Small Firms' Access to Public Equity Financing

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I. INTRODUCTION AND OVERVIEW

In this paper the accessibility of public financing for small firms is examined. By public financing is meant the sale of securities to a diffuse group of investors who are able, in turn, to trade in a secondary market. The emphasis is on public equity financing since publicly traded debt is a rarity for small firms. It is immediately evident from the fact that only about 1.2 percent of all U.S. corporations have a secondary market for their shares that public financing is not a typical state of affairs. The conditions justifying a public market are simply not met for the large majority of firms. The public policy problem is to determine if those firms for which public financing is economically justified are able to acquire it or whether there are impediments to public financing that ought to be eliminated.

This paper surveys the literature and the existing evidence on the availability of public financing to small firms. It is meant to serve as a basis for policy discussions and for more detailed studies of specific issues.

In section II some of the fundamental factors affecting the use of public financing are considered. Central are the substantial cost of a public offering and of maintaining a secondary market, as well as the cost of establishing the complex nexus of contracts that protects the various claimants on a corporation. These costs are generally not justified unless the corporation reaches some minimum size.

In section III the secondary market for equity shares of small firms
is considered in detail. The prospect of a viable secondary market is a prerequisite for a successful public offering. The functioning of the secondary market and the impact of the institutionalization of the stock market are examined. The cost to investors of trading shares of small firms is found to be high relative to the cost of trading shares of large firms, and this implies that small firms must earn a return on investment above that of large firms. The empirical evidence indicates that small firms do earn a higher return, which is consistent with high transactions for small firms as well as with some other explanations that are discussed.

In section IV we turn to the new issues market and the process and costs of seeking outside equity capital for the first time. The process is time consuming and the costs can be high for the small firm. Those issues reaching the market receive a relatively enthusiastic reception from investors, which is reflected in the post offering price rise of many new issues.

Certain aspects of private equity financing—venture capital financing—are considered in section V. The venture capital market provides financing for companies not yet ready for public financing and for those companies seeking to avoid the high costs of registering, underwriting and distributing a new issue. Given the difficulty of eliminating the very real costs associated with a public offering and with the establishment of a viable secondary market, the increased use of the private placement market is a likely development. With the growth of institutional investors, a more efficient mechanism for bringing investors and firms together may be a financial intermediary such as an investment company or venture capital firm rather than the security market. Indeed, probably the most pervasive recommendation to improve small business financing is to reduce the limitations
on the use of private placement financing that arise under Securities and Exchange Commission regulations. Considerable progress has recently been made in this regard. We leave to another study whether the venture capital market would be adequate to the task.
II. FACTORS AFFECTING THE USE OF PUBLIC FINANCING

Businesses experience stages of growth. The start-up phase is characterized by substantial investment and by operating losses as the product is developed and the market is established. A successful weathering of this phase generally leads to a period of uneven growth during which profits are reinvested and additional financing is necessary. Finally, in the mature phase, growth slows and eventually ceases, and profits tend to be withdrawn.

Businesses also pass through stages of financing. Initial financing typically comes from the owner-entrepreneur and his friends and relatives. Almost immediately the entrepreneur relies upon bank loans collateralized initially by his personal assets and subsequently by the firm's assets. When bank financing becomes excessive relative to firm assets, private long-term financing may be sought in the venture capital market. While some long-term debt capital is available in this market, financing is usually, at least in part, equity financing. Finally, if expansion and other characteristics of the firm warrant, the firm may seek public outside financing through a public offering of securities. Initial public financing usually consists of equity capital. It is this stage that is the principal concern of this paper.

The stages of growth and the stages of financing are not synchronous. During their entire life cycle, the majority of small firms are never in a position to consider public financing. A number of underlying factors that influence the demand for and supply of public financing are considered here before proceeding to a more detailed analysis in the remaining parts of this paper of those issues for which some empirical evidence exists.
Size of Firm and Cost of Financing

Most firms never grow to a size that warrants the fixed cost of issuing equity shares and justifies the maintenance of a secondary market in such shares. We shall see below that the costs of new issues and the requirement for a viable secondary market cannot be met by many small firms. This is not necessarily the result of any discrimination against small firms but is the consequence of the costs associated with maintaining a securities market.

In certain industries such as services or retail and wholesale trade, firms can pass through the entire life cycle without ever considering public financing because the scale of operations, while optimal from the point of view of minimizing production costs, is never large enough to warrant a public market for shares. In other industries such as manufacturing, where the optimal scale of operations is larger, public financing is more likely. Figure 1 illustrates these points. The vertical line represents the minimum asset size level necessary for outside public financing. Of course, the minimum level depends on a variety of factors and will change from firm to firm and as a function of market conditions. The curves represent the long-run average cost of producing the firm's product or service. The figure depicts a situation in which the long-run optimum size of the service firm is below the scale needed for public financing while the optimum size of the manufacturing firm exceeds the scale needed for public financing.

Public policy ought to be concerned with eliminating unnecessary costs that raise the public financing threshold. It ought not be concerned with the fact that certain firms fall below a threshold that is due to real economic costs.
Figure 1
Management, Ownership and Control

Each stage of financing described above introduces new contractual parties to the nexus of contracts which is the firm. Resolving the diverging interests of these parties is costly and tends to reduce the flexibility of the manager. So long as the entrepreneur owns and operates his business, conflicts and the costs of resolving conflicts are avoided. As a result there is considerable reluctance by entrepreneurs to seek outside financing unless absolutely necessary. Similarly, outsiders are reluctant to commit funds, knowing the costs and the difficulties associated with assuring their proper use.

The reluctance of small business entrepreneurs to seek outside financing is reflected in surveys of their need for outside financing. Stockwell and Byrnes (1961) found that 65 percent of the small firm respondents had no need for long-term debt or equity funds. However, 12.2 percent of the firms needed equity financing but found their "experience not satisfactory." A May 1980 survey for the Heller Institute on Small Business by the Roper Organization found that only 2 percent of the small businesses surveyed would choose selling shares to financial institutions or to individuals as their first choice of financing. Only 20 percent would choose selling shares as their second choice. Ninety percent chose borrowing from a financial institution as their first choice.*

A detailed re-examination of the theory of the firm as it relates to the form of financing is only now being undertaken (Jensen and Meckling, 1976; Fama, 1980, e.g.), and additional theoretical and empirical work remains. Some of the basic issues can, however, be identified.

*The survey sampled 1,000 small firms with 40 to 500 employees.
The basic issues stem from the problem of moral hazard. Moral hazard arises when a contract alters the actions of the parties to the contract and thereby raises the cost of enforcing the contract. Outside financing induces actions by the entrepreneur that are not in the interests of the supplier of funds. With respect to debt financing Jensen and Meckling (1976) show that the entrepreneur has an incentive to increase the risk of the firm and take other actions detrimental to the creditors. The costs of monitoring managers can be large when creditors are a diffuse group. These costs tend to be minimized for a single knowledgeable lender who makes short-term loans that permit periodic "settling up" with the entrepreneur. Bank financing tends to meet these requirements. That bank financing is so critical for small businesses can be viewed as a rational response to minimizing agency costs of debt financing.

With respect to outside equity financing from a diffuse group of shareholders, there is an incentive for the entrepreneur to "steal the firm" by paying himself excessive salary and taking perquisites that raise his return and lower that of outside owners of the firm. The costs of monitoring the owner-manager to insure he acts in the interests of all shareholders can be substantial and will be reflected in a lower share price. Since the entrepreneur knows that these costs will be reflected in a lower share price, he is unwilling to sell shares unless there is no other choice.

The typical resolution of these problems is that shares are not publicly offered if other sources of financing are available. Initial equity financing is supplied by friends and relatives who know the entrepreneur personally. Outside financing is debt financing from
relatively few lenders such as the local bank. Such financing can be more effectively monitored and sufficient collateral can more readily be assured.

**Costs of Becoming Informed**

Closely related to the problem of moral hazard is the problem of asymmetric information that arises when the entrepreneur knows his product and his capabilities better than the supplier of funds. However, each entrepreneur seeking outside funds will tend to exaggerate his capabilities and the value of his project leaving to the potential supplier of funds the task of distinguishing good credit risks from bad, a task which may require substantial investment in information gathering. While such an investment may be sensible for a single large lender, it is much less likely that many individual lenders participating in a public financing would each be willing to bear such a cost.* Furthermore, full disclosure may compromise confidential information of the firm and bring forth competitors that bid away the superior returns of the very project being financed.

(Campbell, 1979)

An alternative to becoming fully informed is for the lender to demand an interest rate on loans or pay a price for equity shares that reflects the average quality of firms seeking financing, thereby let...
financing is too high, the firm will seek financing elsewhere or not seek it at all. There is thus a tendency for only the poorer risks to remain in the financial market. Since the poorer risks tend to default on loans and/or go out of business, the supplier of funds does not make an adequate return. The final result can be the failure of the market for financing small business as suppliers of funds refuse to participate.*

Asymmetric information and the cost of becoming informed tend to be greatest when financing is public. Credit-worthy firms therefore have an incentive to avoid public financing. As before, bank financing appears to minimize many of the difficulties. To the extent that the bank is an important lender, it can justify the costs of becoming informed. Indeed, continual contact between bank and firm can build up a sense of understanding and mutual confidence. The bank also has no incentive to violate any confidentiality since it cannot directly profit from the knowledge (by going into business itself).

Risk

The factors considered thus far--the costs of establishing a viable secondary market; the costs of establishing a complex nexus of contracts among owners, managers and lenders and of monitoring performance under these contracts; and the costs of dealing with incomplete information--create incentives for the small firm to restrict its financing to debt financing from relatively few sources. Only when these lenders consider their risk too great and demand a broader financing base will firms look to outside equity financing. The debt-equity ratio a lender is willing to

*The seminal article on the issue of asymmetric information and market failure is Akerlof (1970). Recent applications to finance are in Ross (1977, 1978) and Leland and Pyle (1977).
tolerate depends on the underlying business risk of the firm and the resale value of its assets. The greater the business risk and the lower the market value of assets, the more important is a broad equity base and the more important is outside equity financing. Thus, high technology firms with uncertain future prospects and firm specific assets are more likely to need outside equity financing than service or retail establishments in well defined markets.

Consideration of risk also influences the actions of the entrepreneur. As an investor the entrepreneur prefers to diversify his portfolio. However, to acquire financing at an early stage he must not only provide sufficient collateral but also show a willingness to invest his own funds in the business. The credit-worthiness of an entrepreneur is likely to be judged in terms of his willingness to risk his own capital. As the business expands and outside financing is sought on the basis of the firm's prospects rather than the entrepreneur's assets and abilities, the need for a personal commitment of funds by the entrepreneur is reduced. At this point a broader, formal nexus of contracts specifying the rights and obligations of the different outside lenders and owners is established. Once the fixed cost of establishing a more formal corporate organization can be met, not only is new outside public equity financing possible but the entrepreneur can also choose to sell shares for his own account in order to diversify his risk out of his own firm. Approximately 30 percent of the value of initial public equity offerings are secondary sales, the proceeds of which go to initial owners or other early investors in the firm.
Summary

The use of public financing is limited by the costs of a public offering and of establishing a secondary market, by the costs of procedures to protect the different suppliers of funds, and by the costs of becoming informed about the prospects of the firm. Debt financing from relatively few lenders, such as the local banks, tends to minimize these costs, and the relatively heavy use of bank financing by small firms is a rational response to these costs.

The expansion of the firm may ultimately necessitate a broader equity base even at the cost of controls and disclosure that protect outside investors. Since such controls and disclosure are never fully adequate, outside investors can be expected to demand high returns, the magnitude of which depends on the characteristics of the firm and on the willingness of investors to take risks.

The next two sections of this paper examine the secondary market and primary market for shares of small firms with the principal objective of determining the willingness of investors to supply equity funds and take risks. Thus, we shall consider the costs involved in maintaining these markets as well as the more fundamental willingness of investors to hold small company equity shares. The final section of the paper examines the pre-public market for financing to determine its relation to the ultimate success of public financing.
III. THE NEED FOR A Viable Secondary Market for Shares of Small Firms

Prerequisite to an active primary market for new financing is the existence of an active, liquid secondary market. Without the ability to resell shares of small firms at reasonable cost in the secondary market, investors will be reluctant to purchase such shares in the primary market. This section is restricted to an examination of the secondary market in equity shares as the secondary market for debt issues of small firms is practically nonexistent. Even for larger corporations the debt market is quite illiquid; and as a result, small firms rarely issue publicly-traded debt.

The characteristics of U.S. secondary markets and the firms traded thereon are considered first. Then the relationship between the costs of trading and size of firm are examined. The impact of recent changes in the structure of securities markets and of the institutionalization of the stock market on the demand for shares of small firms is analyzed in some detail. Finally, we look at some evidence on investor rates of return by firm size and by product market characteristics. The section concludes with a summary and a review of suggestions for improving secondary markets.

Securities Markets Today

Securities may be traded in a dealer market or an auction market. In a pure dealer market, investors, represented by their brokers, always trade with a dealer who quotes a bid and ask price, and who is willing to trade immediately for his own account. In a pure auction market, investors, represented by their brokers, trade directly with each other. If a satisfactory price cannot be arrived at, the parties
must wait to trade. In a continuous market, trading takes place in the security at all times. This requires the presence of a dealer. In a call market, trading takes place at specific times of the day.

An exchange market is a physical location where trading takes place. The principal U.S. exchanges are the New York Stock Exchange (NYSE), the American Stock Exchange (AMSE), and the regional stock exchanges (PBW, Midwest, Pacific, Boston, Cincinnati). They are all said to be continuous auction markets. A continuous auction market is a combination of a dealer and auction market since dealer intervention is necessary to assure investors that they can trade at any time. The NYSE accounts for the large bulk of trading in common stocks. Before the summer of 1976, the NYSE and AMSE listed different securities and agreed not to compete. The regionals are small and account for about 10 percent of trading in listed stocks.

The over-the-counter market is not a physical location. Rather it is a communication network using computers and the telephone. It is a dealer market. Over-the-counter trading in common stocks is primarily limited to the smaller, less actively traded companies except for those listed companies which are also traded OTC. Today, trading in about 2,400 OTC stocks is facilitated by the use of an automated quotation system called NASDAQ, which has the capability of simultaneously displaying the bid-ask quotations of all dealers in a stock. However, a significant number of less active OTC stocks are not on the NASDAQ system. Those with some national interest are quoted once a week in the Wall Street Journal. Others are quoted in regional newspapers.

Publicly issued debt is held largely by institutional investors such as pension funds, and the secondary market in debt is primarily an
OTC market which is active only in the issues of the larger companies. Because small companies are even less likely to find an active secondary market for debt than for equity, the discussion of this paper emphasizes the equity market.

Characteristics of Firms with Secondary Markets

Of all U.S. businesses relatively few have any secondary market in their shares. According to IRS Statistics of Income there are approximately 13 million businesses in the U.S. Of these, 11 million are proprietorships or partnerships. There are 2 million corporations, of which 350,000 are Subchapter S corporations that are closely held and treated as partnerships for tax purposes. Of the standard corporations, approximately the following numbers have shares traded in the following secondary markets:

<table>
<thead>
<tr>
<th>Market</th>
<th>Number of Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York Stock Exchange</td>
<td>1,400</td>
</tr>
<tr>
<td>American Stock Exchange</td>
<td>1,000</td>
</tr>
<tr>
<td>Regional Exchanges</td>
<td>200</td>
</tr>
<tr>
<td>NASDAQ</td>
<td>2,400</td>
</tr>
<tr>
<td>Non-NASDAQ OTC*</td>
<td>15,000</td>
</tr>
</tbody>
</table>

In total the 20,000 firms with any public market constitute less than 1.5 percent of all (standard) corporations.

The characteristics of these firms are reflected in the initial listing requirements of each market shown in Table 1. On NASDAQ, for example, company assets of $1 million and a minimum of 300 public shareholders are required. While there are no formal requirements in the non-NASDAQ OTC market, it is clear that a secondary market cannot be maintained until a reasonable volume of trading is forthcoming.

*Criterion is to be quoted in National Quotation Bureau, Monthly Stock Summary sometime during a year.
Secondary Market Transaction Costs and Size of Firms

Brokers and dealers who act as intermediaries to facilitate trading of shares in the secondary market require compensation for their costs. Brokers receive a commission as compensation for clerical costs, time, etc., involved in carrying out a transaction. Dealers are compensated by buying at the bid price and selling at the higher (on average) ask price. In addition to clerical costs, dealers face the risk associated with holding inventory. While broker costs vary according to size of firm and trading activity, major interfirm differences in transactions costs arise from differences in the cost of dealer services.

Dealer costs can become large when the risk of holding inventory becomes large. Inventory risk depends on the variability of the stock price and the length of time the dealer must hold a stock in inventory before reselling it. For a given per period variability, the longer the dealer must hold a stock in inventory the greater is his risk of incurring a capital loss and the greater is the compensation required for making a market in the stock. Since small companies are less actively traded than large companies, the dealer's holding period is longer and his risk greater. Second, the per period price variability also tends to be larger for small companies.

The dealer also incurs losses when he trades with someone who has inside information. Since the dealer stands ready to trade (a limited quantity) at the bid or ask price, he is subject to losses if anyone possesses information not available to the dealer. Anyone with information that the stock price will fall will sell to the dealer. Anyone with information that the stock price will rise will buy from the dealer. The dealer must lose money to such traders with inside information. He protects himself against such losses to some traders by raising the bid-ask spread.
<table>
<thead>
<tr>
<th>Public Shareholders of Record</th>
<th>NASDAQ</th>
<th>AMSE</th>
<th>NYSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Float (shares)</td>
<td>100,000</td>
<td>400,000</td>
<td>1,000,000</td>
</tr>
<tr>
<td>Total Company Assets</td>
<td>$1 million</td>
<td>n.a.</td>
<td>$16 million</td>
</tr>
<tr>
<td>Capital and Surplus</td>
<td>$.5 million</td>
<td>$4 million</td>
<td>n.a.</td>
</tr>
<tr>
<td>Value of Publicly Held Shares</td>
<td>n.a.</td>
<td>$3 million</td>
<td>$8-$10 million</td>
</tr>
</tbody>
</table>
vis-a-vis all traders. Thus, those with inside information gain not at the
dealer's expense but at the expense of other investors without information. The bid-ask spreads will be higher the greater the proportion of traders with inside information. If that proportion is greater for small companies than for large companies, bid-ask spreads will be larger in small companies. Given the fact that many small companies are closely held and that security analysts do not devote the same resources to analyzing small companies, this is a plausible but as yet untested proposition.

The numerous empirical studies of the determinants of bid-ask spreads (Demsetz (1968), Tinic (1972), Tinic and West (1972), Benston and Hagerman (1974), Hamilton (1976), Stoll (1978b)), all indicate that volume of trading is one of the most important determinants of the spread. An indication of the range of spreads on the OTC market is given in a study by Stoll (1978b) of all NASDAQ stocks for six days in July 1973. Ten percent of the 2,214 industrial stocks analyzed had representative spreads of less than 3.79 percent.* The median across stocks of the representative spread was 10.5 percent. Ten percent of the stocks had spreads greater than 25.54 percent. It should be noted that 1973 was a poor year for the stock market and percentage spreads were abnormally high because stock prices were low. A year earlier, the median spread across stocks was 5.6 percent. It is not inappropriate to ascribe the large spreads to low volume stocks and therefore most probably to stocks of small companies. (The actual effect of volume and firm size is more complicated.) Conversely, small spreads exist on stocks with high volume that tend to be issued by large companies. On the NYSE Stoll and Whaley

*The representative spread is one such that half the dealers in the stock have larger spreads and half have smaller spreads.
(1981) found the total transaction costs on a turnaround transaction (2 commissions plus the bid-ask spread) in the period 1960-1980 averaged 6.77% for the smallest 10% of firms and 2.71% for the largest 10% of firms. Thus, even in a market in which all firms are relatively large, the smallest firms incur substantially higher transaction costs than do the larger firms.

The implication for the small corporation of this difference in trading costs is that it must earn a return (capital gain plus dividend) large enough to offset the higher transaction cost to the investor. How much larger a return it must earn depends on the investor's holding period. Suppose the small company has a spread of 20 percent, and the large company a spread of 3 percent. For a one-year holding period the small firm must earn 17 percent more than the large firm, a formidable task. For a two-year holding period it must earn 8.5 percent more. For an n year holding period it must earn 17%/n more.* Another way to put it is that investors' holding periods ought to be considerably larger for small than for large firms if annual transaction costs are to be equalized.

*Let

\[ p_i^b = \text{bid price of stock } i \text{ at time } 0; \]
\[ p_i^a = \text{ask price of stock } i \text{ at time } 0; \]
\[ r_i = \text{underlying annual rate of return earned by stock } i. \]

For simplicity, assume stocks pay no dividends. We assume the bid-ask spread remains unchanged over time. Then \( r_i \) represents the rate of change in either \( p_i^b \) or \( p_i^a \);

\[ i = 1 \text{ or } 2 \text{ where } 2 \text{ refers to the "small" company and } 1 \text{ to the "large" company; and} \]
\[ t = \text{holding period of investor.} \]

The shareholder return is

\[
\frac{p_i^b \ e^{r_it}}{p_i^a} - 1, \text{ assuming continuous compounding.}
\]
The problem is to determine what underlying returns are necessary to equalize shareholder returns:

\[
\frac{p^b_1 e^{r_1 t}}{p^a_1} = \frac{p^b_2 e^{r_2 t}}{p^a_2} \quad \text{or} \quad r_2 - r_1 = \frac{\ln \frac{p^b_1}{p^a_1} - \ln \frac{p^b_2}{p^a_2}}{t}
\]

It is easy to see that the cost of trading in the secondary market could quickly become so large as to be prohibitive. As costs reduce trading volume, spreads must be even larger, and the process can be cumulative. Thus, viewed from the perspective of a small firm wishing to establish a viable secondary market, almost a quantum jump in shares outstanding and trading activity is necessary to push trading costs into an acceptable range.

To say that transactions costs are large for small firms is not to say they are unjustified, since true economic costs can indeed be high. Any attempts to help small firms by limiting spreads (for example) could be counterproductive since refusal of dealers to make any market at all might result. Attempts to subsidize dealers and require lower cost markets for small firms would transfer costs from investors to taxpayers. More important, the effectiveness of surveillance to assure that dealers maintain adequate low cost markets is highly dubious, whereas the cost of such surveillance is potentially quite high. The SEC's success in assuring that specialists on the NYSE maintain "fair and orderly" markets has been quite limited (Smidt, 1971; Stoll, 1976).

**Effect of Changing Structure of the Stock Market on the Secondary Market for Share of Small Firms**

The fact that secondary transactions costs can be justified under existing trading technology and regulatory environment does not, however, imply that they could not be reduced by changes in technology and regulations.

Significant changes are occurring in the operation of the stock market. The Securities Acts Amendments of 1975 required that the exchanges
eliminate fixed commission rates and allow competitive market determination of commission rates with the result that commission rates have been reduced by about 15 percent.* In addition, the amendments mandate the establishment of a national market system (NMS), which is characterized by the absence of unnecessary regulatory restrictions, fair competition among brokers, dealers and markets, the availability to all of information on transaction prices and dealer price quotations, the linking of markets and the ability to execute orders in the best markets. A computerized national market system offers the possibility of further reduction in transactions costs through the use of advanced technology** and more effective competition among dealers. At the same time, it can give small regional brokers, that make markets in small companies, instant access to trading markets via the computer, thereby improving secondary markets in small stocks.

However, the argument has been made that elimination of fixed commission rates and the movement to a national market system (NMS) will adversely affect the secondary market for shares of small companies (Schaefer and Warner, 1977, 1978).*** This argument is that the NMS

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*See Stoll (1979) for an analysis of the economic impact of competitive commission rates.

**Ultimately a single national computer network is possible in which investors could (1) determine the best price in any physical market location (either from a dealer or from the consolidated book of limit orders), (2) automatically execute or lock in a transaction in the computer, and (3) automatically transfer ownership of securities by computerized book entries. This process, for which five days is presently allowed, could be accomplished in a few seconds. See Farrar (1974) for a discussion of NMS and Peake (1978) for a recent critical discussion.

***This argument is quite pervasive and elements appear in the SBA Task Force report on Venture and Equity Capital.
will be a dealer market and that small stocks will not be profitable and, therefore, not attract dealers. In addition, small dealers will be driven out of business. As a result, liquidity for small stocks will suffer. West and Tinic (1978) have argued strongly that the empirical evidence does not support the Schaefer-Warner position. Furthermore, the Schaefer-Warner argument applies primarily to NYSE listed stocks. Most small company stocks are already traded in a dealer market—the over-the-counter market—and many are able to attract several dealers. As technology improves and access of brokers and dealers is broadened under NMS, one can expect an increase in the volume of trading in small company stocks, reductions in trading costs and an increase in liquidity.*

It is true that there has been a decline in the number of brokerage firms. On the NYSE the number of member organizations declined from 572 in 1970 to 496 in 1978. The membership of the NASD declined from 4,470 broker dealers in 1970 to 2,813 broker dealers in 1978.** However, whether this decline has reduced the level of services provided by the industry or the degree of competition is an entirely different matter. With respect to the NASD the number of branch offices has declined only from 6,990 to 6,327 and by now (1980) has probably surpassed the 1970 level. The remaining firms that make markets tend to make markets in more stocks. As a result the average stock on NASDAQ has more market makers today than in prior years when there were more dealers.

*Empirical studies on bid-ask spreads by Benston and Hagerman (1974), Stoll (1978), Tinic (1972), Tinic and West (1972) and Hamilton (1978) indicate that competition among dealers reduces spreads, holding other variables constant. Competition will adversely affect NYSE floor members that currently receive the order flow more or less automatically.

**Data from NASD (1979), Small Business Financing.
Effect of Institutionalization of the Stock Market on the Secondary Market for Shares of Small Firms

Institutions' Portfolio Holdings

During the 1950's and 1960's a significant shift occurred in the management of equity funds. The growth of pension funds, the increased wealth of ordinary individuals and the growth of foundations and college endowments have resulted in a significant increase in equity funds under professional management by bank trust departments, investment advisers, or insurance companies. According to NYSE estimates, institutional investors held 33.6 percent of NYSE stock in 1975 (up from 22.7 percent in 1965 and 14.5 percent in 1949). Institutions plus intermediaries accounted for 54.7 percent of the dollar value of all NYSE volume in 1976.* The issue is whether "institutionalization of the stock market" has affected the demand to hold shares of smaller companies.

The SEC's Institutional Investor Study examined the holdings of the major institutions as of September 1969 in 475 randomly selected stocks that included NYSE, AMSE and OTC issues. The study found that large stocks were held in greater quantities relative to their market value than small stocks. The study computed a "market ratio," which is the ratio of the market value of the stock to the total market value of all stocks in the sample. For all sampled institutions as a group it also computed a "portfolio ratio," which is the ratio of the value of

*This overstates institutional volume because the figure includes transactions of intermediaries, such as nonmember brokers on behalf of their customers. On the other hand, it understates the importance of institutions because the figure is taken as a percentage of all volume, including NYSE members, not as a percent of volume originating outside the NYSE. In the latter case, institutional plus intermediary volume is 70 percent of all public volume.
institutions' holdings of the stock to the total value of institutions' holdings of all sampled stocks. The portfolio ratio tended to exceed the market ratio for large companies and to fall short for small companies (IIS, Ch. IX). Among institution types, the relationship was strongest for bank trust departments and less clear for other institution types.

In January 1979 a Special Survey of Institutional Investors was conducted under the auspices of the NASD.* Of the 535 institutions responding to the question, "Do you have any policy, either formal or informal, which requires a minimum level of market capitalization for companies in which you invest?" 59.3 percent replied that they had such an informal or formal policy. Of these, 77 percent required a minimum capitalization of more than $25 million before investing in a company. The major reasons given for a reluctance to invest in small companies (in order of importance) were ERISA concerns, other factors, cost of in-house research, lack of financial history, difficulty in valuation. It appears from the responses that a combination of conservative investment objectives plus the costs of adequate investigation and surveillance of small companies were important factors.

Although there is a tendency for institutions to prefer large companies, many portfolio managers are anxious to find promising young firms and a substantial number devote a fraction of their portfolio to risky small firms in hopes of finding the next Xerox. This is particularly true for smaller institutions such as venture capital firms, smaller trust departments and smaller investment bankers, all of which tend to be underrepresented in the Institutional Investor Study and the NASD survey. Furthermore, individual investors may desire to hold disproportionate shares

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*NASD (1979), Small Business Financing.
of small companies, thereby offsetting institutions' reluctance to hold such shares.

**ERISA and The Prudent Man Rule: Effect on The Small Firm**

The Employee Retirement Income Security Act of 1974 requires that pension plan funds be invested "... with the care, skill, prudence and diligence under the circumstance then prevailing that a prudent man acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims." Furthermore, ERISA prohibits any exculpatory clause that would relieve a fiduciary from liability under the Act, and it imposes personal liability on the individual acting as fiduciary should he fail to meet his responsibilities.*

There is considerable uncertainty about the nature of these responsibilities, and there is a concern that in their desire to "play it safe" pension fund managers will adopt a more conservative strategy, thereby neglecting higher risk small firms. Uncertainty is related in particular to the following issues:

1. Will court interpretation of ERISA incorporate provisions of personal trust law and will pension fiduciaries be held to the same degree of prudence as personal trust fiduciaries?

2. Does the requirement for prudence apply to each stock singly or to the portfolio as a whole? In other words, will court interpretation of ERISA recognize modern portfolio theory which shows that stocks may be risky when held in isolation, but may be relatively safe when viewed in the context of a portfolio in which price fluctuations

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*Additional discussions of ERISA may be found in Brown (1977), Fisher (1977), Gray (1977), Klesch (1977), and Pozen (1977).
of individual securities offset each other? If the latter, the impact of ERISA on small firms will be mitigated.

3. Is a "Prudent man" an expert or is there flexibility and allowable variation in the degree of skill with which funds are manager?

These points should be evaluated in light of the fact that many pension plans are defined benefit plans. In other words, employee benefits are fixed and the risk of "imprudence" is borne first by the corporation, and second (in case of corporate bankruptcy) by the Pension Guarantee Corporation. It would seem that the same degree of prudence required of a personal trust manager is not required here. Greater concern should exist with respect to defined contribution plans, in which contributions are fixed, not benefits.

The Labor Department, which administers ERISA, has attempted to clarify the meaning of prudence under ERISA in regulations issued on July 23, 1979.* In particular, prudence is to be judged with respect to the portfolio as a whole, not in terms of any single security. The standard of prudence, while less severe than that applied in Common Law to the administration of personal trusts, still requires a level of knowledge and care in investment management that a prudent man would possess in managing "an enterprise of like character and with like aims." Considerable uncertainty as to the meaning of the law still remains, which may in the end only be resolved in a court of law.

*For citations and discussion the reader is referred to Cummins, Percival, Westerfield and Ramage (1980).
The effect of ERISA has been an attempt by institutions to specify more clearly investment policies and guidelines. This is documented in a study by Cummins et al. (1980) for the Labor Department as well as by the previously cited NASD survey. Both studies also indicate some increased reluctance to invest in small firms as a result of ERISA.

In January 1977, the SBA Task Force on Venture and Equity Capital determined sufficient uncertainty existed about the meaning of ERISA to warrant a recommendation for two amendments that would make it easier for money managers to commit funds to new risky ventures: First, the law should make clear that the ERISA "prudent man rule" applies to the total portfolio rather than any individual issue. Second, the law should permit the creation of a basket (5 percent of plan assets) which may specifically be devoted to higher risk, small business investments. While the first recommendation has been met in part by Labor Department regulations, the second has not been implemented. Eighty-five percent of 201 institutions responding to the question in the NASD survey favored such an amendment.

**Is the Stock Market Competitive?**

There is a widely held view that the financial markets are controlled by relatively few institutions and that only large corporations receive credit at fair prices or receive a fair evaluation of their shares. According to some, financial market concentration in turn leads to industrial concentration in the product market. With respect to the stock market, Shepherd (1975) has argued that

It has always been true that large scale expert investors have gotten higher yields than small investors who rely on public information. That accounts in part for the decline during the last decade in participation in port-
folio investment by small shareholders. This effect has been sharpened because institutions have recently tended to move in unison, which has destabilized share prices even in leading issues.

The rise of institutional trading is also reducing access to investible capital by lesser firms. (page 173)

However, he offers no evidence for these assertions.

Indeed, there is little direct evidence that anyone controls the stock market. More than any product market, the market for securities is so broad and large that no single entity can control it. In 1969 the largest institutional investor (bank trust department) had sufficient resources to hold less than 2.5 percent of all stocks; the largest ten institutions (bank trust departments) had sufficient resources to hold about 10 percent of the stock market (IIS, Ch. XV). In other words, the concentration ratio is smaller than in most other industries, and effective control is less than these figures indicate since money managers (banks in particular) do not have complete investment discretion and since the money and capital markets are broader than the stock market.

Of course, a particular institution may concentrate its holdings in a particular stock and be able to affect the price of that stock. However, evidence on institutional trading indicates that price effects are small and are due primarily to new information justifying a revaluation of the stock rather than to the impact of the transaction itself (Scholes (1972), Kraus and Stoll (1972a)). This reflects the fact that the stock market is broad and deep, so that there are always other investors (institutions or individuals) willing to hold what an institution sells and willing to sell what an institution wishes to buy. The price effects which are observed are to the detriment of the institutions initiating the transactions since prices tend to fall before a large sale is completed and tend to rise before a purchase is completed (although the evidence on the purchase side
is less clear than on the sale side. The practical implication for institutions is not to try to beat the market by frequent trading (Ellis (1975)).

Even if an individual institution cannot manipulate prices, there is a concern, expressed by Shepherd, that institutions act in unison to destabilize prices. The effect of such action would be particularly great for small companies with little float. In an analysis of NYSE and AMSE stocks, the Institutional Investor Study determined that institutions act in parallel no more often than would be expected to occur by chance. In other words, there is no evidence of any tendency by institutions to "gang up" on the market by colluding or because they listen to common investment advice (IIs, Ch. 10; Kraus and Stoll, 1972b). Excessive institutional buying or selling in a particular stock may occur by chance; and in that case the stock price may be temporarily affected, and the effects can be substantial for smaller companies. However, the price effects are not generally in the interests of the institutions who pay more when buying in unison and receive less when selling in unison than they would if acting individually. Furthermore, one could expect chance parallel action and price effects in a market consisting only of many individual investors.

Thus, the evidence does not indicate that anyone controls the stock market. There are sufficient numbers of independent investors, none of sufficient size relative to the market size, to make difficult price manipulation in favor of any particular investor or group of investors. Temporary price aberrations do occur, but they occur by chance, and it is in the interests of investors to avoid such aberrations. Since "price aberrations" cannot usually be distinguished from justified price changes.
until after the fact, it is difficult to define a role for public policy other than what is presently in the law: full disclosure and the prohibition of fraud.

Stock Market Prices, Rates of Return, Risk and Firm Size

If small firms are at a disadvantage in the secondary markets because of higher transactions costs, higher information costs, institutional aversion, susceptibility to manipulation, lack of interest on the part of brokers, or other factors; one should observe a higher secondary market return for small firms when compared with large firms of comparable risk. The basic theoretical approach is outlined here and some empirical studies are reviewed. Section IV reviews the more voluminous findings with respect to investor returns on first-time new issues of small firms.

Theoretical Framework

To determine the possible sources of discrimination against small firms and their possible effect on prices and returns, a simple model of stock valuation is useful. The price of a share of stock is given by the discounted value of future dividends. If dividends are expected to grow at the rate \( g \), then it can be shown that the share price is

\[
P_t = \frac{D_t}{k_t - g_t}
\]

where:

- \( P_t \) = price per share at beginning of year \( t \);
- \( D_t \) = dividend paid per share at end of year \( t \);
- \( g_t \) = future rate of growth in dividend per share expected as of beginning of year \( t \), i.e., \( D_{t+1} + (1+g_t)D_t \); and
- \( k_t \) = interest rate used to discount future expected dividends. Depends on time value of money and risk associated with dividend stream.
The stock market return, $r$, is defined as the capital gain plus dividend divided by initial price:

$$ r_{t+1} = \frac{P_{t+1} - P_t + D_t}{P_t} $$

(2)

In terms of the valuation formula (1), this becomes:

$$ r_{t+1} = \frac{\frac{D_{t+1}}{k_t} \cdot (k_t - g_t)}{k_t + (k_t - g_t) - 1} + (k_t - g_t) - 1 $$

(3)

If the discount rate, $k$, and the expected growth rate, $g$, remain unchanged between time $t$ and time $t+1$, the stock market rate of return just equals the interest rate used by the market to discount dividends, i.e.,

$$ r_{t+1} = k_t = k_{t+1}. $$

(4)

Now consider a large and a small firm that have the same current dividend, $D_t$, and the same expected growth in dividends, $g_t$. In addition, they are in the same lines of business and face the same degree of risk (the measurement of which is a difficult problem). Thus, in principle, the market should apply the same discount rate, $k_t$, to the two shares of stock. The small firm is disadvantaged if it has the larger $k_t$. According to (1) this means the small firm will sell at a lower price relative to its current dividend. Since dividends are related to earnings, the price earnings ratio would also be lower. The stock market return, $r_{t+1}$, for the small firm will be higher than for the large firm since by the assumption just made, (4) holds. A high stock market return means either that investors discriminate against small firms by supplying insufficient capital which depresses prices of small firms' shares or that investors demand a higher return to offset additional real costs of investing in small firms (i.e., higher transactions costs) as opposed to large firms.
A second form of discrimination arises if the future dividend (and earnings) growth of small firms is systematically underestimated as compared with large firms. This means $g$ is too low, and this again results in too low a price (relative to dividends or earnings) for the small firm. Over time, as higher earnings and dividends are realized, the price of the small firm's stock increases by more than previously expected. When this occurs, the stock market return of the small firm exceeds the stock market return of the large firm. To illustrate this point in terms of equation (3), assume the large and small firms have the same discount rate, $k_t$, which remains unchanged over time ($k_t = k_{t+1}$). Assume also that the market expects both firms to experience zero growth in earnings and dividends so that $g_t = g_{t+1} = 0$. And, finally, assume that the market is wrong about the small firm, which in fact grows so that $D_{t+1} = D_t (1+g)$, where $g$ is the actual growth realized by the small firm during the year. These simplifications lead to a realized return of $r_{t+1} = k_t$ for the large firm and $r_{t+1} = k_t + \bar{g}$ for the small firm. In other words, even if the market continues to underestimate future earnings and dividend growth of the small firm, the realization of higher earnings and dividends is reflected in a higher stock market return.

Thus, holding risk constant, investor aversion to small firms implies that prices of small firms will be too low and stock market returns too high, whether the source of the aversion is due to too large a discount factor, $k$, or to an underestimate of future earnings and dividend growth, $g$.

Empirical Evidence

There is relatively little evidence on secondary market returns according to firm size. The exceptions are Blume (1976) and two recent studies by Banz (1981) and Reinganum (1981). Blume constructed several
diversified portfolios of NYSE stocks which differed in the proportion of funds invested in the smaller companies. He found that the typical monthly return was greater, the greater the fraction of the portfolio devoted to small companies. However, the risk of the portfolio was also greater. Thus, one could not conclude that the higher return reflected aversion to small firms since investors require higher returns when risk is higher.

Thus, the critical problem in analyzing secondary market returns is to determine whether the risk-return tradeoff is different for small than for large firms. There are many empirical tests of the proposition that expected stock market returns are higher, the greater the level of expected risk. Banz (1981) and Reinganum (1981) have recently modified these tests to include a firm size variable. The basic procedure is to construct a portfolio of small firms that has the same risk as a portfolio of large firms. (Risk is measured by the beta coefficient of the stock). If size is unimportant, the two portfolios should on average have the same stock market return.

In fact, for the period 1931-75, Banz finds that the portfolio of the 50 smallest NYSE firms experienced a return which was greater by 1.01 percent per month than the return on a portfolio of the 50 largest firms. When five-year subperiods are examined, the years 1946-1960 appear to be exceptions. But the remaining subperiods conform to average result. The effect is present only for the smallest NYSE firms. Medium-size firms have returns equal to returns of large firms.

Reinganum initially found that low P/E stocks experienced significantly higher returns than high P/E stocks of the same stock market risk. However, when a firm size variable is introduced, the P/E effect
disappears. This is due to the fact that small firms have lower P/E (i.e., a larger k in eq. (1)).

Since the results of Banz and Reinganum seem to hold over long periods of time, they could not be readily ascribed to the recent institutionalization of the stock market or to the recent changing structure of the brokerage industry. Stoll and Whaley (1981) show that an important explanation is the higher transactions and investigation costs associated with small firms. They replicate the Banz and Reinganum studies using monthly returns adjusted for transaction costs (bid-ask spread plus commissions) and find that this adjustment eliminates the higher returns of small firms. While the result depends on the holding period assumed, it indicates quite clearly that transaction costs have a significant differential effect on small firms. In addition there may be other factors, yet to be analyzed, which would lead to underpricing of small firms relative to large firms.

Product Market Power, Rates of Return and Firm Size

There is a large industrial organization literature on the relationship between firm size and profitability as measured by accounting rates of return on invested capital. See, for example, Stekler (1963), Hall and Weiss (1967), Samuels and Smyth (1968), Shepherd (1972) and Gale (1972). Their evidence tends to be inconclusive. Some studies find small firms have higher returns; others that they have lower returns than large firms. Frequently, differences in risk are not properly accounted for, and in several cases the universe of firms examined includes only relatively large firms (i.e., Hall and Weiss examine the 400 largest industrial corporations). Furthermore, interpretation of the results is not always correct. For example, in the frequently cited study by Hall and Weiss, the
finding that small firms have lower returns than large firms is interpreted as evidence of a financial barrier for small firms. However, low returns imply too much capital is flowing to small firms, not too little. The studies do tend to agree that variability of accounting earnings is larger the smaller the firm. To the extent such variability represents systematic risk (which cannot be diversified away in shareholder portfolios), small firms are riskier and would therefore be required to earn a higher return.

More relevant to this paper is the relationship of firm size and product market power to stock market returns. How is the evaluation of a firm in the securities market affected by its position in the product market and vice versa? Sullivan (1978) concludes that firms with greater market power (as measured by firm size and industry concentration ratio) have lower systematic stock market risk (as measured by beta), which is not surprising. Sullivan (1977) finds no significant relationship between size of firm or product market concentration and stock market returns adjusted for risk. This is contrary to the findings of Banz and may be due to the failure of Sullivan to consider the very smallest firms and to the crude statistical procedure followed to adjust returns for risk. Sullivan did find that stock market price relative to book value is a function of market power as measured by market share and growth in market share. This is consistent with the finding that large firms have greater P/E ratios than small firms. In other words, according to Sullivan, the value of monopoly power in the product market is capitalized in the share price. Once capitalized, such monopoly power does not imply higher returns. Nothing in these findings is inconsistent with an efficient stock market. If there are distortions in the product market, they are reflected in the stock market. There is no evidence that the stock market is responsible for product market distortions.

The findings of Sullivan and of Banz and Reinganum on stock market returns by size of firm raise important questions with regard to the
relationship between stock market values and firm characteristics. While there appears to be evidence that small firms sell at too low a price and yield too high a return and that this is, at least in part, due to transaction costs, it is premature to argue that this implies unjustified discrimination against small firms by investors or that this reflects distortions in the product market. Additional work is required that examines more carefully other possible explanations.

Summary

Relatively few firms, out of the population of all corporations, are of sufficient size to warrant the establishment of a secondary market in equity shares. Examination of the secondary market for the smallest companies suggests why this is so.

First, the costs of maintaining a secondary market can be substantial. While the brokerage industry is competitive, and the movement toward a national market system may reduce transactions costs, it is clear that transactions costs will always be greater on shares of small companies that are infrequently traded. Explicit costs—dealer's bid-ask spread plus brokerage commission—can easily range above 20 percent of the stock's price. Faced with such costs, investors are reluctant to purchase common stock of small firms unless they anticipate a significantly higher return than is available from large companies of comparable risk.

Second, there may be certain other reasons that investors are averse to holding shares of small firms. One suggestion has been that the institutionalization of the stock market and the advent of ERISA have reduced the demand for shares of small firms. There is no evidence that major institutions somehow control the stock market and cause prices of small company shares to be adversely affected. However, there may be an aversion to shares of small companies, which if not offset by a willing-
ness of individual investors and venture capital institutions to purchase such shares, could affect prices.

Recent empirical studies do indicate that required returns on small companies exceed those required on larger companies of equal risk. However, the phenomenon appears to precede the institutionalization of the stock market, ruling out that explanation. A variety of other explanations of the higher required return are possible. The most obvious is that the higher return is necessary to offset higher out-of-pocket transaction costs, and the empirical evidence supports this explanation. However, investment in small firms may also require more research and investigation and more oversight and may be subject to greater bankruptcy risks which are not easily measured in a comparison with large firms. The differential in long run rates of return between small and large firms deserves a good deal more investigation.

Improving the Secondary Market for Small Firms

Establishing a viable secondary market imposes real economic costs that cannot be avoided. However, public policy can help to maintain conditions that minimize such costs and can try to create an environment in which investment in small companies is not penalized.

High transactions costs are in large part due to the risks borne by dealers in low volume stocks of small companies. Such risks are of lesser concern the larger and the more diversified the dealer. This public policy should not stand in the way of a consolidation of the brokerage industry as long as competition is maintained. It is also desirable that dealers familiar with a small company be able to make a primary market in the stock even if not located in the financial centers of New York or Chicago. The development of the National Market System (NMS) should therefore be encouraged because it provides equal access to the market for regional as well as NYC brokers.
The NASD has recommended the establishment of a tax deferred reserve against dealer profits (NASD, 1979; pp. 19-20). Dealers would be allowed to defer taxes on profits up to $1 million. While this tax change would benefit dealers and increase their willingness to assume risk, it does not specifically apply to dealers in small firms. Thus, it appears more in the nature of a subsidy for dealers than for small businesses.

The NASD has made several other recommendations with respect to the proper functioning of secondary markets. These are (1) the establishment of a nationwide network of clearing and settlement facilities that would tend to reduce clearing costs of regional brokers and (2) reduction of the cost of broker-dealer regulation and compliance (NASD, 1979; pp. 30-31). These recommendations are consistent with movement to NMS and a greater reliance on competition as a regulator of the brokerage industry.

Various types of institutional investors can achieve economies in investing in small firms. By pooling other investors' capital, such funds diversify risk. By investing in large amounts, the costs of research and surveillance are more readily justified. Public policy should not impede institutional investment in small companies. While greater institutional involvement may reduce the public secondary market in small companies as private placements are more frequently used, it can increase the indirect participation of the general public in small business financing through the public's ownership of institutions' shares. A major impediment to institutional investment appears to arise out of ERISA. The SBA Task Force (1977) has recommended that the standard of prudence under ERISA apply to pension fund portfolios viewed as a whole, not to any single investment and the Labor Department has ruled to that effect. Second, it would relieve pension fund managers of ERISA restrictions with
respect to five percent of portfolio assets invested in small companies, a recommendation which has not yet been implemented.
IV. THE PRIMARY MARKET FOR EQUITY SHARES
OF SMALL FIRMS

At some point many growing firms must seek equity funds from a wider
group of investors than the immediate associates and friends of the
entrepreneur. The ultimate success of a new issue depends on the viability
and receptivity of the secondary market, an issue discussed in the preceding
section. In this section the new issues process and regulatory require-
ments are examined first. Then considered in turn are the infrequent
reliance on publicly traded debt issues by small firms, the recent trends
in new issues volume and whether the new issues market has dried up, and
the level of flotation costs. Recent concern about the effect on the
new issues market of the changing structure of the brokerage industry and
the institutionalization of the stock market are considered. The
immediate receptiveness of new issues by the public, as reflected in post-
offering market prices is examined along with the effect of the new
options markets on the new issues market. The section closes with a
summary and conclusions and some general suggestions for improving
initial public financing of small companies.

The New Issues Process and Regulation

New issues usually involve the assistance of an underwriter. Underwriters help originate the issue by analyzing the company's financing needs and determining the appropriate offering price. They help distribute the issue through their contacts with investors. When the underwriter acts on a firm commitment basis, he also bears risk because he buys the issue from the company at a fixed price without being certain whether all shares will be sold at the offering price. No such risk is borne if the underwriter acts on a best efforts
basis, in which case he does not guarantee the price or that the issue will be sold. Our concern is primarily with unseasoned new issues for which there is no prior public market as opposed to seasoned new issues for which a secondary market already exists.

Under the Securities Act of 1933, new issues must be registered with the Securities and Exchange Commission (SEC) unless specifically exempted. Standard registration (Form S-1) requires information about the business—management, finances, products—detailed financial statements, information about the purpose of the issues; and, in general, disclosure of any material information that would affect investors' perceptions of the value of the company. Securities may not be sold until the registration becomes effective and each potential purchaser must receive a prospectus with the required information. The SEC has, in certain cases, allowed the use of shortened registration forms. From the perspective of small firms the most relevant are Form S-2 and Form S-18. Form S-2 is available to development stage companies without any substantial operating history. Form S-18, adopted on April 3, 1979, calls for fewer disclosure items and less elaborate financial statements than Form S-1. Form S-18 is available to first-time issuers offering less than $5 million of securities for sale.

Specific exemptions from registration are specified in the Securities Act of 1933 as amended:

1. Small issue exemption. Regulation A, issued pursuant to section 3(b) of the Securities Act of 1933, exempts issues of $1,500,000 or less from registration subject, however, to the requirement that an offering circular be filed that supplies basic information on the issuer. The maximum issue size (specified in section 3(b)) that the SEC may declare eligible for Regulation A exemption was recently raised from $2,000,000 to $5,000,000
as part of the Small Business Investment Incentive Act of 1980. It is expected that the Regulation A exemption will also be increased.

In February 1980 the SEC adopted Rule 242 under the small issue exemption. The rule permits companies to sell up to $2 million of securities every six months to an unlimited number of accredited investors without registration of any kind. An accredited investor is an institutional investor or an individual purchasing $100,000 or more of securities. In addition, up to 35 nonaccredited investors may participate in the offering as long as they receive information equivalent to that in Form S-18. Recent proposals would also exempt from registration resales among accredited investors.

2. Intrastate exemption. Offerings of companies within a state in which they do substantial business are exempt from registration under the Act. Rule 147 specifies the conditions an issuer must meet.

3. Private offering exemption. Congress has determined that securities not offered to the general public are exempt from registration. A number of SEC rules attempt to clarify this exemption.

Rule 146 issued under Section 4(2) of the Securities Act of 1933 prescribes the conditions under which the sale of securities is not a public offering. Securities of this type are usually called "restricted" because of limitations imposed on subsequent resale. Among other things, the conditions that must be met to qualify as a private placement are that the issuer make no solicitation, that he believe purchasers to have requisite knowledge and expertise to evaluate the issue, that purchaser must have access to information comparable to that required under Regulation A
of the Securities Act, that there may be no more than 35 purchasers, that
the issuer must take reasonable care in ensuring that unlawful resale of
the securities is not made.

Rule 144 specifies the conditions under which restricted securities
may be resold without being deemed to be a distribution of securities
and therefore subject to the conditions imposed on a public offering.
Among other things, Rule 144 requires restricted securities to be
held at least two years. After that point, sales may be made at a
restricted rate and only so long as information about the issuer is
publicly available and sales are made in arm's length transactions
using a broker.* Recently the rule was modified to permit, among other
things, direct sales to dealers and to relax the limitation on volume of
sales.

While these various exemptions are aimed at reducing costs to small
firms of issuing securities, there is still a major cost in determining
one's status under the rules and in meeting the information and other
requirements of the rules. The SEC's recent modifications of Rule 144,
Rule 146 and Regulation A requirements and the adoption of Form S-18 and
Rule 242 have reduced regulatory costs of new financing, but one can
question whether these relatively minor changes have brought about a
significant reduction in costs.

There is a fundamental regulatory dilemma. As is demonstrated below,
the costs of registration and disclosure affect small firms much more
seriously than large firms. On the other hand, small firms are precisely

*Up to 1 percent of the total amount outstanding or, if some securi-
ties are publicly traded, an amount equal to the average trading volume
over the four weeks preceding the sale, whichever is greater. The limit
applies over a three-month period.
those for which full disclosure is most necessary because of the absence of much public information and their susceptibility to manipulation. So long as mandated full disclosure is the policy of the SEC, it is unlikely that more than minor modifications of that policy will be sanctioned for small firms, and it is doubtful that such tinkering can substantially reduce new issue costs of small firms.

An important issue, rarely receiving serious examination, is whether the disclosure provisions of the securities laws provide investor protection over and above that provided by the antifraud provisions of the law. Studies of the effect of securities laws on stock market efficiency (without regard to firm size) do not all agree that the benefits of required disclosure outweigh the costs.* A number of economists and some lawyers (e.g., Kripke, 1979) have argued that a free market would bring about sufficient disclosure and that a reasonable number of sophisticated investors could maintain equilibrium prices that are fair even for the uninformed.

However, it should be noted that elimination of certain registration and disclosure requirements would not necessarily reduce costs of underwriters. Exemption from registration may increase underwriter and issuer liability under the general antifraud provisions of the law, and the reduced costs of registration may be offset by the increase in expected losses due to investor suits. Registration and disclosure requirements, if met, may provide a "safe haven" from such liability.

Debt vs. Equity Issues

The public debt market is primarily an institutional market in which minimum holdings are quite large. As a result, there is little demand for

*See Benston (1973, 1975), Friend and Westerfield (1975), Stigler (1964), and Friend and Herman (1964) for the two sides of the issue.
publicly traded debt issues of small firms. In a study of the Regulation A new issues market for the years 1957, 1959, and 1963, Curley and Stoll (1968) found only 178 debt issues out of a total of 2,270 Regulation A filings. Furthermore, most of the offerings were by financial concerns as opposed to industrial companies.

Debt financing of small firms is first provided by bank loans, which are usually of relatively short term. Second, longer-term debt financing may be provided by venture capital firms, insurance companies, or other institutions. Often, such debt has an "equity kicker" such as a warrant that gives the lender gains should the company do well.

The Small Business Administration (SBA) is an important source of debt financing. Under the SBA bank guaranty program, lenders to qualified small businesses are guaranteed against losses up to 90 percent of the loan. The interest rate is set by the lender subject to an SBA maximum rate. Small businesses unable to acquire financing under these terms may apply directly for an SBA loan. Such loans are made at the government cost of funds but are in very limited supply.

The Small Business Investment Company (SBIC) program, administered by the SBA, is an important source of venture capital financing, some of which is in the form of long-term privately placed debt. The program is discussed in greater detail below.

Since the public debt markets are available only to the larger firms, this analysis is restricted to the equity market.

Volume of New Issues

The most striking feature of the new issues market in the 1970's has been the decline in the volume of unseasoned new issues. While the unseasoned new issues market has always been cyclical with peaks in 1961-62,
1969 and 1972, the decline from the 1972 peak appears to have been more
dramatic than declines from previous peaks.

The extent of the decline is reflected in Table 2 based on data
from the Investment Dealers' Digest. Unseasoned new issues in the trough
year of 1976 were less than 10 percent of the number of dollar volume in
1972. This precipitous decline gave rise to the fear that the new issues
market for small firms had dried up. Since 1976 there has been a recovery
in the volume of new issues, but the level is still significantly below
the activity of 1972.

SEC data in Table 3 also corroborate the low level of activity in
1974-76.* At the same time the table shows that a significant fraction
of seasoned new issues are underwritten on a best effort basis. The
tendency of unseasoned new issues to include secondary sales (for the
account other than the issuing company) is also evident. Such secondary
sales are often made pursuant to a "piggyback" agreement under which
purchasers of the firm's privately placed shares have an option to sell
these shares at the time of a public offering.

Has the New Issues Market Dried Up?

The decline in the volume of new issues has raised the question of
whether the public new issues market for small companies has permanently
dried up. Such a drastic conclusion does not yet appear warranted. There
has been a recovery of the new issues market in 1979 and 1980, although

*There is lack of comparability in the various statistics on new issues
published by the SEC, and no series on common stock offerings appears to be
available that is historically consistent. Difficulties arise because of
different types of securities (common, preferred, debt, convertible, warrants,
closed end funds, real estate investment trust, etc.) because offering date
or registration date may be used, because Reg A issues and certain private
offerings may or may not be excluded, because data are sometimes on a
calendar basis and sometimes on a fiscal year (June) basis.
Table 2

Unseasoned New Issues of Common Stock
Offered Through Underwriters

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Issues</th>
<th>Value ($ Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1968</td>
<td>649</td>
<td>1742</td>
</tr>
<tr>
<td>1969</td>
<td>1298</td>
<td>3545</td>
</tr>
<tr>
<td>1970</td>
<td>566</td>
<td>1451</td>
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<tr>
<td>1971</td>
<td>446</td>
<td>1917</td>
</tr>
<tr>
<td>1972</td>
<td>646</td>
<td>3301</td>
</tr>
<tr>
<td>1973</td>
<td>177</td>
<td>1872</td>
</tr>
<tr>
<td>1974</td>
<td>55</td>
<td>117</td>
</tr>
<tr>
<td>1975</td>
<td>29</td>
<td>272</td>
</tr>
<tr>
<td>1976</td>
<td>45</td>
<td>271</td>
</tr>
<tr>
<td>1977</td>
<td>49</td>
<td>276</td>
</tr>
<tr>
<td>1978</td>
<td>58</td>
<td>214</td>
</tr>
<tr>
<td>1979</td>
<td>144</td>
<td>592</td>
</tr>
<tr>
<td>1980 (Jan. - June)</td>
<td>96</td>
<td>447</td>
</tr>
</tbody>
</table>

Source: Investment Dealers' Digest.

Data include best efforts and firm commitments and some Reg. A issues.
Table 3
Registered Unseasoned New Issues of Common Stock
Offered through Underwriters

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Issues</th>
<th>Gross Proceeds ($ Million)</th>
<th>Percent of Number, Best Efforts</th>
<th>Percent of Proceeds, Best Efforts</th>
<th>Percent of Proceeds, Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>1972</td>
<td>481</td>
<td>1974</td>
<td>8%</td>
<td>1%</td>
<td>31%</td>
</tr>
<tr>
<td>1973</td>
<td>83</td>
<td>291</td>
<td>17%</td>
<td>4%</td>
<td>28%</td>
</tr>
<tr>
<td>1974</td>
<td>12</td>
<td>37</td>
<td>42%</td>
<td>11%</td>
<td>43%</td>
</tr>
<tr>
<td>1975</td>
<td>6</td>
<td>34</td>
<td>67%</td>
<td>20%</td>
<td>39%</td>
</tr>
<tr>
<td>1976</td>
<td>21</td>
<td>127</td>
<td>19%</td>
<td>2%</td>
<td>34%</td>
</tr>
<tr>
<td>1977</td>
<td>33</td>
<td>96</td>
<td>49%</td>
<td>17%</td>
<td>30%</td>
</tr>
<tr>
<td>1978</td>
<td>41</td>
<td>177</td>
<td>54%</td>
<td>14%</td>
<td>20%</td>
</tr>
<tr>
<td>1979 (6 mo.)</td>
<td>29</td>
<td>178</td>
<td>41%</td>
<td>12%</td>
<td>23%</td>
</tr>
</tbody>
</table>


Data exclude the following: Reg. A offerings, 22 closed end funds, 4 unit offerings, 62 offerings with incomplete information, debt, preferred, convertibles, real estate investment trust.
not to the level of 1972. More important, the new issues market is correlated with the stock market, and the poor state of the new issues market reflects, at least in part, the poor state of the stock market and the economy rather than a secular decline in the new issues market. Between the peak value in December 1972 and the trough value in October 1974 the NYSE Common Stock Index fell from 65.14 to 32.89. Since then there has been a recovery to 65.96 by the end of 1980. However, when adjusted for inflation, that level is substantially below the real level of the index in 1972.

When market prices of equity fall relative to earnings or fall below book value, corporations lose incentive to make new investment and seek new funds. Indeed, there is an incentive to consolidate operations of different companies through merger because it is cheaper to buy companies than to buy new equipment. In such an environment, it is difficult to justify financing new businesses. In an analysis consistent with this explanation, Robbins et al. (1979) show that there is a positive correlation between the volume of new issues and the price earnings ratio of American Stock Exchange stocks. To the extent that the decline in new issues is a result of these more general economic maladies, piecemeal policies to improve the new issues market may have little effect.

The phenomenon of buying companies rather than equipment reflected in mergers also affects small firms directly. Large companies with an excess cash flow they are unable to invest internally are interested in buying small businesses. Small firms, on the other hand, can find it less costly and less risky to sell out to a large firm than to attempt to enter the new issues market. Current tax policy supports this phenomenon. Since shareholders are taxed on earnings paid out, corporations acting in share-
holder interests have an incentive to retain earnings and invest internally or through merger. As a result the proportion of funds allocated in the capital market is reduced. The empirical relevance of the phenomenon has yet to be measured in part because information on the sale of small companies to larger firms is difficult to acquire and in part because it is difficult to determine whether sale of stock to the general public was in fact the alternative to sale of the stock to a larger firm.

Capital gains taxation is also said to have influenced the new issues phenomenon. The Tax Reform Act of 1969 significantly increased the tax on capital gains. Since investors in unseasoned new issues have typically taken the risks of investing in untested new companies in the hopes of substantial capital gains, the higher capital gains taxes may be another important explanation of the decline in the number of new issues in the 1970's. However, empirical tests of this proposition have not yet been carried out. Effective November 1, 1978, the capital gains tax was reduced to a maximum of 28 percent, which is significantly lower than the previous maximum of 60 percent. While new issues activity increased in 1979, it would be premature to ascribe the increase solely to the tax change.

Several other explanations for limited access of small firms to public equity financing and for the decline in that access have been offered: (1) high and increasing flotation costs; (2) consolidation of the brokerage industry and institutionalization of the stock market. Each of these is considered in turn. The ultimate test of access to public financing is determined by the willingness of the public to buy and hold new issues which in turn depends on the returns earned and risks assumed. The empirical evidence on this point is examined. Finally, the issues are summarized and certain recommendations for change considered.
Flotation Costs

We have seen that secondary market transaction costs can be significantly greater for investors in small firms than for investors in large firms. A small firm indirectly bears these greater costs because it is required to earn enough more on its operations to offset the higher transaction costs. In the new issues market transactions costs as a percentage of proceeds are again greater for the small firm and are directly borne by the firm.

There are two principal components to the flotation cost: expenses and underwriter compensation. Expenses include legal, accounting and engineering fees, printing costs, SEC filing fees, state taxes and fees, and federal revenue stamps. Underwriter compensation is measured by differences between the value of the issue sold and the proceeds to the issuer. When stated as a percentage of the proceeds, this is the percentage spread. Underwriter compensation covers the cost of originating and distributing the issue, and in the case of a firm commitment, the cost of bearing risk.

Studies of flotation costs for new issues of common stock have been conducted by Archer and Faerber (1966), Mendelson (1967), Curley and Stoll (1968, Ch. V), Johnson et al. (1975), Stoll (1975), and in various "Cost of Flotation" studies by the SEC, the latest covering new issues in 1971-72. The central conclusion of these studies is clear. Flotation costs, especially the "expenses" component, have a large fixed cost element. A large issue spreads the fixed cost over more dollars. Since small firms tend to have small issues, percentage flotation costs are greater the smaller the firm.

Table 4, reproduced from the most recent SEC Cost of Flotation Study, shows the relationship between flotation cost and size of issue for 1971-72.
Table 4
Flotation Cost by Issue Size, 1971-72

<table>
<thead>
<tr>
<th>Size of Issue $ Million</th>
<th>Number of Issues</th>
<th>Compensation of Underwriters % of Gross Proceeds</th>
<th>Other Expense % of Gross Proceeds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under .5</td>
<td>43</td>
<td>13.24</td>
<td>10.35</td>
</tr>
<tr>
<td>.5 - .99</td>
<td>227</td>
<td>12.48</td>
<td>8.26</td>
</tr>
<tr>
<td>1.0 - 1.99</td>
<td>271</td>
<td>10.60</td>
<td>5.87</td>
</tr>
<tr>
<td>2.0 - 4.99</td>
<td>450</td>
<td>8.19</td>
<td>3.71</td>
</tr>
<tr>
<td>5.0 - 9.99</td>
<td>287</td>
<td>6.70</td>
<td>2.03</td>
</tr>
<tr>
<td>10.0 - 19.99</td>
<td>170</td>
<td>5.52</td>
<td>1.11</td>
</tr>
<tr>
<td>20.0 - 49.99</td>
<td>109</td>
<td>4.41</td>
<td>.62</td>
</tr>
<tr>
<td>50.0 - 99.99</td>
<td>30</td>
<td>3.94</td>
<td>.31</td>
</tr>
<tr>
<td>100.0 - 499.99</td>
<td>12</td>
<td>3.03</td>
<td>.16</td>
</tr>
<tr>
<td>Over 500.00</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total/average</td>
<td>1,599</td>
<td>8.41</td>
<td>4.02</td>
</tr>
</tbody>
</table>

Source: SEC, Cost of Flotation of Registered Issues 1971-72, December 1974, p. 9. Reg. A issues are not included; includes seasoned and unseasoned.

Notes: The cost ratios in each size class are calculated by an arithmetic averaging of the ratio for the firms in the class. Prior SEC studies aggregated expenses (or underwriter compensation) for all firms in a class and divided by gross proceeds of all firms in the class. The procedure used in this table tends to yield higher average ratios than the procedure used in prior SEC studies.
for the typical firm in the two smallest size classes, over 20 percent of
gross proceeds was paid in expenses or compensation of underwriters. As
issue size increases both underwriter compensation and expenses decline as
a proportion of gross proceeds but percentage expenses decline more since
they include a larger fixed cost component.

There are factors other than issue size influencing flotation costs.
The table aggregates best efforts and firm underwritings as well as seasoned
and unseasoned new issues. Small issues tend to be unseasoned (95 percent
of the issues in the smallest two size classes had no prior market) and tend
to be offered on a best efforts basis (59 percent of the issues in the
smallest two size classes were offered as a best efforts basis). Under-
writer compensation is higher on unseasoned than on seasoned offerings,
ceteris paribus. However, this is offset by the fact that such offerings
tend to be on a best efforts rather than firm basis. In other words,
there tends to be a reduced level of underwriter service for small issues
that keeps flotation costs lower than they would otherwise be. Other
factors that have been considered are asset size of the issues, business
risk and industry of the issuer, size of underwriter, and state of the
market. The reader is referred to the cited studies for a more detailed
analysis.

While the SEC has conducted flotation cost studies for the years
1945-49; 1951, 1953, 1955; 1963-65; and 1971-72; sufficient comparability
is not always achieved to determine time trends. In particular, the data
for 1971-72 are reported as averages of issue cost ratios while the data
for prior years are reported as the ratio of total costs for all issues
in a size class to total gross proceeds for all issues in the size class.
Table 5 presents the data for the pre-1971-72 studies. There is some
indication of an increase in other expenses during this period and some very weak evidence of a decline in underwriter compensation. But a more careful analysis is required that would take account of any changing composition of new issues (according to seasoning, type of underwriting, and other characteristics). Furthermore, there has been no study of flotation costs since 1971-72; and it is, therefore, difficult to determine the degree to which trends in flotation costs explain the recent decline in new issues.

An important issue which has received relatively little systematic consideration is the effect on flotation costs of the various exemptions from full registration. How much of a savings can be expected for small firms that can avoid certain registration requirements? The principal exemption available for publicly offered securities is the Reg. A exemption. (The private offering exemption is considered in the next section.)

No direct comparison of the Reg. A and S-1 registration has been made. However, data collected by Curley and Stoll for Reg. A offerings in 1963 may be compared with SEC cost of flotation data for fully registered issues in 1963-65. For 50 issues of less than $500,000, the SEC found the following costs in 1963-65:

<table>
<thead>
<tr>
<th>Type of Underwriting</th>
<th>Underwriter Compensation as a Percent of Gross Proceeds</th>
<th>Other Expenses as a Percent of Gross Proceeds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Best Efforts (26)</td>
<td>12.2%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Firm (24)</td>
<td>10.0%</td>
<td>7.4%</td>
</tr>
</tbody>
</table>

For issues of less than 300,000 (the Reg. A limitation at the time), Curley and Stoll found the following costs for 26 Reg. A issues, all but one of which were best efforts offerings:

<table>
<thead>
<tr>
<th>Underwriter Compensation as a Percent of Gross Proceeds</th>
<th>Other Expenses as a Percent of Gross Proceeds</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.56%</td>
<td>5.11%</td>
</tr>
</tbody>
</table>
## Table 5

**Trend in Costs of Flotation on Primary Common Stock Issues Offered Through Securities Dealers: 1945 - 1965**

<table>
<thead>
<tr>
<th>Size of Issue (in $ Millions)</th>
<th>Number of Issues</th>
<th>Total Costs as % of Proceeds</th>
<th>Compensation as % of Proceeds</th>
<th>Other Expenses as % of Proceeds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 0.5</td>
<td>16</td>
<td>13</td>
<td>50</td>
<td>24.1</td>
</tr>
<tr>
<td>0.5 - 1.0</td>
<td>56</td>
<td>43</td>
<td>60</td>
<td>18.3</td>
</tr>
<tr>
<td>1.0 - 2.0</td>
<td>74</td>
<td>60</td>
<td>117</td>
<td>14.0</td>
</tr>
<tr>
<td>2.0 - 5.0</td>
<td>62</td>
<td>62</td>
<td>142</td>
<td>10.0</td>
</tr>
<tr>
<td>5.0 - 10.0</td>
<td>31</td>
<td>24</td>
<td>69</td>
<td>8.3</td>
</tr>
<tr>
<td>10.0 - 20.0</td>
<td>13</td>
<td>17</td>
<td>24</td>
<td>7.2</td>
</tr>
<tr>
<td>20.0 - 50.0</td>
<td>5</td>
<td>11</td>
<td>11</td>
<td>8.3</td>
</tr>
<tr>
<td>50.0 and over</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>---</td>
</tr>
<tr>
<td>All Issues</td>
<td>257</td>
<td>230</td>
<td>476</td>
<td></td>
</tr>
</tbody>
</table>


Data exclude Reg. A offerings. It includes seasoned as well as unseasoned new issues and best efforts as well as firm underwritings.
These data suggest some savings of out-of-pocket costs by using Reg. A but the savings are surprisingly small.

It should be noted that significant cost savings can be realized by not using an underwriter. For nonunderwritten Reg. A offerings, Curley and Stoll (1968, Ch. V) found average expenses of only 3.06 percent in 1957 (56 offerings), 2.65 percent in 1959 (54 offerings), and 4.01 percent in 1963 (29 offerings). There was, of course, also no underwriter compensation. While the cost saving is great, the absence of an underwriter also reduces offering success.

Most studies are able only to analyze reported flotation costs. But unreported costs can be substantial. An important cost on which some information is available is the time delay between filing and offering that arises in the registration process. A recent SEC study compared selected registration expenses (printing and engraving, legal and accounting fees) for 23 companies filing the new abbreviated Form S-18 with 11 companies filing Form S-1. While out-of-pocket costs did not appear to differ, time delays were significantly less for the S-18 filings, in large part because Form S-18 may be processed at regional SEC offices. Median processing time for Form S-18 was 32.5 days as compared with 49 days for Form S-1.

Curley and Stoll (1968) found that over 65 percent of Reg. A offerings in 1957 were made within 44 days of filing. However, by 1963 only 27 percent of the offerings were made within 44 days of filing. This increased delay apparently reflects the more stringent surveillance instituted after the "hot issue" market of 1961-62.

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Other important unreported costs on which there is no information is the time spent by corporate officers in the registration process and the cost of corporate staff not reflected in the reported expenses.

One can conclude that flotation costs, measured as a percentage of proceeds, are quite substantial for small firms—on the order of 20-25 percent. Assume the small firm is in an industry in which the annual return on real assets for large firms is 15 percent and in which large firms exist that are able to acquire funds from internal sources or other means that avoid flotation costs. A flotation cost of 20 percent would then imply that the annual return on investments of the small firm must be 18.75 percent or 3.75 percent higher than on investments of the large firm.*

**Consolidation of the Brokerage Industry and Institutionalization of the Stock Market**

The emerging national market system, by promoting competition among brokers, by improving efficiency, and by facilitating access to markets for regional brokers, has the potential for improving the secondary market for shares of small firms and thereby also improving the markets' receptivity to new issues. There has been some consolidation of firms specializing in investment banking that is related to the consolidation in the securities business and to the dearth of new issues in the mid 1970's. However, as conditions fostering a more active new issues market arise, underwriting talent, whether at a regional or a national level, will be forthcoming.

*Let $P = \text{gross proceeds}$  
$C = \text{dollar flotation cost}$  
Then we require  
$(P-C)X = P(.15)$  
Letting:  
\[
\frac{P-C}{P} = .80 \quad \text{which is equivalent to a 20 percent flotation cost yields the required annual return of } X = 18.75 \text{ for the small firm.}
\]
In the examination of secondary markets, we have seen that major institutional investors are more reluctant than individual investors to hold shares of small firms. This reluctance appears also to be reflected in the unseasoned new issues market, although there is relatively little evidence on this point. An exception is an analysis of 100 new issues carried out in Chapter XIV of the Institutional Investor Study (IIS) of the SEC. Based on this sample, the IIS estimated that institutions purchased about 25 percent of the values of unseasoned new issues. Relatively few institutions are responsible for purchases in any particular new issue. While this participation is less than in issues of large companies, it is not inconsequential. Institutional participation is, however, more important in the pre-public or venture capital state, which is considered below.

Investor Returns on Unseasoned New Issues of Small Firms

The final test of a firm's access to the public equity market is the success of its offering and the course of the share price after offering. There is substantial evidence to indicate that public acceptance of new unseasoned equity issues is quite enthusiastic. The principal papers in this area are Friend and Longstreet (1967), Ibbotson (1975), Ibbotson and Jaffe (1975), Logue (1973), McDonald and Fisher (1972), Reilly and Hatfield (1969), Shaw (1971), Stoll and Curley (1970). The evidence consists primarily of the fact that after-market prices of new unseasoned issues go to a premium over the offering price. Furthermore, there is evidence that after-market rates of return in the long run are no better than for stocks of comparable risk and some indication that returns are less than for seasoned companies; however, this evidence on long-run returns is weak.
According to McDonald and Fisher (1972) purchasers at the offering price earned average first month excess returns (in excess of the market return) of 28.5 percent in the first quarter of 1969. Reilly and Hatfield found first-month excess returns of 9.9 percent for 1964-65. Ibbotson and Jaffe calculate first month excess returns for all unseasoned new issues in the period January 1, 1960 to October 31, 1970. They do not report an overall average. Instead, they calculate an average excess return for all new issues in each month. The median excess return for all months—including "hot issue" months and "cold issue" months—is 12.64 percent. Stoll and Curley (1970), considering only Reg. A issues, found an equivalent 6-month excess return between the offering and first available market price of 42 percent for issues offered in 1957 and 1959. Most studies show the distribution of excess returns to be skewed—with some large positive excess returns and few negative returns.

The virtually unanimous finding of a significant immediate post-offering price rise is indicative of strong investor interest in unseasoned new issues at the offering price. Evidence indicates that there are no abnormal price rises in the year after the initial post-offering price rise. In other words, the after-market has been judged to be efficient (e.g., Ibbotson, 1975). The evidence on long-run returns to small offerings is much less clear since few studies carry the analysis more than one year beyond the offering. An exception is an early study by Friend and Longstreet (1967) for 1949 and 1953 new issues. They find that unseasoned new issues have a somewhat lower long-run return than seasoned issues. Stoll and Curley (1970) calculated returns up to 1966 for 1957 and 1959 offerings (to the extent that secondary market prices existed). They also conclude that the average long-run returns relative to the offering price is less for an investment in Reg. A issues.
than for an investment in the Standard and Poor's Index. However, the results are not statistically significant and may depend on the particular time period chosen. The results are also contrary to the high returns on the smallest NYSE companies found over long periods of time and cited in the last section. This discrepancy deserves further investigation.

There are two possible explanations of the immediate post offering price rise of unseasoned new issues:* (1) that the offering price is "too low" or (2) that the immediate after-market price is "too high." Underwriters have an interest in pricing the offering "too low" so that it is sold quickly, thereby limiting underwriter risk. Furthermore, underwriters are unlikely to face legal suits from disgruntled investors if those investors experience positive returns. This explanation is somewhat unsatisfactory because firms have an incentive to shop for an underwriter that maximizes the firm's net proceeds. Given the large population of available underwriters, it is difficult to accept that a single underwriter has sufficient market power to impose an unjustified offering price. Furthermore, the evidence on low long-run returns for unseasoned new issues suggests that the offering price is not "too low."

An alternative explanation of the observed pattern of new issue prices is based on the assumption of heterogeneous expectations among investors as to the prospects of the issuing corporations (Miller, 1977). The offering price is set by a committee consisting of the underwriter, lawyer, owner of the firm, manager, etc. The committee price reflects the average opinion as to the stock's value. Investors disagree about the price: optimists believe it is worth more than the average; pessimists,

*See Stoll and Curley (1970) and Ibbotson (1975) for a more detailed discussion of alternative explanations.
less. Optimists will bid up the after-market price relative to the average, and the after-market price rise will be greater the greater the divergence of opinion. The difficulty of short selling new issues with small capitalization and a certain amount of "sponsorship" by the underwriter keeps the price above the average opinion of its value. However, over the long term, events tend to corroborate the average opinion and rates of return earned by the optimists are not sufficient to compensate for the risk assumed. The difficulty with this explanation is that it implies optimists don't learn from their past errors. This may be possible if the population of optimists is continuously changing.

Nevertheless, whatever the explanation, the fact remains that many investors are willing to take the risks associated with new issues of small companies. Indeed, they appear willing to pay too much on average in hopes of finding "a winner." Thus, there is no evidence in the findings that the demand for unseasoned new issues has been inadequate, given general market conditions. In other words, while the volume of new financing for companies of all sizes tends to be correlated with the state of the stock market, there is no evidence that those small companies having investment opportunities and issuing new shares cannot find willing buyers.

New Issues and the Options Market

Like options, many unseasoned new issues give investors a large chance of a small loss (one's investment) and a small chance of a large gain (a several fold increase in the value of one's investment). With

*The SEC's, Special Study of the Securities Markets (1963) emphasized the role of promotional activities in raising the after-market price.
the development of an active options market there has arisen a concern
that capital has been diverted from new issues to options. The diversion
argument implies that the premiums paid by call buyers disappear from
the scene and are not available to finance new enterprises. This is not
necessarily so. The seller of the call receives the premium, and he is
likely to invest it, perhaps in new issues. The option market simply
shifts investible funds from one investor to another. In an empirical
study Robbins et al. (1979) conclude that options trading does not explain
changes in the volume of new issues.

The ability to create options may increase the supply of risky
securities competing with new issues by enough to eliminate the unjusti-
fied post-offering price increase in the new issue market which may have
been due to excess demand. This would not be undesirable. However, there
is no empirical evidence on this point.

Summary and Conclusions

Any study of the new issues market shows that small issue flotation
costs are large. Such costs are unlikely to be warranted unless the firm
believes it is on the threshold of establishing a viable secondary market,
an issue discussed in the preceding section. Changes in new issue regis-
tration and disclosure requirements may reduce flotation costs, but it is
questionable whether minor modifications of existing requirements will
have a significant effect on costs. Furthermore, we have no very detailed
understanding of the effect of the various legal requirements of the securi-
ties laws on reported and unreported flotation costs.

The volume of unseasoned new issues appears to respond to general
economic conditions and the state of the stock market. While the evidence
does not indicate that the new issues market has dried up, a systematic analysis of the effect of different factors on the volume of new issues has yet to be carried out. Variables that ought to be considered in such an analysis are tax changes, the level of capital investment, and measures of economic conditions such as new incorporations and failure rates.

The consolidation of the investment banking industry is another factor that has been suggested to explain the decline in new issues. However, this appears more an effect than a cause of the new issue doldrums.

The reluctance of institutions to buy new issues and the growing institutionalization of the stock market have also been held responsible for a decline in new issues. However, the reluctance of institutions may be more than offset by the willingness of individuals to undertake the risks associated with unseasoned new issues. Furthermore, institutions provide a major benefit by being more willing and able than individual investors to participate in venture capital financing which precedes most public offerings. The growing institutionalization of the stock market may foreshadow an increase in private placement of equity that parallels the growth in the private placement of debt. By reducing flotation costs, such a development can increase the availability of outside equity financing for small firms.

Those unseasoned new issues brought to market appear to be enthusiastically received. Prices are quickly bid to a premium over the offering price. In the long run, average returns of new issues are not abnormal. This suggests that no incentive need be given to outside investors to purchase new issues. The evidence on public offerings tells us little, however, about those issues which are never offered. For this the pre-public venture capital market must be examined.
Improving the New Issues Market

Many of the real economic costs associated with a new public offering cannot be avoided, and that limit to public policy should be recognized.

Recommendations to improve the new issue market for small firms have primarily aimed at broadening the exemption from full SEC registration under the small issue or private placement exemption provided by statute. Further relaxation of the small issue exemption necessitates a willingness by the SEC to compromise full disclosure for companies for which little or no public information may exist. Given the speculative character of many small new issues, there is a reluctance to carry this exemption too far.

The private placement exemption relies on the fact that knowledgeable private investors do not need protection of the law and may be left to develop their own information without regulatory interference. With the growth of sophisticated institutional investors, increased development of the private placement market can be anticipated. This would appear to be a more likely and a more promising means to reduce new issue costs.

We turn now to a brief examination of the private placement of a venture capital market which is a key step in the growth of many small firms.
V. VENTURE CAPITAL FINANCING

Given the high cost of floating a new issue and maintaining a liquid secondary market, there is a natural incentive for small firms to seek outside equity financing through the private sale of shares to relatively few individuals or institutions before attempting a public offering. The term venture capital is used to denote the pre-public market for risk capital. Unfortunately, relatively little is known about the market, and there is no intention here to analyze this market in detail. However, the role of the venture capital market as the foundation for a broader public market is considered.

Dimensions of U.S. Venture Capital Market

Venture capital may be supplied by broker-dealer firms, specialized venture capital firms, other financial institutions such as insurance companies, or individuals. An important source of venture capital are Small Business Investment Companies (SBIC's) that are in part financed by bank loans guaranteed by the Small Business Administration (SBA).

SBIC's are licensed under the Small Business Investment Act of 1958, supervised by the SBA and authorized to supply long-term debt and equity financing to small companies. Long term loans up to three times paid in capital and paid in surplus may be guaranteed by the SBA. At their peak in the 1960's, over 700 SBIC's existed. Today there are about 275. In 1979, SBIC's made 2,257 financings totaling $8,280.1 million. Seventy percent of the financings and 50 percent of the value were straight debt.*

*See U.S. SBA, SBIC Digest, Annual Financing Summary.
(Debt financing of small businesses is prudent in light of the use of debt financing by SBIC's.)

A study by Charles River Associates (1976) indicates that there are a total of about 400-600 venture capital firms holding assets valued at about $2-$3 billion. They conclude that "... there are no structural features of the venture capital industry that indicate any market imperfections" that would restrict financing of small firms or artificially raise the cost of funds to small firms. The large number of venture capital firms, the lack of concentration of assets, and the absence of barriers to entry imply a highly competitive market in the supply of venture capital."

The SEC's Institutional Investor Study (IIS, 1971, Ch. IV) surveyed 319 broker-dealers and requested information on all private placements negotiated between January 1965 and September 1969 on behalf of companies whose average net earnings did not exceed $250,000 over the two years preceding the placement. A total of 784 transactions aggregating $765 million in value and involving 638 different issuers were reported. Of the aggregate, broker-dealers invested 18 percent for their own account, unaffiliated financial institutions invested 46 percent and private individuals invested 36 percent. Although a complete analysis could not be conducted (because data ended in 1969), it appeared that venture capital financing provided an important base for subsequent public offerings.

The Institutional Investor Study also examined the extent to which institutions purchased restricted securities (without regard to size of issuer). A restricted security is one that has not been registered with the SEC and may not freely be resold without negotiation. Rule 144,
which was not in existence at the time of the Study, now specifies the conditions for resale without registration. Institutions in the IIS sample, representing approximately 64 percent of the assets managed by all financial institutions, invested $3.5 million in restricted securities in the period January 1966 to June 1969. Of this amount, 71.8 percent was in the form of debt instruments purchased primarily by insurance companies. Private placements of this type have been quite standard and have been utilized to reduce the costs associated with a public offering and allow a "tailoring" of terms that best meets the interest of the issuer and the financial institution.

Less standard is the private placement of equity. The IIS found a significant number of cases in which such private placements were made despite the fact that a public market for the company's shares existed (338 out of 818 equity purchases were in cases for which a public market existed). The IIS estimated that the private sale of restricted securities was made at an average discount of 24 percent from the secondary market ask price. Discounts were generally higher for OTC stocks than for listed stocks. The advantage to the issuer is that he avoids the costs associated with a new issue. Indeed, the discount is a measure of these costs, and as such, comes quite close to the costs of flotation reported in the preceding section.

More recent evidence on the importance of the private placement market for equity is contained in a study of Rule 144 sales in 1977.* Rule 144, adopted in January 1972, specifies the conditions under which restricted securities may be sold without registration. When sales are contemplated,

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Form 144 must be filed indicating the amount and certain other characteristics of the proposed sale. In 1977 alone 15,050 Rule 144 transactions were filed aggregating $1.4 billion, testifying to the importance of this market. The majority of sellers (54 percent) had held their shares at least five years and the majority of transactions were in OTC stocks. Forty-one percent of the shares sold had been acquired in a prior private placement. The remainder presumably was founder's stock.

**Returns to Venture Capital Investment**

Venture capital investment is attractive because it offers the investor the chance of substantial capital gains while eliminating for the company many of the costs associated with a public offering. However, the investor must have a long-term interest in the company and be willing to take time to analyze and understand the company. Furthermore, he may be required to make several periodic additional financings. Huntsman and Hoban (1980) report that $500,000 is the minimal initial investment that justifies the costs of becoming informed and the other costs of negotiating the private placement.

In the first study of its kind, Huntsman and Hoban examine 110 initial private venture capital financings made in the 1960-68 period by three venture capital firms. They follow these investments through time (cumulating additional investments) and calculate rates of return on the investments to 1975 or to the point of disappearance of the company through merger or failure or to the point of sale by the venture capital firm making the investment. The average annual return was found to be 18.9 percent over the 15-year period examined (although the average holding period was five years). The most striking feature of the study is the sensitivity of the average return to the results for a few very successful companies. Omission of a few companies very quickly reduces returns. The
Huntsman-Hoban findings are similar to the short-run results of publicly offered new issues.

While Huntsman and Hoban provide no evidence on additional public financings, it is safe to say that companies unsuccessful in the venture capital stage are unlikely to be successful in establishing a viable public market for their shares.

Improving the Venture Capital Market

The venture capital market serves at least two functions. First, it provides risk capital at a critical stage in the development of many small companies that are not yet in a position to consider public financing. Second, it is a safety valve that provides relief from the costs of registering, underwriting and distributing a new issue to the general public. The importance of private placement of equity securities is attested to by the large number of filings with the SEC under its private placement rules and by the willingness of small companies to make private placements at a discount, even when shares are publicly traded.

With the growth of institutional investors capable of providing significant amounts of risk capital and with the high cost of public offerings, one can expect the venture capital market to grow. But that growth is contingent on the absence of regulatory impediments. The regulatory requirements affecting the venture capital market that have received the most extensive discussion are those imposed by the SEC and by ERISA. As discussed in preceding sections the major concern with respect to ERISA is that the ability of institutions to invest in small firms be clarified.

The laws administered by the SEC that relate to venture capital financing are the Securities Act of 1933, the Investment Company Act of 1940
and the Investment Advisers' Act of 1940. Venture capital financing is made possible under the 1933 Act by the private placement exemption. Rule 146, discussed earlier, clarifies the eligibility requirements for the exemption. Rule 144, also discussed earlier, clarifies the conditions for resale without SEC registration of securities required in a private placement. Rule 242, which comes under the small offering exemption, exempts from any registration small offerings made directly to knowledgeable investors such as venture capital firms or other institutions. The SEC has responded to the regulatory burdens facing small business by making Rules 146 and 144 less stringent, by adopting Rule 242, and by establishing an Office of Small Business Policy to oversee the effect of securities laws on small business.

In the past venture capital firms and SBIC's found it difficult to operate under the Investment Company Act of 1940 because of the broad definition of affiliated companies under the Act and the restrictions on investments in such companies.* As a result, few SBIC's or venture capital firms have been registered under the Act. The Small Business Investment Incentive Act of 1980 exempts venture capital firms ("business development companies" under the Act) from many of the provisions of the 1940 Act in an attempt to broaden the market for venture capital. It also permits greater leverage than is allowed investment companies. Venture capital is frequently supplied by limited partnerships advised by a general partner. Because the Investment Advisers' Act of 1940 prohibits performance fees, most general partners have avoided registration under the Act. This has

*For example, equity participation by an individual investor in a venture capital firm and a small company would make the two entities "affiliated" and would make it difficult for the venture capital firm also to invest in that small company.
been possible if fewer than 15 partnerships are advised. However, recent court cases have raised questions about this exemption. The Small Business Investment Incentive Act of 1980 modifies the Investment Advisers' Act of 1940 to exclude these limited partnerships as clients for the purpose of the Investment Advisers' Act, thereby allowing managers of certain venture capital firms to avoid registration under the 1940 Act and some of the restrictions imposed by the 1940 Act.
BIBLIOGRAPHY


