it follows that firms in the oil and gas industry should decrease the quantities of goods sold and increase prices to sustain their monopoly power in product markets. Regardless of how much power these firms have in product market competition, BSLs are associated with increases in firm market value. Therefore, BSLs reflect an increase in industrial product market power, which would cause a decrease in quantities and increase in prices of goods sold. This motivates a fifth testable hypothesis.

Hypothesis 5: *Blue Sky Laws lead firms to decrease quantities of goods sold.*

Theories for the Adoption of the BSLs

The theories and explanations for the adoption of BSLs detailed below are not only a productive application of political economy theories but also an informative way to describe variation in investor protection and how it has evolved. Previous theories or "paradigms" propose several explanations for the adoption of the BSLs. Generally speaking, three of these key paradigms are Loss and Cowett's (1958) public interest, Macey and Miller's (1991) public choice, and Mahoney's (2003) ideology. Alternatively, the paradigm of (contemporary) public bureaucracy provides more recent political insights from sociological economics such as commitment, culture, social capital, and trust (Borcherding & Besocke, 2002). Thus, by critically analyzing the theories developed to explain the connection between the behavior of bureaucrats and the adoption of the

BSLs, we attempt to elucidate two key points: institutions play important roles in channeling behavior in governmental regulation, and their shape reflects to some significant degree differential transaction costs. Moreover, following Mancur Olson's *The Logic of Collective Action* (1971), we observe that continued changes in investor protection constantly induce lobbying by competing interest groups and maneuvering by politicians.

a) The Theory of Public Interest

Loss and Cowett (1958) identify how securities markets developed and securities sales provided opportunities for fraud. They provide a public interest explanation for the adoption of BSLs, along with Seligman (1983), by hypothesizing that a growing market for corporate securities and the weak enforcement of both State and Federal securities regulation triggered the need for better investor protection. Therefore, the paradigm of public interest explanations for economic regulation implies a normative judgment that BSLs were in fact an efficacious solution to an externality. This approach, similar to Niskanen's (1971) theory of budget maximization, captures the element of self-interest, but certainly not the type of self-interested bureaucrats. With a bit more effort one should observe that bureaucrats of a regulatory statute would not admit self-interest motivations. Here, in addition, "there is no control of bureaucratic behavior by the legislature through the application of its potential monopsonistic power" (Borcherding & Besocke, 2002). Consequently, one of the main drawbacks of the public interest explanation for the adoption of BSLs is that it does not account for the full knowledge of the legislature's preferences or the institutional oversight structure.

Furthermore, the explanation of the public interest paradigm does not account for the pattern of states adopting BSLs (Mahoney, 2003). For instance, the social costs of securities fraud were significantly different, at least in some first-order sense, between states adopting a BSL in the 1910s and the last adopters in the 1930s. Thus, under the public interest paradigm, one would plausibly argue, but would not find, that states with larger financial markets, as examined in this paper, were the first to adopt BSLs.

b) The Theory of Public Choice

Public choice is an application of neoclassical economic fundamentals – self-interest and utility maximization – to explain behavior of interest groups, bureaucrats, and politicians with respect to a specific policy choice (Muller, 1989; Buchanan & Musgrave, 2001; Rowley 1995). Public choice seeks to address the free-rider problem as it is critical to political decisions (Borcherding & Filson, 2000). In other words, the public choice paradigm attempts to answer the question: for whom is investor protection, specifically a BSL, good and to whom it is bad?

In their attempt to explain the adoption of the BSLs, Macey and Miller (1991) provide ample qualitative evidence showing effective interest group formation. Small banks and state bank regulators, as well as farmers and small businesses which relied on bank financing, benefited from high levels of investor protection and lobbied aggressively for the BSLs; whereas, elite investment bankers, bond issuers, big banks, and large industries, which enjoyed access to securities markets for financing, were hurt by high levels of investor protection. Thus, they lobbied against the BSLs. Evidently, as Macey and Miller (1991) point out, small banks and state bank regulators lobbied for the adoption of the BSLs because they would reduce competition with large banks for potential depositors' funds; for example, average individual deposits per small bank decreased from $308,000 in 1907 to $215,000 in 1911, while average individual deposits per large bank increased from $672,000 to $753,000 during the same period. Furthermore, farmers and small businesses lobbied for BSLs as a means of enhancing their access to credit by excluding competition from out-of-state borrowers (Macey & Miller, 1991). Among the enthusiasts who endorsed the concept of Blue Sky merit regulation, the Chairman of the National Citizens' League proclaimed in 1912, that "the duty of the hour is to protect normal business from the sharks, whether in New York or across the Mississippi."

Elite investment bankers were the principal opponents of the BSLs. They argued that the BSLs would place great burdens on securities distribution and were unlikely to present a "fair and proper attack on irresponsible and fraudulent or so-called 'fly-by-night' schemes of stock flotation." Other interest groups including manufacturing firms, railroads, and public utilities joined the investment bankers in opposing the BSLs because their ability to obtain funds on capital markets, by way of bond issues in securities markets, was threatened by the Blue Sky initiatives (Macey & Miller, 1991). Also, big banks or "money center" banks interjected different reasons to lobby against the BSLs. They claimed that, among other things, they were the targets of populist resentment because they mostly served the needs of business and wealthy individuals.

The publicity of the BSLs sparked great interest from the governments of England, Germany and Canada, which all requested copies of the statute (Mulvey, 1914). In fact, the Province of Manitoba, Canada, enacted the Kansas Blue Sky law almost verbatim in 1912 (Macey & Miller, 1991) and eventually all Canadian provinces adopted a BSL (Johnston & Rockwell, 1998). Therefore, if we are convinced by Macey and Miller's (1991) claim that politically powerful small banks are the primary driving force behind the BSLs, we should not observe such laws, given that Canada, unlike the United States, has always had a highly concentrated banking system (Mahoney 2003). In response to this issue, we should employ a model formulated by McCubbins et al., (1987 and 1989) commonly known as McNollGast, in which bureaucrats are treated as strategic actors in relation to legislators. The gist of the McNollGast model is that a legislature chooses to control the

bureau *ex ante* instead of *ex post* because of the high (potential) transactions costs associated with the use of *ex post* controls such as monitoring and enforcing of securities fraud litigations. Here, to reduce transactions costs from monitoring and asymmetric information, McNollGast argue that legislatures deliberately design administrative procedures to avoid *ex ante* agency problems, and to control bureaucratic action without constant legislative supervision (Borcherding & Besocke, 2002). Therefore, the McNollGast paradigm captures an important element required for a complete theory of public choice in that the legislature requires public agencies, specifically elite investment bankers, bond issuers and big banks, to disclose information about their operations and financial characteristics prior to issuing securities.

c) The Theory of Ideology

Mahoney (2003) relates his work to that of Poole and Rosenthal (1997) and argues that measures of ideological preference adequately predict roll-call votes in Congress. In addition, he observes that ideology may be reduced to self-interest and logrolling, and offers two potential ideological explanations for the BSLs: one sees them as an offshoot of agrarian hostility to finance, and the other as a part of the Progressive Movement. He further asserts that ideological explanations are "agnostic concerning the welfare implications of the regulation," and contends that "policy preferences are consistent across a variety of analogous choices." In essence, ideology is a basis on which the political paradigm allows societal groups to overcome the barriers to collective action, solve the free-rider problem, and form effective lobbies.

The populist explanation posits that the BSLs were the result of populist politics. For instance, in the late 19th century, farmers and their allies in Midwestern and Southern states created the Populist or People's Party to represent their interests. Essentially, the Populists lobbied for expansion of the money supply in order to increase commodity prices and reduce farm debt. Obviously, this initiative was opposed by big banks who, not surprisingly, lobbied to maintain a stable currency to protect the value of outstanding debt securities. Consequently, as Mahoney (2003) argues, the rhetoric and ideas of the Populist Party and its movement strongly explain why many early adopters of the BSLs were agricultural states. Alternatively, in the modern view of bureaucracy, in passing a particular piece of legislation, the legislature uses control devices such as sunset legislation, agenda control, and puts itself in a dominance position over the bureaucracy in an effort to reduce waste associated with the policy involved (Milgrom & Robert, 1992). For example, in the case of the political struggle between agrarian and financial interests over the desired level of inflation, direct monitoring of bureaucratic action is not

necessarily the most economic or effective system of control. Indirect methods such as political control of bureaucratic appointments are often less costly and at least as effective (Weingast & Moran, 1983; Borcherding & Besocke, 2002). Therefore, the legislature makes bureaucratic appointments that crucially affect the form and direction of political transfers (Wilson, 1961; Weingast & Moran, 1983).

In addition to the agrarian/populist explanation, Mahoney (2003) offers a second ideological explanation for the BSLs through the progressive hypothesis. Here, Mahoney (2003) argues that the BSLs were an outgrowth of the anti-monopoly ideology that was part of progressivism, particularly in the first two decades of the 20th century. Additionally and coincidentally, the BSLs were adopted during the time when the financial industry was labeled as a "monopoly" or "oligarchy," and supporters of the legislation described themselves as foes of big banks and friends of farmers and other small borrowers who relied on bank credit (Macey & Miller, 1991). Therefore, the pressure of social values in evaluating and enforcing legislations or contracts involves the notion of social capital, which reduces free riding and opportunism (Akerlof, 1984; Williamson, 1990; Wilson, 1993). Aside from the elements of bureaucratic self-interest and the effect of competition on bureaucratic behavior, factors such as customs, morals, reputation, and trust should be considered, evaluated, and implemented into the social capital theory of public bureaucracy in order to understand why some bureaucratic structures have survival value over others.

Uncertainty and the Market: Adverse Selection and Moral Hazard

The presence of uncertainty can have a profound impact on the ability of markets to efficiently allocate resources. Following Denzau and North's "mental models" (1994) that "in situations of uncertainty rather than risk, people act in part upon the basis of myths, dogmas, ideologies and 'half-baked' theories," we examine two problems – adverse selection and moral hazard – created in markets when there is uncertainty to demonstrate two points: that the BSLs were passed to reduce the adverse selection (*ex ante*) factor rather than to reduce risk of expropriation (*ex post*) by insiders and that the mandatory securities registration with states and the Federal government by publicly trading firms is a consequence of the BSLs being an adequate measure for investors to easily monitor managerial behavior of firms in the oil and gas industry. Therefore, the individual interest of the shareholder was made subservient to the will of the controlling group of managers.

Generally, adverse selection refers to a situation where a selection process results in a pool of individuals with economically undesirable, yet hidden, characteristics. Consider a piece of legislation in which all firms allow their investors to access to the firms' earnings records. Further, suppose a piece of modified legislation in which all firms allow

their investors to access to all the firm's records to better guide or protect investors. If the firms have hidden characteristics – that is, if the legislation cannot distinguish between fraud and legitimate firms – the legislation will probably attract more investors to legitimate firms. But what type of investors is the legislation most likely to attract or protect? Investors who know their assets are frequently expropriated by firms and thus who value better investor protection the most. Therefore, under an unmodified legislation, undesirable (or fraudulent) firms remain undetected. However, a modified legislation overcomes the adverse selection problem.

To evaluate this sensitivity hypothesis which may have impacted the results of the panel estimation methodology, we compare the estimated results across all specifications *ex ante* to those of a number of selected firms located in states which enacted BSLs *ex post*. Qualitative evidence reveals that there is a remarkable similarity in firm dividend payouts, equity issuance, and firm size between firms located in the *ex ante* fraud states and those located in the *ex post* fraud states. This finding suggests that the impact of the BSLs is similar between *ex ante* fraud states and *ex post* fraud states. Thus, the findings are weakly supportive of the hypothesis that the enactment of the BSLs was to reduce adverse selection rather than to reduce risk of expropriation by inside managers.

We further consider whether mandatory securities registration with states and the Federal government by publicly trading firms is a consequence of the BSLs being an adequate measure for the prevalence of firms in the oil and gas industry. Such adequacy would imply that the passage of the BSLs, in the market with moral hazard, enabled investors to easily monitor managerial behavior, thus reducing the level of asymmetric information. Generally, moral hazard occurs when one party (insiders) takes hidden actions – actions that is knows another party (investors) cannot observe. For example, in the principal-agent problem, insiders or managers (agents) represent investors (principals) to operate the firm, which earns profits that vary randomly with economic conditions. For the most part, profits also depend on the agent's effort, which is unobservable by the principal. Therefore, the effort of the manager represents a hidden action. Assume that if the principal agrees to pay the agent a fixed salary, then the agent is completely freed from any economic loss that might arise due to random fluctuations in the firm's profits. The agent now has an incentive to spend less time at the office (the hidden action), and the reduced effort of the agent results in lower firm profits (and thus harms the principal). Therefore, the fixed salary contract, together with the hidden action of the agent, results in moral hazard.

Evidently, the investigations and recommendations by the Hughes Committee in 1909 and the Senate investigations of stock exchange practices in 1914 and 1933 led to the most significant improvements in the listing standards (Seligman, 1983). This information is therefore applicable for the period interest for oil and gas firms in the standard compilations of data. To evaluate this hypothesis, we compare and contrast the effectiveness of the BSLs to that of the New York Stock Exchange listing standards. Our findings demonstrate that the stock exchanges prior to 1934 were the main force in regulating the flow of information from the corporations to the shareholders and to the public, and the BSLs proved to have only a nominal effect.

EMPIRICAL TEST

In light of the hypotheses' prediction in section 2, this section presents a simple ordinary least square (OLS) regression model that builds upon the agency framework of Alchian and Demsetz (1972) and Jensen and Meckling (1976) and ideas from the law and finance literature by La Porta et al., (1997, 1998, 2000 and 2002) to investigate the empirical implications of the BSLs, using structural equations derived from a model of inside ownership and investment. We focus on the oil and gas industry because firms in this sector were considered among those most likely to commit shareholder expropriation (Macey & Miller, 1991). After constructing a panel data set for 70 firms of the oil and gas industry from 1911 to 1923 in 25 states that passed the BSLs to prevent the sale of fraudulent securities, we use a simple ordinary least square (OLS) regression testing model to carry out the causal impact of the BSLs on firm financing and investment decisions. We then compare the impact of the BSLs on the financing and investment decisions of firms in states which passed the BSLs during the sample period to those of firms in other states. This approach allows us to identify specific characteristics of the legal and financial systems that are associated with long-term financing and investment of firm growth; thus it overcomes the potential biases resulting from unobserved differences among states. In essence, we provide a micro-level test of the hypothesis, partly advanced by Mahoney (2003), that the degree to which corporate policy and intermediaries are developed is a determinant of economic growth.

Econometric Testing Model

The impacts of the BSLs on the oil and gas industry in the early 20th century of sample firms are estimated using the following ordinary least square (OLS) regression model:

$$(1) \quad Dependent\ Variable = \alpha + \beta_1(BSLaw_{it}) + \beta_2(ln(Age_{it})) + \beta_3(ln(Sales_{it})) + \beta_4(Firm_i) + \beta_5(Year_t) + \varepsilon_{it}$$

where subscripts *it* identify an observation for firm *i* in year *t*. There are five different dependent variables which directly measure various dimensions and behaviors of the oil and gas firms' performances. These five variables – $Dividends_{it}$, $Shares_{it}$, $Assets_{it}$,

$MarketValue_{it}$, and $Quantity_{it}$ – will be tested and explained in more detail. Moreover, $BSLaw_{it}$ is a measure of whether the state of incorporation of firm i has passed a BSL (can be considered as a control firm) or not (can be considered as a treatment firm) by year t. The separation of firms into control and treatment cohorts is important because of the misinformed adoption of the laws across states, except for Nevada. $Ln(Age_{it})$ is the log of the age of firm i in year t. We need this variable to control for differences in firm age because, for one thing, investment attraction at new firms and old firms is different. $Sales_{it}$ is the percentage change in sales of firm i from year t-1 to t. $Firm_i$ and $Year_t$ denote firm and year fixed effects (FEs), respectively. In this model, we use firm and year fixed-effects because we are only interested in analyzing the impact of variables that vary over time. For example, FEs explore the relationship between predictor and outcome variables within the sample firm. When using FEs we assume that something within the sample firm may impact or bias the predictor or outcome variables and we need to control for this. Effectively, FEs remove the effect of time-invariant characteristics from the predictor variables so we can assess the predictors' net effect more accurately. Finally, standard errors, ε_{it}, are included in all specifications to control for residual correlations of the error terms across firms within a given state.

Hypotheses: Estimation of Reduced Form for Regression Tests

> ***H1:*** *The "outcome" agency model of dividends is an effective measurement that forces corporate insiders to disgorge cash to minority shareholders, all else equal, under strong enforcement of the Blue Sky Laws.*

The impact of the BSLs on firm dividend payouts, measured by $Ln(Dividend_{it})$, to investors is estimated using the following specification:

$$(2) \quad Ln(Dividend_{it}) = \alpha + \beta_1(BSLaw_{it}) + \beta_2(ln(Age_{it}) + \beta_3(Firm_i) + \beta_4(Year_t) + \varepsilon_{it}$$

where subscripts it identify an observation for firm i in year t. $Ln(Dividend_{it})$ is defined as the log of dividend payouts of firm i in year t. The regression results are reported in Table 9 and Table 10.

> ***H2:*** *Blue Sky Laws increase the demand for equity from minority investors through firm issuance of common stock shares.*

The impact of the BSLs on firm shares of common stock, measured by $Ln(Shares_{it})$, is estimated using the following specification:

$$(3) \quad Ln(Shares_{it}) = \alpha + \beta_1(BSLaw_{it}) + \beta_2(ln(Age_{it}) + \beta_3(ln(Sales_{it})) + \beta_4(Firm_i) + \beta_5(Year_t) + \varepsilon_{it}$$

where subscripts it identify an observation for firm i in year t. $Ln(Shares_{it})$ is defined as the log of common shares outstanding of firm i in year t. The regression results are reported in Table 11 and Table 12.

H3: *Blue Sky Laws lead firms to an increase in size through an increase in firm assets.*

The impact of the BSLs on firm assets, measured by $Ln(Assets_{it})$, is estimated using the following specification:

(4) $$Ln(Assets_{it}) = \alpha + \beta_1(BSLaw_{it}) + \beta_2(ln(Age_{it}) + \beta_3(ln(Sales_{it})) + \beta_4(Firm_i) + \beta_5(Year_t) + \varepsilon_{it}$$

where subscripts *it* identify an observation for firm *i* in year *t*. $Ln(Assets_{it})$ is defined as the log of the book value of total assets of firm *i* in year *t*. All independent covariates are the same as in the Annex. The regression results are reported in Table 13 and Table 14.

H4: *Blue Sky Laws are associated with increases in firm market value.*

The impact of the BSLs on firm market value, measured by $Ln(MarketValue_{it})$, is estimated using the following specification:

(5) $$Ln(MarketValue_{it}) = \alpha + \beta_1(BSLaw_{it}) + \beta_2(ln(Age_{it}) + \beta_3(Firm_i) + \beta_4(Year_t) + \varepsilon_{it}$$

where subscripts *it* identify an observation for firm *i* in year *t*. $Ln(MarketValue_{it})$ is defined as the log of equity divided by the book value of equity at the end of year *t* for firm *i*. The regression results are reported in Table 15 and Table 16.

H5: *Blue Sky Laws lead firms to decrease quantities of goods sold.*

The impact of the BSLs on firm production (quantity of crude-oil), measured by $Ln(Quantity_{it})$, is estimated using the following specification:

(6) $$Ln(Quantity_{it}) = \alpha + \beta_1(BSLaw_{it}) + \beta_2(Firm_i) + \beta_3(Year_t) + \varepsilon_{it}$$

where subscripts *it* identify an observation for firm *i* in year *t*. $Ln(Quantity_{it})$ is defined as the log of crude oil quantities produced and sold by firm *i* in year *t*. The regression results are reported in Table 17 and Table 18.

Data

We used several sources of information to construct the dataset for this paper. First, we focus on the oil and gas industry because firms in this sector were considered among those most likely to commit shareholder expropriation (Macey & Miller, 1991). Second, we select 70 oil and gas firms in 25 states for the years 1911-1923 that adopted the BSLs from (1) the Wharton Research Data Services (WRDS) database, (2) Mergent Corporate Manuals (or Mergent WebReports), and (3) Walker's Manual of Pacific Coast Securities (also known as Walker's Manual of California Securities and Directory of Directors), which contain information on publicly traded firms, stock prices, and financial statements.

Next, for each of the 70 sample firms, we collected information such as the amount of dividend payouts, number of (common stock) outstanding shares, book value of total assets, market value of firms, quantity of crude oil produced and sold, and state and year

of incorporation for the years 1911-1923. This results in a dataset of 910 firm-year observations and a balanced panel of firm background characteristics and financial statement information.

In summary, there are a total of 70 firms with balance sheet information for the years 1911-1923, giving a dataset of 910 firm-year observations. Table 4 captures descriptive statistics of sample firm characteristics.

TABLE 4. SAMPLE DESCRIPTIVE STATISTICS

Total number of firms variable	70
Sample states	Kansas, Arizona, Louisiana, Michigan, Ohio, Tennessee, California, Florida, Georgia, Iowa, Nebraska, Texas, Oregon, South Carolina, Minnesota, Oklahoma, Utah, Indiana, Kentucky, New Jersey, New Mexico, New York, Colorado, Washington, Pennsylvania.
Time variable	1911 to 1923
Total number of firm-year observations variable	910
Panel variable	Strongly balanced
Blue Sky Laws (BSLaw) adoption variable	0 = no; 1 = yes

Empirical Results, with Robustness Checks

The empirical analysis uses firm characteristics as independent variables (see Table 6 in the Annex). Further, this section presents the cross sectional results of the determinants of capital structure for each sample firm, adjusted for heteroskedasticity using White's (1980) heteroskedasticity-consistent covariance matrix. Table 7 (in the Annex) reports the regression results of the total debt ratios on firm characteristics for the 70 sample firms in the oil and gas industry. Moreover, the OLS results presented in this section might be biased because the data most likely are censored. Therefore, we provide robustness checks to the panel data. In addition, Table 8 (in the Annex) lists the results for the total debt ratio of capital structure regressed on firm characteristics and state-specific factors.

Table 5 (in the Annex) presents the summary data of the total debt ratio of capital structure across the 70 sample firms. This paper defines the total debt ratio as total liabilities divided by book value of total assets. This paper estimates the mean and median of all firms from the data for the entire sample period between 1911-1923. The total debt ratio has an overall mean of 66.02%, with a range from 57.83% to 79.64%. Generally, a debt ratio of greater than 1 indicates that a firm has more debt than assets;

in contrast, a debt ratio of less than 1, as it is in this case, indicates that a firm has more assets than debt. A debt level of a mean of 66% may be too high for a firm that operates in a sector where cash flows are volatile and its peers have little debt, because this debt level may reduce its financial flexibility and competitive advantage. However, the same debt level of 66% may be easily manageable for firms in the oil and gas industry where cash flows are stable, capital is intensive, and higher debt ratios are the norm. Nonetheless, as Harris and Raviv (1991) argue, different measures of leverage can produce different results and also can affect the interpretation of the results. Further, Rajan and Zingales (1995) showed that the determinants of capital structures are highly sensitive to choice of leverage. Therefore, without firmer evidence on long-term book-debt ratio and long-term market-debt ratio, the sample firms in the oil and gas industry between 1911-1923 had more assets than debt.

Table 6 (in the Annex) lists the mean and median of financial variables – profitability, growth opportunities, firm size, asset structure, and firm market value – which serve as a proxy for firm characteristics. This paper uses logarithm of dividend payout in cash value as a proxy for profitability. From Table 6, all the 70 sample firms were profitable during the sample periods, with an average of 9.4% ranging from 6.19-16.14%, suggesting that there were no outliers. Further, we use the logarithm of common stock shares as a proxy for growth opportunity. From Table 6, growth ranged from 9.24-16.66%, and issued of common stock shares increased with firm growth opportunities, indicating an expected inverse association with leverage. Moreover, we use logarithm of assets as a proxy for firm size. From Table 6, firm size grew on an average of 12.38% ranging from 10.14-21.17%, suggesting that the more tangible the assets of a firm, the greater the ability to issue secured debt and the lower the agency costs of debt. Finally, we use logarithm of market value, calculated as equity divided by the book value of equity, as a proxy for firm market value. Results from Table 6 suggested that firm market value grew on an average of 12.74% ranging from 11.47-21.14%. Hence, market value increases with firm growth opportunities, indicating an expected inverse association with leverage.

Table 7 (in the Annex) reports the regression results of the total debt ratios on firm characteristics for the 70 sample firms between 1911-1923. Among the results of the four independent variables, the most convincing result is from *ln_assets*, a proxy for firm size, since its regression coefficient is negative and strongly significant; the coefficient for *ln_marketvalue*, a proxy for firm market value, is the only significantly positive. Overall, the result confirms significant support for the expected positive relation between firm size and leverage. In addition, the result confirms the prediction that profits (*ln_dividends*) increase with reducing leverage, consistent with the findings of Rajan and Zingales (1995). On the other hand, the coefficient of firm market value displays a negative relation with the leverage, implying that firms with more tangible assets will use more debt, but overall

will have slightly smaller total liabilities. Finally, the coefficient of common stock shares (*ln_shares*), a proxy for growth opportunity, presents an inverse association with leverage.

Total debt ratio of capital structure is regressed on firm characteristics and state-specific factors, and Table 8 lists the results. In Table 8 (in the Annex), Model (1) is regressed without the fixed and year effect; Model (2) is regressed with the firm fixed effect; and Model (3) is regressed with both fixed and year effect. Overall, the influences of all firm characteristics on leverage in Table 8 are consistent with the conclusions of regressions in each firm. Moreover, the adoption of the BSLs influences the sample firms' capital structure. The coefficients on the BSLs are positive, indicating that firms will use more equity funds. The results are consistent with the results reported in Table 5, suggesting that the sample firms in the oil and gas industry between 1911 and 1923 used more equity than debt.

Tables 9-18 list the results for regressions of Hypotheses 1-5.

> ***H1:*** *The "outcome" agency model of dividends is an effective measurement that forces corporate insiders to disgorge cash to minority shareholders, all else equal, under strong enforcement of the Blue Sky Laws.*

Table 9 gives the summary statistic of variables involved in the regression analysis on firm dividend. Table 10 reports the results for further robustness checks.

In Table 9, Regressions (1)-(3) estimated firm dividend payouts by using dividend as the dependent variable. Note that Regressions (2) and (3) included both the firm fixed effect and the time fixed effect; however, Regression (1) included only the firm fixed effect. The coefficient estimates for *BSLaw* are all positive but statistically significant only in Regression (1). In essence, Regression (1) indicates an increase of 65% when there was no controlling for the year fixed effect. When year fixed effect and *Age* were included in Regression (3), the results indicate that the coefficient estimates for *BSLaw* is smaller, at 0.24, but still economically large in magnitude. One possible explanation for the decrease in the size of the coefficient estimate is that younger and smaller firms paid fewer dividends than mature firms. To an extent, qualitative evidence indicated that some firms did not pay any dividend for a couple of years despite being in normal operation. Further, results in Regression (3) show the coefficient estimates for firm *Age* is positive, suggesting that older firms pay more dividends, and the standard error in this regression is about 13%. The coefficient of determination, R^2, at 90% when both firm fixed effect and time fixed effect are included in Regressions (2) and (3), indicates that the model explains most variability in the dependent variable. In other words, 90% of the variation in the dependent variable can be explained by the explanatory variables. Overall, the

magnitudes of the coefficient estimates for *BSLaw* are consistent with Hypothesis 1 that the BSLs caused firms to increase dividend payment to investors.

TABLE 9. EFFECTS OF EXPLANATORY VARIABLES ON FIRM DIVIDEND OF BSLS

Dependent variable: $Ln(Dividend_{it}) = \alpha + \beta_1(BSLaw_{it}) + \beta_2(ln(Age_{it}) + \beta_3(Firm_i) + \beta_4(Year_t) + \varepsilon_{it}$			
	Regression (1)	Regression (2)	Regression (3)
BSLaw	0.650***	0.0236*	0.236*
(Standard error)	(0.078)	(0.112)	(0.112)
t-value / z-value	(t) 8.38	(z) 2.11	(z) 2.11
Age			0.320*
(Standard error)			(0.127)
t-value / z-value			(z) 2.51
Constant	10.310***	6.891***	6.312***
(Standard error)	(0.055)	(0.266)	(0.355)
t-value / z-value	(t) 189.08	(z) 25.89	(z) 17.78
Firm fixed effect	Included	Included	Included
Year fixed effect	Not included	Included	Included
R^2	0.036	0.895	0.896
Number of firms	68	68	68
Number of observations	840	840	836

Note: * p<0.05, ** p<0.01, *** p<0.001

TABLE 10. EFFECTS OF EXPLANATORY VARIABLES ON FIRM DIVIDEND OF BSLS (ROBUSTNESS CHECKS)

Dependent variable: $Ln(Dividend_{it}) = \alpha + \beta_1(BSLaw_{it}) + \beta_2(ln(Age_{it}) + \beta_3(Firm_i) + \beta_4(Year_t) + \varepsilon_{it}$			
	Regression (1)	Regression (2)	Regression (3)
BSLaw	0.650**	0.236	0.236
(Robust standard error)	(0.230)	(0.249)	(0.252)
t-value / z-value	(t) 3.10	(z) 0.95	(z) 0.93
Age			0.320*
(Robust standard error)			(0.323)
t-value / z-value			(z) 1.00
Constant	10.310***	6.891***	6.312***
(Robust standard error)	(0.121)	(0.266)	(0.355)
t-value / z-value	(t) 85.20	(z) 44.19	(z) 17.78
Firm fixed effect	Included	Included	Included
Year fixed effect	Not included	Included	Included
R^2	0.036	0.895	0.896
Number of firms	68	68	68
Number of observations	840	840	836

Note: * p<0.05, ** p<0.01, *** p<0.001

In Table 10, the results in Regressions (1)-(3) are all robust, however only estimation results in Regression (1) are statistically significant. Note that only firm fixed effect is included in Regression (1). The results, therefore, validate the use of hypothesis testing using OLS estimators and White's variance-covariance estimator under heteroskedasticity. In other words, the results overcome the problem of unbiased but inefficient (i.e., larger than minimum variance) estimates of the coefficients, as well as biased estimates of the standard errors. Also, Regressions (1)-(3) retain their coefficient estimates signs. The estimate results, therefore, suggest that the year of BSLs adoption by the sample states and the *Age* of the sample firms did not impact firms' decision to increase dividend payments to investors. Further, the coefficient of determination, R^2, at 3.6% indicates that the model explains very little variability in the dependent variable. In other words, only about 4% of the variation in the dependent variable can be explained by the explanatory variables.

> ***H2:*** *Blue Sky Laws increase the demand for equity from minority investors through firm issuance of common stock shares.*

Table 11 gives the summary statistic of variables involved in the regression analysis on firm shares of common stock. Table 8 reports the results for further robustness checks.

In Table 11, Regressions (1)-(5) estimate firm issue of common stock shares by using shares of common stock as the dependent variable. Note that Regression (2)-(5) include both the firm fixed effect and the time fixed effect; however, Regression (1) includes only the firm fixed effect. The coefficient estimates for *BSLaw* are all positive but statistically significant only in Regression (1). Thus, Regression (1) indicates an increase in common stock shares by 27% when there was no controlling for the year fixed effect. However, when year fixed effect is included in Regression (2) the coefficient estimates of *BSLaw* decreases to 8.2%. The results in Regression (2) suggest that the year of BSL adoption by the sample states is significant in firms' decision to issue shares of common stock. In addition to firm fixed effect and year fixed effect, *Age* is included in Regression (3). The results in Regression (3) show the coefficient estimates for *Age* is -12.3%, indicating that firms' age across the sample firms decreases considerably with the adoption of the BSLs, and the standard error in this regression is about 8%. The addition of *Age* to Regression (3) slightly decreased the coefficient estimate for *BSLaw* to 7.8%, and the standard error is about 7%. From results in Regression (3), therefore, we can safely make an inference that there is no correlation between firms' *Age* and the number of outstanding common stock shares of the sample firms. In Regression (4), *Age* is replaced by *Sales*, all else equal. The results in Regression (4) indicate the coefficient estimate for *BSLaw* increases by 10% and almost 17% for *Sales*. Thus, quantity produced and sold of crude oil by the sample

firms are positively affected by adoption of the BSLs. Regression (5) includes firm fixed effect, time fixed effect, *Age*, and *Sales*. Results in Regression (5) show the coefficient estimates for *BSLaw* is 10%, 16% for *Sales* and -13% for *Age*, and the standard errors ranging from 6% - 8%. The coefficient of determination, R^2, at 90% when both firm fixed effect and time fixed effect are included in Regressions (2)-(5), indicates that the model explains most variability in the dependent variable. We can conclude, therefore, 90% of the variation in the dependent variable can be explained by the explanatory variables. In summary, the coefficient estimates for *Sales* in Regressions (4) and (5) and for *BSLaw* in Regression (1) are statistically significant. Across all regressions, the results provide weak evidence to support Hypothesis 2 which predicts that the BSLs increased the demand for equity from minority investors through firm issuance of common stock shares.

TABLE 11. EFFECTS OF EXPLANATORY VARIABLES ON FIRM COMMON STOCK SHARES OF BSLS

Dependent variable: $Ln(Shares_{it}) = \alpha + \beta_1(BSLaw_{it}) + \beta_2(ln(Age_{it}) + \beta_3(ln(Sales_{it})) + \beta_4(Firm_i) + \beta_5(Year_t) + \varepsilon_{it}$					
	(1)	(2)	(3)	(4)	(5)
BSLaw	0.271***	0.082	0.078	0.102	0.098
(Standard error)	(0.046)	(0.068)	(0.069)	(0.070)	(0.070)
t-value / z-value	(t) 5.88	(z) 1.20	(z) 1.14	(z) 1.46	(z) 1.40
Age			-0.123		-0.129
(Standard error)			(0.079)		(0.080)
t-value / z-value			(z) -1.54		(z) -1.61
Sales				0.168**	0.160*
(Standard error)				(0.062)	(0.062)
t-value / z-value				(z) 2.69	(z) 2.56
Constant	13.032***	11.719***	11.951***	9.821***	10.153***
(Standard error)	(0.033)	(0.170)	(0.224)	(0.724)	(0.741)
t-value / z-value	(t) 399.95	(z) 69.07	(z) 53.44	(z) 13.57	(z) 13.71
Firm fixed effect	Included	Included	Included	Included	Included
Year fixed effect	Not included	Included	Included	Included	Included
R^2	0.00	0.894	0.895	0.895	0.896
Number of firms	70	70	70	69	69
Number of observations	910	910	906	897	893

Note: * p<0.05, ** p<0.01, *** p<0.001

In Table 12, the results in Regressions (1)-(5) are all robust, however none of the coefficient estimates is statistically significant. Note that Regressions (1)-(5) retain their coefficient estimates signs. The results, therefore, validate the use of hypothesis testing using OLS estimators and White's variance-covariance estimator under heteroscedasticity. In other words, the results overcome the problem of unbiased but inefficient (i.e., larger than minimum variance) estimates of the coefficients, as well as biased estimates of the standard errors. The coefficient of determination, R^2, remains at 90% in Regressions (2)-(5); however, R^2 in Regression (1) does not have any numerical value (i.e., 0.0%). The

estimate results, therefore, suggest that *Age* and *Sales* of the sample firms, and *Year* of BSLs adoption by the sample states did not play a major role in firm issuance of common stock shares.

TABLE 12. EFFECTS OF EXPLANATORY VARIABLES ON FIRM COMMON STOCK SHARES OF BSLS (ROBUSTNESS CHECKS)

Dependent variable: $Ln(Shares_{it}) = \alpha + \beta_1(BSLaw_{it}) + \beta_2(ln(Age_{it}) + \beta_3(ln(Sales_{it})) + \beta_4(Firm_i) + \beta_5(Year_t) + \varepsilon_{it}$					
	(1)	(2)	(3)	(4)	(5)
BSLaw (Robust standard error) t-value / z-value	0.271* (0.119) (t) 2.28	0.082 (0.141) (z) 0.58	0.078 (0.142) (z) 0.55	0.102 (0.149) (z) 0.68	0.098 (0.150) (z) 0.65
Age (Robust standard error) t-value / z-value			-0.123 (0.207) (z) -0.59		-0.129 (0.206) (z) -0.63
Sales (Robust standard error) t-value / z-value				0.168 (0.193) (z) 0.87	0.160 (0.195) (z) 0.82
Constant (Robust standard error) t-value / z-value	13.032*** (0.069) (t) 189.87	11.719*** (0.088) (z) 132.44	11.951*** (0.366) (z) 32.69	9.821*** (2.203) (z) 4.46	10.153*** (2.233) (z) 4.32
Firm fixed effect	Included	Included	Included	Included	Included
Year fixed effect	Not included	Included	Included	Included	Included
R^2	0.00	0.894	0.895	0.895	0.896
Number of firms	70	70	70	69	69
Number of observations	910	910	906	897	893

Note: * p<0.05, ** p<0.01, *** p<0.001

H3: *Blue Sky Laws lead firms to an increase in size through an increase in firm assets.*

Table 13 gives the summary statistic of variables involved in the regression analysis on firm assets. Table 14 reports the results for further robustness checks.

In Table 13, Regressions (1)-(5) estimated firm assets by using assets as the dependent variable. Note that Regressions (2)-(5) included both the firm fixed effect and the time fixed effect; however, Regression (1) included only the firm fixed effect. The coefficient estimates for *BSLaw* are positive and statistically significant only in Regression (1). For example, results in Regression (1) indicate an increase in firm assets by 28% when only firm fixed effect was included in the regression. When firm fixed effect and year fixed effect were included in Regression (2), the results indicate that the coefficient estimates for *BSLaw* are negative and statistically insignificant. The negative result in Regression (2) suggests that the year of BSLs adoption by the sample states has a negative impact on firm assets. In addition to the already included independent variables in Regression (2),

Age is included in Regression (3).The result of the coefficient estimate for *BSLaw* in Regression (3) is negative and statistically insignificant. Therefore, *Age* of the sample firms has a negative impact on firm assets. Further, Regression (4) included *Sales*, firm fixed effect and year fixed effect. The result in Regression (4) indicates that adoption of BSLs by the sample states is associated with a 4.2% decrease in firm assets, and the result is statistically insignificant. Hence, *Sales* has a negative impact on firm assets. However, when *Age* is included in Regression (5), *Sales* has a positive impact on firm assets by 20%; interestingly, the coefficient estimate for *BSLaw* remains negative and statistically insignificant. The coefficient of determination, R^2, at 98% when both firm fixed effect and time fixed effect are included in Regressions (2)-(5), indicates that the model explains most variability in the dependent variable. Therefore, we can conclude that 98% of the variation in the dependent variable can be explained by the explanatory variables.

Overall, Hypothesis 3 is strengthened only when the firm fixed effect is included in the regression; thus the evidence presents a mix conclusion. Nevertheless, as the nature of the oil and gas industry stands, qualitative evidence points out that the BSLs encouraged firms to increase firm size through increased investment in, for example, physical capital and property used for oil exploration.

TABLE 13 EFFECTS OF EXPLANATORY VARIABLES ON FIRM ASSETS OF BSLS

Dependent variable: $Ln(Assets_{it}) = \alpha + \beta_1(BSLaw_{it}) + \beta_2(ln(Age_{it}) + \beta_3(ln(Sales_{it})) + \beta_4(Firm_i) + \beta_5(Year_t) + \varepsilon_{it}$					
	(1)	(2)	(3)	(4)	(5)
BSLaw	0.285***	-0.060	-0.062	-0.043	-0.044
(Standard error)	(0.029)	(0.040)	(0.040)	(0.040)	(0.040)
t-value / z-value	(t) 9.68	(z) -1.50	(z) -1.54	(z) -1.08	(z) -1.10
Age			-0.023		-0.023
(Standard error)			(0.046)		(0.046)
t-value / z-value			(z) -0.49		(z) -0.50
Sales				0.205***	0.202***
(Standard error)				(0.036)	(0.036)
t-value / z-value				(z) 5.73	(z) 5.62
Constant	14.052***	12.989***	13.033***	10.676***	10.749***
(Standard error)	(0.021)	(0.099)	(0.131)	(0.415)	(0.426)
t-value / z-value	(t) 676.94	(z) 131.39	(z) 99.81	(z) 25.70	(z) 25.22
Firm fixed effect	Included	Included	Included	Included	Included
Year fixed effect	Not included	Included	Included	Included	Included
R^2	0.00	0.981	0.981	0.981	0.981
Number of firms	70	70	70	69	69
Number of observations	910	910	906	897	893

Note: * p<0.05, ** p<0.01, *** p<0.001

In Table 14, the results in Regressions (1)-(5) are all robust, however only estimation results in Regression (1) are statistically significant. Note that Regression (1) included only the firm fixed effect. Further, Regressions (1)-(5) retain their coefficient estimates signs. The results, therefore, validate the use of hypothesis testing using OLS estimators

and White's variance-covariance estimator under heteroscedasticity. In other words, the results overcome the problem of unbiased but inefficient (i.e., larger than minimum variance) estimates of the coefficients, as well as biased estimates of the standard errors. The coefficient of determination, R^2, in Regression (1) does not have any numerical value (i.e., 0.0%). The estimate results, therefore, suggest that *Age* and *Sales* of the sample firms, and *Year* of BSLs adoption by the sample states did not impact firm assets.

TABLE 14. EFFECTS OF EXPLANATORY VARIABLES ON FIRM ASSETS OF BSLS (ROBUSTNESS CHECKS)

Dependent variable: $Ln(Assets_{it}) = \alpha + \beta_1(BSLaw_{it}) + \beta_2(ln(Age_{it}) + \beta_3(ln(Sales_{it})) + \beta_4(Firm_i) + \beta_5(Year_t) + \varepsilon_{it}$					
	(1)	(2)	(3)	(4)	(5)
BSLaw (Robust standard error) t-value / z-value	0.285*** (0.055) (t) 5.15	-0.060 (0.050) (z) -1.19	-0.062 (0.051) (z) -1.22	-0.043 (0.053) (z) -0.82	-0.044 (0.053) (z) -0.84
Age (Robust standard error) t-value / z-value			-0.023 (0.122) (z) -0.19		-0.023 (0.115) (z) -0.20
Sales (Robust standard error) t-value / z-value				0.205* (0.091) (z) 2.26	0.202* (0.091) (z) 2.23
Constant (Robust standard error) t-value / z-value	14.052*** (0.032) (t) 440.38	12.989*** (0.043) (z) 303.35	13.033*** (0.256) (z) 50.88	10.676*** (1.02) (z) 10.48	10.749*** (1.01) (z) 10.61
Firm fixed effect	Included	Included	Included	Included	Included
Year fixed effect	Not included	Included	Included	Included	Included
R^2	0.00	0.981	0.981	0.981	0.981
Number of firms	70	70	70	69	69
Number of observations	910	910	906	897	893

Note: * p<0.05, ** p<0.01, *** p<0.001

H4: *Blue Sky Laws are associated with increases in firm market value.*

Table 15 gives the summary statistic of variables involved in the regression analysis on firm market value. Table 16 reports the results for further robustness checks.

In Table 15, Regressions (1) and (2) estimated firm market value by using market value as the dependent variable. Note that firm fixed effect and time fixed effect are included in both regressions. The coefficient estimates for *BSLaw* in both regressions are positive – but very small, about 0.07% – and statistically insignificant. However, when *Age* is included in Regression (2), the coefficient estimate for *BSLaw* decreases to 0.02% and is still statistically insignificant. The results from both regressions suggest that older firms do not improved market valuations; thus their market values of equity seem to be lower than that of the norms. The coefficient of determination, R^2, at 97% in both regressions

indicates that the model explains most variability in the dependent variable. Therefore, we can conclude that 97% of the variation in the dependent variable can be explained by the explanatory variables. Overall, the empirical evidence presented is weakly supportive of Hypothesis 4 which predicts that the BSLs are associated with increased in firm market value of equity.

TABLE 15. EFFECTS OF EXPLANATORY VARIABLES ON FIRM MARKET VALUE OF BSLS

Dependent variable: $Ln(MarketValue_{it}) = \alpha + \beta_1(BSLaw_{it}) + \beta_2(ln(Age_{it}) + \beta_3(Firm_i) + \beta_4(Year_t) + \varepsilon_{it}$		
	Regression (1)	Regression (2)
BSLaw (Standard error) z-value	0.007 (0.052) 0.14	0.002 (0.052) 0.04
Age (Standard error) z-value		-0.46 (0.061) -0.76
Constant (Standard error) z-value	12.727*** (0.130) 98.24	12.824*** (0.171) 75.17
Firm fixed effect	Included	Included
Year fixed effect	Included	Included
R^2	0.97	0.97
Number of firms	70	70
Number of observations	910	906

Note: * p<0.05, ** p<0.01, *** p<0.001

TABLE 16. EFFECTS OF EXPLANATORY VARIABLES ON FIRM MARKET VALUE OF BSLS (ROBUSTNESS CHECKS)

Dependent variable: $Ln(MarketValue_{it}) = \alpha + \beta_1(BSLaw_{it}) + \beta_2(ln(Age_{it}) + \beta_3(Firm_i) + \beta_4(Year_t) + \varepsilon_{it}$		
	Regression (1)	Regression (2)
BSLaw (Robust standard error) z-value	0.007 (0.075) 0.10	0.002 (0.076) 0.03
Age (Robust standard error) z-value		-0.46 (0.152) -0.30
Constant (Robust standard error) z-value	12.727*** (0.043) 292.74	12.824*** (0.295) 43.42
Firm fixed effect	Included	Included
Year fixed effect	Included	Included
R^2	0.97	0.97
Number of firms	70	70
Number of observations	910	906

Note: * p<0.05, ** p<0.01, *** p<0.001

In Table 16, the results in Regressions (1) – (2) are all robust, however none of the estimation results are statistically significant. Note that Regressions (1) – (2) include both the firm fixed effect and the time fixed effect. Further, Regressions (1) – (2) retain their coefficient estimates signs. The results, therefore, validate the use of hypothesis testing using OLS estimators and White's variance-covariance estimator under heteroscedasticity. In other words, the results overcome the problem of unbiased but inefficient (i.e., larger than minimum variance) estimates of the coefficients, as well as biased estimates of the standard errors. The coefficient of determination, R^2, remains at 97% in both regressions. It follows that *Age* of the sample firms and *Year* of BSLs adoption by the sample states did not impact firm market value.

H5: *Blue Sky Laws lead firms to decrease quantities of goods sold.*

Table 17 gives the summary statistic of variables involved in the regression analysis on firm production. Table 18 reports the results for further robustness checks.

TABLE 17. EFFECTS OF EXPLANATORY VARIABLES ON FIRM PRODUCTION OF BSLS

Dependent variable: $Ln(Quantity_{it}) = \alpha + \beta_1(BSLaw_{it}) + \beta_2(Firm_i) + \beta_3(Year_t) + \varepsilon_{it}$	
	Regression (1)
BSLaw (Standard error) z-value	-0.080* (0.035) -2.31
Constant (Standard error) z-value	10.928*** (0.085) 128.58
Firm fixed effect	Included
Year fixed effect	Included
R^2	0.98
Number of firms	69
Number of observations	897

Note: * p<0.05, ** p<0.01, *** p<0.001

In Table 17, Regression (1) estimates firm production by using quantity of crude oil produced and sold by the sample firms as the dependent variable. Note that Regression (1) includes both the firm fixed effect and the time fixed effect. The coefficient estimate for *BSLaw* is negative (-0.08) and the standard error is 3.5%. The results on firm production suggest that the BSLs are associated with a decrease in quantities of crude oil produced and sold by the sample firms. The coefficient of determination, R^2, at 98% indicates that the model explains most variability in the dependent variable. Therefore, we can conclude that 98% of the variation in the dependent variable can be explained by the explanatory variables. In line with Hypothesis 5 which predicts that the BSLs caused

firms to increase profits due to improved monopoly power in product markets, we find qualitative evidence for the BSLs reflect an increase in industrial product market power, which would cause a decrease in quantities produced and sold by the sample firms.

TABLE 18. EFFECTS OF EXPLANATORY VARIABLES ON FIRM PRODUCTION OF BSLS (ROBUSTNESS CHECKS)

Dependent variable: $Ln(Quantity_{it}) = \alpha + \beta_1(BSLaw_{it}) + \beta_2(Firm_i) + \beta_3(Year_t) + \varepsilon_{it}$	
	Regression (1)
BSLaw (Robust standard error) z-value	-0.080 (0.052) -1.53
Constant (Robust standard error) z-value	10.928*** (0.028) 391.41
Firm fixed effect	Included
Year fixed effect	Included
R^2	0.98
Number of firms	69
Number of observations	897

Note: * p<0.05, ** p<0.01, *** p<0.001

In Table 18, the result in Regressions (1) is robust but statistically insignificant. Further, the coefficient estimate for *BSLaw* remains negative. Even when firm fixed effect and year fixed effect are included in the regression, the coefficient estimate for *BSLaw* is still statistically insignificant. Nevertheless, the results validate the use of hypothesis testing using OLS estimators and White's variance-covariance estimator under heteroscedasticity. In other words, the results overcome the problem of unbiased but inefficient (i.e., larger than minimum variance) estimates of the coefficients, as well as biased estimates of the standard errors. The coefficient of determination, R^2, remains at 98% and indicates that the model explains most variability in the dependent variable. The results in Regression (1) imply that *Year* of BSLs adoption by the sample states did not impact the quantities of crude oil produced and sold by the sample firms.

CONCLUSION, POLICY IMPLICATIONS, AND THE DEMISE OF THE "BLUE SKY" LAWS

Concluding Remarks

During the early 20th century, the expropriation of minority investors by controlling shareholders associated with weak investor protection laws would resort to securities fraud. With the agency problems significantly limited by the asymmetric information, many minority investors who faced desperate expropriation of their investment likely turned to legal means of securities law fraudulent prevention. State investor protection statutes ("blue sky laws" or BSLs) that passed between 1911 and 1931 to prevented the

sale of fraudulent securities helped mitigate the effects of the serious abuses in securities markets by requiring security issuers and dealers register with state governments prior to issuing public securities, and receive approval from the government before selling any securities in the state. One salutary effect of the BSLs was a reduction in the fraudulent crime rate; The BSLs allowed investors to sue for damages as a result of fraudulently expropriated by security issuers or salespersons. Therefore, as the crux of this paper hypothesized, the BSLs would cause the sample firms of the oil and gas industry to decrease financial leverage through equity issuance, pay out greater dividends, and grow in size. Our empirical results are supportive of theories which predict that the BSLs have a significant impact on corporate investment and financing policy.

More generally, results from political economy hypotheses and theories for the adoption of the BSLs for the measured changes in corporate policies, which seem to be understudied in economic analyses of investor protection laws, have limited explanatory power and should be more explicitly and more carefully incorporated into the analysis of temporal and spatial variations in securities law fraudulent prevention. Our analytical evidence offer limited insight into the modern worries about adverse selection as well as moral hazard associated with risk reduction of expropriation by controlling shareholders, and the BSLs proved to have only a little effect. After all, the passage and enactments of the BSLs were a major legal transformation in the United States that led to the introduction of many of the features of the modern securities law fraud prevention.

Policy Implications

The development of investor protection laws, especially the BSLs, may play a role in explaining the Asian financial crisis as well as the crisis in emerging financial markets of Eastern European. A study by Johnson et al., (2000) finds that weak legal institutions help account for cross-country differences in stock market declines and exchange rate depreciations during the Asian crisis. To test their hypothesis, Johnson et al., (2000) examine the depreciation of currencies and the decline of the stock markets in 25 countries during the Asian crisis of 1997-1998. During the crisis, they find that governance variables, such as investor protection indices and the quality of law enforcement, were powerful predictors of the extent of market declines. Thus, these variables explain the cross-section of declines better than the macroeconomic variables which have been the focus of the policy debate. In addition, the role of capitals control and currency regimes, which are often cited as being the main force for investor protection in emerging markets, have been analyzed in detail by Levine and Zervos (1998) and Poshakwale and Thapa (2009) to establish a link between investor protection and policy effectiveness. In essence,

these studies found strong evidence that countries with stricter law enforcement appear to attract higher levels of foreign portfolio investments, and countries with firms that widely disseminate comprehensive information have larger, more liquid and more internationally integrated stock markets. Furthermore, after the end of the Bretton Woods era, capital controls allowed capital to cross borders more easily. Thus, domestic capital fled markets where it could not earn a legitimate return, putting pressure on governments to address the needs of the investor community more so than in the past. This movement gave rise to competition for internationally mobile capital in various ways, and policies are being adopted in favor of investors' interests.

Moreover, the motivations and the driving forces from different interest groups that lay behind the BSLs legislation could establish the link between the legal processes and the market processes and explain the legal transformations of what animates the effectiveness of investor protection laws throughout the modern history of the United States. Evidently, the passage of the BSLs in the early 1900s represented the first instance of a general legislation to prevent the sale of fraudulent securities and protect minority shareholders against expropriation by controlling shareholders, setting the stage for the later enactment of the Federal Securities Act of 1933. The "political" explanations for enacting of investor protection, specifically interest groups theories, postulate that investor protection has different distributional consequences for different groups in society. For example, in the so-called Berle-Means theory of the firm, a firm owned by few shareholders, corporate governance enforces the separation of ownership and control, thus provoking a distributional conflict between management and shareholders. Therefore increasing investor protection laws would raise firm values, but at the expense of insiders, whose rent seeking opportunities are restricted. Drawing on the median voter theorem, Perotti and von Thadden (2006) posit that democracies in which the median voter relies more heavily on the returns to their labor than to their financial assets will have lower investor protection. On the other hand, the "adaptability" explanations, including judicial and historical analysis, suggest that legal traditions differ in terms of their responsiveness to changing socioeconomic conditions (Macey & Miller, 1991; La Porta et al., 1999; Mahoney, 2003; Pagano & Volpin, 2005). Thus, examine the mechanisms through which legal protection reforms operate reveal distinctive strengths and weaknesses of the social order.

The Demise of the "Blue Sky" Laws

The effectiveness of the BSLs in protecting minority shareholders and providing them with information about the corporation is in need of substantial revision, particularly for the following reasons suggested by leading commentators. First, the BSLs were easily and often avoided through interstate transactions. For example, in 1915, the Investment

Bankers Associated had reported to its members that they could ignore all the BSLs by making offerings across state lines through the mail (Parrish, 1970; Feldman, 1934). Second, the BSLs were passed with exceptions, including total exemptions for securities listed on an accredited stock exchange; to wit, the BSLs exempted bank securities from registration, and in some cases exempted any securities sold by a bank (Ashby, 1926). Third, each state required and produced information that was significantly different from the others, thus making comparisons among corporations difficult (Meeker, 1926). Fourth, Jennings et al.'s (1986) findings demonstrate that there may have been some arbitrariness and over-zealousness in the application of merit review standards. In particular, Arizona's merit review process created a barrier to the free flow of capital to a small group of viable firms. Moreover, Mulvey (1914) investigated the file of the Kansas Bank Commissioner's office and found that its commissioner's merit review claims about the number of companies refused permission to do business in the state were unsupported; thus the ability of the Kansas law to prevent fraud was doubtful. Mulvey found "no basis whatever" for the Kansas commissioner's claims that he had saved as much as six million dollars for the people of Kansas: "there were no statistics or other evidence in the office of the Bank Commissioner in May, 1913, upon which such a statement could be founded" (Mulvey, 1914). Finally, not very many states committed sufficient resources to the enforcement of the BSLs (Parrish, 1970). For example, by 1933, only 8 states had developed separate commissions devoted to full time analysis, investigation, and regulation of securities; in the other states, the enforcement of the BSLs was conducted by agencies that were not specialized in securities protection (Feldman 1934). Therefore, at the state level, these drawback conditions would generate a new round of concerns about speculative securities sales after the reconciliation and desired for legislation, this time primarily at the federal level, eventually leading to the enactment of the Federal Securities Act of 1933.

More importantly, according to Macey and Miller (1991), the "early state [BSLs] are viewed, under the standard account, as flawed but well-intentioned precursors to the beneficial system of federal regulation adopted by Congress in the Securities Act of 1933 and the Securities Exchange Act of 1934". The brief spate of the BSLs "which occurred between 1911 and 1913 appears due at least as much to chance and to general economic (hardship) conditions as to the prevalence of, and public revulsion against, fraudulent securities sales" (Macey & Miller, 1991). Nevertheless, as discussed earlier in this paper, the BSLs were a way to stop unscrupulous financial hucksters from selling honest investors everything "but the blue sky." Therefore, learning what we can about the

successes and shortfalls of the BSLs can help to sort out their effectiveness and, among other things, to better regulate securities markets in the United States.

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APPENDIX

Table 5 Debt ratios of 70 firms of the oil and gas industry from 1911 - 1923 in 25 states

This table lists the number of observations in 25 states and the mean and median of debt ratios for 70 firms of oil and gas industry covered by this dissertation. This dissertation collects financial data from Wharton Research Data Services (WRDS) database, Mergent WebReports, and Walker's Manual. Total debt ratio is definded as total liabilities divided by book value of total assets.

															Total Debt Ratio (%)	
Firm\Year	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	Total	Mean	Median
1	81.30	81.30	81.30	81.30	81.30	74.63	74.63	74.63	68.49	68.49	68.49	68.49	68.49	972.85	74.83	74.63
2	79.37	79.37	79.37	74.63	74.63	74.63	71.43	71.43	71.43	71.43	70.42	70.42	70.42	958.96	73.77	71.43
3	84.75	84.75	84.75	80.00	80.00	80.00	74.07	74.07	74.07	71.43	71.43	71.43	71.43	1002.17	77.09	74.07
4	84.75	84.75	84.75	79.37	79.37	79.37	79.37	75.19	75.19	75.19	79.37	79.37	79.37	1035.36	79.64	79.37
5	85.47	85.47	85.47	80.65	80.65	80.65	74.63	74.63	70.92	70.92	70.92	74.07	74.07	1008.51	77.58	74.63
6	81.97	81.97	81.97	74.63	74.63	74.63	70.42	70.42	70.42	68.97	68.97	68.97	68.97	956.91	73.61	70.42
7	81.30	81.30	81.30	77.52	77.52	77.52	75.19	75.19	75.19	72.46	72.46	72.46	72.46	991.88	76.30	75.19
8	81.97	81.97	81.97	76.92	76.92	76.92	76.92	74.63	74.63	74.63	71.43	71.43	71.43	991.76	76.29	76.92
9	76.92	76.92	76.92	74.63	74.63	74.63	76.92	76.92	76.92	69.93	69.93	69.93	69.93	965.14	74.24	74.63
10	69.93	69.93	69.93	65.36	65.36	65.36	62.50	62.50	62.50	55.56	55.56	55.56	55.56	815.59	62.74	62.50
11	76.92	76.92	76.92	70.42	70.42	70.42	65.36	65.36	65.36	61.35	61.35	61.35	61.35	883.51	67.96	65.36
12	75.76	75.76	75.76	69.44	69.44	69.44	69.44	65.75	65.75	56.69	56.69	56.69	56.69	863.30	66.41	69.44
13	69.83	69.83	69.83	69.83	66.31	66.31	66.31	59.99	59.99	59.99	55.56	55.56	55.56	824.90	63.45	66.31
14	74.63	74.63	74.63	70.18	70.18	70.18	63.69	63.69	63.69	56.82	56.82	56.82	56.82	852.76	65.60	63.69
15	69.93	69.93	69.93	63.29	63.29	63.29	60.98	60.98	60.98	53.48	53.48	53.48	53.48	796.49	61.27	60.98
16	77.52	77.52	77.52	77.52	74.07	74.07	74.07	74.07	68.97	68.97	68.97	68.97	68.97	951.20	73.17	74.07
17	74.07	74.07	74.07	74.07	68.03	68.03	68.03	65.36	65.36	65.36	59.88	59.88	59.88	876.10	67.39	68.03
18	75.76	75.76	75.76	69.93	69.93	69.93	64.10	64.10	64.10	59.52	59.52	58.72	58.72	865.86	66.60	64.10
19	75.19	75.19	75.19	68.03	68.03	68.03	68.03	63.29	63.29	63.29	63.29	69.93	69.93	890.70	68.52	68.03
20	69.93	69.93	63.29	63.29	63.29	60.98	60.98	60.98	57.80	57.80	65.36	65.36	65.36	824.35	63.41	63.29
21	71.43	71.43	71.43	58.82	58.82	58.82	66.67	66.67	66.67	55.56	55.56	55.56	55.56	812.98	62.54	58.82
22	74.63	74.63	74.63	69.93	69.93	69.93	69.93	64.10	64.10	64.10	61.35	61.35	61.35	879.96	67.69	69.93
23	80.00	80.00	80.00	80.00	71.43	71.43	71.43	67.57	67.57	67.57	60.61	60.61	60.61	918.81	70.68	71.43
24	71.43	71.43	71.43	67.29	67.29	67.29	60.46	60.46	60.46	63.29	63.29	63.29	63.29	850.71	65.44	63.29
25	74.63	74.63	74.63	68.97	68.97	68.97	59.52	59.52	59.52	70.42	70.42	70.42	62.50	883.12	67.93	68.97
26	62.50	62.50	60.24	60.24	60.24	57.47	57.47	57.47	55.56	55.56	55.56	53.48	53.48	751.76	57.83	57.47
27	76.92	76.92	76.92	69.93	69.93	69.93	69.93	63.69	63.69	63.69	63.69	60.61	60.61	886.48	68.19	69.93
28	68.97	68.97	68.97	68.97	60.98	60.98	55.56	55.56	55.56	57.80	57.80	55.56	55.56	791.20	60.86	57.80
29	75.76	75.76	75.76	69.44	69.44	69.44	69.44	65.36	65.36	65.36	65.36	56.82	56.82	880.12	67.70	69.44
30	71.43	71.43	71.43	66.67	66.67	66.67	66.67	63.29	63.29	63.29	59.17	59.17	59.17	848.34	65.26	66.67
31	69.93	69.93	69.93	63.69	63.69	63.69	60.24	60.24	60.24	55.56	55.56	55.56	55.56	803.82	61.83	60.24
32	71.43	71.43	71.43	67.11	67.11	67.11	62.50	62.50	66.67	66.67	58.82	58.82	58.82	850.43	65.42	66.67
33	76.92	76.92	76.92	76.92	66.67	66.67	66.67	66.67	63.82	63.82	63.82	56.18	56.18	878.17	67.55	66.67
34	71.43	71.43	71.43	64.10	64.10	64.10	64.10	59.88	59.88	59.88	52.63	52.63	52.63	808.23	62.17	64.10
35	78.13	78.13	78.13	78.13	68.97	68.97	68.97	62.50	62.50	62.50	59.52	59.52	59.52	885.47	68.11	68.97

36	66.67	66.67	66.67	59.88	59.88	59.88	56.18	56.18	56.18	53.48	53.48	53.48	53.48	762.08	58.62	56.18
37	65.36	65.36	65.36	65.36	59.88	59.88	59.88	56.82	56.82	56.82	56.82	56.18	56.18	780.71	60.05	59.88
38	68.49	68.49	68.49	62.34	62.34	62.34	62.34	58.51	58.51	58.51	54.56	54.56	54.56	794.06	61.08	62.34
39	80.00	80.00	80.00	71.43	71.43	62.50	62.50	62.50	57.14	57.14	57.14	60.98	60.98	863.74	66.44	62.50
40	68.97	68.97	68.97	63.29	63.29	63.29	56.18	56.18	56.18	55.56	55.56	53.36	53.36	783.14	60.24	56.18
41	74.63	74.63	74.63	68.97	68.97	68.97	68.97	62.50	62.50	62.50	60.50	60.50	60.50	868.73	66.83	68.97
42	68.49	68.49	65.36	65.36	65.36	65.36	59.52	59.52	59.52	57.80	57.80	57.80	57.80	808.21	62.17	59.52
43	70.42	70.42	70.42	65.36	65.36	65.36	59.88	59.88	59.88	57.14	57.14	57.14	57.14	815.56	62.74	59.88
44	74.63	74.63	74.63	74.63	68.03	68.03	68.03	62.89	62.89	62.89	56.18	56.18	56.18	859.81	66.14	68.03
45	73.53	73.53	73.53	73.53	68.03	68.03	68.03	68.03	68.03	63.29	63.29	63.29	63.29	887.42	68.26	68.03
46	68.49	68.49	68.49	68.49	62.89	62.89	62.89	57.80	57.80	57.80	53.48	53.48	53.48	796.49	61.27	62.89
47	80.65	80.65	80.65	80.65	68.97	68.97	68.97	61.35	61.35	61.35	57.47	57.47	57.47	885.94	68.15	68.97
48	70.42	70.42	70.42	64.10	64.10	64.10	64.10	59.88	59.88	59.88	57.47	57.47	57.47	819.73	63.06	64.10
49	80.00	80.00	80.00	73.53	73.53	73.53	63.69	63.69	63.69	57.14	57.14	57.14	57.14	880.24	67.71	63.69
50	69.93	69.93	69.93	69.93	59.52	59.52	59.52	55.87	55.87	55.87	52.63	52.63	52.63	783.78	60.29	59.52
51	77.52	77.52	77.52	69.93	69.93	69.93	64.10	64.10	64.10	57.47	57.47	57.47	57.47	864.54	66.50	64.10
52	74.07	74.07	74.07	64.94	64.94	64.94	64.94	55.87	55.87	55.87	54.05	54.05	54.05	811.72	62.44	64.94
53	75.19	75.19	75.19	65.36	65.36	65.36	65.36	60.61	60.61	60.61	60.61	55.87	55.87	841.16	64.70	65.36
54	68.97	68.97	68.97	68.97	60.98	60.98	60.98	60.98	56.18	56.18	56.18	56.18	56.18	800.66	61.59	60.98
55	68.97	68.97	68.97	63.69	63.69	63.69	54.64	54.64	54.64	51.81	51.81	51.81	51.81	769.17	59.17	54.64
56	80.00	80.00	80.00	80.00	68.97	68.97	68.97	62.50	62.50	58.82	58.82	58.82	58.82	887.19	68.25	68.97
57	71.43	71.43	71.43	71.43	63.57	63.57	63.57	60.98	60.98	60.98	56.50	56.50	56.50	828.85	63.76	63.57
58	71.43	71.43	71.43	71.43	64.10	64.10	64.10	64.10	59.52	59.52	53.48	53.48	53.48	821.60	63.20	64.10
59	68.97	68.97	68.97	64.10	64.10	64.10	64.10	58.82	58.82	54.35	54.35	54.35	54.35	798.35	61.41	64.10
60	68.97	68.97	68.97	68.97	64.10	64.10	64.10	60.24	60.24	60.24	56.18	56.18	56.18	817.43	62.88	64.10
61	74.07	74.07	74.07	74.07	68.49	68.49	68.49	68.49	60.98	60.98	60.98	57.47	57.47	868.14	66.78	68.49
62	74.63	74.63	68.97	68.97	68.97	68.97	63.69	63.69	59.52	59.52	52.91	52.91	52.91	830.28	63.87	63.69
63	74.63	74.63	74.63	68.97	68.97	68.97	63.69	63.69	63.69	56.18	56.18	56.18	56.18	846.58	65.12	63.69
64	80.00	80.00	80.00	71.43	71.43	71.43	62.50	62.50	62.50	55.56	55.56	55.56	55.56	864.01	66.46	62.50
65	74.07	74.07	74.07	68.49	68.49	68.49	59.88	59.88	59.88	55.87	55.87	52.63	52.63	824.34	63.41	59.88
66	72.99	72.99	72.99	68.97	68.97	68.97	59.88	59.88	59.88	59.88	55.87	55.87	55.87	832.99	64.08	59.88
67	80.65	80.65	80.65	80.65	69.44	69.44	69.44	63.69	63.69	63.69	57.14	57.14	57.14	893.43	68.73	69.44
68	79.37	79.37	68.97	68.97	59.88	59.88	57.80	57.80	54.64	54.64	54.64	51.55	51.55	799.06	61.47	57.80
69	74.63	74.63	74.63	68.49	68.49	68.49	68.49	59.88	59.88	54.64	54.64	54.64	54.64	836.19	64.32	68.49
70	68.97	68.97	68.97	61.35	61.35	61.35	57.47	57.47	61.35	61.35	54.05	54.05	54.05	790.75	60.83	61.35

TABLE 6. DESCRIPTIVE STATISTICS OF FIRM CHARACTERISTICS

Firm	Profitability (ldividend)	Growth (lshares)	Firm size (lassets)	Market value (lmarket value)	Firm	Profitability (ldividend)	Growth (lshares)	Firm size (lassets)	Market value (lmarket value)
		Mean	Median*				Mean	Median*	
1	7.34	11.95	13.52	12.86	10	11.84	13.58	14.30	13.58
	7.22*	11.83*	13.55*	12.74*		11.29*	13.60*	14.33*	13.60*
Lowest	7.23	11.83	13.18	12.75	Lowest	9.00	13.48	14.05	13.48
highest	7.60	12.21	13.73	13.12	highest	14.20	13.60	14.53	13.60
2	14.45	13.01	18.51	17.51	11	9.81	13.90	14.67	13.90
	14.5*	12.89*	18.54*	17.49*		9.29*	13.90*	14.69*	13.90*
Lowest	14.22	12.77	18.16	17.38	Lowest	9.05	13.78	14.35	13.78
highest	14.78	14.62	18.93	17.84	highest	11.18	14.00	14.99	14.00
3	12.27	10.81	14.76	15.42	12	9.40	11.47	12.26	11.47
	12.61*	10.81*	14.83*	15.42*		9.17*	11.47*	12.25*	11.47*
Lowest	11.00	10.76	14.09	15.36	Lowest	8.45	11.39	11.88	11.39
highest	13.53	10.82	15.49	15.42	highest	11.66	11.48	12.62	11.48
4	8.26	11.69	13.67	13.11	13	12.22	15.04	15.83	15.04
	9.90*	13.12*	13.68*	13.12*		12.23*	15.04*	15.79*	15.04*
Lowest	4.54	8.43	13.29	13.03	Lowest	12.17	14.98	15.47	14.98
highest	9.90	13.12	13.90	13.12	highest	12.23	15.04	16.16	15.04
5	14.45	13.00	18.44	17.50	14	7.33	11.92	13.62	12.84
	14.50*	12.89*	18.49*	17.49*		7.22*	11.83*	13.56*	12.74*
Lowest	14.22	12.74	17.99	17.34	Lowest	7.23	11.83	13.33	12.75
highest	14.78	14.62	18.88	17.84	highest	7.60	12.21	13.92	13.12
6	9.74	13.10	13.58	13.10	15	11.62	14.90	15.76	14.90
	10.12*	13.12*	13.71*	13.12*		11.69*	14.91*	15.80*	14.91*
Lowest	8.46	12.97	13.15	12.97	Lowest	11.41	14.85	15.33	14.85
highest	11.00	13.12	13.79	13.12	highest	11.70	14.91	16.10	14.91
7	10.36	14.96	15.61	14.96	16	7.94	12.53	13.24	12.53
	10.36*	14.97*	15.62*	14.97*		7.94*	12.54*	13.24*	12.54*
Lowest	10.31	14.91	15.29	14.91	Lowest	7.91	12.43	12.96	12.43
highest	10.37	14.97	15.89	14.97	highest	7.94	12.55	13.51	12.55
8	10.29	13.71	14.34	13.71	17	8.95	13.55	14.35	13.55
	10.51*	13.73*	14.33*	13.73*		8.96*	13.57*	14.35*	13.57*
Lowest	9.76	13.58	13.91	13.58	Lowest	8.88	13.42	13.93	13.42
highest	10.74	13.74	14.69	13.74	highest	8.97	13.57	14.73	13.57
9	12.75	16.53	17.89	21.14	18	11.84	13.58	14.24	13.58
	12.19*	16.51*	17.68*	21.12*		11.29*	13.60*	14.30*	13.60*
Lowest	11.66	16.45	17.46	21.06	Lowest	9.00	13.48	13.97	13.48
highest	15.15	16.67	18.77	21.28	highest	14.20	13.60	14.47	13.60

TABLE 6. DESCRIPTIVE STATISTICS OF FIRM CHARACTERISTICS (continue 1)

Firm	Profitability (ldividend)	Growth (lshares)	Firm size (lassets)	Market value (lmarket value)	Firm	Profitability (ldividend)	Growth (lshares)	Firm size (lassets)	Market value (lmarket value)
19	8.61	12.86	13.66	12.86	32	10.98	13.10	13.86	13.10
	8.17*	12.78*	13.48*	12.78*		11.00*	13.12*	13.87*	13.12*
Lowest	7.99	12.60	13.13	12.60	Lowest	10.88	12.97	13.54	12.97
highest	10.12	13.11	14.23	13.11	highest	11.00	13.12	14.12	13.12
20	8.53	12.74	13.63	12.74	33	13.81	17.55	18.61	22.15
	8.56*	12.76*	13.68*	12.76*		13.62*	17.54*	18.64*	22.14*
Lowest	7.44	12.58	13.22	12.58	Lowest	13.29	17.42	18.12	22.03
highest	10.11	12.77	13.96	12.77	highest	14.28	17.64	19.16	22.24
21	8.63	12.59	13.43	12.59	34	9.91	14.50	15.24	14.50
	8.69*	12.61*	13.39*	12.61*		9.90*	14.50*	15.27*	14.50*
Lowest	7.82	12.49	13.04	12.49	Lowest	9.24	14.45	14.83	14.45
highest	9.21	12.61	13.83	12.61	highest	10.66	14.51	15.51	14.51
22	12.12	13.28	13.98	13.28	35	10.06	13.60	14.35	13.60
	12.35*	13.30*	13.99*	13.30*		9.00*	13.61*	14.35*	13.61*
Lowest	9.62	13.12	13.66	13.12	Lowest	8.74	13.47	14.07	13.47
highest	13.08	13.30	14.29	13.30	highest	12.21	13.75	14.70	13.75
23	14.18	13.66	18.00	17.95	36	11.62	14.90	15.82	14.90
	14.11*	12.71*	17.77*	17.31*		11.69*	14.91*	15.88*	14.91*
Lowest	13.66	11.81	17.44	16.42	Lowest	11.41	14.82	15.50	14.82
highest	14.67	17.18	19.06	20.40	highest	11.70	14.91	16.10	14.91
24	9.54	14.14	14.92	14.14	37	11.69	13.80	14.71	13.80
	9.55*	14.16*	15.00*	14.16*		11.69*	13.81*	14.69*	13.81*
Lowest	9.44	14.01	14.54	14.01	Lowest	11.67	13.69	14.41	13.69
highest	9.56	14.16	15.18	14.16	highest	11.70	13.82	15.03	13.82
25	12.71	15.08	16.36	15.08	38	10.93	13.04	13.91	13.04
	12.79*	14.91*	15.83*	14.91*		10.93*	13.05*	13.88*	13.05*
Lowest	11.54	14.85	15.23	14.85	Lowest	10.90	12.96	13.59	12.96
highest	14.34	16.06	18.30	16.06	highest	10.93	13.06	14.19	13.06
26	8.52	12.19	13.11	12.19	39	11.24	14.97	15.52	14.97
	8.29*	12.20*	13.13*	12.20*		12.00*	14.99*	15.60*	14.99*
Lowest	7.60	12.08	12.81	12.08	Lowest	10.27	14.84	15.07	14.84
highest	9.80	12.21	13.39	12.21	highest	12.00	15.00	15.79	15.00
27	9.29	13.54	14.31	13.54	40	7.82	13.10	13.99	13.10
	9.13*	13.55*	14.24*	13.55*		7.82*	13.12*	14.06*	13.12*
Lowest	8.78	13.47	14.01	13.47	Lowest	7.79	13.00	13.63	13.00
highest	9.87	13.56	14.72	13.56	highest	7.82	13.12	14.35	13.12
28	7.80	12.42	13.27	12.42	41	12.16	14.20	15.46	14.56
	7.82*	12.42*	13.27*	12.42*		12.33*	14.45*	15.38*	14.45*
Lowest	7.67	12.37	12.83	12.37	Lowest	11.05	12.55	15.15	14.30
highest	7.82	12.43	13.62	12.43	highest	14.37	14.86	15.93	14.86
29	9.45	13.60	14.35	12.21	42	11.01	12.41	13.24	12.41
	9.58*	13.62*	14.32*	12.24*		11.40*	12.42*	13.28*	12.42*
Lowest	9.21	13.44	14.00	12.05	Lowest	9.80	12.28	12.85	12.28
highest	9.58	13.63	14.72	12.24	highest	12.43	12.43	13.58	12.43
30	7.80	12.42	13.20	12.42	43	11.46	14.49	15.34	14.49
	7.82*	12.42*	13.18*	12.42*		11.51*	14.50*	15.37*	14.50*
Lowest	7.67	12.37	12.79	12.37	Lowest	9.21	14.39	15.05	14.39
highest	7.82	12.43	13.55	12.43	highest	12.21	14.51	15.66	14.51
31	6.79	10.18	11.00	10.18	44	10.34	13.44	14.23	13.44
	7.19*	10.19*	11.02*	10.19*		10.79*	13.45*	14.22*	13.45*
Lowest	5.56	10.10	10.58	10.10	Lowest	9.65	13.30	13.95	13.30
highest	8.99	10.19	11.42	10.19	highest	10.84	13.50	14.63	13.50

TABLE 6. DESCRIPTIVE STATISTICS OF FIRM CHARACTERISTICS (continue 2)

Firm	Profitability (ldividend)	Growth (lshares)	Firm size (lassets)	Market value (lmarket value)	Firm	Profitability (ldividend)	Growth (lshares)	Firm size (lassets)	Market value (lmarket value)
45	15.32	16.49	18.26	20.10	57	6.19	10.80	11.65	13.10
	15.87*	17.18*	18.15*	21.09*		6.21*	10.81*	11.64*	13.12*
Lowest	11.70	13.82	17.81	16.81	Lowest	6.03	10.66	11.32	12.97
highest	17.28	17.73	18.91	21.64	highest	6.21	10.82	12.02	13.12
46	11.51	11.50	12.38	13.80	58	9.12	13.79	14.67	13.79
	11.51*	11.51*	12.33*	13.81*		9.21*	13.81*	14.67*	13.81*
Lowest	11.48	11.42	12.08	13.72	Lowest	8.85	13.66	14.21	13.66
highest	11.51	11.51	12.78	13.82	highest	9.39	13.82	15.12	13.82
47	6.76	12.07	12.88	12.07	59	8.26	11.49	12.39	11.49
	6.79*	12.09*	12.78*	12.09*		8.29*	11.51*	12.30*	11.51*
Lowest	6.61	11.94	12.49	11.94	Lowest	8.04	11.39	12.10	11.39
highest	6.79	12.09	13.33	12.09	highest	8.29	11.51	12.78	11.51
48	10.57	13.53	19.15	17.03	60	16.14	13.01	13.89	17.62
	8.51*	13.81*	19.12*	17.28*		15.83*	12.72*	13.59*	17.32*
Lowest	7.57	12.71	18.91	16.18	Lowest	15.74	12.57	13.10	17.17
highest	15.83	14.73	19.48	18.42	highest	16.69	13.58	14.80	18.18
49	10.98	11.49	12.30	12.18	61	8.29	11.50	12.30	11.50
	11.00*	11.51*	12.35*	12.20*		8.29*	11.51*	12.24*	11.51*
Lowest	10.88	11.36	11.85	12.05	Lowest	8.26	11.42	12.03	11.42
highest	11.00	11.51	12.69	12.21	highest	8.29	11.51	12.72	11.51
50	9.36	14.02	14.88	14.02	62	15.96	14.56	19.19	18.85
	9.21*	13.15*	14.35*	13.15*		16.04*	13.80*	19.11*	18.41*
Lowest	9.07	13.11	13.96	13.11	Lowest	15.21	13.37	18.63	17.97
highest	10.04	15.10	15.88	15.10	highest	16.71	18.35	20.08	22.95
51	9.04	13.79	14.60	13.79	63	15.45	16.66	21.17	19.88
	9.21*	13.81*	14.65*	13.81*		15.20*	17.03*	20.99*	20.25*
Lowest	8.52	13.66	14.08	13.66	Lowest	13.62	15.86	20.33	19.08
highest	9.21	13.82	15.03	13.82	highest	19.09	17.58	22.61	20.80
52	8.44	11.27	12.14	12.88	64	11.41	12.40	13.21	12.40
	8.47*	11.28*	12.07*	12.89*		11.21*	12.42*	13.29*	12.42*
Lowest	8.23	11.17	11.82	12.78	Lowest	10.82	12.24	12.75	12.24
highest	8.48	11.29	12.50	12.90	highest	12.80	12.43	13.63	12.43
53	9.01	13.61	14.47	13.61	65	8.23	12.83	13.70	12.83
	9.01*	13.61*	14.42*	13.61*		8.23*	12.84*	13.74*	12.84*
Lowest	8.92	13.49	14.02	13.49	Lowest	8.21	12.75	13.37	12.75
highest	9.04	13.65	14.86	13.65	highest	8.24	12.84	14.10	12.84
54	11.00	11.50	12.42	12.19	66	9.10	9.60	10.44	14.21
	11.00*	11.51*	12.39*	12.20*		9.10*	9.61*	10.49*	14.22*
Lowest	10.97	11.42	12.15	12.11	Lowest	9.07	9.52	10.04	14.13
highest	11.00	11.51	12.70	12.21	highest	9.10	9.62	10.88	14.22
55	10.96	12.89	13.74	12.89	67	11.66	13.86	15.84	14.85
	10.89*	12.61*	13.61*	12.61*		10.59*	14.46*	15.31*	14.50*
Lowest	10.49	12.43	13.12	12.43	Lowest	10.35	12.10	14.92	14.39
highest	11.70	13.82	14.81	13.82	highest	13.77	14.51	17.79	15.89
56	13.22	14.59	18.83	14.59	68	10.95	12.30	15.30	15.13
	12.98*	14.37*	18.64*	14.37*		10.78*	11.29*	15.23*	15.80*
Lowest	12.11	13.44	18.03	13.44	Lowest	9.69	11.15	12.15	13.96
highest	14.63	16.02	20.47	16.02	highest	13.44	13.96	16.71	15.90

TABLE 6. DESCRIPTIVE STATISTICS OF FIRM CHARACTERISTICS (continue 3)

Firm	Profitability (ldividend)	Growth (lshares)	Firm size (lassets)	Market value (lmarket value)	Firm	Profitability (ldividend)	Growth (lshares)	Firm size (lassets)	Market value (lmarket value)
69	15.40	13.37	18.75	17.66	70	11.07	9.24	10.14	13.84
	15.43*	12.98*	18.54*	17.58*		11.04*	9.25*	10.17*	13.85*
Lowest	14.98	12.65	18.29	17.25	Lowest	9.47	9.16	9.75	13.76
highest	15.84	15.15	20.21	18.37	highest	12.56	9.25	10.49	13.86

Table 7 lists regressions of total debt ratio on firm-specific variables.

TABLE 7A. YEAR DUMMIES (NOT REPORTED HERE) ARE ADDED IN EACH REGRESSION AS A FIXED-EFFECT MODEL

VARIABLES	ln_total_debt_ratio
Profitability (ln_dividends)	-0.0177*
	(0.00960)
Growth (ln_shares)	-0.0170
	(0.0138)
Firm size (ln_assets)	-0.130***
	(0.0483)
Market value (ln_marketvalue)	0.0381**
	(0.0172)
Constant	1.313**
	(0.530)
Observations	910
Number of firm	70

Note: Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

TABLE 7B. YEAR DUMMIES (NOT REPORTED HERE) ARE ADDED IN EACH REGRESSION AS A FIXED-EFFECT MODEL

VARIABLES	ln_total_debt_ratio	VARIABLES	ln_total_debt_ratio
ln_dividends	-0.0177*	23.firm	0.482***
	(0.00960)		(0.148)
ln_shares	-0.0170	24.firm	0.0768
	(0.0138)		(0.0473)
ln_assets	-0.130***	25.firm	0.337***
	(0.0483)		(0.0884)
ln_marketvalue	0.0381**	26.firm	-0.259***
	(0.0172)		(0.0300)
2.firm	0.605***	27.firm	0.0452*
	(0.171)		(0.0258)
3.firm	0.163***	28.firm	-0.207***
	(0.0436)		(0.0180)
4.firm	0.0871***	29.firm	0.0974**
	(0.00682)		(0.0390)
5.firm	0.646***	30.firm	-0.145***
	(0.168)		(0.0208)
6.firm	0.0454*	31.firm	-0.457***
	(0.0265)		(0.105)
7.firm	0.319***	32.firm	-0.0147
	(0.0710)		(0.0286)
8.firm	0.179***	33.firm	0.415**
	(0.0260)		(0.185)
9.firm	0.422***	34.firm	0.0629
	(0.161)		(0.0583)
10.firm	0.00483	35.firm	0.0600**
	(0.0297)		(0.0257)
11.firm	0.0900**	36.firm	0.104
	(0.0364)		(0.0723)
12.firm	-0.206***	37.firm	0.00991
	(0.0726)		(0.0339)
13.firm	0.191***	38.firm	-0.0772***
	(0.0696)		(0.0271)
14.firm	-0.121***	39.firm	0.177***
	(0.00522)		(0.0630)
15.firm	0.139**	40.firm	-0.137***
	(0.0699)		(0.0205)
16.firm	-0.0241	41.firm	0.199***
	(0.0210)		(0.0548)
17.firm	0.0335	42.firm	-0.131***
	(0.0284)		(0.0477)
18.firm	0.0562*	43.firm	0.115**
	(0.0301)		(0.0543)
19.firm	-0.0305**	44.firm	0.0226
	(0.0147)		(0.0232)
20.firm	-0.111***	45.firm	0.471***
	(0.0142)		(0.152)
21.firm	-0.149***	46.firm	-0.320***
	(0.0195)		(0.0905)
22.firm	0.0510	47.firm	-0.161***
	(0.0356)		(0.0251)

TABLE 7B. YEAR DUMMIES (NOT REPORTED HERE) ARE ADDED IN EACH REGRESSION AS A FIXED-EFFECT MODEL (continue 1)

VARIABLES	ln_total_debt_ratio	VARIABLES	ln_total_debt_ratio
48.firm	0.488**	61.firm	-0.213***
	(0.226)		(0.0613)
49.firm	-0.182**	61.firm	-0.213***
	(0.0843)		(0.0613)
50.firm	-0.0149	62.firm	0.546***
	(0.0467)		(0.186)
51.firm	0.0458	63.firm	0.813***
	(0.0375)		(0.274)
52.firm	-0.358***	64.firm	-0.0680
	(0.0726)		(0.0524)
53.firm	0.00611	65.firm	-0.114***
	(0.0325)		(0.0126)
54.firm	-0.257***	66.firm	-0.619***
	(0.0795)		(0.164)
55.firm	-0.130***	67.firm	0.245***
	(0.0309)		(0.0713)
56.firm	0.679***	68.firm	0.0110
	(0.201)		(0.0547)
57.firm	-0.454***	69.firm	0.510***
	(0.0818)		(0.175)
58.firm	0.00602	70.firm	-0.667***
	(0.0396)		(0.190)
59.firm	-0.286***	Constant	1.313**
	(0.0574)		(0.530)
60.firm	-0.133		
	(0.0947)	Observations	910
		Number of firm	70

Note: Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

TABLE 8. LEVERAGE, STATE FACTORS, AND FIRM CHARACTERISTICS: FIXED-EFFECT MODEL

VARIABLES	ln_total_debt_ratio	ln_total_debt_ratio	ln_total_debt_ratio	VARIABLES	ln_total_debt_ratio	ln_total_debt_ratio	ln_total_debt_ratio
bslaw	0.0119*	-0.0397***	0.0107**	24.firm		-0.256***	-0.131***
	(0.00674)	(0.0101)	(0.00506)			(0.00746)	(0.0172)
ln_age	-0.00499	-0.123***	-0.00507	25.firm		-0.245***	-0.0956***
	(0.0115)	(0.00952)	(0.00591)			(0.00885)	(0.0176)
sales	-1.61e-10***	-7.26e-10***	-1.93e-10**	26.firm		-0.308***	-0.251***
	(5.61e-11)	(1.30e-10)	(8.80e-11)			(0.00562)	(0.0166)
2.firm		-0.00105	-0.00954	27.firm		-0.198***	-0.0904***
		(0.00207)	(0.0163)			(0.00658)	(0.0170)
3.firm		0.00328	0.0325**	28.firm		-0.231***	-0.200***
		(0.00225)	(0.0163)			(0.00804)	(0.0167)
4.firm		0.0737***	0.0666***	29.firm		-0.212***	-0.0964***
		(0.00233)	(0.0163)			(0.00752)	(0.0171)
5.firm		-0.0852***	0.0367**	30.firm		-0.291***	-0.133***
		(0.00890)	(0.0173)			(0.00934)	(0.0177)
6.firm		-0.0336***	-0.0138	31.firm		-0.261***	-0.185***
		(0.00212)	(0.0163)			(0.00699)	(0.0168)
7.firm		-0.112***	0.0186	32.firm		-0.164***	-0.126***
		(0.00884)	(0.0173)			(0.00776)	(0.0167)
8.firm		-0.0780***	0.0168	33.firm		-0.111***	-0.0759***
		(0.00767)	(0.0169)			(0.0171)	(0.0197)
9.firm		-0.0972***	-0.00243	34.firm		-0.321***	-0.191***
		(0.0108)	(0.0175)			(0.00883)	(0.0173)
10.firm		-0.174***	-0.173***	35.firm		-0.230***	-0.0998***
		(0.00378)	(0.0163)			(0.00884)	(0.0173)
11.firm		-0.0818***	-0.0966***	36.firm		-0.362***	-0.244***
		(0.00118)	(0.0162)			(0.00702)	(0.0171)
12.firm		-0.123***	-0.123***	37.firm		-0.336***	-0.218***
		(1.57e-06)	(0.0162)			(0.00702)	(0.0171)
13.firm		-0.170***	-0.162***	38.firm		-0.220***	-0.197***
		(0.00342)	(0.0163)			(0.00650)	(0.0165)
14.firm		-0.295***	-0.136***	39.firm		-0.296***	-0.129***
		(0.00923)	(0.0181)			(0.00935)	(0.0182)
15.firm		-0.344***	-0.202***	40.firm		-0.271***	-0.213***
		(0.00865)	(0.0174)			(0.00561)	(0.0166)
16.firm		-0.00571***	-0.0203	41.firm		-0.236***	-0.118***
		(0.00118)	(0.0162)			(0.00958)	(0.0173)
17.firm		-0.116***	-0.0997***	42.firm		-0.284***	-0.189***
		(0.00495)	(0.0164)			(0.00767)	(0.0169)
18.firm		-0.238***	-0.116***	43.firm		-0.169***	-0.177***
		(0.00720)	(0.0171)			(0.000610)	(0.0162)
19.firm		-0.205***	-0.0866***	44.firm		-0.266***	-0.133***
		(0.00702)	(0.0171)			(0.0106)	(0.0179)
20.firm		-0.178***	-0.158***	45.firm		-0.214***	-0.0959***
		(0.00572)	(0.0165)			(0.00960)	(0.0173)
21.firm		-0.195***	-0.176***	46.firm		-0.186***	-0.201***
		(0.00572)	(0.0165)			(0.00118)	(0.0162)
22.firm		-0.116***	-0.0931***	47.firm		-0.112***	-0.0965***
		(0.00650)	(0.0165)			(0.00310)	(0.0163)
23.firm		-0.204***	-0.0571***	48.firm		-0.310***	-0.171***
		(0.00884)	(0.0175)			(0.00862)	(0.0174)

TABLE 8. LEVERAGE, STATE FACTORS, AND FIRM CHARACTERISTICS: FIXED-EFFECT MODEL (continue 1)

VARIABLES	ln_total_debt_ratio	ln_total_debt_ratio	ln_total_debt_ratio	VARIABLES	ln_total_debt_ratio	ln_total_debt_ratio	ln_total_debt_ratio
49.firm		-0.230***	-0.111***	66.firm		-0.221***	-0.160***
		(0.00960)	(0.0173)			(0.00496)	(0.0165)
50.firm		-0.337***	-0.219***	67.firm		-0.187***	-0.0942***
		(0.00702)	(0.0171)			(0.00765)	(0.0169)
51.firm		-0.186***	-0.124***	68.firm		-0.328***	-0.210***
		(0.00497)	(0.0165)			(0.00960)	(0.0173)
52.firm		-0.213***	-0.181***	69.firm		-0.0809***	-0.151***
		(0.00441)	(0.0164)			(0.00551)	(0.0166)
53.firm		-0.246***	-0.152***	70.firm		-0.288***	-0.211***
		(0.00767)	(0.0169)			(0.00619)	(0.0167)
54.firm		-0.252***	-0.192***	1912.year	0.00338		0.00340
		(0.00429)	(0.0165)		(0.00343)		(0.00726)
55.firm		-0.266***	-0.240***	1913.year	-0.00663		-0.00605
		(0.00213)	(0.0163)		(0.00680)		(0.00800)
56.firm		-0.234***	-0.105***	1914.year	-0.0594***		-0.0588***
		(0.0106)	(0.0179)		(0.0104)		(0.00843)
57.firm		-0.146***	-0.161***	1915.year	-0.0917***		-0.0911***
		(0.00118)	(0.0162)		(0.00981)		(0.00889)
58.firm		-0.296***	-0.177***	1916.year	-0.0962***		-0.0954***
		(0.00960)	(0.0173)		(0.0105)		(0.00939)
59.firm		-0.279***	-0.202***	1917.year	-0.130***		-0.129***
		(0.00620)	(0.0167)		(0.0137)		(0.00983)
60.firm		-0.295***	-0.179***	1918.year	-0.161***		-0.160***
		(0.00958)	(0.0173)		(0.0150)		(0.0102)
61.firm		-0.166***	-0.118***	1919.year	-0.172***		-0.171***
		(0.00391)	(0.0164)		(0.0158)		(0.0108)
62.firm		-0.0317***	-0.152***	1920.year	-0.199***		-0.198***
		(0.00962)	(0.0174)		(0.0173)		(0.0112)
63.firm		0.118***	-0.0952***	1921.year	-0.225***		-0.223***
		(0.0304)	(0.0263)		(0.0182)		(0.0117)
				1922.year	-0.231***		-0.230***
64.firm		-0.110***	-0.125***		(0.0185)		(0.0120)
		(0.00118)	(0.0162)	1923.year	-0.234***		-0.232***
65.firm		-0.198***	-0.172***		(0.0195)		(0.0124)
		(0.00213)	(0.0163)	Constant	-0.294***	0.0775***	-0.166***
					(0.0177)	(0.0237)	(0.0165)
				Observations	906	906	906
				Number of firm	70	70	70

Note: Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1