An Analysis of the Economic Impact of Timing Delays Contained in the "Aircraft Carrier" Proposal

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May 15, 1999

Drs. Burton and Kochard are members of the Economics faculty at the University of Virginia. They have benefited from the advice and suggestions of Dr. Susan Chaplinsky, who is a finance professor at the University of Virginia's Darden School. James Weston and Jason Fink contributed in important ways to the analysis contained herein. Finally, the authors would like to acknowledge the helpful assistance of Gigi Gurtis, Wolfe Jaffe, Kris Koutrakos and Amy Latham.

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Executive Summary

The American capital markets are generally considered the most efficient and investor friendly markets in the world. The American investor is the most knowledgeable investor in the world and, indeed, the most successful. The information available to investors is enormous and growing. Information flows to investors from every direction – from the investment firms, from the media, from the Internet. Information is the chief concern of American securities regulation. Disclosure of information has been the central theme of securities regulation in the United States. The Securities Act of 1933 set the legal framework for the public disclosure of information required for the public offering of securities.

There have been important changes since 1933 in the regulations that govern the implementation of the 1933 Act. A significant milestone was the 1984 adoption of Rule 415, which permitted the registration of delayed offerings – "shelf registration." Shelf registration, really for the first time, permitted seasoned companies to offer securities on an immediate basis. That immediacy was crucial to the development of a richer and deeper public bond market. The Medium-Term-Note market, for example, would likely not exist were it not for the adoption of Rule 415. Generally speaking, changes in securities regulation over the years have fostered simplification and improved cost efficiency, while promoting the main theme of investor protection.

In November of 1998, the Securities and Exchange Commission proposed extensive changes to the procedures that govern the public offering of securities. These changes are so significant and sweeping that they have come to be known as the "Aircraft Carrier." The Aircraft Carrier was the culmination of a series of studies and reports by the SEC, particularly the important Wallman Committee report issued in 1996, intended to simplify and streamline the public offering process in response to the dramatic and significant changes that have taken place in the capital markets and in technology, especially in the technology behind information dissemination.

The Aircraft Carrier proposal, among other things, pursues the goal of providing investors with information prior to the actual decision to purchase a security (during a public offering). This information would be in writing and subject to physical delivery. In most situations, this information delivery would involve a significant increase in the cost of issuance to issuers, principally because of the timing delays that such information delivery would introduce into the process. These are timing delays that are not currently a part of these offerings. In some cases, this pre-decision information requirement timing delay would likely seriously impair significant marketplaces.

There are at least four areas of important cost increases for issuers in the Aircraft Carrier proposal that relate to the time line path of public offerings:

1. The 7 day "prospectus before pricing" requirement for Form A (IPOs and offerings registered within one year of IPO)
2. The 3 day "prospectus before pricing" requirement for Form A (filed more than one year after IPO effective)
3. The 24 hour "material change" requirement
4. The Form B term sheet requirement and filing requirements

In the analysis that follows, we have reviewed the literature on public offerings, which includes a rather substantial literature on shelf registration and a very small amount of earlier research on timing costs. We have also collected and analyzed data on major markets that could be impaired by certain proposals contained in the Aircraft Carrier. Finally, we have applied standard economic analysis to the measurement of the increased burden of costs that would fall upon the capital markets if the various timing delay proposals advanced in the "Aircraft Carrier" are adopted.

Our conclusions are the following:

1. The various timing delays that are proposed in the "Aircraft Carrier" will impose substantial cost increases on the capital markets. These costs will be borne by both issuer and investor. Competition among securities firms is likely to be reduced by the imposition of these timing delays.

2. Some costs that will be imposed on issuers due to delays in the offering process can be estimated using widely accepted economic analysis. Other costs, which could be substantial, are difficult to quantify. We estimate two costs imposed on IPO issuers – the cost of a put option and the negative signaling cost associated with a delay. These costs total approximately 4 % of an IPO's proceeds. Seasoned equity issuers will not incur the put option cost, but will incur the negative signal cost of about 0.4 % of the offering proceeds. More significantly, the pricing delay may have the unintended consequence of causing seasoned offerings to be withdrawn, imposing costs on both issuers and investors. We estimate the cost on shelf debt issuers to be in the range of 5 – 10 basis points per annum, with the cost imposed on issuers who will be required to file Form A being closer to the top of the range. It is our view that the public Medium-Term-Note ("MTN") market may not survive the proposals under discussion, which would impose costs of at least 10 basis points per annum, as issuers all attempt to crowd into the small private MTN market. Additional non-quantifiable costs will be imposed on all of these issuers. We view the above figures as understating the total cost of the proposed delays.
3. The three crucial underpinnings to the strength of American public capital markets are: (i) consistency and predictability of the regulatory environment; (ii) growing importance of 'immediacy' markets; and (iii) conceptual and

technological innovation in securities markets. The "Aircraft Carrier" proposal would damage the first two of these underpinnings, while failing to take advantage of the third.

4. Capital markets are global. Markets, like capital, seek friendly havens. The "Aircraft Carrier" proposals, if adopted, could cause important capital markets now thriving in the United States to move offshore. This move could, in large part, be permanent even if, at some later stage, the timing delays are removed.

Plan of the Paper:

There are three main sections in our analysis.

Section I – The Successful History of the Public Offering Process in the United States

We provide a brief description of some of the features that appear to be responsible for the tremendous successes of the American capital markets.

1. Regulatory Predictability
2. The 'Immediacy' Markets
3. Technological and Conceptual Change
4. The Economics of Shelf Registration

Section II -- The Competitive Position of American Capital Markets in an Increasingly Global Environment

The second section highlights the ever-present competition for domestic markets presented by foreign markets. It is a challenge for US markets to maintain their competitive edge in a world with several other dynamic and growing financial centers. We show that markets, much like assets, move toward friendly environments. One of the important costs of increased regulation is the movement of markets offshore. The Eurobond market is presented as a case study of what can happen when the regulatory environment in a particular country changes in ways deemed unfriendly to capital markets.

Section III -- The Analytics and Estimation of Timing Costs

Finally, the third section provides the analysis and details of the cost estimates of the timing problems that are introduced into the various offering processes by the proposals in the Aircraft Carrier.

Following these three sections, we provide a summary of our main conclusions.

Section 1. The Successful History of the Public Offering Process in the United States

The American capital market is the showcase capital market for the rest of the world. By every measure, the American market has been and continues to be the largest and most influential financial market in the world. There are three characteristics of the American capital market over past decades that appear to have produced the outstanding performance and growth in American financial markets: regulatory predictability, the growth of immediacy markets, and technological progress in the financial markets. In telling the story of what has made the American markets successful, it is important to outline the role played by each of these three factors. This section concludes with an economic analysis of the highly successful shelf registration market.

1. Regulatory Predictability

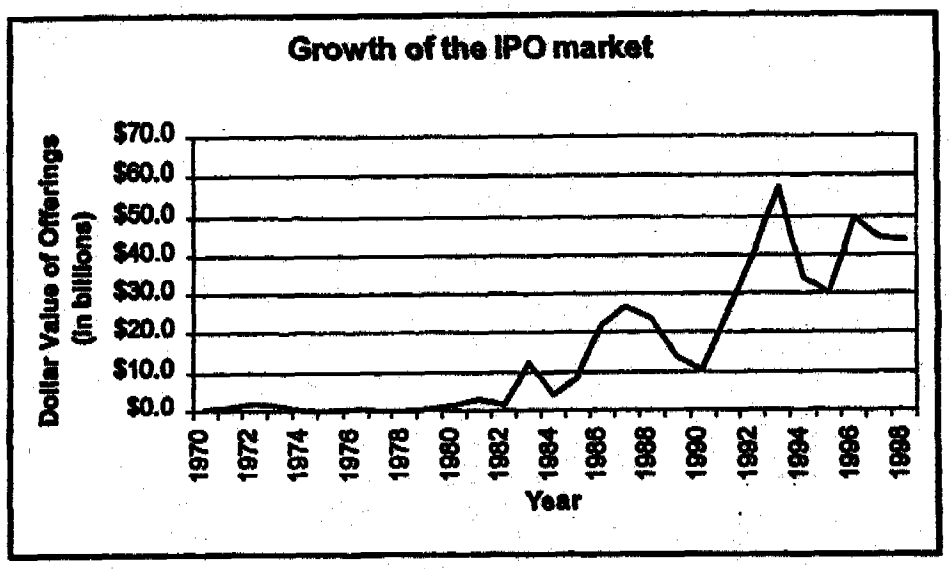
All public offerings look back to the Securities Act of 1933 for the foundation stones upon which are built the structure, timing and procedures of the offering process. Regulations put forth by the Securities and Exchange Commission as well as amendments to the original Act have guided the evolution of the public offering process. Generally, the regulatory history has moved in directions favorable to improving the efficiency of the marketplace and reducing the complexity of the regulatory process for issuers. The Aircraft Carrier proposals create (pure) timing delays not now present in three major types of offerings: equity IPOs, equity add-ons, and shelf registration transactions. The fact that these timing delays do not currently exist in these offerings is one of the critical reasons for the successful history of these marketplaces. We intend to show, in this section, that the regulatory predictability has led to strong and efficient marketplaces and procedures for these classes of offerings. The actual process, depending upon the nature of the offering, varies in complexity and detail. Perhaps the most delicate of the offering processes is that of an initial public offering (IPO).

a. The IPO Process

An initial public offering, if successful, is a once-in-a-lifetime event. The process of "going public" ostensibly involves a timeline that begins with the filing of an S-1 registration statement. In fact, the timeline usually has a much earlier start date. A private company often begins a year or two in advance, transforming itself into a more "public" looking company. Usually by the time of the S-1 filing, a substantial amount of time has been devoted to getting a company "ready." After the S-1 filing, the issuer and the underwriter resolve any comments from SEC staff. The first SEC comments typically arrive within 30 days of the filing. The time between filing and resolution of staff comments is, then, normally at least a month or more. The marketing period begins in earnest after all comments have been resolved. Preliminary prospectuses ("red herrings") begin to be distributed to prospective purchasers of the offering. The "road show" then commences, and the process of "building the book" begins. After two to

three weeks, the book begins to "come together" and a pricing meeting is held. If all goes well, the price is set and the stock is then allocated to purchasers. Under current regulations, a prospectus is provided to each purchaser 48 hours prior to sending of the confirmation of purchase.

Figure 1



This entire process of "going public" is very delicate as the issuer and underwriter work their way through the filing, the comment period, the road show and finally, the pricing of the issue. Virtually any kind of delay or false start in this process, no matter what the reason, is viewed negatively by the market. The academic literature attributes this negative signaling effect to the informational asymmetries that are present going into the offering. The asymmetries reflect the fact that the issuer is presumed to have information that is not known by most market participants (although the literature typically assumes a group of more informed – presumably institutional – investors and a group of less informed – presumably individual – investors). As a practical matter, no matter how much disclosure is attempted by the issuer, the issuer will always have more and better information than a prospective purchaser.

There is nothing automatic about the IPO process. The market for IPOs can be turned on and off quite unpredictably by events that have nothing to do with any particular issuer. If, for example, an offering is delayed, for any reason whatsoever, there is an excellent chance that the offering may never take place. Even if the offering does, eventually, take place, it may do so in a way that involves a substantially inferior financial arrangement for both issuer and investor alike. This could happen if an anticipated use of proceeds is no longer available by the time the offering finally takes place.

Over the years, the investment banking industry has become proficient at the process of bringing firms public. The regulatory framework, though cumbersome in some respects, is known and has remained firmly in place without significant change for many years.

Any important change in the regulatory framework for IPOs that imposes additional constraints and demands upon the issuer will take some time to adjust to. Along the way, some IPOs that might otherwise have taken place will not occur. This will happen, often, because of difficulties that have nothing to do with underlying merits of the investment opportunity that is being put forward for prospective buyers.

It takes time to adjust to a new regulatory setting. This can be observed in recent years as foreign firms adjust to the regulatory realities of operating in the United States market and as American firms work their way through the regulatory hurdles that exist in foreign markets. This process of adjustment to the new rules takes time and costs money to the issuer. As the underwriters develop expertise in dealing with the new regulations and experience provides more certain definition to the regulations, the issuers and the capital markets pay a price for this adjustment to a new set of rules. It is hard to quantify the costs discussed here because they are often lost opportunities – things that might have happened but didn't happen.

Eventually, whatever regulatory environment is adopted, issuers and their underwriters will adjust. If the regulations are sufficiently unfriendly to the process, the market will, often in ways that are not immediately apparent, seek out a friendlier environment. This could mean more use of the growing private equity funding sources. It could mean the decline of American supremacy in the new issue market and the emergence of financial dominance in new offerings by other global financial centers outside the United States.

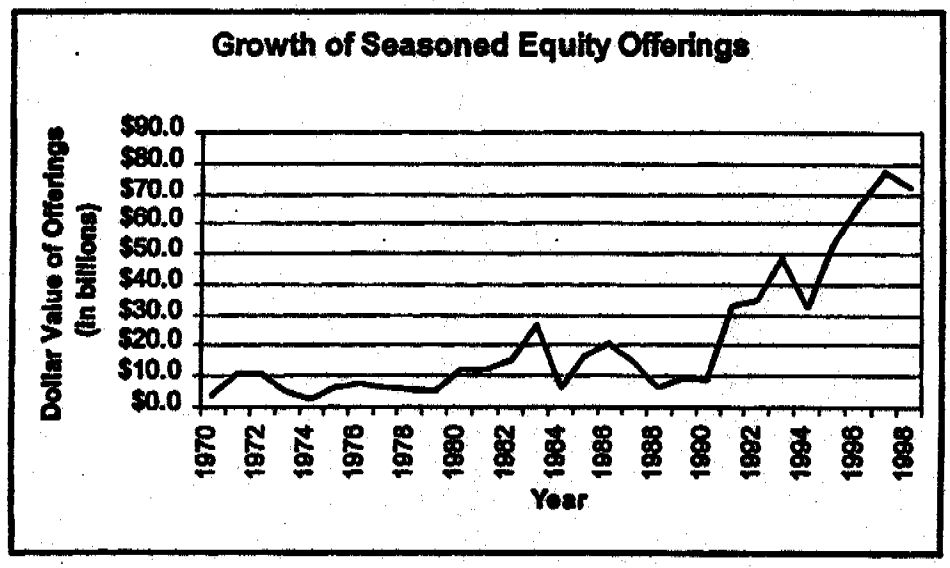
Along the way, as these developments take place, there will be a substantial cost in deals that never take place, investments that never get made, and, at least for a time, substantial adjustment costs to the new regulatory regime for IPOs. Eventually, once the new procedures are understood and the issuers and their underwriters develop efficient ways of complying with the new regulatory regime, the longer run costs, alluded to above, can be assessed.

The point here is that the processes adjust to the regulatory environment in an efficient way. How they make that adjustment will determine the effects on the capital markets. Once started down that road, however, the capital markets including issuers and investors will pay a substantial price for any new roadblocks to the process, no matter how meritorious such roadblocks may appear on the surface.

b. The Add-on Offering Process

We use the term "add-on" to describe any public equity offering that is not an initial public offering. Any issuer doing an "add-on" has already experienced an SEC filing, comment period, and the rest. Add-on's are in a number of ways quite different from initial public offerings.

Figure 2



The key difference, analytically, between an IPO and an add-on offering is the price determination process. In the case of an add-on, the price is already in the marketplace. Ironically, this can increase the probability that the transaction may not take place if there is any delay in the process. The reason for this is that buyers may walk away when the price goes up as well as when the price goes down. In the case of a price increase, there may be marginal buyers that are unwilling to purchase above a certain price limit. In the case of a decrease, there may be a negative signal sent to the market (which may well be unwarranted by the facts). It could be argued that the consequences are not as severe for a "postponed" add-on, since the market price could settle and the firm could come back into the market. Nevertheless, any delay, once buyers and sellers have come together, will cause difficulties for an add-on offering.

c. Shelf Registration

The best example of an extremely efficient capital market that owes its very existence to the absence of timing delays is the Medium-Term-Note market that thrives under the current shelf registration procedures. The high-grade investment bond market and the asset backed bond market are examples of markets whose efficiency and size greatly benefited from the reduction in timing delays fostered by the adoption of Rule 415. It is important to emphasize that it is not simply the absence of a per-deal filing requirement that makes Rule 415 so effective in promoting efficient capital markets. The "immediacy" of the Rule 415 marketplace is really the dominant characteristic that has made Rule 415 spawn innovation, growth and improved efficiency in the capital markets.

2. The 'Immediacy' Markets

The concept of an 'immediacy' market first found application in the block trades in the equity market. Buyers and sellers were matched up verbally by the sales/trading group in an investment firm and one large transaction would take place. Usually such a transaction was initiated either by the emergence of a large seller of the stock in the marketplace or a large buyer. The sales/trading intermediary would locate the other side of the transaction (sellers if a buyer has emerged, buyers if a seller has emerged). All of this was done in a matter of a few minutes and then one large transaction would be consummated in a block, hence the term "block trade." The reason that it can happen at all is that it happens quickly.

This 'immediacy' feature shows up in a number of modern capital markets. Most Rule 415 transactions possess this immediacy feature. Indeed, "immediacy" is the main characteristic of most shelf transactions. The Medium-Term-Note market is an outstanding example of an immediacy market.

Immediacy markets are completely verbal in character and written transaction documentation is put together after the fact. Such markets evolve because, by their very nature, any delays to the process would essentially prohibit the transactions from taking place. Delays are as deadly to a block trading transaction as to a Medium-Term-Note transaction. Time is of the essence in these markets and they evolved for precisely that reason.

The trend toward immediacy markets has made both debt and equity markets significantly more efficient. This trend is apparent globally. If the American regulatory environment restricts immediacy markets, then such markets will have a strong incentive to move elsewhere, perhaps in some other guise. There is a tremendous demand for immediacy markets. Large institutions have a desire to act quickly and efficiently in the financial markets. The immediacy markets fill this need for efficiency and speed. These are mostly transparent markets and they are the most cost efficient markets in the world. Such markets have a history of beneficial performance for both issuers and investors.

Why does immediacy matter? There are many markets where timing is not an overwhelming consideration. Markets for art objects or luxury homes probably fit into this category. But, most financial markets are very time sensitive and for fairly obvious reasons. The best examples are the secondary markets for stocks and bonds. Buyers and sellers transact verbally and instantaneously. Imagine the effect on these markets of a term sheet requirement prior to decision. Many transactions that now take place would no longer take place, while others would be delayed. Buyers and sellers looking for transactions with a minimum of delay would transfer their interest to markets where minimum delays are the norm. Markets with delays would lose out.

Transactions that do not take place do have real costs. However, it is impossible to calculate those costs. Perhaps, it is best to see this issue by analogy, imperfect though the

analogy may be. Imagine an ice cream store on a hot day. A customer enters the store to buy an ice cream cone. Now, suppose we impose a new state regulation that the customer must be presented with a detailed listing of ingredients at least 15 minutes prior to the decision to buy. The customer first picks out the ice cream cone that they want. Then the period of delay commences. After 15 minutes, the customer then is permitted, in this fanciful example, to actually purchase the product if the customer still wants to.

The effect of this kind of delay, well intentioned though it may be, will alter the retail ice cream store market place. Many customers will decide that, given the delays at the ice cream store, perhaps they should buy an ice-cold soft drink instead. Many of these previous customers will no longer even visit the ice cream store. Many potential new customers will be deterred from approaching the ice cream store for the same reason. There is no way to count up the potential new customers to this market that simply will not appear.

Other customers will find that during the 15-minute delay, they have changed their minds. Perhaps, the temperature has changed and an ice cream cone, very appealing 15 minutes ago, is no longer appealing. Perhaps, they have decided during the interval of time, that there is some alternative that doesn't involve a similar delay, which is even more appealing.

All of the aforementioned reasons for the ice cream transaction not occurring have nothing to do with the actual ingredients of the ice cream cone. Nor do they have anything to do with the fact that the consumer becomes better educated by reading the list of ingredients – if indeed, the customer even reads the list. The transactions that disappear are strictly a function of the arbitrarily imposed delay.

Continuing our analogy, imagine that an ice cream store exists within a short walking distance just across the state line. Suppose that the ice cream store, just across the state line, is not subject to the new regulation regarding advanced disclosure of ingredients. If it is only a short walk to the other store, it is very likely the customers will take that walk and the market will move across the state line. The modern communication distances between London and Frankfurt and Tokyo and New York are much shorter than a brisk walk from one store to another.

Eliminating transactions that involve self-interested and willing participants is an example of market failure. It makes such markets less efficient and impairs resource allocation in the overall economy. Even in a simple example like an ice cream store, both sides of the market can be adversely impacted by the loss of desired transactions. Certainly, there are winners. The soda shop down the street and the ice cream store across the state line, where no artificial delays are imposed, will be winners. But, resource allocation, the ice cream store, and the ice cream store customer are the losers. It is hard to quantify these kinds of economic losses, but they are, nonetheless, very real.

3. Technological and Conceptual Change

Capital markets have undergone significant change since the mid-1970s. New products and new technology have taken Wall Street by storm in the past two decades. New and more complicated products have become commonplace. Traditional stock and bond activity has mushroomed in size to enormous proportions. The technology and hardware that support all of this market activity have grown in similar fashion.

As technology has improved and new investment concepts and vehicles have proliferated, so also has the sophistication of the entire investment community. The pension fund and endowment community has grown, not only in size of assets, but in sophistication of personnel and investment acumen. The private investor community is both larger and better educated about investment matters than ever in history. More information is available about financial markets. The growth of business television, stations broadcasting financial stories throughout the day, keeps investors abreast of news about financial markets on a continuous and round-the-clock basis. The Internet has provided a revolutionary platform for information and communication. The financial markets are active users of the Internet.

The markets have taken the challenge of improved technology in stride and greatly benefited from the increasing pace of technological improvements in communication and information processing that is characteristic of the last two decades of the twentieth century.

What this means is that the information flow to investors coming from the American financial markets is better than it has ever been. It is hard to find examples in the financial markets where investors have too little information by comparison to the past. Information is available to investors in a manner today that has no precedent historically. This tremendous explosion in information did not take place because the regulatory environment prescribed that it take place. Instead, the information explosion occurred because investors wanted the information. The important fact is that the information was and is forthcoming. Where the markets require the information, it is provided. In situations such as the immediacy markets, the information needs at the time of sale are normally very slight and timing considerations dominate such markets. In other markets, where sophisticated securities are sold, information dissemination, in almost all relevant situations prior to investor decision, is very much in evidence.

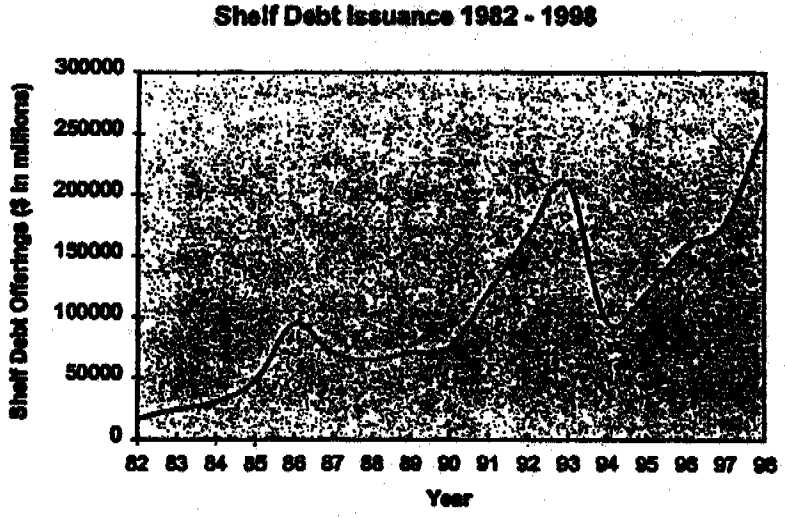
4. The Economics of Shelf Registration

With the permanent enactment of Rule 415 in 1984, the SEC cleared the way for a certain category of large companies to begin shelf registering securities. These companies, which had to meet certain requirements prior to receiving the privilege of using shelf registration, were now able to expand their economic behavior in a specific way that had previously been unlawful. They could, if they prepared in advance, offer securities to the

market within minutes of the decision to do so. This ability, it will be seen, has both enhanced the value of these companies and created new markets.

Whether the adoption of Rule 415 enhanced the value of corporations through the reduction in the cost of security issuance has been widely debated in the literature. A brief review of this debate will be presented here. That corporations have come to use shelf registration frequently and heavily, notably for debt issues, is not subject to debate. Figure 3 shows total shelf debt issuance since 1982. In 1984, $17 billion of debt was issued off shelf registrations, not including MTN issuance. By 1998, that amount had increased to $257 billion.

Figure 3



Source: Securities Data Corp.

Comparable numbers for off-the-shelf equity issues are not nearly as dramatic. Companies seem to shy away from using shelf registration for equity offerings because of an economic phenomenon known as "market overhang". When an offering of additional shares is announced, the value of the seasoned equity usually declines. This has been documented in many studies. The phenomenon even appears to take place upon the filing of a shelf registration, long before any stock sales have taken place, according to Denis (1991).

Although traditional markets have embraced the use of shelf registration, what is perhaps even more remarkable is the creation of new markets as a result of the enactment. An obvious example of such a market is the Medium-Term-Note market. Ford Motor Credit filed the first public MTN program in 1981. Total MTN issuance has grown from $1.7 billion in 1982 to $437 billion in 1998, an explosion directly attributable to the adoption of Rule 415. The "continuously offered" securities, originally viewed as an extension of

commercial paper, were typically issued in the 2-5 year range (the market was initially dominated by auto finance companies). Although the 1-10 year range remains the most liquid area of the market, the issues have actually ranged anywhere from 9 months to 100 years, making this a remarkably flexible arena in which firms can issue debt.

The remainder of this section is divided into two parts. The first part will provide a review of recent academic literature pertaining to shelf registration, along with some simple economic analysis to complement these articles. The second part will present a particular example of a market that owes its existence to the enactment of Rule 415, the MTN market. The discussion will address why this market depends on the current regulatory regime, and why some or all of this market might move offshore.

a. Some Recent Pertinent Literature and a Related Economic Discussion

Although one can find older studies concerning shelf registration (see for example Hodes, 1963), this strand of literature naturally took off a few years subsequent to the actual adoption of Rule 415, with the lag being necessary so that data on the subject could be collected. This flurry of early studies, which seems to have entertained a reasonable academic debate in the time period roughly bracketed by 1984 and 1988, concerned itself with the establishment of the general effects of shelf registration. This undertaking was primarily empirical; these articles proceeded typically by illustrating certain phenomena through the use of regression models. An in-depth analysis of the contents of those articles is not necessary for the purposes of this presentation, but they can essentially be summarized by stating that they found cost savings among firms that used shelf registration versus those firms that did not. Examples of early works of this type were Kidwell, Marr, and Thompson (1984,1987), and Bhagat, Marr, and Thompson (1985).

After this initial research activity, one must turn to the more recent literature. One of the early debates concerning the enactment of shelf registration was the argument that underwriters may not have time to conduct 'due diligence.' Blackwell, Marr, and Spivey (1990) looked at the effect of shelf registration on the ability of underwriters to perform due diligence in the context of the "certification hypothesis". This hypothesis posits that underwriters are staking their "reputational capital" on their certification that the issue price adequately reflects all information (including insider information). Since underwriters may be liable in the absence of due diligence (both legally and with respect to loss of this reputational capital), one would expect that underwriter compensation would increase both if these responsibilities were made more difficult (or impossible) to adequately complete, or if the legal liability was great. This article uses a logit regression model to examine the propensity of firms' to choose traditional vs. shelf registration, and a standard regression model to examine the effect of increased due diligence on the underwriter's spread. The idea is that if the criticism that the ability to perform due diligence is reduced in shelf offerings is true, then firms with greater due diligence exposure, thus facing higher underwriting costs in a shelf registration, would have a greater propensity to use traditional registration. As expected, the findings suggest that firms with higher (expected) due diligence requirements face larger underwriter spreads and are more likely to choose traditional registration methods.

An interesting confirmation of this certification hypothesis in primary seasoned equity markets comes from Denis (1991). Denis notes that (for his sample period of 1982-1988) relatively few and declining numbers of equity issues are made via shelf registration. This is true despite the well-documented lower costs of employing the shelf registration procedure (in a later article, as we will see, he rescinds his claim that equity deals done through shelf registration are done with lower costs than traditional registration). Those that do shelf register are large firms, for which the information sets of managers and the public, he presumes, are likely to be similar. This, he takes as empirical validation of the certification hypothesis, believing that the negative impact of equity issuances on stock prices will be higher for less well known firms if they lack underwriter certification.

The findings of these articles reveal some components of what underlies virtually every economic decision. What economic agents always do is weigh the costs and benefits of a particular decision versus the costs and benefits of an array of alternatives. The above articles represent academic undertakings to determine the particulars of the decision to use shelf or traditional registration. Many other articles further attempt to assess the cost and benefits of this decision.

In a criticism of earlier works, Denis (1993) points out that earlier studies showing lower costs for equity issuers using shelf registration were the result of sample bias in the selection of firms by previous authors. Denis examines underwriter spreads of the 36 companies that used shelf registration to issue equity between 1982 and 1985, and includes in a new data set the underwriter spreads on non-shelf issues of those same firms for the time period 1971 to 1986. New regressions with this data set indicate that for these firms, spreads of shelf and non-shelf issues are either indistinguishable or have a cost advantage in favor of non-shelf issues.

Regarding debt issued through shelf registration, a similar criticism had been made earlier by Allen, Lamy and Thompson (1990). While pointing to a self-selection bias proposed by Hansen (1986), these authors claim that previous findings of the savings afforded shelf-registered debt issues were overstated. When one looks at the aggregate empirical evidence, however, it is difficult to argue that the shelf registration of debt is not, in many cases, the most advantageous way of issuing debt.

Given these arguments, why would a firm ever employ traditional registration? Two immediate possibilities arise -- market overhang, and economies of scale in underwriting. If market overhang seriously damages the value of the firm (more so than the simple issuance of equity or debt), then a firm may be reluctant to undertake the use of shelf registration. Further, if the underwriting costs of the two approaches are not equal (i.e., if one large issue is cheaper to underwrite than many small ones), then that may also change the optimal outcome to one of traditional registration. What we see from the academic literature, is that this cost-benefit decision will vary based on whether the issue is debt or equity, what industry the firm is in, the debt rating of the issue, and the amount of public information that exists concerning the issuer (essentially, the number of analysts assigned in the market to that firm).

The beauty of the current regulatory system is that it allows firms (at least those that qualify to use shelf registration) the opportunity to conduct this cost-benefit analysis, and make a security issuance decision that corresponds to the best interests of the firm. Sometimes this will result in a traditional registration, and sometimes this will result in a shelf registration.

The next section discusses a particular market, which has come to flourish under shelf-registration, the Medium-Term-Note Market. What this market has come to provide is an avenue by which firms that decide to issue small pieces of debt quickly may do so. Prior to the enactment of Rule 415, such a market simply could not have existed.

b. The Medium-Term-Note Market

The MTN market has a few, but very important, distinctions from the "traditional" corporate bond market. Essentially, the distinctions between the markets are characterized by size and flexibility. The typical MTN market participant initially files a debt shelf registration statement (a base prospectus), which allows for the issuance of all types of debt. Although there are many costs associated with this process, the only legally mandated fee is a .03448% of principal registration fee imposed by the SEC. Often at the same time, but under all circumstances prior to issuance, the issuer prepares and files a Prospectus Supplement describing all of the possible MTN terms. Finally, at the time of sale of the securities (which of course may be broken into many small pieces) specific terms and pricing information are provided via the pricing supplement, and sent to the SEC, which simply receives the documents. Thus, while the initial registration is time-consuming, the actual sale of the securities can be done very rapidly. It is this rapidity, or "immediacy," that characterizes MTN issuances. Further, this immediacy exists for issuers for extended periods of time.

The typical strategy is to register the total amount of securities that one expects to be sold over a two-year period, and then to periodically sell portions of the initially registered amount as interest rates fluctuate. Thus, the size of any given MTN issuance is small (typically between $ 5 and $ 50 million), and the speed at which one can bring these issues to market allows for a great deal of flexibility. The flexibility of the shelf registration filings allows the U.S. market to operate with roughly the same immediacy as, and thus compete on an equal footing with, the quickly growing European MTN market.

The usual method for offering debt in this market is to post a rate schedule for various securities. This posting may be done by displaying the rates themselves or by posting spreads over comparable maturity Treasuries. By adjusting these rates (however posted), the issuer can provide more favorable rates to the maturities at which it prefers to borrow. Investors may then choose among the posted rates and purchase the notes. By offering debt at a lower yield initially, and then (perhaps) raising this yield, a firm may be able to issue its debt on more favorable terms.

This process gives rise to another unusual feature of this market that provides tremendous flexibility. This unusual feature, known as "reverse inquiry," is a situation in which an investor may approach the issuer with a proposed maturity, size, and yield. In referring to reverse inquiry, Crabbe (1993, Federal Reserve Bulletin) goes so far as to state "This responsiveness of the MTN market to the needs of investors is one of the most important factors driving the growth and acceptance of the market." Conversations with market participants yield exactly the same information.

Figure 4

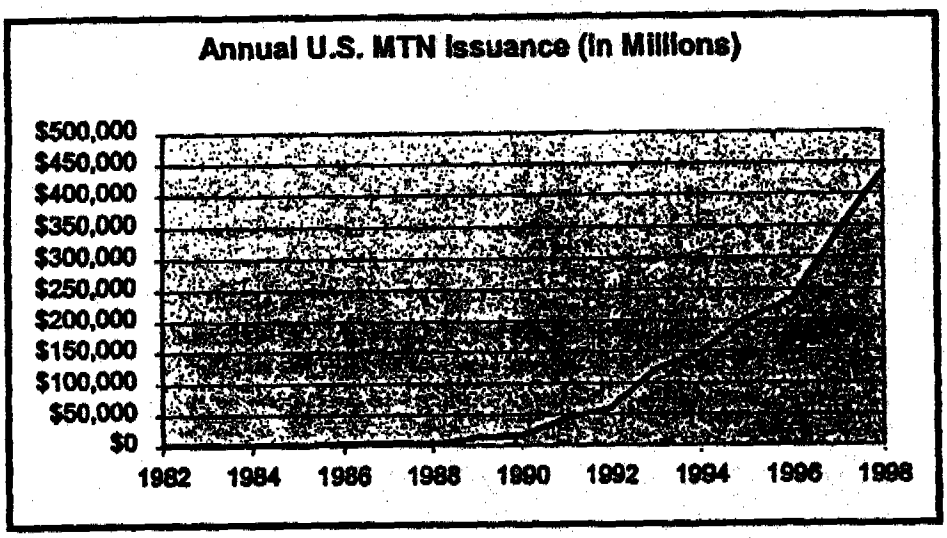
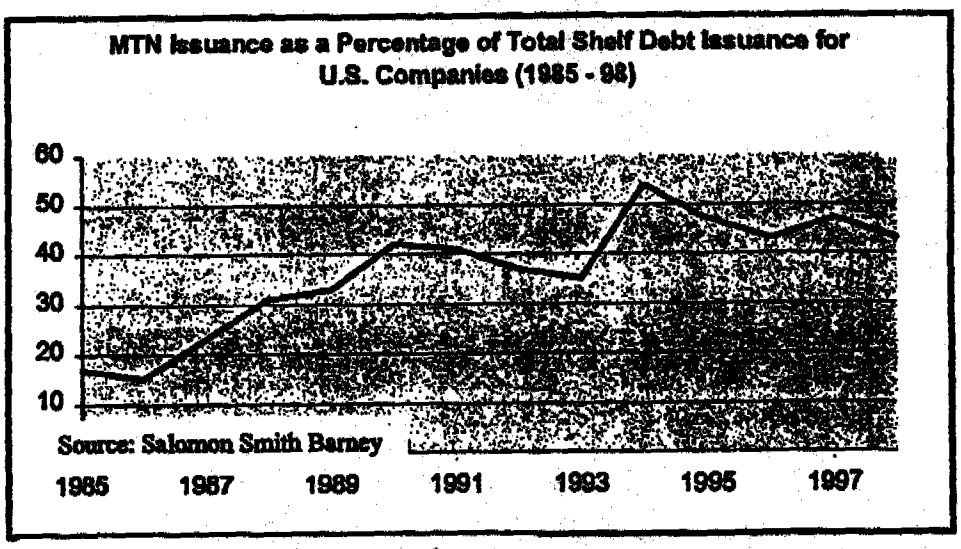


Figure 5



Source: Federal Reserve Statistical Release

c. Size of the MTN Market

The MTN market in the United States has taken off remarkably since the early 1980's. In 1982, the year the SEC provisionally adopted shelf registration, total MTN issuance in the U.S. market consisted of 12 issues valued at approximately $1.7 billion. Issuance in the 1998 U.S. MTN market, by contrast, consisted of 4,641 issues for a total value of approximately $437 billion. Figure 4 shows just how explosive the growth in this market has been. The meteoric rise of volume in this market could not have occurred prior to the creation of shelf registration. This market relies on the flexibility granted by the immediacy of action. This immediacy was made possible with the advent of shelf registration.

While the size of the MTN market has been growing in an absolute sense, it has also become increasingly important in a relative sense. When one looks at intermediate and long term borrowing by U.S. corporations, one can only reach the conclusion that the MTN market is becoming increasingly important to these companies. One measure of this importance, tracked by the Federal Reserve, is the ratio of MTN issuance to the sum of MTN issuance plus other corporate bond issuance for investment grade issuers. Figure 5 provides a chart showing this ratio since 1985. Since that time, when the MTN market was but in its infancy, this ratio has increased from 17% to 43% in 1998. In 1994, this ratio hit its high of 54%. Although this trend is a bit more erratic than that of the volume of the MTN market, its increase over time is indisputable.

In addition to this evidence, the Federal Reserve also indicates that in 1998, the ratio of MTN debt as a share of total corporate outstanding debt (again, for U.S. companies), was 15%, a number that has been relatively stable (between 14% and 19%) since 1991. It is clear that the MTN market has become an important one for the functioning of many U.S. businesses.

d. MTN Market Participants

U.S. borrowers in the MTN market are primarily investment grade. The Federal Reserve, using SEC filings, has constructed a large data set describing U.S. company MTN issuance.

Table 1 indicates the breakdown of ratings of Medium-Term-Notes issued by U.S. corporations from 1996 to 1998. In 1998, 98.6% of the issues in terms of dollar value had ratings of Baa or better. The dominance of this market by strong well-known credits demonstrates that the vast majority of MTN issues are by firms for which there is already a lot of information available to investors. They tend to be large and frequent issuers of notes. Investors understand the credit quality of these firms and there is little additional information that will be gleaned from a term sheet about these firms' notes at the time of a Medium-Term-Note sale.

Table 1

Ratings Distribution of U.S. Corporations & Issued MTNs Outstanding (in Millions)

Rating	1996	1997	1998
AAA	13,599	10,732	15,946
AA	38,027	65,233	88,662
A	168,488	186,203	213,057
Baa	61,449	47,283	56,776
Ba	4,638	3,178	3,502
B	635	1,956	1,422
Other	0	2,931	380

source: Federal Reserve Corporate MTN Statistical Release (1999)

e. Competition for the MTN Market

The explosion of volume in the market for Medium-Term-Notes has not been limited to the United States. Although the U.S. was the pioneer of this market, international competition is fierce.

Figure 6

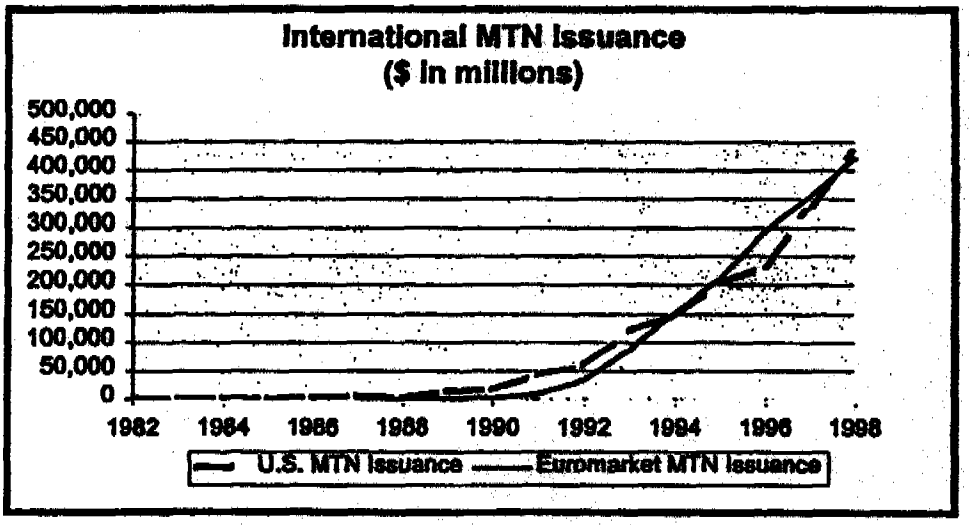
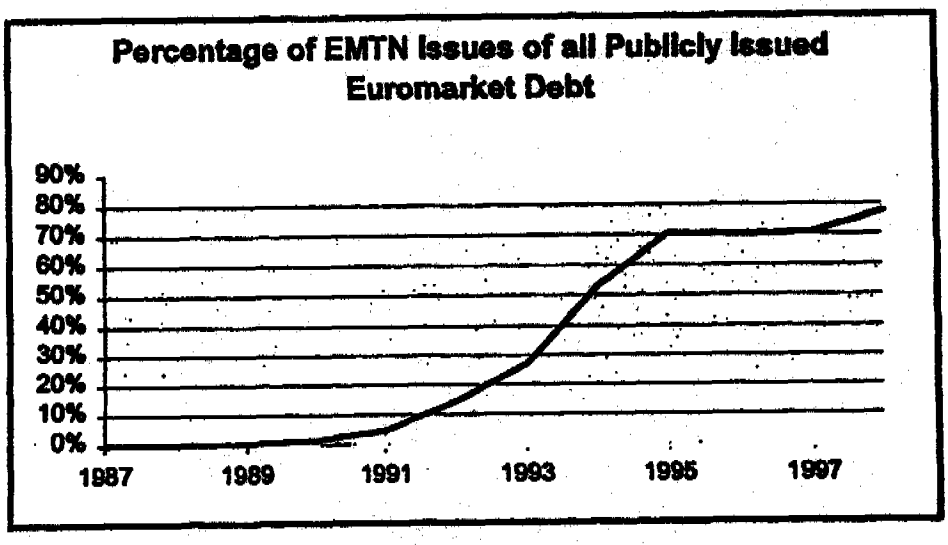


Figure 6 graphs the annual U.S. MTN issuance and Euromarket MTN issuance (EMTN). As remarkable as the takeoff in U.S. issuance was, the Euromarket has been every bit as, and perhaps slightly more, dramatic. Although the EMTN market actually outperformed the U.S. market in terms of issuance volume in the period from 1994-1997, the U.S. had the greater volume, by a slight margin, in 1998. What is even more remarkable is the way the Euromarket has embraced the MTN market. Figure 7 provides an illustration that shows how the EMTN market has grown dramatically as a percentage of all Euromarket debt issues (the percentage is calculated by looking at the ratio of dollar value of EMTN issues to dollar value of all Euromarket debt issues). As of 1998, EMTN debt constituted 77.3% of the debt issued in the Euromarket, up from virtually 0% in 1987. This increase is partly due to the fact that Euro MTN programs are comparable to Rule 415 shelves established in the U.S.

Figure 7



The Euromarket, with its absence of regulatory oversight, allows issuers to take advantage of even very brief moves in the market. The U.S., because of the speed of issue afforded by shelf registration, is an excellent competitor in the MTN market, but one can see this market is hotly contested. Were the ability in the U.S. to quickly issue debt put in jeopardy, one can see no reason that U.S. companies would not quickly switch their issuance to the Euromarket. This would have minimal detriment to those companies, but would seriously curtail the investment options of U.S. investors, who would likely be forced to the secondary Euromarket to find the almost one half trillion dollars in debt they had previously been investing in.

f. Conclusion

Rule 415 provided the opportunity of increased options to those firms that qualified to use Form S-3. There has been considerable academic debate over the benefits and costs of firms' use of shelf registration, but such debate is, in a larger sense, somewhat trivial. Rule 415 has benefited those companies that employ it as a means of issuing securities, and we know this because they continue to issue securities this way in tremendous and growing numbers.

Investor familiarity with the investment grade MTN issuers allows the MTN market to operate quickly and efficiently. If investors demanded more information about an offering, as may be true with an offering by a weaker credit, then the issuer would be unable to hit the market quickly with a Medium-Term-Note sale. Investors already demand additional time to understand low-rated issuers and the terms of their offerings. These issuers are not well suited for the MTN market as indicated by the dominance of investment grade issuers in this market (i.e., 99%). Alternatively, Medium-Term-Note issuers are of high credit quality and come to market frequently. These companies can sell MTNs quickly only because there is ample information regarding their credit quality. If investors need additional information, they will not buy the MTN offering until they get it.

Section 2. The Competitive Position of American Capital Markets in an Increasing Global Marketplace Environment

The Aircraft Carrier proposals may erode the competitive position of US markets, issuers and underwriters in two ways:

1. Increased costs of issuance of debt and equity securities may drive new issues to European markets.
2. The introduction of the Euro presents a competitive threat to US underwriters. Any further burdens on the U.S. market would be detrimental.

The plan of this section is to use the experience of the Eurobond market as a case study of a market that, facing a burdensome regulatory environment, chose to move to friendlier shores.

1. The growth of the Eurobond market and its effect on US markets

In this section we provide a case study of the Eurobond market and its effect on US markets for foreign debt. The principal issue we examine is how prior US regulations drove the issuance of foreign debt securities from Wall Street to London and other European financial centers.

Prior to the development of the Eurobond market, the Yankee bond market was the principal market for dollar-denominated foreign debt offerings. Yankee bonds are US-dollar-denominated debt securities issued by non-US borrowers and marketed primarily to US investors. Yankee bonds *are* registered with the SEC, allowing them to be sold publicly in the US. This market developed rapidly prior to the 1960s as many European governments sought capital from the US to rebuild war-ravaged economies. The primary borrowers in this market were foreign governments, in part due to strict reporting requirements of the SEC that discouraged many foreign corporations from accessing this market.

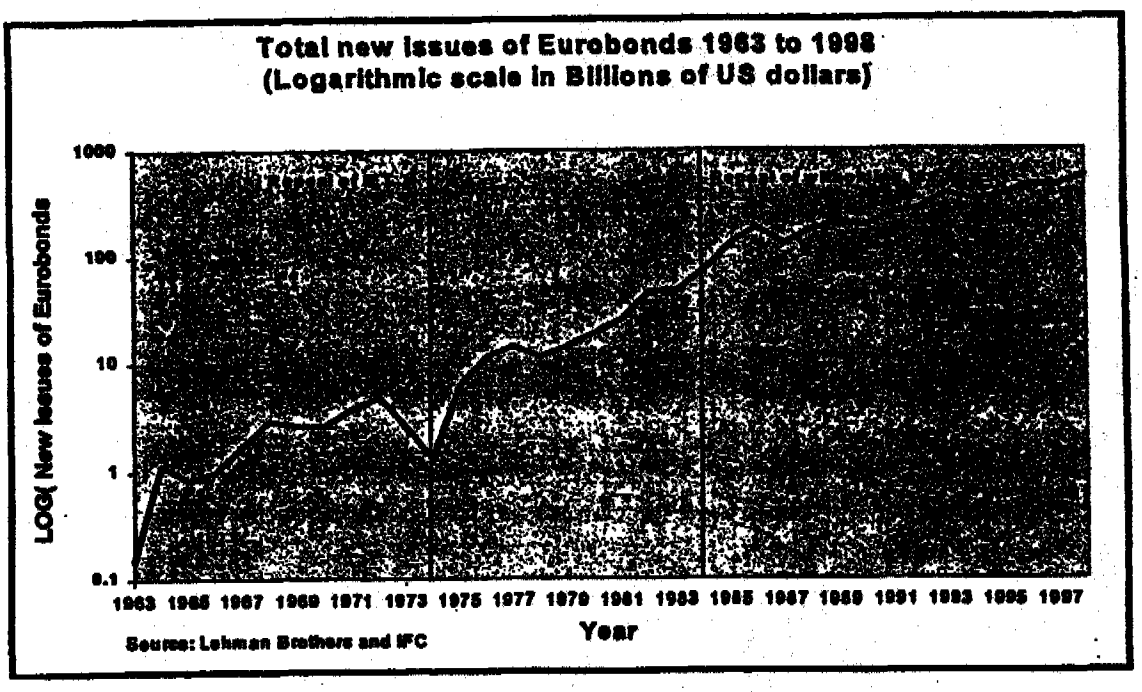
In 1963, the US instituted the Interest Equalization Tax (IET) in an attempt to improve the US balance of payments. This tax penalized US investors for buying foreign securities, e.g. Yankee bonds, and effectively closed US capital markets to foreign issuers. IET was a tax on US residents who purchased debt and equity instruments issued by foreigners. The tax raised the cost of issuance by roughly 1%, making the cost of issuance in the US roughly "equal" to the cost of issuance overseas. In addition to the IET, US authorities also imposed the Voluntary Restraint Program (VRP) for US corporations in an attempt to reduce capital exports.

The introduction of these US capital controls provided an opportunity for European investment banks to fill the capital supply void left by the US. It was hardly a

coincidence that the year that saw the imposition of IET in the US witnessed the first issue of Eurobonds. The market for Eurobonds, unlike other foreign debt securities, became a supranational market. Eurobonds offerings are issued by a process that is intended not to be a public offering and thus to avoid the regulations that surround public offerings. This means, among other things, that there is no waiting period for the issuance of Eurobonds. The IET and VRP left a large hole in the supply of capital to foreign borrowers and created the demand for the new market in Eurobonds.

British merchant banking firms rapidly became the principal lead-managers of Eurobond issues. Throughout the early 1970s, the Eurobond continued to develop in London, which had a sophisticated capital market infrastructure. UK authorities allowed the market to develop largely without any regulation or restrictions. By 1970, new issues of Eurobonds had grown to $2.6 billion or 11% of all US domestic corporate debt (see Figure 8). The major centers for Eurobond trading are London, Luxembourg, Frankfurt and Amsterdam.

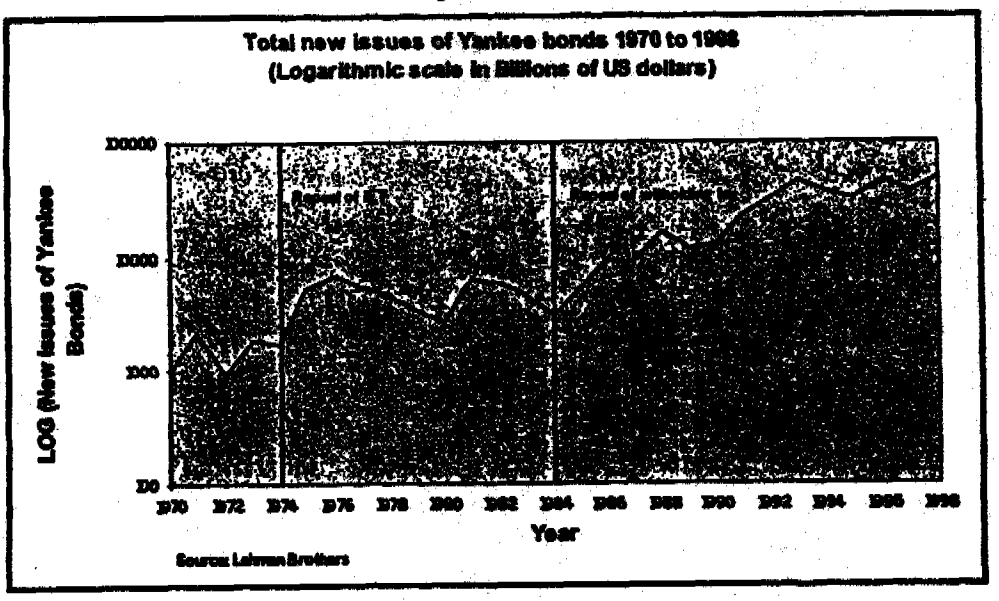
Figure 8



In 1974, both the IET and the VRP were abolished. Since the creation of this market was primarily driven by these taxes, the removal of these impediments was thought to perhaps herald the demise of the Eurobond market. In fact, Figure 8, shows that, in 1974, there was a large decline in new issues of Eurobonds. This decline, the largest in the history of the Eurobond market, demonstrates how sensitive the demand for securities is to changes in capital market regulations. However, the market proved to be very resilient, growing dramatically in the following years.

While the Eurobond market was growing rapidly during the 1960s and early 70s, US capital controls had left the market for Yankee bonds stagnant. With the abolition of the IET and VRP, the traditional US market for foreign debt offerings was again awakened. Figure 9 shows the growth of new issues of Yankee bonds 1970 to 1998. From 1973 to 1974, just prior to deregulation, new issues of Yankee bonds declined by 6.6%. In the next year, the repeal of the IET stimulated a 183% growth in new issues of Yankee bonds. After 1974, the market for Yankee bonds began strong growth that has continued to the present day.

Figure 9



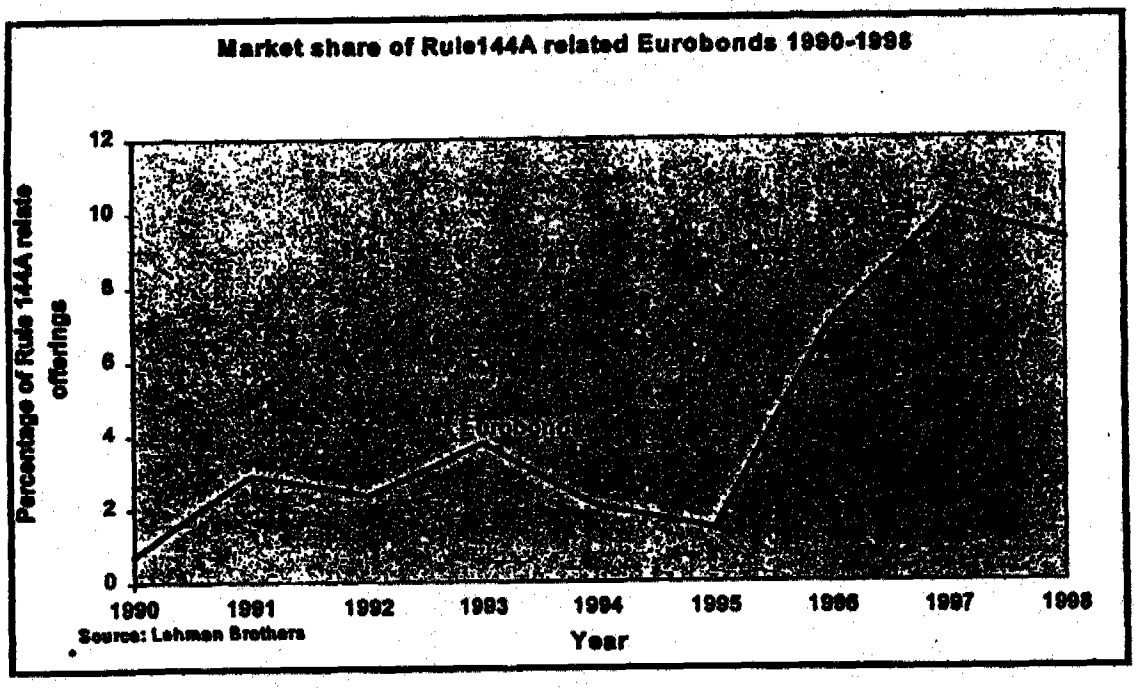
The next major change in US regulation was the introduction of shelf registration in 1982-83 and the 1984 repeal of withholding taxes levied on foreign holders of US issuers' bonds. This repeal made the Euromarket become less attractive. Figure 9 clearly shows that Yankee bond new issue volume grew dramatically by 73% from 1984 to 1985 after a 32% decline in the previous year. However, this renewed growth in the Yankee bond market had no adverse effect on new issues of Eurobonds. From 1984 to 1985 Eurobonds grew by over 78% after a 54% growth in the previous year.

2. Rule 144A : Bringing Eurobonds into the US

In 1990, the SEC adopted Rule 144A, which allows unregistered Eurobonds to be sold to "qualified institutional buyers". Since Eurobonds are ordinarily not registered with the SEC, this market was blocked from accessing US capital. However, the introduction of Rule 144A facilitated the marketing of new Eurobond issues directly to qualified US investors.

Figure 10 shows the market share of Rule 144A-related Eurobond offerings since 1990. In 1990, Rule 144A-related issues of Eurobonds represented less than 1 % of the total market in Eurobonds. However, the willingness of qualified US investors to access this market has steadily increased since the adoption of the rule. In 1997 and 1998 Rule 144A-related securities represented over 9% of all issues of Eurobonds. The ability of Eurobonds to be sold to qualified US investors has opened a new channel of primary lending to foreign borrowers. US investors' obvious appetite for these issues suggests that any restrictions on this market could hurt qualified US investors.

Figure 10



3. Eurobonds and Yankee bonds : Substitute goods

The analysis presented above shows clearly that Yankee bonds and Eurobonds are substitute goods. Both instruments allow non-US borrowers to raise capital in well-developed debt markets. The main difference between these instruments is the market that they focus on and the regulation these markets face.

To see how these markets are interrelated, we analyze the market share of Yankee bonds relative to the market for Eurobonds. Since these markets represent substitute goods, we should expect changes in the economics of issuing in one market to affect the demand in the other. Figure 11 presents the market share of Yankee bonds to all Yankee bonds plus all private and public Eurobonds from 1974 to 1998.

The changes in the US regulatory environment are clearly seen to affect the relative attractiveness of Yankee bonds. The existence of registration delays together with withholding tax for Yankee bonds continued to make Eurobonds an attractive issuance market from 1974 through to 1984. During this 10-year period, the share of Yankee bonds fell from over 55 % of the market to less than 6 % by 1984. This dramatic decline shows clearly how the cost of issuing in one market affects demand in the other. The increased relative cost of issuing Yankee bonds clearly drove debt issues into the Euro market.

Once again, in 1984, we can see the clear effect of the removal US capital controls on the market share for Yankee bonds. The repeal of withholding tax coupled with the introduction of shelf registration enabled the Yankee bond market to stem its losses to Eurobonds and actually increase its share to roughly 11 % where it has been relatively constant through 1998. Both shelf registration and the repeal of withholding tax decreased the price of issuing Yankee bonds relative to Eurobonds. The resulting effects on market share clearly demonstrate that Eurobonds and Yankee bonds are substitute goods.

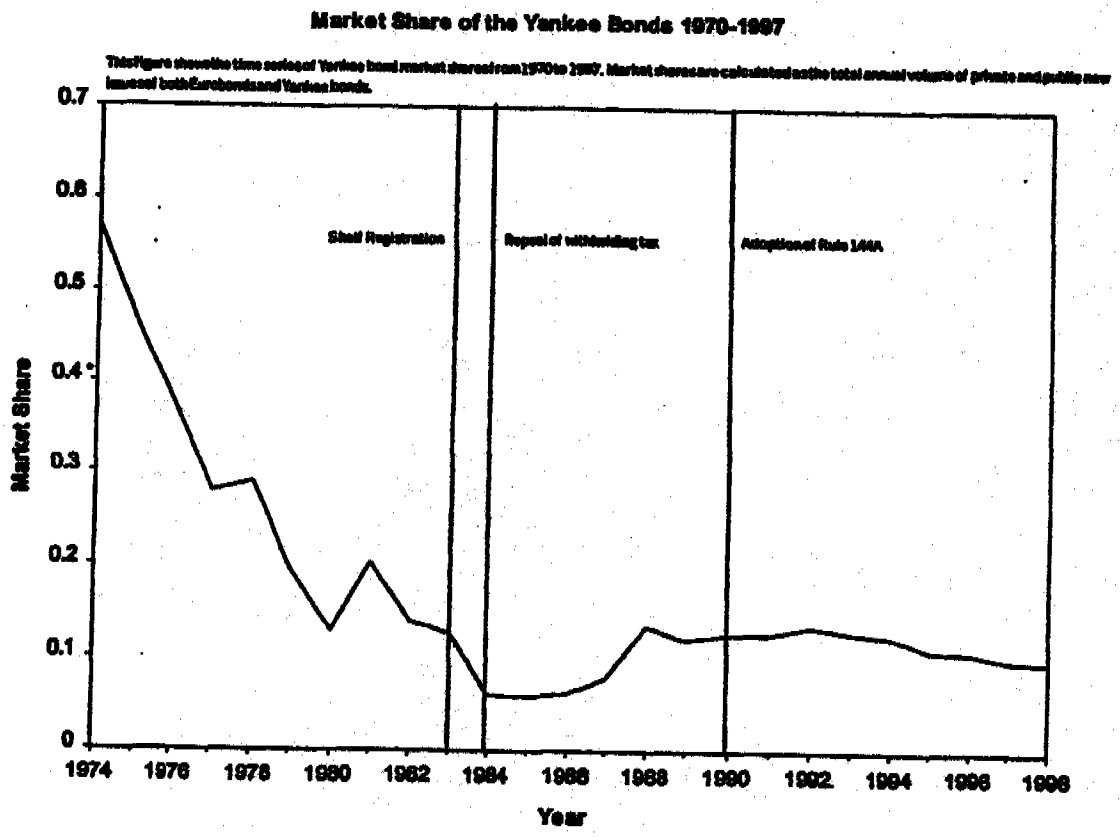


Figure 11

4. What do we learn from this?

In our analysis of the market for Eurobonds and Yankee bonds, it is clear that changes in the regulatory environment have a strong effect on, and are often the driving force behind, market trends. In both the Eurobond and Yankee bond markets, volume of new issues responds quickly and dramatically to regulatory changes. That is, issuance of foreign debt is "elastic" with respect to changes in the regulatory environment. If the proposed "Aircraft Carrier" raises the cost of issuing debt in the US, then it is clear that significant volume may shift overseas.

5. Yankee Bonds: Quick Stop Gas Station or General Store?

The trends in these markets can be explained with a simple economic model of search costs and demand elasticity. To see this, consider two small grocery stores: a quick stop gas station at the side of a highway and a general store in a small town. If both markets close for a period of time (as the US market for foreign debt market did under the IET), what happens to demand when the store re-opens? The quick stop gas station will likely have the same demand it did when it closed since patrons are not repeat customers and will not seek out alternatives. Alternatively, the general store is likely to witness a decrease in demand, as customers who rely on it daily will seek out substitute markets. When the general store re-opens, it will experience a decrease in demand that it cannot recapture, as patrons have found alternative services.

This analogy fits well with the decline of the Yankee bond market. The imposition of onerous requirements drove issuers to seek capital in alternative markets, namely, Eurobonds. Even after removal of the IET, the Yankee bond market has not recaptured the share of foreign debt offerings it once had. Thus, the Yankee bond market is more like the general store. The deregulation of 1984 did improve the competitiveness of Yankee bonds relative to Eurobonds. While Yankee bonds have increased their market share from 6% to 11% since 1984, they have not regained the 50-60% market share of the early 70s.

Marr and Trimble (1993) have also documented evidence on the effect of regulatory changes on the Eurobond market. Building on work by Kim and Stulz (1985), they investigate the relationship between firms' announcements of Eurobond issues and abnormal stock returns. According to Kim and Stulz, issuing Eurobonds can have a positive impact on firm value. While Kim and Stulz find empirical evidence of this, Marr and Trimble investigated whether this effect can be attributed to the regulatory environment. Indeed, they found that these abnormal returns existed only between 1979 and 1984. They attribute this finding to the fact that Eurobonds held a strong regulatory advantage prior to the abolition of withholding tax and the introduction of shelf registration.

6. Who wins, who loses?

US investment houses are the primary underwriters of Yankee bonds. Table 2 presents the market share of lead managers of Yankee and Eurobond new issues for 1998. US firms clearly dominate the market for underwriting Yankee bond deals. Eight out of the top ten lead-managers and all of the top five lead managers (ranked by proceeds) for Yankee bond deals are US-based firms. Together, US-based lead managers accounted for 82.2% of all Yankee bond deals while European-based firms accounted for only 7.7% of all deal proceeds. In contrast to the Yankee bond market, Europe-based underwriters have, as expected, a much larger market-share in underwriting Eurobonds. Panel B of Table 2 shows that fully six of the top ten lead managers of public Eurobond deals are

Table 2

Lead-Managers of Public Yankee Bond and Eurobond Deals: 1998

Panel A: Public Yankee Bonds

Lead-Manager	Proceeds (millions)	Rank	Market Share	Number of Issues
Goldman, Sachs & Co.	12,306	1	24.6	41
Morgan Stanley Dean Witter	7,239	2	14.4	26
Merrill Lynch & Co.	7,061	3	14.1	35
JP Morgan & Co. Inc.	5,389	4	10.8	21
Salomon Smith Barney	3,570	5	7.1	17
Lehman Brothers	3,212	6	6.4	13
Warburg Dillon Read	2,122	7	4.2	11
Credit Suisse First Boston	1,769	8	3.5	9
Chase Manhattan Corporation	1,393	9	2.8	10
Donaldson, Lufkin & Jenrette	995	10	2.0	6
Total: All European Firms	3,891	7.5	7.7	20
Total : All US Firms	41,163	5.9	82.2	169

Panel B: Public Eurobonds

Lead-Manager	Proceeds (millions)	Rank	Market Share	Number of Issues
Warburg Dillon Read	50,270	1	9.1	195
ABN AMRO	38,832	2	7.1	140
Merrill Lynch & Co.	35,117	3	6.4	164
Paribas	33,321	4	6.1	113
JP Morgan & Co. Inc.	32,933	5	6.0	132
Goldman, Sachs & Co.	31,742	6	5.8	88
Deutsche Bank	30,999	7	5.6	154
Morgan Stanley Dean Witter	30,923	8	5.6	163
Barclays Capital	28,662	9	5.2	97
Credit Suisse First Boston	27,034	10	4.9	131
Total: All European Firms	209,116	5.5	38.0	830
Total : All US Firms	130,715	5.5	23.8	537

Source: Lehman Brothers

European investment houses. Only four US-based firms are among the top ten lead managers of Eurobond deals, with a total market share of 23.8%.

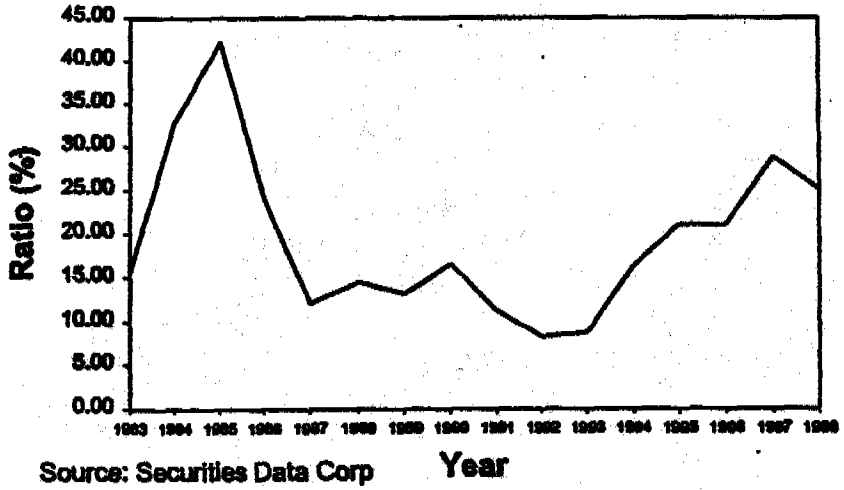
The analysis presented above shows clearly that an increase in the regulatory burden on SEC-registered debt securities will cause a shift towards Eurobonds. Since these securities are substitute goods, a shift away from US issues into Eurobonds will force issues into the hands of European underwriters, which have a larger share of the market. As a result, any change in SEC policy that tilts the market toward Eurobond issues will inevitably move fees and spreads earned by US-based underwriters on US bond deals into the pockets of European-based underwriters for Eurobond deals. The relative market share of US lead managers shows that any increase in the cost of issuance will erode the competitive position of US investment houses.

7. Eurobonds as a substitute good for domestic corporate debt

While foreign corporations and governments are the largest borrowers in the Eurobond market, US corporations also access this market frequently. The ability of US corporations to access this market also presents a competitive threat to US-based underwriters. To the extent that increased domestic issuance costs move markets offshore, the Eurobond market could also provide a substitute market for domestic debt offers.

Figure 12

Ratio of Eurobonds issued by US corporations to total issuance of investment grade corporate debt, 1983-1998



Source: Securities Data Corp

Figure 12 shows the ratio of all Eurobonds issued by US corporations to the total issuance of all investment grade corporate debt. In 1985, US corporations raised over $30 billion in Eurobonds. This figure represented over 40% of all investment grade corporate debt for 1985. However, the permanent adoption of shelf registration in 1984 lowered the cost of issuance for large firms, and the relative importance of Eurobond issues fell dramatically over the next three years. The negative impact on the Euro market was not immediate. Several years passed before shelf issuance took off. Looking at Figure 3, we see that shelf debt issuance more than tripled from 1984 to 1986. From 1987 to 1993 Eurobonds issued by US corporations represented less than 15% of all debt issues. However, this ratio has risen again through the 1990s and now represents over 25% of all US debt issues.

The fact that US corporations rely on the Eurobond market for over 25% of all debt financing demonstrates that this market poses a significant threat to more traditional domestic capital markets. If the Aircraft Carrier increases the cost of domestic issuance, debt placements will increasingly move offshore. The analysis presented above shows clearly that this move would further erode the competitive position of US investment houses.

8. Examples in the IPO market in 1999.

While the analysis presented above shows that there is strong international competition for debt underwriting, recent evidence also points to competition for equity listing as well. Recently, an Internet company (FortuneCity.com) decided to list on London rather than NASDAQ. While the reasons for this decision may have had nothing to do with regulatory burden, it is a useful example in that it shows how easily a US corporation can raise equity capital in non-US markets.

With an increasingly global market, the choice of primary listing may become increasingly irrelevant, creating real international competition for listing. The recent decision of FortuneCity.com reflects a trend among a number of recent IPOs. While many other firms have chosen to list on foreign exchanges, FortuneCity.com is the first company that has not registered the offering with the SEC. Lawyers for the company stated that one reason for this decision was that SEC registration would have added at least two months to the timetable.

Given that improved technology has made equity markets increasingly global and interrelated, the choice of equity listing may also become less restricted. The case of FortuneCity.com is important because it shows how a US firm may completely bypass US regulations and choose to list its equity offshore. Increasing the timing delays and issuance costs of IPOs will only serve to accelerate this trend. This is a time to decrease regulation rather than go in the other direction.

9. The impact of competition from the Euro

The dawn of the euro currency presents a threat to the dominance of dollar-denominated securities. For the first time in recent history, European investment banks have underwritten more international bonds (with a 42 % share of the market) than their US counterparts (with only a 35% market share). Since January 1999, European institutional investors have been actively accumulating euro-denominated debt. Since US investors are still reluctant to purchase euro-denominated assets, it is only natural that European investment banks have increased their market share in this area. For example, three companies (Alcatel, BAT, and Olivetti) which recently issued euro-denominated bonds chose to use European lead managers. This market poses a significant strategic threat to the dominance of US investment banks. To the extent that the European firms establish a foothold in issuing euro-denominated debt, US firms may find themselves at a comparative disadvantage in this market.

Section 3. The Analytics and Estimation of Timing Costs

1. Introduction

The "Aircraft Carrier" includes a number of proposals that would, if adopted, create important timing delays for most offerings of corporate debt and equity securities. It is our purpose to show that real and significant costs will be borne by issuers if these timing delays are introduced into the offering process. The costs will differ for each type of offering.

This section considers the impact of timing delays on four categories of offerings -- initial public offerings, seasoned equity offerings, underwritten debt offerings by existing shelf issuers, and medium-term notes. A discussion of the economic impact of the Aircraft Carrier proposals on each type of offering is followed by an assessment of the costs imposed by such delays. The delays caused by the Aircraft Carrier will add significantly to the costs of most issuers. These costs will prove especially burdensome for smaller companies that have fewer alternative sources of capital. The largest costs will be imposed on IPO issuers, debt shelf issuers not qualifying for Form B, and Medium-Term-Note issuers. But almost every issuer would appear to have an increased cost of issue, regardless of the offering category. The Medium-Term-Note market, which is one of the great success stories in the U.S. capital markets, might disappear entirely as a result of the proposed regulations.

2. Initial Public Offering

A privately held firm wishing to expand its operations may seek to raise funds through an initial public offering (IPO) of its equity. There are two contractual means for accomplishing the IPO, either a firm commitment underwritten offering or a best efforts offering. Under a firm commitment contract the investment bank purchases as principal while under a best-efforts offering the investment bank merely acts as selling agent for the issuer. Firms undertaking best-efforts offerings are generally smaller and riskier, and such offerings generally take longer to sell. Ritter (1987) found that 35% of IPO issuers from 1977-1982 used best-efforts offerings (13% of total proceeds raised).

An issuing firm in an IPO incurs both direct and indirect costs. Such costs can be quite large as a percentage of the total amount of money raised in the offering. Direct costs include the fees paid to investment banks for underwriting the securities (i.e., the gross spread, which includes the management fee, underwriting spread and the selling concession), and costs associated with preparing and filing the necessary SEC registration documents. The latter expenses include legal expenses, accounting expenses, printing expenses, the SEC filing fee, and listing fees if any.

The amount that securities are underpriced in an IPO is an indirect cost of the offering. Many studies have found IPOs are typically underpriced, where the underpricing is measured as the percentage increase in the price of the stock from the offering price

through the end of the first trading day. Underpricing is costly to the issuer since this amount is being foregone. Lee, Lochhead, Ritter and Zhao (1996) recently looked at the total costs (both direct and indirect) of all IPOs during period from 1990 to 1994. They found that the average total cost was almost 19% of the proceeds from these IPOs (average direct cost was 11%). Other studies have found even higher costs for IPO issues. Ritter (1987) found total costs of 21% for firm commitments and 32% for best efforts contracts, for IPOs executed between 1977 and 1982. The higher costs of best-efforts offerings are due to greater underpricing.

There are many theories regarding the cause of IPO underpricing. They all revolve around the ex-ante uncertainty of the "true" stock price. Without an existing market price for the stock at the time of the offering, issuers and underwriters face a lot of difficulty determining the offering price for an IPO. Interestingly, Muscarella and Vetsuypens (1989) found that investment banks underprice their own IPOs as much as their clients' IPOs. Therefore, even the best informed issuers and most highly motivated underwriters still have a difficult time finding the best offering price for their stock when they go public.

For seasoned equity offerings a market price already exists for the equity of the company so little underpricing is likely. Smith (1977) found underpricing of only .50 % on seasoned equity offerings. The indirect cost of seasoned offerings largely occurs on the announcement date of the equity offering, which typically produces a negative abnormal return. This price drop could be a reaction to the negative signal that the company is issuing equity because the company believes its stock is overvalued. In an IPO, issuers and underwriters don't know the correct price for the new shares that are being sold. This uncertainty is what contributes to the underpricing and thus, the cost to the issuer of executing an IPO.

Procedures have evolved over many years to minimize this cost to an issuer. The process of building a book by the lead manager in an IPO is an attempt to find the best price for the issuer and minimize the indirect costs of the offering. Anything that impedes this process will necessarily impose a cost on the issuer in the form of a lower offering price and higher cost of capital. Any increase in cost of capital will lead to fewer investments being undertaken by these firms.

To understand the costs imposed by the delivery requirements of preliminary prospectuses in an IPO, it is useful to run through a typical firm commitment underwritten offering. Suppose XYZ Co. plans on going public. First, XYZ hires an investment banker to act as the lead manager for the offering. XYZ may also choose to hire several co-managers. An "All-hands meeting" occurs with the issuer and manager(s) to discuss the timetable, structure, and size of the offering. The issuer prepares and then files the S-1 registration statement with the SEC. During the ensuing period the issuer and the manager(s) make presentations to institutional investors in what has become known as the "road show". After the SEC has commented and changes to the registration statement have been agreed to, copies of the preliminary prospectus are printed. SEC Rule 15c2-8 requires that investors receive a preliminary at least 48 hours before sending

the trade confirmation in an IPO. The underwriters build a book by soliciting indications of interest from investors. After the issuer's registration statement is declared effective by the SEC the manager(s) and issuer will seek to price as soon as possible with the book "coming together" within the final days and hours before the deal is priced. At pricing, the underwriters agree with the issuer to purchase an agreed number of shares at an agreed price. This price will be based on the managers' success in building a book. This involves getting as many investors as possible to give indications of interest at prices at or above the offering price.

The Aircraft Carrier would require that any investor participating in an IPO receive a preliminary prospectus seven days prior to pricing. If an investor were to come in three or four days prior to pricing, such an investor would not be permitted, under the proposal, to participate in the offering without triggering a four or three day postponement in the scheduled pricing date. Unless the deal is trouble, it is unlikely that the underwriters would be willing to accommodate late comers to an offering if the seven-day rule is adopted.

It is important to understand that investors, as a general rule, currently receive preliminary prospectuses prior to making a decision to buy in an IPO. Under current procedures, prospective investors routinely receive preliminary prospectuses as members of the underwriting group and selling syndicate attempt to stimulate interest in the deal. Generally, the only potential investors who do not receive prospectuses before pricing are those who may come into an offering at the very last minute, when it is simply not physically possible to get a prospectus out to them.

Mandating a seven-day prior to pricing delivery rule causes a number of difficulties for the IPO process. In principle, it will require the potential investor group to be identified seven days prior to pricing. A lot can happen in that seven-day period. Investor interest in IPOs in general or for a particular industry could wane due to new information that hits the market. This would cause some investors to leave the book, but any attempt to add more investors would trigger a delay in pricing. Alternatively, another deal could come to market from a Form B filer which could cause a member of the book to leave the IPO in favor of the seasoned offering, again causing a delay in pricing the IPO. It could simply be that some investors change their mind during the week before pricing. If you assume that investors are as likely to enter the deal as exit the deal, the book will lose existing potential investors (even if nothing else occurs that adversely affects this deal), and any attempt to add new investors will again cause a delay. Imagine the following paradoxical, but not unlikely, situation. Good news about the issuer occurs. Additional investors wish to enter the deal, which could help produce a higher offering price for the company or make possible the sale of more shares than originally planned. However, since this would delay the offering, the issuer may decide to stick to the original timetable and forego the possible higher offering price or larger transaction.

There are a number of costs being imposed by the regulatory induced delay. These will be analyzed in more detail below. There are also steps an issuer and underwriters can take to mitigate the delay. These steps also impose costs and will be further discussed

below. Some of the costs of the delay or delay avoidance can be quantified and are done so below. However, additional unquantifiable costs are likely to be imposed and these are discussed as well.

a. The Option Cost of the "Seven Day" Proposal

Currently, indications of interest (IOIs) are gathered right up to the time of pricing. The seven-day proposal would create a seven-day hiatus period, during which no new investors may be added to the group of prospective investors. What would an issuer be willing to pay, not to have to wait for seven days? The answer to that question would be the cost to the issuer of the seven-day period. The simplest way to analyze this is to imagine that a market existed that would guarantee the current market would be there seven days hence. This theoretical *hedge* would be equivalent to the sale of a forward contract (equivalent to being long a put and short a call).

It could be argued that the issuer in a public offering is generally providing a "free call option" to the marketplace during a timing delay in a public offering (although perhaps with an uncertain exercise price). If during the time of the SEC induced delay the underwriter cannot increase the offering price (for fear of the book falling apart) but may have to reduce the offering price due to market or other changes, then a call option is being offered for free. Partial empirical support for this idea is provided by Hanley (1993), who reports that in IPOs from 1983 to 1987, deals priced above the range were on average 20% underpriced, while deals priced below the range were, on average, neither under nor overpriced. Theoretical support for this comes from Benveniste and Spindt's (1989) partial adjustment model. In their model informed and uninformed investors participate in IPOs. The offering price only partially adjusts upwards to compensate informed investors for truthfully revealing their demand for an offering.

Thus, the issuer is not able to sell a call option that expires at the end of the seven-day delay, and accordingly cannot complete the "selling a forward hedge". Instead, the issuer has already provided the call, for practical purposes, free of charge to the marketplace. That leaves the put option. The issuer would like, in theory, to buy a put option that takes away the risk inherent in the delay. Standard option pricing analysis can be brought to bear on the estimate of the value of such a put. Therefore, if a delay is introduced, the issuer's cost is approximately equivalent to the cost of a European put option having a maturity equal to the length of the delay. To estimate this cost requires knowing the volatility of the security being offered. To estimate this we looked at the volatility of IPOs in the two months following their offering, during the period 1990 to 1993. The volatility (i.e., annualized standard deviation) ranged from 4 % to 464 % and averaged 61 % during these four years. Note that this volatility is comparable to the 69% volatility found by Ritter (1987) where he used the 20 trading days after IPO issuance in the period 1977 to 1982. Using the Black-Scholes-Merton option-pricing model (see Appendix 1 for the formula), we find that the cost of a seven-day put option (as a percentage of the offering price) is 3.3 % for an IPO stock with an average volatility. The put cost ranges from 0.2 % for the lowest volatility IPO to 25.2 % for the highest volatility IPO. Delays

exceeding seven days would increase the cost of the put option above these values. Longer delays are possible if additional investors are brought into the deal during the first seven-day delay.

b. Negative Signal of a Delayed Offering

A delayed offering conveys a negative signal to the marketplace. When an issuer files an S-1, the preliminary prospectus must contain an offering price range. Regulation S-K states that the range must be a "bona fide estimate" of the final offer price. Of the 1,430 IPOs studied by Hanley, 1983-1987, 27% were priced below the initial range, 63% priced within the range and 10% priced above the range. Hanley also reports that the average length of time from original SEC filing until the pricing date was 64 days for deals below the range, 56 days for deals within the range and 48 days for deals above the range. An explanation for this is that any delay is a negative signal, which causes certain investors to withdraw from the deal. The Aircraft Carrier would cause even further delays between "good" and "bad" deals, and cause issuers to realize a lower offering price due to the negative signal sent by a delay. The reduced offering price is a cost imposed on the issuer.

To estimate these costs we looked at all IPOs in 1997 and constructed a test of whether firms that wait longer to make an offering after their announcement date suffer a decline in their offering price relative to the midpoint of the preliminary pricing range. To test the relationship, we define R_i to be the percentage change from the midpoint of the pricing range to the offer price, P_i:

$$R_i = [P_i - (H_i - L_i)/2] / [(H_i - L_i)/2]$$

H_i is the top of the pricing range and L_i is the bottom. We define the time to market variable as the log of the time between the announcement date and the offer date (measured in trading days). The log transformation is necessary given the non-linear properties of a duration variable.

We also allow for two control variables. First, a market index for each IPO is constructed as the continuously compounded return on the CRSP-equally weighted stock index for the period between the announcement and offer date for each IPO. Secondly, we allow for a size measure to be the log of the offer price times the number of shares offered.

We estimate the regression model:

$$R_i = \alpha + \beta_1 \ln(\text{Time to market})_i + \beta_2 \text{Market return}_i + \beta_3 \ln(\text{Size})_i + \text{error}_i$$

The results of the regression are presented below:

Table 3

Number of observations	630
F(3, 626)	15.21
Prob > F	0.0000
R-squared	0.0689

	Coefficient	Robust Std. Error	T-Statistic	P>|t|	95% Confidence Interval	
lntime	-.0365979	.017017	-2.151	0.032	- .0700152	-.0031805
size	.0356063	.0060639	5.872	0.000	.0236983	.0475143
market1	.3947093	.1447694	2.726	0.007	.1104169	.6790017
constant	-.5181385	.1347834	-3.844	0.000	-.7828208	-.2534562

On the basis of this regression, we test the null hypothesis that β_1=0. The T-statistic on the lntime variable clearly shows that, even controlling for market return and size, an increase in the time to market has an adverse effect on the IPO issue price. Although the time from announcement to pricing is affected by the time under SEC review, the results still provide some estimate (albeit a noisy one) of the cost of a delay imposed by the Aircraft Carrier proposals.

This evidence allows us to estimate the timing cost associated with a pricing delay. The average time to market after the announcement of an IPO is 60 days in our sample. An additional day of delay would increase lntime from ln(60)=4.094 to ln(61)=4.11 or 0.0165. The coefficient from the regression suggests that the IPO offering price would decrease by 0.06 percentage points. If an offering is delayed for 7 days, this cost increases to about 42 basis points.

c. Additional Overselling

One strategy for reducing the risk of a delayed pricing involves finalizing the investor group one week prior to the anticipated pricing date and having the book be more heavily oversubscribed. Obtaining additional prospective buyers one week prior to pricing will help ensure that a sufficient number of buyers will still be committed to the offering on the pricing date, recognizing that a portion of the buyers will disappear over the final week. This larger book is not achieved without costs. To acquire additional prospective buyers, underwriters may find it necessary to lower the price in order to obtain the additional indications of interest. It is difficult if not impossible to quantify the price concession that may have to be made, but any reduction in the offering price is a cost borne by the issuer and, therefore, an increase in the cost of capital.

Because of the overselling that would be likely under a seven-day rule, there would, of necessity, be an increase in the number of disappointed investors in an oversold deal who

do not receive the allotment of shares they had hoped for (or who receive no shares whatsoever). This will become a regular feature of strong completed IPO deals if the seven-day rule is adopted. Underwriters, no doubt, would be criticized for overselling the deal, but, in reality, the economics of the seven-day delay will require it.

Imagine if airlines were prevented from selling additional tickets during the week prior to a flight, but customers could obtain ticket refunds at any time prior to departure. Such a system would encourage airlines to overbook passengers even more than they currently do, knowing that a certain percentage of these customers will change their plans during that last week. The result would be identical to the delays that would be introduced by the Aircraft Carrier proposals. The frustration experienced by travelers who are bumped from their reserved seats is equivalent to the frustration that investors will feel when they are unable to participate in an IPO because of the delay-induced overselling.

d. Additional Preliminary Prospectus Delivery Costs

The pricing delay could be entirely eliminated by delivering preliminary prospectuses to a large enough universe of potential investors at least seven days prior to the expected pricing date. However, this would be quite costly. Institutional investors and some retail investors could have the preliminary prospectuses delivered electronically. The majority of retail investors (perhaps as high as 80% to 90%) would require physical delivery of the prospectus. The cost of physical delivery and verification of the delivery would be tremendous. Currently, investment banks can have preliminary prospectuses delivered electronically using financial printers such as Bowne & Company. Assume this service could be used to accommodate delivery of preliminary prospectuses for all institutional investors and 20 % of retail investors. Delivery and verification of delivery to the remaining retail investors would be quite expensive. With no verification, it would cost about $.16 per preliminary prospectus to mail in bulk. For example, Salomon Smith Barney (SSB) currently has about 5 million customer accounts. Suppose 20% of these customers have access to electronic preliminary prospectus delivery. Therefore, it would cost over $600,000 to deliver preliminary prospectuses by mail to these SSB accounts. However, this would only reach SSB's accounts. To guarantee no delay in pricing, every investment firm would have to be included in the deal and they would each have to deliver preliminary prospectuses to all of their customers. According to Epstein (Barron's, 1998), a 1990 NYSE survey estimated that there were about 51 million individual equity investors in the U.S. It would cost approximately $ 6.5 million to mail preliminary prospectuses to the 80% of these retail investors who are unable to receive them electronically. This obviously would never occur, but it does illustrate the cost required to prevent a delay from occurring.

e. Fewer Retail Firms in the Syndicate and Selling Group

Interviews with several regional firms revealed a concern that the Aircraft Carrier proposals would reduce their participation in public offerings. It is apparent from the argument in Section d that the cost of doing business with retail investors is going to be significantly higher under the seven-day rule. One result of this higher cost is likely to be the reduction in the number of retail firms included in the underwriting syndicates and selling groups. Currently, nearly all institutional investors are covered by many different investment banks. Therefore, adding an institutional underwriter to the syndicate is unlikely to increase the selling effort, although it may reduce the underwriting risk of syndicate members. However, retail investors are unlikely to have a relationship with multiple brokerage firms and thus, adding retail firms to a given syndicate may add to the selling effort for the deal.

A not untypical example might be the following: The issuer may have a plant in a small town. A regional brokerage firm may have clients in that small town who will be interested in investing in the offering. Under the seven-day proposal, it is less likely that these retail and regional firms will be included as underwriters or as members of the selling group. The higher costs of delivering preliminary prospectuses to all retail investors seven days prior to pricing reduces the incentive to add as many retail and regional firms. Even more significant may be the perception that regional and retail firms will be unable to guarantee that all IPO investors will receive a preliminary prospectus seven days prior to pricing. This liability could discourage bulge bracket investment banks from including regional and retail firms in underwriting syndicates and selling groups. An unintended consequence of attempting to get less informed investors more information prior to their investment decision is likely to be the complete elimination of such investors from participation in these deals.

Reducing retail and regional brokerage firms' participation in IPOs may also reduce the analyst coverage and the number of market-makers in these stocks. A brokerage firm is more likely to make a market in a stock and assign a research analyst to cover a stock, if that firm is including in its underwriting. Excluding these firms from the underwritings will reduce market liquidity and the information flow for exactly the issuers where market participants may have the greatest need for such information. This will hurt issuers and investors alike.

f. Negative Signal of Retail Distribution

Delivering preliminary prospectuses to a massive number of investors can eliminate the pricing delay. However, this requires including many investment firms in the syndicate or selling group and the delivery of prospectuses to many retail investors at an extraordinary cost. This produces an *adverse selection* problem. If underwriters are better informed about the issuer and the prospect for an offering than investors, then sending out preliminary prospectuses to a small audience (i.e., only institutional investors that are active IPO buyers) signals that the deal is likely to be easily sold. However, if a retail investor receives a preliminary prospectus, that itself may be a negative signal,

since sending out so many red herrings is costly, and it indicates that underwriters expect the deal will be difficult to sell. Including retail underwriters in the syndicate makes deals more costly for two reasons – the higher costs of delivering preliminary prospectuses and the negative signal conveyed to the market, producing a lower offering price for the shares.

g. Failed Offering

The pricing delay may have the unintended consequence of causing "failed offerings" from time to time. In such situations, offerings may be completely withdrawn. This will force the issuer back to private financing sources or, in certain situations, completely undermine the viability of the issuer's financial situation (see Useem, 1998, for anecdotal evidence on hardships imposed on failed IPO issuers). A withdrawn offering may also hurt the reputation of the issuer, adversely affecting any future offerings (Garrity, 1998). Ritter (1986) notes that of the 73 failed best-efforts offerings between 1977 and 1982, very few ever returned to market.

If the market weakens during the delay (which is only slightly less likely than the market strengthening), one might argue that the issuer simply sells the issue at a lower price. There are several problems with that argument. First, the issuer might, for a variety of reasons, be constrained to a lower limit price below which the issuer is unwilling to sell. Second, the fall in price could be a signal to "uninformed investors" that something is wrong. Demand might simply disappear. The casual observation that the IPO market is often "closed" suggests that viewing the problem as simply one of a lower price is inaccurate. Buyers might not be available at any moderately lower price. The interesting question here is what significance can you attach to a failed offering? Maybe, in some sense, it should have failed. But, fundamentally, if buyer and seller were willing to transact, save an artificial non-informing delay, that suggests market failure. All sorts of possibilities can occur during the delay. A better deal may come along for some of the prospective buyers. Some may drop out because they lost money on some other transaction. Some may just want to act and buy a similar security that can be purchased without delay. None of these examples suggests that the information gained during delay was information that reflected negatively on the issuer or, indeed, in any way changed any prospective buyer's view of the company. Maybe none of them read the information provided.

Evidence that delays may lead to more failed offerings comes from Mikkelson and Partch (1988), who look at withdrawn seasoned equity offerings between 1974 and 1983. They find that the median length of time from deal announcement to pricing for completed offerings during this time period was 13 days. The median length of time from announcement to withdrawal of the offering was 26 days. Although the delays didn't necessarily cause these seasoned offerings to be withdrawn, it is likely the deals were pulled because of difficulty getting indications of interest at a certain minimum price.

Pricing delays caused by the new Aircraft Carrier proposal will cause more seasoned deals to be abandoned because of changes in the market leading up to the pricing.

An interesting question arises as to which deals are likely to fail. It seems reasonable to suppose that failed deals, under the Aircraft Carrier proposal, are most likely to be those deals that, under current regulations, are priced below the range or near the bottom of the range. These, presumably, are the hardest deals to get done. Are these deals worse for investors than deals priced at the high end of the pricing range? The answer seems to be no. Hanley (1993) looked at the long-run performance of IPOs executed between 1983 and 1987. She regressed two-year returns after the IPO on the percentage change from the midpoint of the preliminary range to the offering price. She found the slope coefficient in the regression to be statistically insignificant from zero. Therefore, offerings at the bottom of the range or below the range will, on average, produce the same return as offerings priced at the top of the range. What this means is that deals that, from an investor standpoint, are just as good as the average initial public offering that comes to market will be frozen out of the marketplace by the imposition of the seven-day rule.

h. Costs Imposed on Weaker and Smaller Issuers

The costs of the delays proposed on the IPO process will fall disproportionately upon weaker and smaller issuers that have less access to alternative sources of capital. Large, well-known companies are much more likely to be able to navigate the minefields of the procedural delays. The delays experienced by smaller relatively unknown issuers could cause some of these offerings to be done on a best-efforts basis. Ritter (1987) argues that for IPOs, companies whose value is less uncertain are more likely to engage in firm commitment underwritten offerings while companies' whose value is more uncertain are more likely to do best-efforts underwritten offerings. Ritter finds that best-efforts offerings are more costly, due to underpricing. During the period 1977-1982, the total direct and indirect costs for best efforts offerings was 32%, while the average total costs for firm commitment IPOs was 21%. The difference is largely due to underpricing. One cause for this difference is attributable to the smaller size of the best efforts offerings. However, even adjusting for size, the best efforts offerings were more costly. For example, offerings ranging from $4 million to $6 million were underpriced by 27% on a best-efforts basis and only underpriced by 13% if executed as a firm commitment offering. The delays imposed by the Aircraft Carrier will necessarily create more uncertainty in the correct value of the firm being brought to market since it will be harder to obtain indications of interest in a timely fashion. This increase in uncertainty regarding the "true" value of the firm increases the likelihood that this firm is forced to do a best-efforts offering, which is clearly more costly. From a policy standpoint, it would seem undesirable to impose such costs on firms that have fewer alternative sources of capital.

3. Seasoned Equity Offerings

The Aircraft Carrier proposals also impose costs on seasoned equity issuers required to use Form A. Instead of a seven-day delay, the pricing of such issues must wait three days from the time all investors in the deal have received a preliminary prospectus. Seasoned issuers are in a very different situation than issuers coming to the market for the first time. This is mainly due to the fact that a market already exists for the security being offered. The main pricing difficulty in executing an IPO stems from the fact that there is no market for the securities and there is a lot of uncertainty regarding the "true" price. The current process used to build a book helps underwriters and issuers gather information on what the correct price should be. With seasoned offerings a market price for the stock exists and the reaction to offerings and problems in getting offerings done has more to do with negative signals sent to the market concerning the motivation for the equity offering.

Announcements of seasoned equity offerings typically cause the price of the issuer's stock to go down. Myers and Majluf (1984) argued that such price declines are caused by asymmetric information, where issuers are better informed about the future prospects for the company than investors. A stock offering signals to investors that management believes the issuer's stock is overvalued. The stock price falls in reaction to this signal.

Extending the asymmetric information arguments used above for IPOs, we argue that the delays imposed on the book building process and sending preliminary prospectuses to retail investors are both negative signals to uninformed investors. This signals that the stock is being shunned by informed investors and is, therefore, more likely to be overvalued. This negative signal is likely to further depress the stock price beyond what occurred on the announcement date – imposing a cost on issuers.

An indication of the magnitude of a negative signal is reported in the Mikkelson and Partch (1988) study of withdrawn seasoned equity offerings. The authors found offerings are withdrawn after 26 days on average, while the completed offerings take only 13 days until they are priced. They find that stocks of withdrawn offerings produce abnormal average returns of -4.20 % between the announcement date and the date of the withdrawal. The stocks of completed offerings produce abnormal average returns of 0.70% between the announcement date and the pricing date.

In addition to the signaling costs incurred by seasoned issuers, there are real costs associated with the likely higher incidence of failed deals (although these costs cannot be estimated). The remaining costs discussed above for IPOs will also pertain, but perhaps to a lesser extent, because the delay is shorter and a market price for the stock is already established. However, the put option argument no longer applies because there is a market price for the stock that will determine the final offering price and thus, the issuer is not granting investors a free call option. The theoretical hedge in this context would consist of a short forward contract.

4. Shelf Debt Issuers

Companies that currently issue debt under Rule 415 will no longer have the immediacy of accessing the debt markets under the SEC Aircraft Carrier proposal. The proposal will cause delays in these offerings. The length of delay will vary by whether the issuer is eligible for Form A or Form B. Large firms eligible for Form B will experience a delay that could last between a few hours during the day to overnight. Form A eligible issuers are smaller firms that don't meet the requirements to issue under Form B. These include non-seasoned issuers that currently use Forms S-1 and S-2. However, Form A issuers also include firms with a public float of $75 million or more but less than $250 million, and with an average US daily trading volume less than $1 million. Such firms are currently eligible to use Form S-3 shelf registration for their debt offerings. The SEC has estimated that 1,427 firms will be affected (page 267 of the Aircraft Carrier). Further, the SEC states (on page 271) that in 1996, 187 firms did shelf takedowns that would not be allowed to use Form B. Using the same filters as the SEC, but excluding closed-end mutual funds, we estimate that more than 1,200 shelf-eligible firms in 1997 would have been relegated to Form A under the SEC's proposed changes. Six of these firms did a total of $1.3 billion of shelf debt drawdowns during 1997. For some companies there could be uncertainty whether the issuer will be a Form A or Form B issuer. A company may come to market with an offering believing it is a Form B issuer, but if it is on the cusp between Form A and Form B a small decrease in its stock price or trading volume could relegate it to using Form A. For example, if stock prices moved up or down 10%, the list of 1,200 firms would grow or shrink by about 4%, or about 50 companies.

The Aircraft Carrier would allow the issuer to determine the time of effectiveness of the registration filing. Unquestionably, allowing the issuer to proceed without a comment period is favorable to the costs of issuance. Unfortunately, the minimum three-day delay compared to the current opportunity to issue upon demand imposes a considerable penalty. One result may be to force such issuers into doing 144A private placements (without registration rights) at a higher cost of 5 - 10 basis points. The universe of 144A and non-144A private placement investors is smaller than the buyers of registered debt. Therefore, as more issuers make use of the private market, these spreads could widen considerably. Some of these smaller issuers may have access to the Euro market, but as a general rule this market is accessible to larger well-known companies.

Form B issuers will be subject to the delay of preparing term sheets and delivering them to all investors prior to their making investment decisions, and the delay of preparing and filing Form B with the SEC. This process could delay an offering from as much as a few hours to overnight. Again, this delay may lead many companies to issue in the private market at an additional cost of 5–10 basis points. Further, it could very likely cause larger well-known names to issue debt in Europe.

Form A and Form B issuers could seek to hedge or lock in an interest rate to avoid taking the risk of waiting. Debt is different than equity from a hedging perspective. Buying a

three-day put option does not lock in the interest rate that an issuer would have obtained prior to a three-day delay. Instead, the issuer would benefit if interest rates decreased over the three-day period since they could obtain a lower coupon rate on the bond offering and would allow the option to expire worthless. Nevertheless, we have calculated the three-day cost of a put option on a ten-year Treasury note to be about 32 basis points up front, which is about 5 basis points per annum over the life of a ten-year note. This cost assumes no transaction costs, and uses the average volatility over the past ten years. Including transaction costs would increase the cost further. The approximate cost of a one-day put option on a ten-year Treasury note is 19 basis points, which amounts to about 3 basis points per annum over the life of the note. Again, this assumes no transaction costs, and uses the average volatility over the past ten years, and including transaction costs would increase the costs further.

A better hedge, from the standpoint of locking in the interest rate at the beginning of the one- or three-day delay, could be accomplished by selling US Treasuries forward. This is a commonly used approach by issuers that wish to lock in the current Treasury rate over a certain period of time until they issue their bonds. The cost of this hedge is the bid-asked spread, which would increase the issuer's cost of funding by at most a couple of basis points. However, this merely locks in the existing treasury rate, but leaves the firm exposed to movements in the spread to Treasuries. This risk is not insignificant. Presumably one motivation for the timing of the debt offering is that the demand for corporate bonds has caused a narrowing of the issuer's spread to Treasuries. The issuer could seek to hedge this risk in the credit derivatives market. It would be impossible to perfectly hedge movements in the issuer's own credit spread, but it could come close by selling a forward contract on the spread to Treasuries on a comparably rated bond or index of bonds. Theoretically, an issuer could do this, but there is not enough liquidity in the market to accommodate issuers. Again, theoretically, the cost of this hedge is the bid-asked spread. Regardless, these hedging costs are incremental to those incurred under today's rules.

An even better hedge than selling treasuries forward (and also having enough liquidity to actually be executed) is to enter into an interest rate swap for a term that equals the maturity of the delayed bond offering, where the issuer pays a fixed rate and receives LIBOR. Once the one-day or three-day delay ends and the bond offering occurs, the swap is reversed, with the issuer paying LIBOR and receiving a fixed rate. The fixed rate payment on the swap will change as Treasuries change and also move with swap spreads to Treasuries. The hedge is close but not perfect. Swap spreads do tend to move in tandem with spreads of most bonds, but the swap spread will not be perfectly correlated with the credit spread of the issuer. However, this hedge comes closer than the purchase of a Treasury put option or the forward sale of Treasuries. The cost of this hedge is the bid-asked spread in interest rate swaps, which is about 5 basis points per annum. Therefore, the cost of the delay will be an increase in the borrowing costs of about 5 basis points for the issuer. This would be true for either a one-day or three-day delay.

An alternative approach to analyzing the timing costs is to estimate the costs of losing the opportunity to "time the market." It could be argued that companies are unable to time their issuance of debt so as to save money. If debt issuers are unable to time the market to take advantage of attractive interest rates, then delay imposes no cost (the argument is that 50% of the time the rate is higher and 50% of the time the rate is lower, and the expected cost of waiting is zero). However, a study by Kadapakkam and Kon (1989) suggests there is some ability of firms to time the market and save on their interest expense. The authors look at debt issuance during the period from May 1982 through June 1984, when there were nearly equal amounts of shelf and non-shelf debt issued. To evaluate an issuer's ability to "time" its issuance of intermediate term debt, the authors looked at the return from holding the Lehman Intermediate-Term Bond Index for the period immediately before and immediately after the date of the offering. A positive return prior to the issuance indicates superior timing ability on the part of an issuer. For intermediate-term bonds, shelf issuers averaged a statistically significant savings of 8 basis points for their timing ability over one day. These are up front savings -- the savings amortized over the life of the bond would be several basis points per annum. Over three days the up-front savings amounted to 21 basis points compared to non-shelf issuers. For long-term bonds, the initial savings were less compelling, with shelf issuers saving less than 1 basis point over one day. The savings over three days before issuance were 14 basis points (again, if these amounts were amortized over the life of the bond the per annum savings would be less than a basis point) for long-term debt issuers using shelves. The conclusion from their paper is that there are costs of delaying a bond issuance one or three days due to issuers' abilities to time interest rates. This cost varies with the length of the delay, but it can be up to several basis points per annum. This study concerns itself with issuers' abilities to time Treasury rates. It is more likely that issuers would have more success timing debt issuance when credit spreads to Treasuries are relatively tight. This study didn't test for this ability, and thus probably understates the costs to issuers of losing the flexibility to issue debt off Rule 415 shelves. Therefore, adding this additional cost of the delay is likely to increase the total to 5 – 10 basis points, or about the same as the additional cost of a private offering or the cost of hedging.

5. Medium-Term Notes

The impact of the Aircraft Carrier proposals on Medium-Term Note (MTN) programs is discussed elsewhere in this report. A brief discussion of the costs imposed on MTN issuers follows. A firm currently eligible to issue off its Rule 415 shelf can also file a prospectus supplement for an MTN program within the shelf. MTNs are issued continuously, across the yield curve, and in smaller sizes than is typical in an underwritten debt offering. Costs similar to those discussed above for underwritten shelf offerings also apply to MTNs. However, there is the added risk that the Aircraft Carrier proposal may cause MTN issuance to cease because of the delays imposed in the process.

We have identified two firms with MTN programs established in 1997 that would be required to file a Form A under the Aircraft Carrier. Form B issuers will be subject to the

same delays imposed on underwritten debt issuers – the time involved getting the accountant's consent, preparing and filing a Form B with the SEC, and preparing and delivering term sheets to all investors. There is every reason to believe that delays could exceed a full 24-hour period. MTNs exist largely because of the immediacy of the transactions. MTN issues are trades that take literally seconds to perform.

For example, suppose an institutional fixed-income investor is looking to invest $20 million in A1/A+ rated 3-year notes. The investor is interested in buying an ABC Corp. MTN, which is being offered at 75 basis points (3/4 of a percent) over the three-year Treasury. The investment banker talks to the investor and issuer and a trade for $20 million of three-year MTNs is executed. All this is done over the phone and is essentially "immediate."

The trade may not take place if it is delayed for hours or a full day. The investor may choose to make a secondary trade in an existing three-year note of another company instead of bearing the risk of having the market move away. The activity in the MTN market is probably the outstanding example of a modern day immediacy market. The MTN market is a very efficient market that takes place between informed buyers and sellers.

Therefore, there is a chance that the regulatory induced delays could cause the MTN market to disappear. Losing the MTN market would impose a tremendous cost on issuers and the capital markets. In 1998, 43 % of total debt offerings were MTNs. Their popularity clearly indicates there are benefits versus alternative means for issuing debt. Crabbe (1993) notes that many MTN issuers believe there are substantial savings from issuing MTNs.

Suppose a company wishes to raise $100 million of 7-year debt over the next year. Assume there are two investors that are each interested in buying $50 million of these notes, and their reservation prices, in yield-to-maturity, are 6.90% and 7%. If the company chooses to do an underwritten offering for the full amount, it would take a yield of 7% to sell the entire issue. Alternatively, if the company posted a rate of 6.90% on its MTN shelf, it could get $50 million done at 6.90% and then come back to market later to get the remaining $50 million sold. The MTN program allows the issuer to save money by price discriminating.

Another benefit for issuers noted by Crabbe is the ability of issuers to diversify by issuing smaller issues at different times and diversifying more easily across the yield curve. A risk-averse issuer can issue small amounts of debt each week over a number of weeks and avoid the risk of borrowing all its money during a "high interest rate" week. In addition, for relatively small issuers, an underwritten offering will necessarily limit its debt issuance to a single maturity, increasing the risk faced by the company when it comes time to pay off or refinance the principal amount at maturity. Issuing smaller amounts of MTNs at different maturities can mitigate this risk.

An important benefit for borrowers regularly cited by market participants is that companies with MTN programs are better able to judge the demand for their debt securities, which could prove helpful when it comes time to do a larger underwritten debt offering.

Investors benefit as well from the existence of the MTN market. Many MTN issues are a result of *reverse inquiry*, which occurs when an investor contacts an MTN issuer with the terms of a security it is seeking to purchase. According to Crabbe, " This responsiveness of the MTN market to the needs of investors is one of the most important factors driving the growth and acceptance of the market." The cost of the proposed delays could include foregoing all the benefits of the MTN market. Even if the MTN market managed to survive in a diminished form, at least a portion of these benefits would be lost and the costs detailed for underwritten debt offerings would also apply to this market.

Other MTN trades are swap driven. An issuer may wish to sell a fixed-rate MTN and execute an interest rate swap to create floating rate funding. The yield curve, credit spreads on the notes and the swap spreads must all be in sync for this trade to work, and this typically occurs only over a matter of minutes (and never for a full day). Any delay will eliminate these swap driven offerings of MTNs, and therefore, reduce the issuers' opportunities for obtaining inexpensive funding.

In addition, we can analyze the cost of delaying the MTN offering using the aforementioned hedging arguments discussed in Section 4 on Shelf Debt Issuers. The cost of entering an interest swap (paying fixed and receiving floating) and unwinding the swap once the MTN is sold equals about 5 basis points per annum. Alternatively, issuers may attempt to crowd into the small private MTN market, which would impose costs of at least 10 basis points per annum.

6. Summary of Timing Costs

We have demonstrated that the delays caused by the Aircraft Carrier will impose significant costs on many debt and equity issuers. The greatest costs will be imposed on IPO issuers, shelf debt issuers, and MTN issuers. In 1997, there were $ 44 billion of IPOs, $ 176 billion of underwritten (non-MTN) shelf debt offerings, and $ 338 billion of MTN issues.

The economy-wide impact of higher costs on all these offerings would be tremendous. A number of the costs imposed on issuers are difficult to quantify. However, we have estimated two costs imposed on IPO issuers -- the cost of a put option and the negative signaling cost associated with a delay. These costs total approximately 4 % of an IPO's proceeds. Seasoned equity issuers will not incur the put option cost, but will incur the negative signal cost of about 0.42 % of the offering proceeds. We have approximated the cost on shelf debt issuers to be in the range of 5 – 10 basis points per annum, with the cost imposed on issuers that will be required to file Form A being closer to the top of the

range. Last, it appears possible that the MTN market, as we currently know it, will disappear, which would impose costs of at least 10 basis points per annum as issuers all attempt to crowd into the small private MTN market. There are many other costs imposed on all of these issuers, which we have discussed, but are unable to quantify. Therefore, the above figures understate the total cost of the proposed delays.

The magnitude of these costs seems excessive compared to any possible benefits, which have not been documented by any researchers or investors. Further, the costs would be disproportionately borne by smaller companies that have fewer alternative sources of capital. An unintended result of the regulations could be to reduce retail participation in IPOs. The proposals seem to impose special hardships on smaller companies and retail investors.

Conclusions:

1. Requiring physical delivery of preliminary prospectuses and terms sheets imposes real and substantial costs upon issuers and raises the costs of capital significantly. These costs include an estimated 4 % of gross proceeds in the case of an initial public offering. For debt offerings the increase in costs ranges from 5 to 10 basis points depending upon the type of offering and the form eligibility under the proposal.

2. The term sheet requirement could eliminate many transactions that now take place in both debt and equity markets. Where timing matters, a postponement can mean elimination of the transaction, independent of the cause of a postponement. This elimination, in principle, injures both sides of the marketplace -- the investor and the issuer. These missing transactions represent the purest form of inefficiency in the capital markets.

3. Medium size and smaller companies could find, under the Aircraft Carrier proposals, fewer market-makers and fewer research analysts willing to cover them.

4. Retail investors could find their access to the IPO market substantially curtailed. Similarly, regional brokerage firms and smaller retail-oriented firms would likely decline in importance in the public offering process.

5. The Aircraft Carrier proposals favor larger investment banks at the expense of smaller investment banks because it could require transaction positioning to accommodate issuers during periods of delay. The capital requirements for this type of positioning clearly place larger firms in the more favorable position.

6. Some very successful and efficient markets, the Medium-Term-Note market, for example, may not survive the institution of the proposed rules in their present form.

7. Higher costs to both issuer and investor will cause transactions to find lower cost market environments. Foreign capital markets should benefit, at the expense of the American capital markets, if the Aircraft Carrier proposals are adopted.

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SIA's Comment Letter & Economist Study

In Response to

The SEC's Aircraft Carrier Proposal

Securities Industry Association
120 Broadway • New York, NY 10271-0080 • (212) 608-1500 • Fax (212) 608-1604

May 17, 1999

The Honorable Arthur Levitt
Chairman
U.S. Securities and Exchange Commission
450 Fifth Street, N.W.
Washington, DC 20549

Re: The Regulation of Securities Offerings ——
File No. S7-30-98

Dear Arthur:

We are pleased to provide you with copies of the Securities Industry Association's comments on the "Aircraft Carrier" and a report of Drs. Edwin T. Burton and Lawrence E. Kochard of the University of Virginia on the costs of implementation of the information delivery and filing requirements of the Aircraft Carrier.

As our letter and study explain in greater detail, we appreciate the Commission's efforts to modernize the rules regulating how investors receive information about securities offerings. As you know, SIA strongly urged Congress to grant the Commission exemptive authority under the Securities Act of 1933 and the Securities Exchange Act of 1934. We supported these grants of authority because we felt that the Commission could better serve the needs of investors and issuers if it had greater latitude in tailoring regulations to an evolving marketplace.

Although we appreciate the Commission's efforts, we believe that the Aircraft Carrier is substantially wide of the mark and is therefore not in the ultimate best interests of investors or issuers. The requirement to deliver preliminary prospectuses, term sheets, and updating information, coupled with the requirement to file with the SEC registration statements, post-effective amendments, "offering information" and "free writing" as compared with the current shelf process -- will slow down the public offering process, increase the cost to issuers of raising capital and reduce the competitiveness of the U.S. capital markets, particularly in relation to the fast developing Euromarket. This in turn will disadvantage, both directly and indirectly, the very investors the proposed changes are designed to help.

1401 Eye Street, NW • Washington, DC 20005-2225 • (202) 296-9410 • Fax (202) 296-9775

The U.S. capital raising system is the finest in the world because of an effective blend of regulation and free market incentives. We urge you to think very carefully and proceed very cautiously before you risk damaging the U.S. capital raising process. As technology and globalization continue to change the markets, we believe that there are additional opportunities to improve the current regulatory system. We would be pleased to work with the Commission and its staff for the continued benefit of issuers and investors.

With kindest regards,

Sincerely,

S / Roy L. Zuckerberg

Roy J. Zuckerberg
Chairman

S / Marc E. Lackritz

Marc E. Lackritz
President

Enclosures: Aircraft Carrier Comment Letter
Aircraft Carrier Economist Study