Public Utility Underwriting Costs and Regulatory Climate: An Examination of PUC and SEC Multiple Jurisdictions

Raymond F. Gorman†
Martin F. Grace††
Gautam Vora†††

The issuance of securities by public utilities is regulated at both the federal level by the Securities and Exchange Commission (SEC) and at the state level by state public utility commissions (PUCs). In this Article, Professors Gorman, Grace, and Vora critically assess the impact of these overlapping regulatory jurisdictions. Generally, the SEC and some PUCs require utilities to award underwriting contracts through a process of competitive bidding. While this requirement disciplines managers, the authors observe that under a competitive bid regime, an investment bank lacks the information to certify adequately a stock issuance. The absence of adequate certification contributes to underpricing, which adversely affects current shareholders.

The authors use a regression analysis to study the effects of multiple regulators on participants in the securities issuance process. Their analysis shows that, where competitive bidding is required, underpricing is most severe when a state’s regulatory climate is favorable to investors. From this unexpected result, the authors conclude that the competitive bid requirement interferes with the regulatory balance struck by the state PUCs. The authors conclude further that the policies of the state PUCs can adversely affect the SEC’s regulation of capital markets. Professors Gorman, Grace, and Vora

†Associate Professor of Finance, Miami University. A.B., Brown University, 1973; M.B.A., Duke University, 1975; D.B.A., Indiana University, 1982.
††Assistant Professor of Legal Studies, Georgia State University. B.A., University of New Hampshire, 1980; J.D., University of Florida, 1986; Ph.D., University of Florida, 1986.
†††Assistant Professor of Management (Finance), University of New Mexico. B.Com., University of Bombay, 1970; M.S.B.A., University of Denver, 1978; M.A., Indiana University, 1982; Ph.D., Indiana University, 1982.

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recommend that the SEC become the sole regulator of securities issuance by public utilities.

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Introduction

The issuance of securities by public utilities is regulated at the state level by public utility commissions (PUCs)\(^1\) and federally by the Securities and Exchange Commission (SEC). Because of the overlapping jurisdiction of these regulatory bodies, policies implemented by the state PUCs affect the policy objectives of the SEC. Likewise, policies implemented by the SEC can affect the state PUCs' objectives.\(^2\)

State PUCs are charged with regulating utilities in the public interest because of the important role that utilities play in state economies.\(^3\) Traditionally, the PUCs' job has been to set fair, just, and reasonable rates,\(^4\) with an eye toward advancing economic efficiency.\(^5\) One important way in which PUCs attempt to promote efficiency is by requiring utilities to obtain competitive bids from investment bankers for the service of issuing new securities. Under the powers granted by the Public Utility Holding Company Act of 1935 (PUHCA),\(^6\) the SEC also possess the authority to require utility

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2. The nature of overlapping jurisdictions is unique to electric utilities. Whereas many industries are regulated by both the federal and state governments, a dividing line generally exists between interstate and intrastate regulation. Electric utilities, however, must comply with both federal and state regulation of their stockholders' return on capital.


holding companies and their subsidiaries to obtain competitive bids.\textsuperscript{7} The SEC grants exemptions from this requirement only if the utility is unable to secure competitive bids or if the SEC deems capital markets to be unsettled. This policy of bringing the service to the consumer at the price closest to the "free-market" price may be considered as an expression of the federal and state governments' legislative and administrative willingness to regulate efficiently.

In theory, the regulator is a substitute for the constraints of the free market. The regulator attempts to allocate resources in a manner consistent with a competitive market outcome. Thus, the consumer pays a price reflecting that which would be paid if the market were competitive, and the utilities' shareholders receive a return on their investment reflecting actual risk and market returns. If such a competitive outcome is duplicated through the regulatory process, regulation is more likely to be "neutral" in its impact on various economic agents. If, on the other hand, the regulatory process does not duplicate the free market and the outcome of the regulation is differential, then some groups benefit, perhaps at the cost of other groups. Such outcomes are not considered desirable because they can reduce a society's economic well-being.

Utilities must make regular visits to the capital markets to raise funds for renewal and expansion of their assets.\textsuperscript{8} When a utility issues new debt or equity, part of the proceeds from the issue is paid to the investment banking firm underwriting the issue. The fee charged by the underwriter is part of what is termed the flotation cost — the total cost of selling the securities to investors in the market. The SEC and/or the PUCs require utility holding companies, their subsidiaries, and utilities under their jurisdiction to invite bids from investment banks so as to prevent utility management from developing an inefficient permanent business relationship with one investment banking firm.\textsuperscript{9} This requirement is designed to reduce costs to ratepayers as well as to investors by preventing managers from putting their own interests ahead of those of the utility.

In the absence of a competitive bid contract, management could go so far as to secure kick-backs from the investment banking firm selected for a long-

\textsuperscript{7} 17 C.F.R. § 250.50 (1974). See the discussion on PUHCA and the competitive bid requirement at Part I, Section A, and the discussion of state enabling statutes and the competitive bid requirement at Part II, Section B.

\textsuperscript{8} The non-transportation public utility sector expended $79.37 billion on new plants and equipment in 1986. Nearly 43% of this sum was expended by electric utilities. To finance this asset-building, public utilities raised $44.31 billion in capital markets, which accounted for 15.05% of all corporate security issues. See Plant and Equipment Expenditures, the Four Quarters of 1987, SURVEY OF CURRENT BUSINESS, June 1987, at 19, 20; Domestic Financial Statistics, FEDERAL RESERVE BULLETIN, June 1987, at A3, A34.

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term agreement for investment banking services. The SEC noted, in addition, that once an investment banking firm develops a business relationship with a utility, even without under-the-table payments, it is difficult to wrest away the account. Such an alliance implies to competing investment banking firms that the utility management may be indifferent to their proposals even though these proposals could result in substantial savings to the utility.

The decision to employ a new investment bank can be costly to the utility as well as to utility management because managers must invest time and effort in evaluating a new underwriting service provider. Administrative costs may be significant enough to discourage management from shopping around for a lower price. State regulations assure utility owners a positive rate of return in good times as well as bad. This assurance gives management less incentive to cut costs which ultimately get passed on to ratepayers. Accordingly, one could argue that the rule requiring competitive bidding prevents management from shirking its duty and thus prevents management from failing to work in the best interests of shareholders.

The alternative to an underwriting contract won through competitive bidding is a negotiated contract. In a normal competitive environment, ordinary negotiated contracts do not cause incentive problems in the decision-making behavior of managers. A utility manager, however, does not have the same incentives as a manager in a competitive non-utility firm. A manager in a competitive firm is encouraged to keep underwriting fees as low as possible because shareholders have the ability to discipline the manager if the manager

10. It is possible to posit that shareholders who are concerned about managerial corruption would simply sell their shares. This position, however, is not tenable for several reasons. If a group of shareholders is indeed disenchanted with the management of a company, the price of the stock is likely to be depressed. What shareholder would like to sell shares when the price is lower? Furthermore, historically, utility stocks have been considered “ideal investment” for the long-term. By selling early, shareholders are likely to lose the long-term capital appreciation. Finally, apart from the apparent appeal of “shareholder activism” is the pragmatic view of shareholders that it is better to agitate and make management more responsive to their desires than merely to cash out.

11. See Termination of Temporary Suspension of the Competitive Bidding Requirement of Rule 50, supra note 9.

12. By contrast, the ability of a utility to choose an investment bank and use the firm repeatedly may save the utility money in the long run. The current investment banking firm may be able to underwrite securities more efficiently because it already possesses detailed information on the utility.

13. Despite the repeated finding that negotiated contracts are more expensive than competitively bid contracts, the non-regulated companies, which include most manufacturing and commercial companies, enter almost exclusively into negotiated contracts with investment banking firms. Ninety-seven percent of equity and 85% of debt and preferred stock public offerings are issued through negotiated underwriting contracts. RAMESH K. S. RAO, FINANCIAL MANAGEMENT 489 (1992).

14. There are two explanations for the use of more expensive negotiated contracts. One explanation stems from the perceived incentive incompatibility between managers and shareholders. The other explanation arises out of the perceived need to monitor managers due to information asymmetry between managers and shareholders. Investment bankers provide monitoring through negotiated contracts and this monitoring is valued by shareholders who, as outsiders, possess less information than the insider managers. Thus, agency problems and information asymmetry induce companies to use negotiated contracts for investment banking services.
does not attempt to maximize the shareholders' wealth. A manager of a regulated utility does not have the same incentive to minimize costs because this manager can pass the costs of business (in the present case, those of underwriting) to the consumers rather than the shareholders. The consumers' ability to discipline the manager is not as strong as that of the shareholders, and as a result utility management might choose to use a negotiated contract to gain from under-the-table payments. Side-payments in cash or in kind are clearly not in the best interest of shareholders if they cause managers to make decisions which do not maximize the shareholders' wealth.

The total underwriting cost of an equity security flotation consists of the 

15. The firm can be viewed as a set of contractual relationships among individuals. One of the contractual claims is a residual claim (equity) on the firm's assets and cash flows. This equity claim is defined as a principal-agent relationship with shareholders as the principals and the manager as the agent. The shareholders force congruent interests on the manager by devising appropriate incentives for the manager and then monitoring resulting behavior. See Michael C. Jensen & William H. Meckling, Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure, 3 J. Fin. Econ. 305 (1976).

Citing diffused ownership of the modern firm, Professor Williamson proposes that the manager's objective is maximization of preferred expenses, whereas Professor Donaldson proposes that the manager's objective is maximization of corporate wealth. Professor Williamson argues that there are some expenses which provide greater value to the manager than to the company. Professor Donaldson argues that a manager maximizes corporate wealth over which the manager has effective control. See Oliver E. Williamson, Managerial Discretion and Business Behavior, 53 Am. Econ. Rev. 1032, 1034-40 (1963); Gordon Donaldson, Managing Corporate Wealth: The Operations of a Comprehensive Financial Goals System 17-34 (1984).

Professor Fama and Jensen offer a broader view of the firm. From their perspective, the firm is a set of interconnected contracts among various factor-input suppliers and product/service-output demanders. Thus, the owners (stockholders) and creditors (bondholders) are not the only claim holders besides managers; customers, suppliers, employees, the community where the firm is located, and other related groups all have a stake in the firm. The traditional emphasis of financial economics has been on the view of the firm as a contractual coalition of investor stakeholders. See generally Eugene F. Fama & Michael C. Jensen, Separation of Ownership and Control, 26 J. L. & Econ. 301 (1983); Eugene F. Fama & Michael C. Jensen, Agency Problems and Residual Claims, 26 J. L. & Econ. 327 (1983); Eugene F. Fama & Michael C. Jensen, Organizational Forms and Investment Decisions, 14 J. Fin. Econ. 101 (1985). A discussion of non-investor stakeholders is beyond the scope of our enquiry. For an excellent economic analysis, see Bradford Cornell & Alan C. Shapiro, Corporate Stakeholders and Corporate Finance, 16 Fin. Mgmt. 5 (1987).

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16. For an excellent description of the shareholder-manager's principal-agent problem, see Kenneth J. Arrow, The Economics of Agency, in PRINCIPALS AND AGENTS: THE STRUCTURE OF BUSINESS 37-51 (John W. Pratt & Richard J. Zeckhauser eds., 1985). Arguably, the consumers could discipline the regulator if prices increased by controlling their own demand for goods and services. Theoretically this is true, but there is little empirical evidence to suggest that this control is exercised. This is potentially a rich area for study. For a brief review of the evidence, see Sanford V. Berg & John Tschirhart, Natural Monopoly Regulation: Principles and Practice 316-20 (1988).

17. Professors Sanjai Bhagat and Peter A. Frost surmise that managers may benefit from: (1) under-the-table payments from investment bankers, (2) increased compensation if it is tied to accounting profits, and (3) less variation in costs. Sanjai Bhagat & Peter A. Frost, Issuing Costs to Existing Shareholders in Competitive and Negotiated Underwritten Public Utility Equity Offerings, 15 J. Fin. Econ. 233, 254-55 (1986) (hereinafter Bhagat & Frost).

A side-payment occurs when the underwriter of Firm A offers managers of Firm A shares of Firm B, which is also controlled by the underwriter. A carefully structured side-payment is nearly impossible to detect. Both regulated and unregulated companies may have their managers subverted by side-payments. See Sanjai Bhagat, The Effect of Management's Choice between Negotiated and Competitive Equity Offerings on Shareholder Wealth, 21 J. Fin. & Quantitative Analysis 181, 184-85 (1986) (hereinafter Bhagat) (citing examples from Clifford W. Smith, Jr., Alternative Methods for Raising Capital: Rights Versus Underwritten Offers, 5 J. Fin. Econ. 273, 292 (1977)).
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direct costs of underwriting commission paid to the investment banker, out-of-pocket expense for filing fees and sundry expenses, and the indirect cost of underpricing of the new shares of stock. From the shareholders' viewpoint, the direct costs are easier to monitor. Empirical evidence\textsuperscript{18} shows that when any publicly-traded company issues new shares, the shares tend to be underpriced.\textsuperscript{19} The repeated empirical finding of such underpricing has spawned several competing and complementary explanations for the phenomenon.\textsuperscript{20} The more compelling explanation suggests that managers possess superior information and investors anticipate this information discrepancy. Managers are the "insiders," and as "insiders" they know the "true" value of the firm. They typically issue new equity shares when they consider the firm to be overvalued by the market.\textsuperscript{21} Aware of this tendency, prospective shareholders commonly react negatively to the issue and bid a price lower than the current market price.\textsuperscript{22} This lower price is deleterious for current shareholders who desire the highest price possible for the new shares.

The use of negotiated underwriting contracts is one means to reduce underpricing. An investment banker, especially one who is well-established and has a solid reputation to protect, can serve as a credible authority to certify that an equity issue is correctly priced. Negotiations with a company's managers permit the investment banker to gather insider information without too much

\textsuperscript{18} Smith, supra note 17.

\textsuperscript{19} The literature on efficient markets posits that the current market price is the best estimate of the equilibrium price of a security. See, e.g., Eugene F. Fama, Efficient Capital Markets: A Review of Theory and Empirical Work, 25 J. Fin. 383 (1970). Hence, if the issue is sold at less than the latest market price, it is defined as underpriced. For example, if the last market price of LILCO was $19 per share of common stock and the new common stock was issued at $17 per share, then the stock was undervalued by 11.76% and the new shareholders benefited by $2 per share.

Underpricing of new security issues has several effects. First, the investment banker bears less risk of failure of the issue because it can be sold easily and quickly. Second, the manager enjoys the successful sale of the issue and the use of its proceeds quickly. Third, the new shareholders benefit because they buy a security below the market value. Finally, the current shareholders lose because they sell a security for less than the market value.

\textsuperscript{20} Most of these explanations center upon the informational asymmetry between managers and investment bankers or investors. Beyond the certification hypothesis, Professor David P. Baron and Professor Kevin Rock offer two widely-cited explanations. David P. Baron, A Model of the Demand for Investment Banking Advising and Distribution Services for New Issues, 37 J. Fin. 955 (1982); Kevin Rock, Why New Issues are Underpriced, 15 J. Fin. Econ. 187 (1986). Professor Baron contends that underpricing occurs because the asymmetry of information between investment bankers and managers. The investment banker is better informed about market conditions than the managers. Hence, underpricing is an additional compensation for the investment banker for selling the issue in an uncertain market. Professor Rock, on the other hand, contends that underpricing occurs because of the asymmetry of information between managers and investors. The managers are better informed about the fiscal health of the firm and the economic worth of its projects than are the investors. Hence, underpricing is an inducement for the uninformed investors to participate in the new issue.

\textsuperscript{21} Stewart C. Myers & Nicholas S. Majluf, Corporate Financing and Investment Decisions When Firms Have Information that Investors Do Not Have, 13 J. Fin. Econ. 187, 188 (1984).

\textsuperscript{22} Clifford W. Smith, Jr., Investment Banking and the Capital Acquisition Process, 15 J. Fin. Econ. 3, 21 (1986).

\textsuperscript{23} James R. Booth & Richard L. Smith, Capital Raising, Underwriting and the Certification Hypothesis, 15 J. Fin. Econ. 261, 264 (1986).
extra effort or analysis. This additional low-cost information permits the investment banker to gauge efficiently the “true” value of the company. While accepting the underwriting contract, the investment banker sets the price of new shares only slightly lower to “prove” to future shareholders that the asking price is correct. In the absence of such an implied certification, the bid price for newly issued shares would be much lower.

The above analysis of negotiated contracts implies that, by contrast, investment bankers selected through a competitive bid process do not have access to the insider information deemed necessary for the certification of the price of new shares. Under this analysis, competitive bidding procedures would be employed by managers only when they faced a reduced need for certification.

Regulated utilities may have less need for certification from investment bankers. A diligent PUC and/or SEC should help persuade future shareholders that new shares are correctly priced. Thus, regulation should help mitigate the effect of informational problems between managers and shareholders, and between current shareholders and future shareholders. Extensive research on the value of competitive bidding for providing investment banking services indicates that competitive bidding is less expensive than negotiated bidding.24

This literature does not address, however, how the requirement of competitive bidding interacts with the intensity of regulation imposed by state PUCs. State PUCs have general oversight and rate-setting responsibility regarding utilities, whereas the SEC has specific responsibility for regulating the issuance of securities. Regulators must regulate in the public interest and be fair25 to parties directly and immediately affected. These two regulatory agencies try to be fair and maintain a balance, but they do so among different groups: the state PUCs try to be fair to consumers and investor-owners, whereas the SEC tries to be fair to current and future investor-owners vis-à-vis utility managers. This Article analyzes the effect of state and federal regulation on utilities’ underwriting costs in an attempt to assess the usefulness of having two agencies

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25. In economics, the word “fair” has two distinct interpretations. The first interpretation concerns the allocation of resources, whereas the second concerns the distribution of resources. According to the most commonplace use of the term under the first interpretation, a price is fair if it reflects competitive market conditions. This fair price is the allocatively efficient price determined in a value-neutral and impersonal market. The payment by different segments of society of different prices for a particular good, depending on each particular segment’s ability to pay, is an example of distributive efficiency or fairness, the second interpretation of fair. There is a basic conflict between the allocative efficiency of the market and the distribution of resources in society. The interpretations of allocatively fair and distributively fair are used to advance certain views about the proper role of a government. See generally Edward E. Zajac, Fairness or Efficiency: An Introduction to Public Utility Pricing (1978).

Courts often use the word fair in discussing rates of return for utilities or utility prices. In this context the courts are more likely to use the term in the context of its efficiency interpretation.
The regulatory climate for new equity shares issued by public utilities and the regulatory climate established by the state PUCs. Using regression analysis, this Article studies the effect of state regulatory climates on the cost of issuing new equity shares. The sample used in this economic analysis includes both negotiated and competitively bid underwriting contracts.

The analysis shows that, for the negotiated sample, the state regulatory climate is related to the total flotation cost and its components in unexpected ways. Although the regulatory climate has no effect on the underpricing of the issue, the total underwriting cost (which includes underpricing), as well as out-of-pocket expense and underwriting commissions, are inversely related to the favorableness of the regulatory climate for investors. Issuance of securities through negotiated underwriting contracts becomes more expensive as the regulatory climate becomes less favorable to investors. The Article attributes this result to the cost of increased regulatory burdens: the larger the regulatory burdens placed upon a utility's financial affairs by a PUC, the more expense will be required to bring a security issue to the capital market and to pay higher underwriting commissions.

Additionally, the analysis shows that, for the competitive bid sample, the state regulatory climate is inversely related to the underpricing of the issue. Underpricing increases as the regulatory climate becomes more favorable to investors. This means that the underpricing of the issue is highest, implying a loss for current shareholders, when the regulatory climate is most favorable to them. Conversely, the underpricing of the issue is lowest, implying a gain for current shareholders, when the regulatory climate is least favorable to them. The Article attributes this result to the certification hypothesis. In an unfavorable regulatory climate for shareholders, the investment banker feels less need to assure future shareholders that equity shares are correctly priced, and

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26. Whether an investor lives in the state where the utility operates is irrelevant; the investor still wants a rate of return on an investment commensurate with its risk.

27. The regulatory process has an effect on rate-payers, current and future shareholders, managers, regulators, investment bankers, and others. As a result, gains or losses from the regulatory process are difficult to determine. A direct trade-off between the interests of investors and those of rate-payers is therefore difficult to detect.
consequently, perceives less need for underpricing. This result is good for the investment banker, who will generally find that the competitive bidding environment is not amenable to practices that help the negotiated bidder ensure a correct price, such as the acquisition of insider information.

The contrasting results in the analysis from the competitively bid and negotiated equity issues indicate the lack of uniformity in both the federal and state regulatory processes. Stated legislative intent for both PUHCA and the SEC, and for state enabling acts and PUCs shed little light on the perverse economic effects of overlapping regulation. Current shareholders and rate-payers are the presumed beneficiaries under the common law of regulation, but these groups do not in fact benefit economically.

Current economic conditions, sophisticated market participants, and generally apathetic consumers require that regulatory powers be distributed so that regulation is both economically neutral and protective of the average consumer and average investor. In order to achieve these goals, this Article recommends that the SEC become the sole regulator of public utility securities issuances, replacing PUCs at the state level. Diligent and well-coordinated securities regulation by the SEC can supplement the work of investment bankers and ensure the success of new securities issues. By requiring greater disclosure, increased auditing, and a host of other procedures, the SEC can help investment bankers persuade future shareholders that new shares are correctly priced. The careful framing and competent enforcement of regulation can facilitate communication between management and shareholders and eliminate many negative incentives that currently encourage poor managerial decisions. The SEC is best qualified to perform these functions.

This Article further recommends that state PUCs be restricted to regulation of utilities' operations, rate structures, service and safety matters, and managerial competence. Reducing the role of PUCs may alleviate the effects of compromised commission independence which may result from the politicization of commission selection and the influence of special interest groups. In addition, the elimination of multiple jurisdictions would save duplicative administrative costs.

Part I of this Article explains the purpose of PUHCA and the competitive bid requirement imposed on utility holding companies and their subsidiaries. Part II explains the purpose of state PUCs and describes the regulatory climate fostered by them. Part III briefly sets forth the arguments of legal theorists on the economic analysis of regulation. Part IV presents a regression model analyzing the relationship between the costs of securities issuance and the stringency of state regulatory climates. The Article concludes with recommendations for remedying the problems caused by overlapping SEC and PUC jurisdictions.
I. PUHCA and the Role of the SEC

During the Great Depression, Congress began to regulate certain financial practices. Congress enacted both the Securities Act of 1933 and the Securities Exchange Act of 1934 to deal with the problems of fraud and concealment of material information in the securities industry. In addition, by enacting PUHCA in 1935, Congress granted the SEC authority over the financial structure and behavior of public utility holding companies. The twin legislative purposes of PUHCA were to correct multiple abuses in the financing and operation of public utility holding companies and to fill the gap in regulatory oversight that arose from the inability of state PUCs to coordinate their interstate activities. Many of the rampant abuses and problems of holding companies revealed during a Federal Trade Commission investigation were listed in the Act. The Supreme Court has gone further to note that the purpose of PUHCA was to protect consumer interests through the elimination of restraints on free and independent competition.

PUHCA especially condemned the lack of arm's-length transactions between operating companies and holding companies. Securities transactions in particular were not done in a manner benefiting consumers or investors. As part of the pyramiding process, securities of operating companies were exchanged

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33. These abuses included the provision of inadequate information for shareholders, the issuance of securities without the permission of the operating company's public utility commission, the issuance of securities without any relationship between funds raised and physical assets bought, the issuance of securities based on paper profits from intercompany transfers, the issuance of securities in anticipation of excessive revenues from operating companies, and over-capitalization of the operating companies. 15 U.S.C. § 79a(b)(1) (1988).
34. FEDERAL TRADE COMMISSION, UTILITY CORPORATIONS, S. DOC. NO. 92, 70th Cong., 1st Sess. (1934).
36. SEC v. New England Elec. Sys., 390 U.S. 207, 210 (1968). The Court meant to protect the interests of the average investor in this case rather than the interests of a general consumer of utility services. This Article refers to ratepayers as consumers, and shareholders and potential shareholders as investors or owners.
37. Id. at 210.
for securities of holding companies. Furthermore, additional securities were issued by holding companies taking advantage of the pre-Depression speculation fervor. A Senate Report stated that, "investment bankers not only furnished financial aid when requested by holding companies, but solicited it and came to depend upon holding companies for business." This cozy relationship between utility management and investment bankers provided opportunities for self-dealing and side-payments to the detriment of shareholders and consumers.

A. A History of the Competitive Bid Requirement under PUHCA

Section 6 of PUHCA grants the SEC authority over securities issuances. Rule 50 under PUHCA was promulgated by the SEC in 1941 to require utilities to obtain bids for the underwriting of new securities contracts. The rule was intended to assure that utilities did not divert funds from firms to underwriters through overpriced underwriting contracts. Until 1974, the SEC enforced the rule, granting exemptions on a case-by-case basis. For example, the SEC has exempted issues when they received favorable tax treatment ultimately benefiting the utility customers. Further, the SEC has exempted relatively large issues because of the needs of the utility, the size and composition of the underwriting group, and the marketing effort required for selling the issue in the capital market.

Faced with inflation and an energy shortage in the mid-1970s, the SEC in 1974 promulgated a temporary stay of Rule 50. The SEC realized that utilities were having difficulty finding investment bankers to underwrite their equity offerings, and suspended the requirement that utilities obtain at least two competitively bid offers to underwrite. The suspension lasted for about nine and a half months. This temporary stay of Rule 50 provides valuable information about its relative benefits.

38. S. REP. NO. 621, supra note 32, at 56-57.
39. It is interesting to note that the public utility holding companies were engaged in a variety of enterprises, such as coal mining, textiles, and taxicabs. See 10 SEC ANN. REP. 84-85 (1945).
42. Rule 50 requires that the utility must, at least six days prior to the awarding of the contract, publicly invite sealed written proposals for the issuance of the utility’s securities. 17 C.F.R. § 250.50(b)(1) (1992).
46. See Bhagat, supra note 17, at 182-83.
47. Id.
B. The Effects of the Competitive Bid Requirement

Evidence from the field of financial economics suggests that Rule 50 had a beneficial market-based effect for shareholders of utilities. Professor Bhagat's empirical study\(^ {48} \) shows that shareholders of utilities experienced an abnormal negative return on the date of announcement of suspension of the rule. These shareholders also experienced an abnormal positive return on the date of announcement of termination of the suspension. In other words, the market reacted negatively to the announcement of the suspension of Rule 50. Conversely, when the rule's suspension was terminated, the market reacted positively.\(^ {49} \) These results are considered consistent with the joint hypothesis of Professor Bhagat's study that (i) competitively bid issues are less costly than negotiated issues, and (ii) manager-shareholder agency costs are a determinant of the firm's choice between these two methods of raising equity capital.\(^ {50} \)

Given this market reaction and the purposes behind the competitive bid requirement, one may conclude that competitively bid contracts benefit current shareholders, and perhaps, future shareholders.\(^ {51} \)

II. State Regulation and the Role of the PUCs

In 1877, the Supreme Court held in *Munn v. Illinois* that neither the Fifth nor the Fourteenth Amendment bars the government from controlling property "clothed with [the] public interest."\(^ {52} \) In the ensuing fifty-seven years, considerable litigation centered on the question of whether particular businesses were "clothed with [the] public interest" and thus subject to regulation. In *Nebbia v. New York*\(^ {53} \) the Supreme Court put an end to this enquiry by holding that any business can be subject to economic regulation if the public, through its legislatures, determines that regulation is necessary.\(^ {54} \)

As more states asserted the right to regulate and began establishing PUCs,

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48. *Id.* at 181, 195.
49. *Id.* at 195.
50. *Id.* at 181, 195.
51. Current shareholders, other things being equal, have not paid more than necessary to the investment banker for the issuance services. The benefits and injuries to future shareholders are not so clearly defined. Future shareholders gain or lose depending upon whether the competitive bid requirement continues to be enforced by the SEC and/or the PUCs. Rational expectations about the future enforcement of the competitive bid requirement would then be reflected in the price they would be willing to pay for new shares.
54. *Id.* at 531.
the legal basis of attacking state regulation shifted. The question became not whether a state could regulate private property, but how it could do so. The Supreme Court's overriding concern has been the fair treatment of affected parties when the public interest is at stake.

A. Rate Setting

Although each state has independent enabling legislation permitting its state PUC to set utility consumer rates, Supreme Court decisions have established the parameters for rate regulation. The Supreme Court has granted states broad authority to regulate but has restricted their ability to set prices. In *Bluefield Waterworks & Improvement Co. v. Public Service Comm'n*, the Court held that rates could not be set so low as to result in a taking of the utility's property.

In *Federal Power Comm'n v. Hope Natural Gas Co.*, the Supreme Court focused on the two standards of reasonableness discussed in *Bluefield*. First, the Hope Court determined that a utility should earn a rate of return "commensurate with returns on investments in other enterprises having corresponding risks." This is known as the "comparable earnings" standard. Second, the Hope Court stated that the rate of return should be sufficient to permit the utility to "maintain its credit and to attract capital." This is known as the "capital attraction" standard.

A PUC cannot actually set the proper rate of return on a utility's securities because only the market can accomplish that task. Rather, the PUC sets the return that will be paid by ratepayers to the owners of the utility for their investment in the utility plant. The two standards together require regulators to ensure that the utility has an opportunity to earn a normal economic return. Using the comparable earnings standard, the regulator studies...
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similarly situated companies and uses returns actually earned by these companies as a benchmark.\(^6\) Under the capital attraction standard, the regulator examines the utility's stock performance to determine whether the utility has the ability to raise appropriate amounts of money in capital markets.\(^6\)

The Court's decisions have allowed state PUCs significant judicial leeway in determining the appropriate rate of return for public utilities. As envisioned by the Hope Court, rate base valuation and rate setting must be just and reasonable in order to satisfy the Fourteenth Amendment. The Hope Court considered the just and reasonable test as "a balancing of the investor and the consumer interests."\(^6\) The Court however, did not adopt a particular rule for the determination of rates. In practice, the just and reasonable standard means that the net operating income of a utility is such that the broad public interest is protected while at the same time the owners receive a fair and comparable rate of return on their investment. These Hope standards were reaffirmed in the Permian Basin Area Rate Cases.\(^6\)

B. The Regulation of Security Issuance and the Competitive Bid Requirement

The primary role of the state PUC is to set the rate of return on a utility's capital. The opinions of the Supreme Court have, however, led PUCs to adopt policies which restrict the freedom of utilities to make capital budgeting and financing decisions, and subject these decisions to review. If regulatory commissions or other governmental agencies discover that a utility has incurred unnecessary costs, these costs are not charged to the consumers but are charged against owners' equity. Security issuance transactions are one of the three practices commonly reviewed by regulatory agencies.\(^6\) States can require public utilities to obtain permission to issue securities from the state PUC since the utility's cost of capital is fundamentally related to the rate of return to


\(^6\) See KEITH M. HOWE & EUGENE F. RASMUSSEN, PUBLIC UTILITY ECONOMICS AND FINANCE 99 (1982).

\(^6\) 320 U.S. at 603.


The U.S. Supreme Court has not modified, extended, or limited its opinion since Permian Basin Area Rate Cases so as to affect the enquiry of this Article. We cite Permian Basin in order to illuminate Hope, and not for the proposition for which it is ordinarily or usually cited (that the regulator has the authority to make the regulatory process itself simpler in the public interest). It is Hope that provides a basis for the analysis in this Article and not Permian Basin.

\(^6\) The other two practices are the use of eminent domain powers and the procurement of certificates of convenience and necessity. For a listing of the various state powers over securities issues, see NATIONAL ASS'N OF REGULATORY UTILITY COMMISSIONERS, 1987 ANNUAL REPORT 499-500 (1988) [hereinafter NARUC].

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Thirty-eight states and the District of Columbia have authorized PUCs to require competitive bids for utilities’ flotation of common stock. Twelve state PUCs currently exercise their vested authority to require competitive bidding for underwriting new common stock. Even in these twelve states, the state PUCs have the authority to grant an exemption from the requirement that underwriting contracts be competitively bid.

C. The Regulatory Climate Fostered by the PUCs

A state’s utility regulatory climate provides information about the PUC’s vision of the trade-offs that exist between the interests of consumers and investors. While a state’s regulatory environment is not directly observable, Wall Street firms rate state regulatory environments according to investment potential. Generally, the rating firm checks for the presence or absence of certain policies to judge the state’s regulatory climate. For example, some states prohibit a utility from including plant-under-construction in the rate base. This policy causes the utility to carry a large amount of invested capital which does not earn any return. If the utility were allowed a return on plant-under-construction, the shareholders would benefit. Therefore, states allowing a return on construction work-in-progress (CWIP) have a regulatory climate more favorable to investors. Similarly, states that do not require utilities receiving income tax refunds to lower rates by the amount of the refund also have a more favorable regulatory climate. The utility can return the income tax


70. Id. at 539.

71. The California PUC’s presumption is in favor of competitive bidding, but it recognizes that this presumption cannot be a hard and fast rule in view of ever-changing conditions of the market. General Telephone of California, Decision No. 8605070, 1986 Cal. PUC LEXIS 343, at *5 (May 28, 1986). A limited sample of the California PUC orders shows that the PUC exempts utilities if their California operations are small. Washington Water Power Co., Decision No. 92-05-062, 1992 Cal. PUC LEXIS 433, at *4 (May 20, 1992). The PUC also exempts utilities if financial markets are volatile, if the issue is a private placement, or if the utility desires to issue in an overseas market where all underwriting agreements are negotiated. General Telephone of California, at *4.


73. See NARUC, supra note 67.
refund to the shareholders or use it to their benefit. In addition, the rating agency examines the commission’s allowed return on equity. The greater the allowed return, the greater the shareholders’ benefit. By examining such state policies, the rating firm determines, in part, the balance struck by each state between consumers and owners.

Those state PUCs which have struck the balance more in favor of investors are designated, for the purposes of this Article, as states with favorable regulatory climates. Those state PUCs which have implemented policies more favorable to consumers are designated, for the purposes of this Article, as states with unfavorable regulatory climates.

III. Economic Theories of Regulation

State governments regulate public utilities through public utility commissions because utilities are considered natural monopolies. Under the theory of natural monopoly, a firm with natural monopoly characteristics can serve a market at a lower total cost than can several competing firms. In order to maximize societal welfare through economic efficiency, the government restricts entry into the market for supply of power, gas, water, and communication services. In exchange for the market protection accorded by the state to the

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74. See Peter Navarro, How Wall Street Ranks the Public Utility Commissions, 6 FIN. ANALYSTS J. 46 (1983) (arguing that rankings are significantly related only to allowed rates of return on equity and the use of CWIP).

75. Note that both kinds of states may pass the "just and reasonable test" of Bluefield, 262 U.S. at 679 (1923) and Hope, 320 U.S. at 591 (1944).

Furthermore, one can argue that the regulatory climate variable is not necessarily a true measure of the states' regulatory climates. It is implicitly assumed that a good rating means that a state's environment is conducive to utility investments. Similarly, it is assumed that if a state has an unfavorable rating, that state is not as suitable for utility investments as a state with a favorable rating. The same, there is some tentative evidence that a favorable utility environment is beneficial for consumers, too. See Kenneth W. Costello, Electing Regulators: The Case of Public Utility Commissioners, 2 YALE J. ON REG. 83 (1984). This may imply that the rating scheme does not necessarily measure the trade-off between consumers and investors. A state with unfavorable regulatory policies, in fact, may simply be a state with poor regulatory judgment: both consumers and investors are made worse off.

76. Natural monopolies are characterized by decreasing marginal costs; this allows one firm serving the market to produce at a cost lower than if competition were present. The lower costs result from the ability to sell to the entire market which allows the firm to take advantage of scale economies. For a more thorough treatment of natural monopolies, see William W. Sharkey, The Theory of Natural Monopoly (1982). One should note that natural monopolies are not immune from entry, and therefore the government generally protects them against entry to obtain increased economies of scale. This protection reduces both duplication of facilities and social costs. For example, prior to the regulation of the local telephone exchange, there were numerous telephone companies serving individual towns. This meant that separate telephone poles were erected for each company, carrying cables throughout the town. By allowing only one firm to provide the service, the number of telephone poles was reduced, saving trees and improving the appearance of the town. Thus, social costs were said to be reduced.

77. Note that some natural monopolies may be immune from entry and need not be regulated in the same manner. Such firms are called sustainable natural monopolies. See Sharkey, supra note 76; Berg & Tschirhart, supra note 16.
utility, the government restricts the rates these utilities can charge to consumers of their services. Government regulates to minimize market imperfections and enhance the public interest. However, there are inherent agency costs in the relationship between the state PUCs and society. State PUCs are incapable, in practice, of regulating to maximize society's benefit. This failure is explained by the "interest group theory" and the "capture theory."

The interest group theory reasons that certain interest groups control objectives of a regulatory agency. The theory explains interest group manipulation of regulation. While state PUCs wield much regulatory power, they are often considered inherently political bodies and as a result are vulnerable to the machinations of interest groups. Interest groups can manipulate the PUCs and even "capture" the agencies in order to use governmental powers to advance specific goals. Additionally, PUCs are subject to influence by elected politicians who control appointments to the commissions.

In response to demands from certain interest groups, government imposes regulation. The interest groups may be the consumers, non-regulated firms

78. See Mann, 94 U.S. at 133 (1877)(permitting a state to regulate a grain warehouse monopoly because the property was "clothed with a public interest"). See also Nebbia v. New York, 291 U.S. 502, 534 (1934)(If a property owner "embarks in a business which public interest demands shall be regulated, he must know regulation will ensue.").


Government regulation, however, may introduce costs. For example, see Harvey Averch & Leland L. Johnson, Behavior of the Firm Under Regulatory Constraint, 52 AM. ECON. REV. 1053 (1962), who show that rate base regulation, in which the firm is given a fixed rate of return on capital, causes the firm to overinvest in capital relative to other inputs. This "over-capitalization" imposes a resource cost on society. Thus, the benefits of regulation must take into account any distortions and dead-weight losses imposed by the regulatory process.

There may also be so called "non-market failure" or "governmental failure." The government is no more capable of "fixing" market imperfections than any other institution. Thus, intervention in the market should be considered with care. See Charles Wolf, A Theory of Non-market Failure: Framework for Implementation Analysis, 22 J. L. & ECON. 107 (1979).


83. See, e.g., Gregg A. Jarrell, The Demand for State Regulation of the Electric Utility Industry, 21 J. L. & ECON. 269 (1978). Professor Jarrell gives perhaps one of the best interpretations of the views of Professor Stigler and Professor Peltzman by considering the regulation of electric utility rates as a means of redistributing wealth among various interest groups. These interest groups incur an expense to "capture" the benefit created by a governmental process. This type of "rent-seeking" behavior has been examined from several perspectives in the social sciences. Prominent among these are the economic, sociologic, and political science perspectives. A discussion of all the explanations of rent-seeking behavior is beyond the scope of our enquiry. Professor Noll, however, provides an excellent review of various rent-seeking theories. See Roger G. Noll, Government Regulatory Behavior: A Multidisciplinary Survey and Synthesis, in REGULATORY POLICY AND THE SOCIAL SCIENCES 9 (Roger G. Noll ed., 1985).

84. But see Costello, supra note 75. Costello surveys research describing effects of electing commissioners on various measures of consumer welfare and presents new research suggesting that consumers as a class are not better off under an elected commission. By implication, interest groups other than consumers are able to "capture" the commission for their own good.
that desire protection against additional competition, legislators, organized labor, or the regulated firm themselves. These groups use governmental power to advance their own interests at the expense of other groups.\footnote{85}{Before one passes judgment about whether it is desirable to allow interest group manipulation in the political and regulatory process, one should review James Madison's comments set forth in \textit{THE FEDERALIST PAPERS}. See \textit{THE FEDERALIST No. 10} (James Madison). While highlighting the difference between the political and regulatory processes, Professor Noll states: The sensitivity of government policy in a representative democracy to pressures from interest groups has long been recognized. James Madison in \textit{Federalist 10} understood that a key constitutional problem was how to build a democratic government that protected individual rights but was not controlled by special interests. Madison's solution was to construct a legislature in which all important interests were likely to be represented but each was unlikely to have much power. Regulatory agencies, because of their single-purpose mission and relatively small size, do not have this Madisonian protection when undertaking their quasi-legislative functions; hence their susceptibility to dominance by special interests. NOLL, supra note 83, at 43-44.}

The capture theory reasons that the regulated industry "captures" the regulatory agency and directs its regulatory functions to benefit the industry itself.\footnote{86}{MARVER H. BERNSTEIN, \textit{REGULATING BUSINESS BY INDEPENDENT COMMISSION} (1955).} The regulated industry, through the use of perquisites and influence, can essentially direct the PUC to strike a balance between utility company investors and consumers favorable to the investors.

Given these new perspectives on the motivations for regulation, researchers have attempted to discover regulators' constituencies.\footnote{87}{See Costello, supra note 75. See also William J. Boyes & John M. McDowell, \textit{The Selection of Public Utility Commissioners: A Reexamination of the Importance of Institutional Setting}, 61 PUB. CHOICE 1 (1989).} Some have suggested that elected regulators would be more responsive to voters (consumers) than would appointed regulators who are considered sympathetic to the regulated industries.\footnote{88}{See Michael de Courcy Hinds, \textit{Citizen Utility Boards Hunt Industry White Elephants}, N.Y. TIMES, June 6, 1982, at E8. See also Costello supra note 75.} This may or may not be the case: elective offices are expensive to acquire. The money required to finance campaigns for elective offices could conceivably come from the regulated industry as well as the consumers. Thus, even if regulators are elected rather than appointed, they are still likely to need the regulated industry's support and contributions to mount a successful campaign.

\footnote{85}{Before one passes judgment about whether it is desirable to allow interest group manipulation in the political and regulatory process, one should review James Madison's comments set forth in \textit{THE FEDERALIST PAPERS}. See \textit{THE FEDERALIST No. 10} (James Madison). While highlighting the difference between the political and regulatory processes, Professor Noll states: The sensitivity of government policy in a representative democracy to pressures from interest groups has long been recognized. James Madison in \textit{Federalist 10} understood that a key constitutional problem was how to build a democratic government that protected individual rights but was not controlled by special interests. Madison's solution was to construct a legislature in which all important interests were likely to be represented but each was unlikely to have much power. Regulatory agencies, because of their single-purpose mission and relatively small size, do not have this Madisonian protection when undertaking their quasi-legislative functions; hence their susceptibility to dominance by special interests. NOLL, supra note 83, at 43-44.}

\footnote{86}{MARVER H. BERNSTEIN, \textit{REGULATING BUSINESS BY INDEPENDENT COMMISSION} (1955).}

\footnote{87}{See Costello, supra note 75. See also William J. Boyes & John M. McDowell, \textit{The Selection of Public Utility Commissioners: A Reexamination of the Importance of Institutional Setting}, 61 PUB. CHOICE 1 (1989).}

\footnote{88}{See Michael de Courcy Hinds, \textit{Citizen Utility Boards Hunt Industry White Elephants}, N.Y. TIMES, June 6, 1982, at E8. See also Costello supra note 75.}
IV. An Economic Analysis of Security Issuance by Regulated Firms

A. Economic Theory and Predictions of Interest Groups’ Gain or Loss

The utility’s regulatory climate influences which interest groups gain and which lose as a result of the competitive bid requirement. For the sake of clarity, we will examine two extreme regulatory climates, the most favorable and the most unfavorable. It is assumed that the favorable climate allows underwriting costs, either explicitly, by including the cost as a legitimate business expense or by modifying the cost-of-capital, or implicitly, by “grossing-up” the rate base. These regulatory postures benefit the utility’s investors.

The above scheme is used to prepare Table 1, which contains economic predictions of the effects of the intersection of the state’s regulatory climate and the competitive bid requirement on the welfare of consumers, current and future shareholders, bankers, and management. The table lists the gains and losses of each interest group under four conditions: competitively bid issues under favorable and unfavorable regulatory climates; and negotiated issues under favorable and unfavorable regulatory climates. Recall that, empirically competitively bid securities flotations have lower costs than negotiated flotations. For the purpose of this Article, the former is termed a competitive (or economically fair) cost and the latter an uncompetitive (or economically unfair) cost.

Panel A in Table I shows the interaction of the competitive bid requirement with the most favorable climate. We see that consumers are indifferent to the cost of stock flotation if it is competitively, and thus fairly, determined. But consumers suffer if they are asked to bear the unfair cost resulting from negotiated underwriting contracts. Current shareholders are indifferent to the competitive bid requirement if the cost is included in the rate of return, which is a characteristic of a favorable regulatory climate. If the cost is allowed in the rate of return, these shareholders receive the statutory rate of return regardless of the competitiveness of the cost.

Future shareholders or potential investors are likely to be indifferent to competitive costs emanating from the competitive bidding process to the extent these costs are restricted to the underwriting commission and out-of-pocket expense. Future shareholders do benefit from underpricing, however, because they pay a lower price for the shares. If underpricing is more likely under a

89. See Bhagat, supra note 17.
90. It is possible that these uncompetitive costs could reach the monopolistic level. If the investment banking firm has contracted with the utility and the utility has decided not to change bankers, the investment banker could charge the monopolistic price and the utility will just pass all the costs onto the ratepayers.
91. See discussion in Part II, Section C.
favorable regulatory climate because of the greater need for certification, then we should expect future shareholders to have the greatest gain in a favorable regulatory climate when negotiated underwriting contracts are used.

Investment bankers stand to lose under a competitive bid process regardless of the regulatory environment because there is no opportunity to self-deal or to obtain access to the corporate authority. In addition, investment bankers with superior bargaining power or those who possess on-going close ties with utilities would be unable to use these assets to obtain underwriting contracts. In contrast, when regulation permits negotiated contracts, investment bankers tend to be better off because management can reward them generously, especially when managers expect to pass these extra costs to the ratepayers. The competitive bid requirement also has a negative effect on managers, again because business discretion is removed, and there is less opportunity for self-dealing with investment bankers.

Panel B in Table I shows the interaction of the competitive bid requirement with the most unfavorable climate. The regulatory climate is considered unfavorable if the state PUC does not allow, either explicitly or implicitly, costs of raising capital in the rate proceedings. The direction of impact on three groups, future shareholders, investment bankers and management, is the same as in Panel A because the method of flotation has a direct and more immediate impact on the well-being of participants than does the regulatory regime.

The impact on the first two groups, consumers and current shareholders, however, is quite different from that in Panel A. Under the unfavorable climate the consumers do not bear the legitimate costs of doing business; they are certainly better off irrespective of the economic fairness of the cost. Conversely, current shareholders lose, whether the contract is competitively bid or negotiated, if the cost is excluded from the calculation of rates. Certainly, the benefits to managers are likely to be greatest in a favorable regulatory climate if negoti-
Table 1 depicts the impact of the competitive bid requirement on certain groups under different regulatory climates. However, observe that the magnitude of the benefit is indeterminate. The zero-sum game aspect of regulation seems to disappear: no longer is one group’s benefit the other group’s loss, and vice-versa. In the “game” of capital markets, there are numerous players whose benefits or losses cannot be determined a priori. It is possible that the use of regulation can lead to a net loss among these players, and as a result social welfare would be reduced.

B. The Data

The data are taken from a sample of the utility equity offerings from January 1973 through September 1980. The full sample is divided into two sub-samples representing negotiated and competitively bid contracts. The full sample contains 538 issues of seasoned stock of public utilities. Of these, 70 are competitively bid offerings, whereas 468 are negotiated offerings.

The favorableness of the states’ regulatory environments is determined via Duff and Phelps’ ratings of the state PUCs. Each state PUC is given a rank on a scale of one through six — one being the most favorable climate and six being the most unfavorable. One would hypothesize that the more unfavorable the state regulatory environment, the more the ratepayers benefit relative to the utility investors. Under the Bluefield and Hope opinions the state must balance these interests. Recall that the Duff and Phelps’ state ratings provide some evidence of the balance a particular state has struck between ratepayers and investors. This balance may not be realized, however. The effects of the competitive bid requirement must be incorporated in the analysis in order to obtain an accurate picture of the empirical relationship between ratepayers, investors, and other interest groups.

Using regression analysis we attempt to measure the effects of the interaction between the state’s regulatory environment and the competitive bid requirement. Our discussion focuses on five regression analysis variables associated

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94. One could suggest that the lack of a zero-sum game arises from the interrelated layers of agency relationships between regulators and managers, regulators and consumers, managers and shareholders, and investment bankers and managers. Nevertheless, if the purpose of regulation is presumed to be a reduction of the informational asymmetry and agency problems among various actors, then it is clear that regulation has failed to meet its goal.

95. Each of these utilities is listed on a major stock exchange, and all securities in the sample have historical data on tapes at the Center for Research in Security Prices (CRSP) at the University of Chicago. The data-set is the same as that of Bhagat & Frost, supra note 17, who obtained flotation cost data from Blythe Eastman Paine Webber, Inc., and Ebasco Business Services, Inc.

96. Regression analysis, developed by Sir Francis Galton in the late 19th century, provides a basis for predicting the value of one variable from the value of another (or others). Galton’s study led to the term “regression analysis” to describe the statistical relationship between variables.
with each equity offering. 97

(1) COMM: Underwriting commission is expressed as a percentage of the subscription (or issue) price. This is a direct cost of flotation.

(2) EXP: Issuer expenses, other than commissions paid to the underwriter, divided by the issue size and scaled up by a factor of 100. These are called out-of-pocket expense of the issuance. These are direct costs of flotation.

(3) UNDER: Underpricing is measured by a transformation of the ratio of the last trade price to the issue price. Specifically, UNDER = \[(\text{LTP/ISP} - 1.0) \times 100\], where LTP is the last trade price, and ISP is the issue price. When UNDER is a positive number, shares are sold at less than the market price, and hence the current stockholders are worse off. When UNDER is a negative number, shares are sold at more than the market price, and hence the current stockholders are better off. This is an indirect, implied cost of flotation.

(4) TUC: Total underwriting cost is the sum of previously defined variables, underwriting commission (COMM), out-of-pocket expense (EXP) and underpricing (UNDER). Thus, this is the sum of direct and indirect costs of flotation.

The variable whose value we wish to estimate or explain is referred to as the dependent variable, whereas the variable (or variables) whose values are used to estimate or explain is (are) referred to as the independent or explanatory variable (or variables), or regressor(s). The most basic type of regression is called the simple linear regression which is characterized by the use of one dependent and one independent variable. The relationship between these two variables is called linear because it gives us the well-known equation of the straight line: \( Y = A + BX \), where \( Y \) is the dependent variable and \( X \) is the independent variable. \( A \) and \( B \) are the estimated regression coefficients that represent the intercept and slope, respectively, of the regression line on a two-dimensional graph. The intercept term of the regression line is interpreted as the fixed (non-dependent) effect. It can be interpreted as the mean value of the dependent variable when the effect of the independent variables is held constant. The slope term is interpreted as the effect of the independent variables.

The simple linear regression is a technique to find values of \( A \) and \( B \) such that the resulting line has the "best fit" through the scatter of points comprising the actual observations of the dependent and independent variables. By appropriate statistical tests, we can then determine how well the independent variable explains the dependent variable. Here, we use the extended technique of multiple regression analysis, where we use more than one independent variable to explain the dependent variable: \( Y = A + B_1 X_1 + B_2 X_2 + \ldots + B_n X_n \). Although the presence of two or more independent variables makes the geometry of multiple regression more complex, the process is still the same. We must find the values of \( A, B_1, B_2, \ldots, B_n \) such that the multidimensional figure has the "best fit" through the scatter of points. By appropriate statistical tests, once again we can determine how well each independent variable explains the dependent variable. See generally John Neter et al., Applied Linear Statistical Models (3rd ed. 1990).

97. Although not listed here, several other variables are used in this study as controls for other factors, such as market-based risk, residual risk, market fluctuations, and size of issue (as a proxy for company size), impinging on flotation costs. All variables are listed in the Appendix.
Regulatory climate is an interval variable taking the value from one (most favorable to the utility's investors or current shareholders) to six (most unfavorable to the utility's investors). Thus, the greater the value of regulatory climate (REG), the more unfavorable is the state regulation for investment in utilities.

With the above data, we tested the hypothesis, as presented in Table 1, that the regulatory climate does not affect flotation costs regardless of whether the contract is negotiated or competitively bid. These tests were done through standard t-tests.

C. The Results

The results from the regression analysis are shown in Table 2. Panel A represents the full sample; Panel B represents the competitively bid sub-sample; and Panel C represents the negotiated sub-sample. Each panel shows five estimated coefficients for regulatory climate (REG): Regression 1 uses total underwriting cost (TUC) as the dependent variable; Regression 2 uses out-of-pocket expense (EXP) as the dependent variable; Regression 3 uses underwriting commission (COMM) as the dependent variable; Regression 4 uses underpricing (UNDER) as the dependent variable; and Regression 5 uses direct cost (EXP+COMM) as the dependent variable.

Panel A shows that REG is insignificant when TUC and COMM are the dependent variables. It will become clear later that the insignificance of REG when TUC is the dependent variable is due to a canceling of the opposing effects of the two sub-samples. REG is significantly positive when EXP and EXP+COMM are the dependent variables. This outcome implies that out-of-pocket expense and direct expense are higher in states with less favorable regulatory climates. This is the opposite of what one would expect because in a more favorable regulatory climate, these costs would be passed on to the consumer.

REG is significantly negative when UNDER is the dependent variable. This result indicates that the less favorable the regulatory climate, the lower the level of underpricing. This, too, is surprising because protection of current shareholders is a characteristic of a favorable climate rather than an unfavorable or stringent climate.

Panel B shows that REG is insignificant when EXP, COMM, and EXP+COMM are the dependent variables. REG is significantly negative when TUC and UNDER are the dependent variables. The results for the competitively bid sub-sample are different than those for the full sample. For this sub-sample, UNDER seems to be the strongest influence on the total cost function. This
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inference is drawn from the significance of the UNDER coefficient.

Panel C shows that REG is significantly positive when TUC, EXP, and EXP+COMM are the dependent variables. It is not surprising that the results for the negotiated sub-samples are similar to those for the full sample: the negotiated contracts constitute the largest part of the full sample (468 of 538 issues).

D. A Discussion of the Results

The results of the regression analysis provide economic content in order to review the predictions from the economic theory presented in Table 1. To test these theories, two hypotheses should hold true: (1) the regulatory climate has no impact on the flotation cost (of any sample), and (2) the impacts on the competitively bid and negotiated samples are equal. The actual results, as summarized in Table 3, are startlingly different from these hypotheses.

We analyze the results of the regression analysis using the relationships established between the dependent and independent variables. The four dependent variables — TUC, EXP, COMM, and UNDER — are examined under both the favorable and unfavorable regulatory regimes. Table 3 depicts the impact the regulatory climate has on the four underwriting cost variables within the full, negotiated, and competitively bid samples. The results show that multiple regulators affect the regulatory environment, and that this altered regulatory environment in turn influences the cost of stock flotation. These results lead to the conclusion that multiple regulators have an impact on the costs of utility securities issuance.

Table 3 displays the results of the regression analysis. TUC is not affected by the regulatory climate for the full sample. This finding is depicted in Panel A of the table. The regression analysis determined that REG is insignificant when TUC is the dependent variable. This statistically insignificant relationship is represented by the word “average” in Table 3. If the variable is average under one regulatory climate it is average under the other, because by definition, there is no significant change as we move from one climate to the next.

When the total cost is examined through the segregated samples, however, we find that the regulatory climate becomes important. The behavior of TUC for the competitively bid sample is intuitively pleasant: TUC decreases as REG becomes less favorable. The regression coefficient from Table 2 is negative, so as we move to a more favorable climate, the relationship between TUC and REG becomes significantly negative. This is represented by the “above average” and “below average” in the table.

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98. For methodological details on the hypotheses and their testing, see the Appendix.
99. See Table 2.
The behavior for the negotiated sample, however, seems perverse, for as the unfavorableness of the regulatory climate increases, the total underwriting cost for the negotiated sample also increases (from below average to above average, again because the regression coefficient is positive). A similar perverse behavior is uncovered for EXP and COMM for the negotiated sample: under the most unfavorable regulatory climate, the issuer’s out-of-pocket expense and underwriting commission are the highest.

Finally, UNDER shows the most unexpected behavior, although the results are consistent with the certification hypothesis discussed earlier. For the full sample, which is comprised mostly of negotiated contracts, the regression coefficient is negative, implying that as the unfavorableness of the regulatory climate increases, the underpricing of the issue decreases. Presumably, in an unfavorable regulatory climate, investment bankers feel less need to assure the investors that the stock issue is correctly priced, and consequently have less need for underpricing. Surprisingly, these results are even more pronounced for the competitive bid sample.

As discussed earlier, with competitive bidding contracts, investment bankers have less ability to acquire the inside information needed to “certify” the issue. This suggests that the requirement of competitive bidding in an unfavorable regulatory climate would eliminate, from a practical standpoint, the necessity of certification through underpricing. But the requirement of competitive bidding in a favorable regulatory climate could still necessitate certification through underpricing.

One interesting implication of the underpricing phenomenon is that current and future shareholders are each better off in different regulatory regimes. In states characterized by a favorable regulatory climate, the current shareholders lose while the future shareholders gain because the future shareholders acquire shares priced lower than the fair price (underpricing is positive). Conversely, in states characterized by the most unfavorable regulatory climate, the current shareholders gain while the future shareholders lose because the future shareholders pay a price higher than the fair price for shares (underpricing is negative, or synonymously, shares are overpriced).

Table 4 compares the empirical findings on the gains and losses of various interest groups with the predictions of economic theory. To determine the impact on consumers, we must look at the TUC and EXP variables. When underwriting contracts are negotiated, consumers receive greater benefits in states with a favorable regulatory climate. When the contracts are competitively bid, consumers benefit more from an unfavorable climate. While the latter may be expected, the former is counter-intuitive.

The underpricing variable, UNDER, reveals shareholder preferences. Current shareholders are better off in an unfavorable climate when the utility chooses a negotiated contract. Nevertheless, the wealth transfer between current
and future shareholders is not significant for negotiated contracts irrespective of the unfavorableness of the regulatory climate. On the other hand, the wealth transfer between the two groups of shareholders is significant for competitively bid contracts, implying that current shareholders would not be indifferent to the regulatory climate. If a utility chooses a competitively bid contract, then current shareholders are in a superior position in an unfavorable climate because of negative underpricing (or overpricing). Both results are unexpected. Future shareholders, of course, benefit from underpricing, but because we see the largest interaction between UNDER and REG for the competitively bid sample, we obtain the counter-intuitive result that future shareholders receive the largest relative gain with competitive bidding in a favorable regulatory climate.

As represented by the variable COMM, investment bankers are better off in an unfavorable climate if the utility chooses a negotiated contract because they will earn higher commissions. If the utility chooses competitive bidding, though, the investment bankers are indifferent to the regulatory climate.

Finally, management, which is more concerned with EXP, is expected to find greater benefit with negotiated contracts in a favorable regulatory climate. Empirically, however, management appears to gain more in an unfavorable climate for the competitive bid sample. This inference is drawn from the positive relationship between EXP and REG.

In summary, we discovered several instances of counter-intuitive results. Although we expected consumers to lose under a favorable regulatory climate, we found that consumers living in states with a favorable regulatory climate would prefer negotiated contracts, while those in an unfavorable climate would prefer competitively bid contracts. We also thought that current shareholders would gain under an unfavorable climate and that future shareholders would lose under an unfavorable climate (because of a lack of underpricing). We found both to be true. Further, we anticipated that investment bankers would prefer negotiated contracts regardless of the regulatory climate but found that investment bankers servicing utilities in a favorable climate would prefer competitively bid contracts. Finally, we expected that management would gain in a favorable regulatory climate. We found, instead, that management would gain in an unfavorable climate. 100

Conclusion

This Article has presented an economic analysis of the multiple jurisdictions of the federal, the SEC, and state, PUCs, regulatory agencies. The SEC

100. These counter-intuitive results may be explained if REG were not a true measure of the states' regulatory climates. See supra note 75.
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is required to protect the interests of current and future shareholders in the nation's public utility holding companies and their subsidiaries. The state PUCs must balance the interests of the public utility investors and the public utility ratepayers. Both agencies are enabled by their statutes to require competitive bids for securities flotation.

Empirical evidence shows (1) that negotiated underwriting contracts cost more than competitively bid contracts, and (2) that investors prefer competitively bid underwriting contracts to negotiated contracts. However, this evidence is not enough to claim that the competitive bid rule is a fair regulation in the allocative or distributive efficiency sense because it is the net welfare effect of the total regulatory environment that is determinative.

As demonstrated in the regression analysis, the issuance cost structure for competitively bid contracts is quite different from that of negotiated contracts, and the relationships between the cost structures and the regulatory climate is often different from those predicted from economic theory. These frequently unexpected results lead one to question the wisdom of placing any securities issuance regulation in the hands of disparate state PUCs. Having multiple regulatory agencies has resulted in a balancing of the interests between investors and ratepayers that is often different from the balance sought by individual state PUCs.101

This Article recommends that the SEC be given powers to require competitive bids from all public utilities for flotation of their new securities.102 Competitively bid underwriting contracts result in greater economic efficiency and should be broadly required. The present policy of granting exemptions to the competitive bid requirement should be curtailed if not warranted by capital market conditions.103

101. The regulatory actions may create a rate structure that is unconstitutional under the Fifth or Fourteenth Amendments to the United States Constitution. However, this line of enquiry is beyond the scope of this Article.

102. To the extent the SEC needs exclusive authority to require the bids, PUHCA or other enabling acts of the SEC's jurisdiction must be amended. Correspondingly, the state PUCs' enabling acts must be modified to cede this authority to a federal regulatory body. This Article does not address possible constitutional issues of pre-emption or supremacy.

103. The decision to enforce more strictly the competitive bidding requirement should be made by the SEC on a case-by-case basis instead of through a narrowly focused legislative mandate. Congress should enact legislation enlarging the SEC's jurisdiction and vesting it with wider powers. The SEC's technical expertise in capital market regulation makes it a more competent watchdog than Congress, which lacks the means to directly manage the securities markets.

A congressional mandate to enforce competitive bidding through the SEC will also bind that agency. Today, changes in international politics can affect America's capital markets and economy very quickly. Therefore, it is prudent to enable administrative agencies to react quickly to transformed world conditions. For example, in the event of a crisis severely influencing the supply of oil and thereby causing a turmoil in capital markets, the SEC must have the power to suspend the competitive bid rule to sustain the smooth functioning of domestic capital markets.

In increasingly integrated international financial markets, it is imperative that regulatory agencies such as PUCs be kept away from capital market regulations. The United States, Europe, and Japan, among others, have already embarked upon negotiations for developing a common set of regulations for their domestic securities markets. Securities Regulation: Capital Spat, ECONOMIST, Oct. 31, 1992, at 76.
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Competitive bidding for public utility underwriting contracts is not without costs. This Article’s regression analysis shows that under competitive bidding, the more favorable a state regulatory climate is to investors, the greater is the incidence of underpricing. The cause of this anomalous result is attributed to the investment banker who does not have low-cost access to insider information and who therefore “certifies” the public offering at a lower price.¹⁰⁴ A system regulating the securities issuances of public utilities should seek to capture both the cost advantages of competitive bidding and the certification function performed by investment bankers.

This Article further recommends that the SEC devise an auditing procedure whereby firms can either self-certify or receive certification quickly from the SEC. Diligent regulation by the SEC can supplement and even substitute for investment bankers. Close monitoring by the SEC would substantially resolve the agency and information problems faced by participants in utility flotations.

The state PUCs cannot effectively regulate securities issuances by public utilities because they are primarily political bodies and thus are subject to political pressure. Moreover, the PUCs may be captured by the powerful local regulated industry or overwhelmingly influenced by active interest groups.

The SEC is in a better position than state PUCs to regulate securities issuances by public utilities. It is in closer touch with the market, knows investment bankers well from non-utility issuances, and understands the concerns of investors. This expertise allows it to take prompt action against recalcitrant investment bankers or management. Therefore, the SEC would be able to make a more systematic and rational decision on the exemption application of a utility. By vesting the SEC with sole power to permit negotiated underwriting contracts, the SEC can more effectively oversee all aspects of securities issuance by utilities.

Finally, exclusive jurisdiction in one regulatory agency should result in a gain in regulatory efficiency: administrative costs and red tape should be reduced. The state PUCs are better able to oversee other aspects of the operation of the utility industry. More importantly, however, exclusive jurisdiction would help both the state PUCs and the SEC to attain their specific regulatory objectives.

¹⁰⁴. This Article’s analysis has found the counter-intuitive result that both managers and current shareholders would prefer an unfavorable regulatory climate which may be explained by principal-agent problems. Professors Jensen and Meckling have noted that asymmetric information and moral hazard prevent managers (insiders) from persuading shareholders (outsiders) that managers would act in the best interests of shareholders. See Jensen & Meckling, supra note 15, at 312-13. Thus, managers are unable to obtain as high a price for the new stock as they could in a world with symmetric information and no moral hazard.
Table I

<table>
<thead>
<tr>
<th>Gain</th>
<th>Loss</th>
<th>Gain</th>
<th>Loss</th>
<th>Gain</th>
<th>None</th>
<th>Gain</th>
<th>Loss</th>
<th>Gain</th>
<th>None</th>
<th>Gain</th>
<th>Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>None</td>
<td>None</td>
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<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Legend:
- Management
- Bankers
- Investors
- Shareholders
- Customers
- Interests
- Under the State's Regulatory Climate and the Competitive Bid Requirement
- Economic Theory Predictions of Potential Gains and Losses of Various Interest Groups

Remark:
None means neither gain nor loss.
Table 2
Regression Results for Utility Equity Offerings
January 1973 through September 1980

Dependent Variable

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Regn. 1</th>
<th>Regn. 2</th>
<th>Regn. 3</th>
<th>Regn. 4</th>
<th>Regn. 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TUC</td>
<td>EXP</td>
<td>COMM</td>
<td>UNDER</td>
<td>EXP+COMM</td>
</tr>
</tbody>
</table>

Panel A
Full Sample of 538 Issues

| REG  | 0.0034 | 0.0293 | 0.0461 | -0.0721 | 0.0754 |
|      | (0.090)| (3.888)**| (1.860)| (-3.554)**| (2.861)**|

Panel B
Competitively Bid Sample of 70 Issues

| REG  | -0.6211 | 0.0242 | -0.1941 | -0.4514 | -0.1698 |
|      | (-2.442)*| (0.863)| (-1.251)| (-3.434)**| (-1.028) |

Panel C
Negotiated Sample of 468 Issues

| REG  | 0.0848 | 0.0288 | 0.0824 | -0.0264 | 0.1111 |
|      | (2.758)**| (3.618)**| (3.709)**| (-1.488)| (4.714)**|

Notes: t-statistics are given in parenthesis.
* significance at 5% level.
** significance at 1% level.
Table 3

Qualitative Impact of Regulatory Climate on Measures of Flotation Costs for Utility Equity Offerings January 1973 through September 1980

<table>
<thead>
<tr>
<th>Sample</th>
<th>Impact of Regulatory Climate</th>
<th>Under</th>
<th>Favorable</th>
<th>Under</th>
<th>Unfavorable</th>
</tr>
</thead>
</table>

**Panel A**

**Dependent Variable: Total Underwriting Cost (TUC)**

<table>
<thead>
<tr>
<th></th>
<th>None</th>
<th>Average</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full</td>
<td>Negative</td>
<td>Above Average</td>
<td>Below Average</td>
</tr>
<tr>
<td>Competitively Bid</td>
<td>Positive</td>
<td>Below Average</td>
<td>Above Average</td>
</tr>
<tr>
<td>Negotiated</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Panel B**

**Dependent Variable: Out-of-Pocket Expense (EXP)**

<table>
<thead>
<tr>
<th></th>
<th>Positive</th>
<th>Below Average</th>
<th>Above Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full</td>
<td>None</td>
<td>Average</td>
<td>Average</td>
</tr>
<tr>
<td>Competitively Bid</td>
<td>Positive</td>
<td>Below Average</td>
<td>Above Average</td>
</tr>
<tr>
<td>Negotiated</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Panel C**

**Dependent Variable: Underwriting Commission (COMM)**

<table>
<thead>
<tr>
<th></th>
<th>None</th>
<th>Average</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full</td>
<td>None</td>
<td>Average</td>
<td>Average</td>
</tr>
<tr>
<td>Competitively Bid</td>
<td>None</td>
<td>Average</td>
<td>Average</td>
</tr>
<tr>
<td>Negotiated</td>
<td>Positive</td>
<td>Below Average</td>
<td>Above Average</td>
</tr>
</tbody>
</table>

**Panel D**

**Dependent Variable: Underpricing (UNDER)**

<table>
<thead>
<tr>
<th></th>
<th>Negative</th>
<th>Above Average</th>
<th>Below Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full</td>
<td>Negative</td>
<td>Above Average</td>
<td>Below Average</td>
</tr>
<tr>
<td>Competitively Bid</td>
<td>None</td>
<td>Average</td>
<td>Average</td>
</tr>
<tr>
<td>Negotiated</td>
<td>None</td>
<td>Average</td>
<td>Average</td>
</tr>
</tbody>
</table>
Overlapping Jurisdiction

Table 4

Comparison of Gains and Losses to Interest Groups
Under Differing Underwriting Contracts
for Utility Equity Offerings
January 1973 through September 1980

<table>
<thead>
<tr>
<th>Interest Group</th>
<th>Negotiated Contract</th>
<th>Competitively Bid Contract</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumers</td>
<td>Better off in favorable climate TUC, EXP positively related to REG</td>
<td>Better off in unfavorable climate TUC negatively related to REG</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EXP unrelated to REG</td>
</tr>
<tr>
<td>Current Shareholders</td>
<td>Better off in unfavorable climate UNDER weakly negatively related to REG</td>
<td>Better off in unfavorable climate UNDER strongly negatively related to REG</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Future Shareholders</td>
<td>Better off in favorable climate UNDER weakly negatively related REG</td>
<td>Better off in favorable climate UNDER strongly negatively related REG</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment Bankers</td>
<td>Better off in unfavorable climate COMM positively related to REG</td>
<td>Indifferent to regulatory climate COMM unrelated to REG</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td>Better off in unfavorable climate EXP positively related to REG</td>
<td>Indifferent to regulatory climate EXP unrelated to REG</td>
</tr>
</tbody>
</table>

* Contrary to the economic theory prediction presented in Table 1.
** Consistent with the economic theory prediction presented in Table 1.
Appendix

I. A Description of the Data

We use a sample of the New York Stock Exchange (NYSE)-listed and American Stock Exchange (AMEX)-listed public utility equity offerings made to the general public through underwriters during the period Jan. 1973 - Sept. 1980. The data-set is the same as that of Bhagat and Frost who obtained flotation cost data from Blythe Eastman Paine Webber, Inc., and Ebasco Business Services, Inc. The availability of the data-set allowed us to compare the results of this study with those of earlier studies. There are eleven variables associated with each offering.

(1) COMM: Underwriter commission is expressed as a percentage of the subscription (or issue) price. In negotiated offerings, this commission may include payment for the long-term consulting advice given by the underwriter.

(2) EXP: Issuer expenses, other than commissions paid to the underwriter, are divided by the issue size and scaled up by a factor of 100. These out-of-pocket expenses are SEC filing fees, listing fees for stock exchanges, state taxes, transfer fees, printing and engraving expenses, legal fees, accounting and auditing fees, and engineering fees. The opportunity costs of the time spent by the management in planning and bringing out the issue is not included.

1. Offerings made after September 1980 are excluded from the sample in order to avoid the potentially confounding effects of shelf registration. Shelf registration is a procedure under Rule 415 of the Securities Act, effective February 24, 1982, permitting a corporation to register an offering that the corporation expects to sell within two years after filing a disclosure statement with the SEC. The corporation is then permitted to sell the issue, piecemeal or whole, anytime during the subsequent two years. At these sales, the corporation is required to file only a short disclosure statement.

Shelf registration has changed the security issuance process substantially. Rule 415 represents a change in regime more than just another method of issuance. Bhagat & Frost, infra note 2, chose to avoid the influence of shelf registration by selecting a cutoff date of September 1980. Note, however, that this period surrounds the temporary suspension and termination of the suspension of Rule 50.


All securities in the sample have historical data on tapes at the Center for Research in Security Prices (CRSP) at the University of Chicago.

3. See id. for a discussion of the data-base and the relevant variables. We are interested in the effect of REG on the measures of flotation cost. The other variables are used for control purposes in this study. The control variables generally follow Bhagat and Frost's results, so we do not repeat their analysis here.
(3) UNDER: Underpricing is measured by a transformation of the ratio of the last trade price to the issue price. Specifically, \( \text{UNDER} = \left[ \frac{\text{LTP}}{\text{ISP}} - 1.0 \right] \times 100 \), where LTP is the last trade price, and ISP is the subscription price (or issue price). If ISP is less than LTP then UNDER is a positive number, implying that the current stockholders are worse off. If ISP is greater than LTP, then UNDER is a negative number, implying that the current stockholders are better off.\(^4\)

(4) BETA: The systematic risk of the stock is measured by beta, estimated by Dimson’s technique.\(^5\) Returns from 6 to 105 trading days prior to the issue-date are used. Dimson’s beta is considered to be a more accurate measure of the systematic risk.

(5) SDERR: The unsystematic or residual risk of the stock is measured by the standard deviation of error terms from the market model.\(^6\) The returns used in Dimson’s beta are used to calculate this measure, and it is scaled up by a factor of 100.

(6) STDMKT: The total risk of the market is measured by the standard deviation of the market returns. The market returns from 6 to 105 trading days prior to the issue date are used. This is scaled up by a factor of 100.

(7) AMT: The size of the issue in millions of dollars.

(8) IAMT: The reciprocal of AMT.

(9) LAMT: The logarithm of AMT.

---

6. The ‘market model’ is a hypothetical relationship between the returns on a stock and those on a well-diversified representative portfolio of stocks, generally a well-recognized stock-index such as S&P 500. The relationship is stated as \( R_i = a + b R_m + e_i \), where \( R_i \) denotes return on stock \( i \) for period \( t \), \( R_m \) denotes return on an index, \( a \) and \( b \) are regression coefficients for stock \( i \), and \( e_i \) is the error term.
The above three variables, AMT, IAMT, and LAMT, are used to capture the effect of issue size. It is well known that the relationship between flotation cost and issue size is not linear. These three variables permit a reasonably flexible functional form, where IAMT would help in identifying the average fixed-cost component.

(10) TUC: The total underwriting cost is the sum of previously defined variables, COMM, EXP, and UNDER.

The original sample contained 552 issues. In order to get a homogeneous sample, we eliminate the issues of telephone companies, companies which are not regulated by state agencies, and companies which are not electric utilities. This process of elimination leaves us 538 issues of seasoned stocks of public utilities. Of these, 70 are competitively bid offerings whereas 468 are negotiated contracts.

We collected the information on the regulatory climates of all fifty states and the District of Columbia for the period 1973 through 1980. Duff and Phelps, Inc. gives each state PUC a rank on a scale of 1 through 6, where 1 is the most favorable climate and 6 is the least favorable climate. Duff and Phelps publishes these ratings annually for private circulation among its clients.7

This ranking is captured in the regulatory climate (REG) variable used in the regression analysis.

(11) REG: An interval variable, proxy for the regulatory climate, taking the value from one (most favorable) to six (most unfavorable to the utility).

With the above data, we test the null hypothesis that the regulatory climate does not affect flotation costs for both competitively bid and negotiated contracts. This hypothesis may be tested through the following

7. See generally Jeffrey A. Dubin & Peter Navarro, Regulatory Climate and Cost of Capital, in REGULATORY REFORM AND PUBLIC UTILITIES 141 (Michael A. Crew ed., 1982)(there are over twenty firms which rate PUCs, but differences among them are minor); Peter Navarro, How Wall Street Ranks the Public Utility Commissions, 6 FIN. ANALYSTS J. 46, 46-7 (1983)(dominant criteria used by these rating firms are (1) allowed rate of return, (2) average regulatory lag, (3) whether historical or future test year is used, (4) whether construction work-in-progress is allowed in rate base, (5) whether allowance for funds used during construction is computed, and (6) whether automatic adjustment clause is in effect).

The most frequently used ratings are those by Duff and Phelps, Goldman Sachs, Salomon Brothers, and Value Line. While most ratings firms do a three-point categorization of regulatory climate into average, above average, and below average, Duff and Phelps provides a refined classification. It gives a six-point categorization of regulatory climate for all the states going back many years. This permits a better matching of the regulatory climate variable with the data on security issuance.
empirical equation:

\[ TUC_i = b_0 + b_1 \text{REG}_i + b_2 \text{BETA}_i + b_3 \text{SDERR}_i + b_4 \text{AMT}_i \]
\[ + b_5 \text{IAMT}_i + b_6 \text{LAMT}_i + b_7 \text{STDMKT}_i + e_i, \]

where \( i \) represents an equity issue.

We use total underwriting cost (TUC) as the dependent variable because it represents the total costs, direct and indirect, of issuance. Underwriting commission (COMM) and out-of-pocket expense (EXP) are the direct costs of floating new securities, and underpricing (UNDER) is the indirect cost of floating new securities. The commission goes to the underwriting syndicate, whereas the out-of-pocket expenses are incurred for sundry items connected with the issue. Moreover, the out-of-pocket underwriting expense has a large potential for hiding non-essential expenses. Depending on the subscription price set by the investment banker, current shareholders lose if the issue is underpriced, or gain if the issue is overpriced.

The variables measuring risk — systematic risk (BETA), unsystematic risk (SDERR), market risk (STDMKT) — and the variables measuring the size of the issue (and consequently the company) — AMT, IAMT, and LAMT — are used as control variables to account for other market-wide and company-specific influences.

We can reject the null hypothesis that the regulatory climate has no effect on flotation costs if we can reject the null hypothesis that the coefficient of the regulatory climate (REG) is not statistically significantly different from zero. We can further test whether the effect is different for the two sub-samples of competitively bid and negotiated contracts. We are thus testing the following hypotheses:

Hypothesis 1: \( b_1 = 0 \) (for the full sample);
Hypothesis 2a: \( b_1 = 0 \) (for the competitively bid sample);
Hypothesis 2b: \( b_1 = 0 \) (for the negotiated sample); and
Hypothesis 3: \( b_{1,\text{competitive}} = b_{1,\text{negotiated}} \).

Equation 1 is estimated for the combined sample of competitively bid and negotiated contracts and also for the two subsamples. Aggregating components of issuance costs into a single variable, TUC, might cause loss of information; therefore, we also estimate the equation for different components of TUC. We estimate the equation using EXP, COMM, UNDER, and direct cost (EXP+COMM) in turn as the dependent vari-
ables. Recall that the combination of EXP and COMM is defined as the
direct costs of issuance for the issuing company. UNDER cost is not used
in a two-some permutation since it is an indirect or implied cost.
Furthermore, its calculation is controversial. The equations are estimated
by the generalized least squares (GLS) method to correct for
heteroskedastic residuals.

II. The Results

A. Full Sample

The first results are from the regression estimates with TUC as the
dependent variable. The results are reported in Table 1. The results
from the first regression (Regn. 1) are somewhat unexpected since
regulatory climate (REG) is insignificant. The other variables that were
used in the Bhagat and Frost study have the same sign and significance
as in that study.

When regression equations are estimated with the individual compo-
nents of the total underwriting costs — EXP, COMM, UNDER, and
EXP+COMM — as the dependent variables, a much different picture
emerges (Table 1, Regn. 2-5). When EXP and EXP+COMM are the
dependent variables, REG is positive and significantly different from zero.
This indicates that commissions and out-of-pocket expenses are higher
in states where the regulatory climate is less favorable to the investors.
This is precisely the opposite of what one would expect. Recall that these
underwriting costs can be theoretically applied to the revenue require-
ments of the public utility and are ultimately borne by the consumer.

as the sum of flotation costs, market pressure, and market break. A finance academician would prefer the
definition of underpricing as given by Bhagat and Frost, supra note 2, even though one might not agree
with them on the exact method of calculation.

9. The equations were first estimated using the ordinary least squares (OLS) method. Due to the
problems of heteroskedasticity and skewness in the residuals, we estimated the equations using the
generalized least squares (GLS) and the GLS with a Box-Cox transformation method. In the OLS estimation,
we used a White chi-square test for heteroskedasticity. See Halbert White, A Heteroskedastic-Consistent
Covariance Matrix Estimator and a Direct Test for Heteroskedasticity, 48 ECONOMETRICA 817 (1980). We
found substantial heteroskedasticity, particularly in the competitively bid sample. The chi-square statistics
for the GLS estimation indicate that heteroskedasticity is substantially reduced but not eliminated. The
skewness statistics from the GLS with Box-Cox transformation indicate that the transformation reduces the
skewness problem. The results of GLS and GLS with Box-Cox transformation are substantially the same.
We think that our results are robust. For conservation of space, only the GLS estimators are reported. The
other estimations are available from the authors.

10. The same dependent variable is used in all of the regressions of Bhagat and Frost, supra note 2.
Overlapping Jurisdiction

Permitting utilities to pass these higher costs onto consumers appears more symptomatic of a favorable regulatory climate.

These results are in sharp contrast to the significantly negative coefficients for REG when UNDER is the dependent variable. Thus, the more unfavorable the regulatory climate, the less underpricing. This, too, is somewhat surprising. Recall that the cost of underpricing is generally borne by current shareholders of the company. When underpricing occurs, current shareholders lose. Protection of the current shareholders is associated with a favorable regulatory climate, not with an unfavorable one. These results lead us to reject the first null hypothesis, although not in the manner we expected.

B. Segregated Samples

We test for the difference between the samples of competitively bid contracts and negotiated contracts. We do a series of “t-tests”\(^{11}\) of the equality of the means of various flotation costs of the competitively bid and negotiated issues in our sample. These results are reported in Table 2. There are substantial differences between the two samples. COMM and TUC are significantly larger for the negotiated sample, whereas UNDER is significantly smaller for the negotiated sample. There is no significant difference between the two samples for EXP, but the mean of REG for the competitively bid sample is significantly larger than that of the negotiated sample.

C. Competitively Bid Sample

For the competitively bid sample, REG is significantly negative when TUC is the dependent variable (Table 3, Regn. 1). Recall that in the combined sample REG was insignificantly different from zero when TUC was the dependent variable. When TUC is broken into its compo-

\[ t = \frac{\bar{x}_1 - \bar{x}_2}{s_p \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} \]

\[ s_p = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}} \]

is the pooled estimate of the common standard deviation, \( n_1 \) and \( n_2 \) are the sample sizes, \( s_1^2 \) and \( s_2^2 \) are the variances of the two samples, and \( \bar{x}_1 \) and \( \bar{x}_2 \) are the means of the two samples. See John E. Freund, Statistics: A First Course 279 (3d ed. 1987).
nent parts, EXP, COMM, UNDER, and COMM+EXP, then REG is significantly negative only when UNDER is the dependent variable (Table 3, Regn. 2-5). Thus, for the competitively bid offerings, the underpricing of the issue makes the largest contribution to the total underwriting cost function so far as the regulatory climate variable is concerned.

D. Negotiated Sample

Since most of the equity offerings from the combined sample are negotiated, it is not surprising that the results from the negotiated sample (Table 4, Regn. 1-5) are similar to those of the full sample (Table 1). REG is positively related to COMM, EXP, and COMM+EXP, but insignificantly negatively related to UNDER. It appears that the insignificance of REG on TUC in the full sample is due to a canceling of the opposite effects of REG on TUC in the competitively bid and negotiated samples. The positive effect of REG on EXP, COMM, and EXP+COMM in the full sample is consistent with that in the negotiated sample, whereas the negative effect of REG on UNDER in the full sample is more consistent with that in the competitively bid sample.

E. Additional Comparisons for Segregated Samples

In addition to the simple t-tests of the different variables in the two samples, the differences between the negotiated and competitively bid samples can be illustrated by comparing the estimated regression coefficients, $b_{\text{competitive}}$ and $b_{\text{negotiated}}$ of REG. Many of these comparisons can be made by inspection. For example, REG is significantly positive for the negotiated sample but significantly negative for the competitively bid sample when TUC is the dependent variable; it is obvious that the two coefficients are significantly different from each other. Similarly, REG is insignificantly negative for the competitively bid sample but significantly positive for the negotiated sample when EXP is the dependent variable; we can conclude that the two coefficients are different from each other. Nevertheless, when, for example, REG is significantly negative for the competitively bid sample but insignificantly negative for the negotiated sample with UNDER as the dependent variable, it is not obvious that the two coefficients are different from each other. In this case a t-statistic for the equality of the two coefficients is used to test for any difference. When all the comparisons are made either by inspection or by a t-test, we find that the coefficients of REG are different between the competi-
tively bid and negotiated samples in all ten cases at the two percent level of significance.\textsuperscript{12} These results further substantiate the acceptance of the alternative third hypothesis.

\textsuperscript{12} The test is identical to the test in note 11.
## Appendix Table 1

Regression Results for 538 Utility Equity Offerings  
January 1973 through September 1980  
Regression Method: Generalized Least Squares (GLS)

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Regn. 1</th>
<th>Regn. 2</th>
<th>Regn. 3</th>
<th>Regn. 4</th>
<th>Regn. 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TUC</td>
<td>EXP</td>
<td>COMM</td>
<td>UNDER</td>
<td>EXP+COMM</td>
</tr>
<tr>
<td>Intercept</td>
<td>2.015</td>
<td>-0.0832</td>
<td>1.344</td>
<td>0.7543</td>
<td>1.2609</td>
</tr>
<tr>
<td></td>
<td>(7.964)**</td>
<td>(-1.634)</td>
<td>(8.053)**</td>
<td>(5.519)**</td>
<td>(7.094)**</td>
</tr>
<tr>
<td>REG</td>
<td>0.0034</td>
<td>0.0293</td>
<td>0.0461</td>
<td>-0.0721</td>
<td>0.0754</td>
</tr>
<tr>
<td></td>
<td>(0.090)</td>
<td>(3.888)**</td>
<td>(1.860)</td>
<td>(-3.554)**</td>
<td>(2.861)**</td>
</tr>
<tr>
<td>BETA</td>
<td>0.2496</td>
<td>0.0287</td>
<td>0.0951</td>
<td>0.1258</td>
<td>0.1238</td>
</tr>
<tr>
<td></td>
<td>(1.850)</td>
<td>(1.058)</td>
<td>(1.069)</td>
<td>(1.727)</td>
<td>(1.307)</td>
</tr>
<tr>
<td>SDERR</td>
<td>1.331</td>
<td>0.1075</td>
<td>1.269</td>
<td>-0.0459</td>
<td>1.3771</td>
</tr>
<tr>
<td></td>
<td>(7.482)**</td>
<td>(3.002)**</td>
<td>(10.819)**</td>
<td>(-0.487)</td>
<td>(11.020)**</td>
</tr>
<tr>
<td>AMT</td>
<td>0.0023</td>
<td>0.0004</td>
<td>0.0013</td>
<td>0.0005</td>
<td>0.0018</td>
</tr>
<tr>
<td></td>
<td>(1.946)</td>
<td>(1.757)</td>
<td>(1.793)</td>
<td>(1.199)</td>
<td>(2.188)</td>
</tr>
<tr>
<td>IAMT</td>
<td>8.973</td>
<td>6.312</td>
<td>1.511</td>
<td>1.497</td>
<td>7.823</td>
</tr>
<tr>
<td></td>
<td>(5.054)**</td>
<td>(17.659)**</td>
<td>(1.290)</td>
<td>(1.199)</td>
<td>(6.274)**</td>
</tr>
<tr>
<td>LAMT</td>
<td>-0.1465</td>
<td>-0.0996</td>
<td>-0.1146</td>
<td>0.0677</td>
<td>-0.2143</td>
</tr>
<tr>
<td></td>
<td>(-0.984)</td>
<td>(-3.322)**</td>
<td>(-1.167)</td>
<td>(0.842)</td>
<td>(-2.048)*</td>
</tr>
<tr>
<td>STDMKT</td>
<td>0.5459</td>
<td>0.3331</td>
<td>1.176</td>
<td>-0.9632</td>
<td>1.5092</td>
</tr>
<tr>
<td></td>
<td>(0.902)</td>
<td>(2.733)**</td>
<td>(2.946)**</td>
<td>(-2.936)**</td>
<td>(3.549)**</td>
</tr>
<tr>
<td>R²</td>
<td>0.4076</td>
<td>0.8151</td>
<td>0.5392</td>
<td>0.7543</td>
<td>0.6763</td>
</tr>
<tr>
<td>White (\chi^2) Test</td>
<td>41.8295*</td>
<td>55.0560**</td>
<td>59.4093**</td>
<td>49.7516**</td>
<td>63.1337**</td>
</tr>
</tbody>
</table>

Notes:  
t-statistics are in parenthesis.  
* significance at 5% level.  
** significance at 1% level.
Appendix Table 2

T-Tests for Measures of Flotation Costs for Competitively Bid and Negotiated Utility Equity Offerings
January 1973 through September 1980

<table>
<thead>
<tr>
<th>Variable</th>
<th>Competitively Bid Sample</th>
<th>Negotiated Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Std Mean Dev Min Max</td>
<td>Std Mean Dev Min Max T-Stat</td>
</tr>
<tr>
<td>EXP</td>
<td>0.456 0.471 0.120 2.450</td>
<td>0.501 0.551 0.059 6.739 0.833</td>
</tr>
<tr>
<td>UNDER</td>
<td>-0.662 1.049 -2.500 4.390</td>
<td>-0.261 0.520 -2.564 3.226 8.196**</td>
</tr>
<tr>
<td>COMM</td>
<td>3.150 1.333 1.254 10.813</td>
<td>3.918 1.223 1.780 10.450 3.874**</td>
</tr>
<tr>
<td>TUC</td>
<td>4.101 2.729 0.227 18.494</td>
<td>5.406 1.867 0.541 13.230 2.524**</td>
</tr>
<tr>
<td>REG</td>
<td>3.935 0.906 2.000 5.000</td>
<td>3.480 1.199 1.000 6.000 2.575**</td>
</tr>
</tbody>
</table>

Notes: * significance at 5% level.
** significance at 1% level.
### Appendix Table 3

**Regression Results for 70 Competitively Bid Utility Equity Offerings**  
*January 1973 through September 1980*  
*Regression Method: Generalized Least Squares (GLS)*

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Regn. 1</th>
<th>Regn. 2</th>
<th>Regn. 3</th>
<th>Regn. 4</th>
<th>Regn. 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>2.868 (2.039)*</td>
<td>-0.1571 (-1.011)</td>
<td>1.963 (2.287)*</td>
<td>1.062 (1.461)</td>
<td>1.8058 (1.975)</td>
</tr>
<tr>
<td>REG</td>
<td>-0.6211 (-2.442)*</td>
<td>0.0242 (0.863)</td>
<td>-0.1941 (-1.251)</td>
<td>-0.4514 (-3.434)**</td>
<td>-0.1698 (-1.028)</td>
</tr>
<tr>
<td>BETA</td>
<td>-0.3925 (-0.501)</td>
<td>-0.0184 (-0.213)</td>
<td>-0.1776 (-0.372)</td>
<td>-0.1964 (-0.485)</td>
<td>-0.1961 (-0.385)</td>
</tr>
<tr>
<td>SDERR</td>
<td>0.0012 (0.001)</td>
<td>0.2438 (2.093)*</td>
<td>0.2953 (0.459)</td>
<td>-0.5379 (-0.485)</td>
<td>0.5391 (0.787)</td>
</tr>
<tr>
<td>AMT</td>
<td>-0.0034 (-0.149)</td>
<td>-0.0019 (-0.772)</td>
<td>-0.0002 (-0.012)</td>
<td>-0.0013 (-0.0119)</td>
<td>-0.0021 (-0.043)</td>
</tr>
<tr>
<td>IAMT</td>
<td>62.768 (1.854)</td>
<td>18.143 (4.849)**</td>
<td>25.894 (1.254)</td>
<td>18.731 (1.070)</td>
<td>44.037 (2.002)*</td>
</tr>
<tr>
<td>LAMT</td>
<td>1.878 (0.865)</td>
<td>0.3932 (1.638)</td>
<td>0.7745 (0.585)</td>
<td>0.7107 (0.633)</td>
<td>1.167 (0.827)</td>
</tr>
<tr>
<td>STDMKT</td>
<td>-5.604 (-7.850)**</td>
<td>-1.841 (-2.122)*</td>
<td>-1.571 (0.328)</td>
<td>-2.192 (0.540)</td>
<td>-3.411 (0.669)</td>
</tr>
<tr>
<td>(R^2)</td>
<td>0.0911</td>
<td>0.7702</td>
<td>0.1223</td>
<td>0.2934</td>
<td>0.2584</td>
</tr>
<tr>
<td>White (\chi^2) Test</td>
<td>1550.0**</td>
<td>713.9**</td>
<td>1480.0**</td>
<td>1272.0**</td>
<td>1643.0**</td>
</tr>
</tbody>
</table>

**Notes:**  
* t-statistics are in parenthesis.  
  * significance at 5% level.  
  ** significance at 1% level.
### Overlapping Jurisdiction

#### Appendix Table 4

Regression Results for 468 Negotiated Utility Equity Offerings

January 1973 through September 1980

Regression Method: Generalized Least Squares (GLS)

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Regn. 1</th>
<th>Regn. 2</th>
<th>Regn. 3</th>
<th>Regn. 4</th>
<th>Regn. 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TUC</td>
<td>EXP</td>
<td>COMM</td>
<td>UNDER</td>
<td>EXP+COMM</td>
</tr>
<tr>
<td>Intercept</td>
<td>1.799</td>
<td>-0.0945</td>
<td>1.218</td>
<td>0.6745</td>
<td>1.124</td>
</tr>
<tr>
<td></td>
<td>(8.658)**</td>
<td>(-1.760)</td>
<td>(8.118)**</td>
<td>(5.634)**</td>
<td>(7.055)**</td>
</tr>
<tr>
<td>REG</td>
<td>0.0848</td>
<td>0.0288</td>
<td>0.0824</td>
<td>-0.0264</td>
<td>0.1111</td>
</tr>
<tr>
<td></td>
<td>(2.758)**</td>
<td>(3.618)**</td>
<td>(3.709)**</td>
<td>(-1.488)</td>
<td>(4.714)**</td>
</tr>
<tr>
<td>BETA</td>
<td>0.2715</td>
<td>0.0275</td>
<td>0.1003</td>
<td>0.1437</td>
<td>0.1278</td>
</tr>
<tr>
<td></td>
<td>(2.456)*</td>
<td>(0.962)</td>
<td>(1.256)</td>
<td>(2.256)*</td>
<td>(1.507)</td>
</tr>
<tr>
<td>SDERR</td>
<td>1.357</td>
<td>0.0967</td>
<td>1.3114</td>
<td>-0.0504</td>
<td>1.408</td>
</tr>
<tr>
<td></td>
<td>(9.358)**</td>
<td>(2.579)*</td>
<td>(12.510)**</td>
<td>(-0.603)</td>
<td>(12.655)**</td>
</tr>
<tr>
<td>AMT</td>
<td>0.0025</td>
<td>0.0004</td>
<td>0.0015</td>
<td>0.0007</td>
<td>0.0019</td>
</tr>
<tr>
<td></td>
<td>(2.767)**</td>
<td>(1.558)</td>
<td>(2.240)*</td>
<td>(1.293)</td>
<td>(2.636)**</td>
</tr>
<tr>
<td>IAMT</td>
<td>7.041</td>
<td>6.191</td>
<td>0.5462</td>
<td>0.3044</td>
<td>6.736</td>
</tr>
<tr>
<td></td>
<td>(4.833)**</td>
<td>(16.436)**</td>
<td>(0.519)</td>
<td>(0.363)</td>
<td>(6.029)**</td>
</tr>
<tr>
<td>LAMT</td>
<td>-0.2754</td>
<td>-0.1029</td>
<td>-0.1746</td>
<td>0.0019</td>
<td>-0.2774</td>
</tr>
<tr>
<td></td>
<td>(-2.166)*</td>
<td>(-3.129)**</td>
<td>(-1.900)</td>
<td>(0.027)</td>
<td>(-2.845)**</td>
</tr>
<tr>
<td>STDERR</td>
<td>1.013</td>
<td>0.3758</td>
<td>1.399</td>
<td>-0.7627</td>
<td>1.775</td>
</tr>
<tr>
<td></td>
<td>(1.973)</td>
<td>(2.833)**</td>
<td>(3.774)**</td>
<td>(-2.578)*</td>
<td>(4.510)**</td>
</tr>
<tr>
<td>R^2</td>
<td>0.5674</td>
<td>0.8229</td>
<td>0.6446</td>
<td>0.2448</td>
<td>0.7609</td>
</tr>
<tr>
<td>White χ^2 Test</td>
<td>44.80</td>
<td>50.65**</td>
<td>77.32**</td>
<td>67.41**</td>
<td>77.45**</td>
</tr>
</tbody>
</table>

Notes: t-statistics are in parenthesis.

* significance at 5% level.
** significance at 1% level.