The Economics of the Private Equity Market

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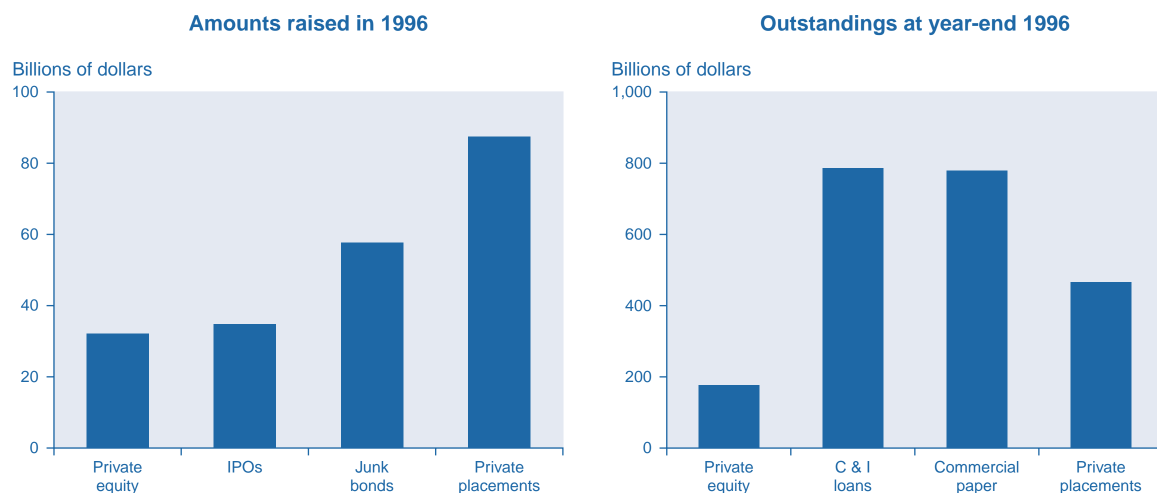
This article examines the economic foundations of the private equity market and describes its institutional structure.

The private equity market is an important source of funds for start-ups, private middle-market companies, firms in financial distress, and public firms seeking buyout financing.[1] Over the past fifteen years, it has been the fastest growing market for corporate finance, far surpassing others such as the public equity and bond markets and the market for private placement debt. Today the private equity market is roughly one-quarter the size of both the market for commercial and industrial bank loans and the market for commercial paper in terms of outstandings (*Figure 1*). In recent years, private equity capital raised by partnerships has matched, and sometimes exceeded, funds raised through initial public offerings and gross issuance of public high-yield corporate bonds. Probably the most celebrated aspect of the private equity market is the investment in small, often high-tech, start-up firms. These investments often fuel explosive growth in such firms. For example, Microsoft, Dell Computer, and Genentech all received private equity backing in their early stages. In addition, the private equity market supplied equity funds in the huge leveraged buyouts of such large public companies as Safeway, RJR Nabisco, and Beatrice in the 1980s.

Despite its dramatic growth and increased significance for corporate finance, the private equity market has received little attention in the financial press or the academic literature.[2] The lack of attention is due partly to the nature of the instrument itself. A private equity security is exempt from registration with the Securities and Exchange Commission by virtue of its being issued in transactions "not involving any public offering." Thus, information about private transactions is often limited, and analyzing developments in this market is difficult.

This article examines the economic foundations of the private equity market and describes its institutional structure. First, I briefly discuss the growth of the limited partnership as the major intermediary in the private equity market over the last fifteen years. Next, I explain the overall structure of the market, focusing in turn on the major investors, intermediaries, and issuers. I then look at returns to private equity over the last fifteen years. Finally, I analyze the role of limited partnerships and why they are a particularly effective form of intermediary in the private equity market. This entails a detailed examination of the contracts these partnerships write with their investors and the companies in which the partnerships invest.

Figure 1
Flows and Outstandings in Private Equity and Other Corporate Finance Markets



SOURCES: Federal Reserve Board flow of funds accounts; author's estimates.

THE GROWTH OF LIMITED PARTNERSHIPS IN THE PRIVATE EQUITY MARKET

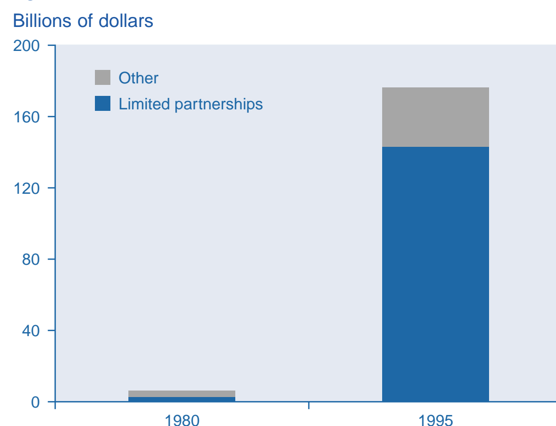
The private equity market consists of professionally managed equity investments in the unregistered securities of private and public companies.[3] Professional management is provided by specialized intermediaries called limited partnerships, which raise money from institutional investors and invest it in both publicly and privately held corporations. Private equity managers acquire large ownership stakes and take an active role in monitoring and advising companies in which they invest. They often exercise as much or more control than company insiders.

The growth of private equity is a classic example of how organizational innovation, aided by regulatory and tax changes, can ignite activity in a particular market. In this case, the innovation was the widespread adoption of the limited partnership as the means of organizing private equity investments. Until the late 1970s, private equity investments were undertaken mainly by wealthy families, industrial corporations, and financial institutions investing directly in issuing firms. By contrast, most investment since 1980 has been undertaken by intermediaries on behalf of institutional investors. The major intermediary is the limited partnership; institutional investors are the limited partners, and professional investment managers are the general partners.

The emergence of the limited partnership as the dominant form of intermediary is a result of the extreme information asymmetries and incentive problems that arise in the private equity market. The specific advantages of limited partnerships are rooted in the way in which they address these problems. The general partners specialize in finding, structuring, and managing equity investments in closely held private companies. Limited partnerships are among the largest and most active shareholders with significant means of both formal and informal control and thus can direct companies to serve the interests of their shareholders. At the same time, limited partnerships employ organizational and contractual mechanisms that align the interests of the general and limited partners.

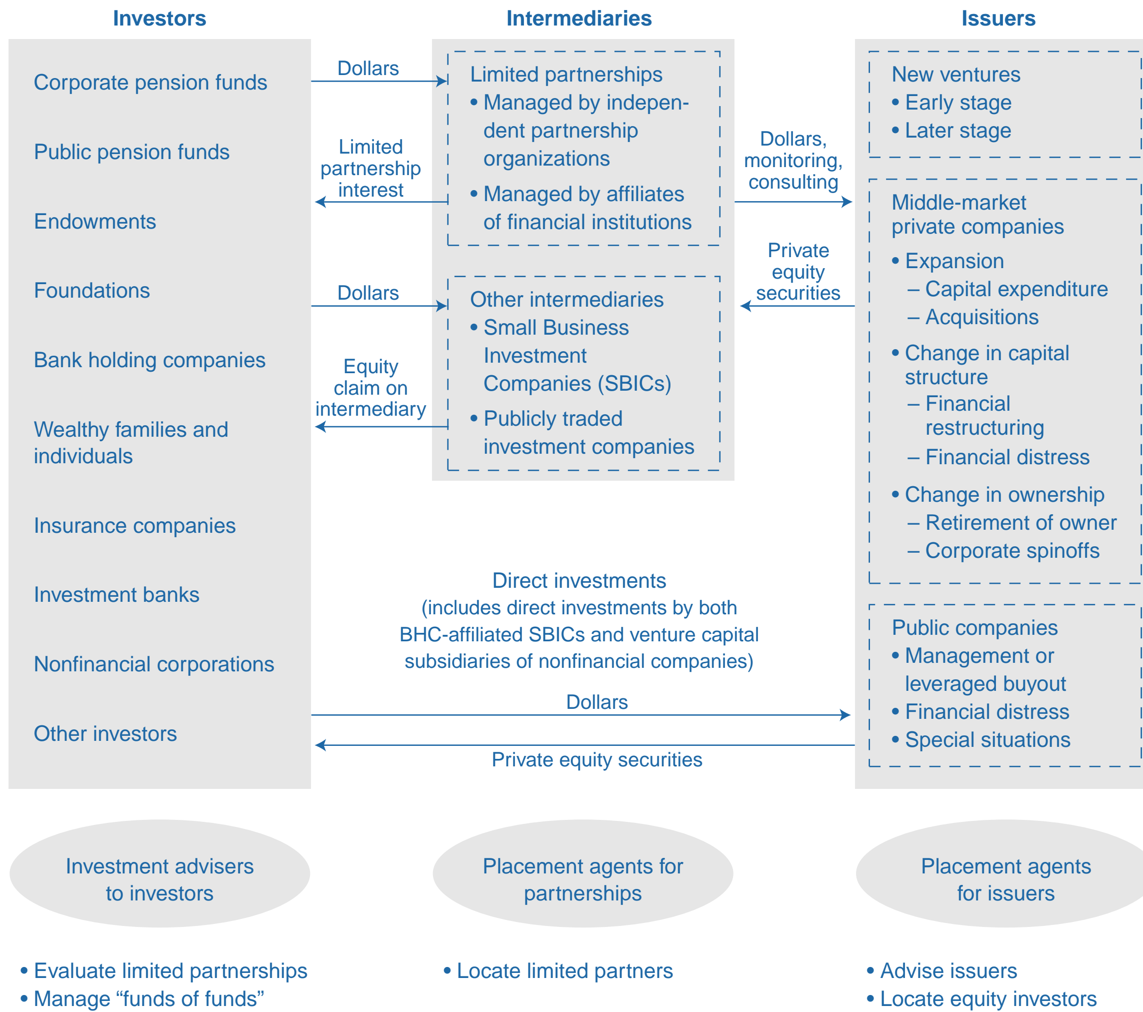
Limited partnership growth was also fostered by regulatory changes in the late 1970s that permitted greater private equity investment

Figure 2
Private Equity Capital Outstanding, by Source of Funds, 1980 and 1995



SOURCES: *Venture Economics*; Fenn, Liang, and Prowse (1997).

Figure 3
Organized Private Equity Market



by pension funds. The results of these changes are telling: from 1980 to 1995, the amount of capital under management in the organized private equity market increased from roughly $4.7 billion to over $175 billion. In addition, limited partnerships went from managing less than 50 percent of private equity investments to managing more than 80 percent (*Figure 2*).[4] Most of the remaining private equity stock is held directly by investors, but even much of this direct investment activity is the result of knowledge that these investors have gained investing in and alongside limited partnerships.

THE STRUCTURE OF THE ORGANIZED PRIVATE EQUITY MARKET

The organized private equity market has three major players and an assortment of minor ones. Figure 3 illustrates how these players interact with each other. The left-hand column lists the major investors, the middle column lists major intermediaries, and the right-hand column lists the major issuers in the private equity market. Arrows pointing from left to right indicate the flow of dollars and other services; arrows pointing from right to left indicate the flow of private equity securities or other claims. The bottom of Figure 3 lists an assortment of agents and investment advisors that help issuers or intermediaries raise money or advise investors on the best intermediaries in which to invest. The role of each of these players in the private equity market is discussed below.

Investors

Figure 4 illustrates the total estimated private equity outstanding at year-end 1996 and the portions held by the various investor groups. Public and corporate pension funds are the largest groups, together holding roughly 40 percent of capital outstanding and currently

supplying close to 50 percent of all new funds raised by partnerships.[5] Public pension funds are the fastest growing investor group and recently overtook private pension funds in terms of the amount of total private equity held. Endowments and foundations, bank holding companies, and wealthy families and individuals each hold about 10 percent of total private equity. Insurance companies, investment banks, and nonfinancial corporations are the remaining major investor groups. Over the 1980s the investor base within each investor group broadened dramatically, but still only a minority of institutions within each group (primarily the larger institutions) hold private equity.

Most institutional investors invest in private equity for strictly financial reasons, specifically because they expect the risk-adjusted returns on private equity to be higher than those on other investments and because of the potential benefits of diversification.[6] Bank holding companies, investment banks, and nonfinancial corporations may also invest in the private equity market to take advantage of economies of scope between private equity investing and their other activities. Commercial banks, for example, are large lenders to small and medium-sized firms. As such, they have contact with many potential candidates for private equity. Conversely, by investing in a private equity partnership, banks may be able to generate lending opportunities to the firms in which the partnership invests. Nonfinancial firms typically invest in early-stage developmental ventures that may fit with their competitive and strategic objectives.

Intermediaries

Intermediaries—mainly limited partnerships—manage an estimated 80 percent of private equity investments. Under the partnership arrangement, institutional investors are the limited partners and a team of professional private equity managers serves as the general partners. Most often the general partners are associated with a partnership management firm (such as the venture capital firm Kleiner Perkins Caufield & Byers or the buyout group Kohlberg Kravis Roberts & Co.). Some management companies are affiliates of a financial institution (an insurance company, bank holding company, or investment bank); the affiliated companies generally are structured and managed no differently than independent partnership management companies.

Investment companies not organized as limited partnerships—Small Business Investment Companies (SBICs), publicly traded investment companies, and other companies—today play only a marginal role as intermediaries in the private equity market.[7] SBICs, established in 1958 to encourage investment in private equity, can leverage their private capital with loans from, or guaranteed by, the Small Business Administration.[8] In the 1970s they accounted for as much as one-third of private equity investment, but today they account for

Figure 4
Investors in the Private Equity Market, by Holdings of Outstandings at Year-End 1996
Billions of dollars

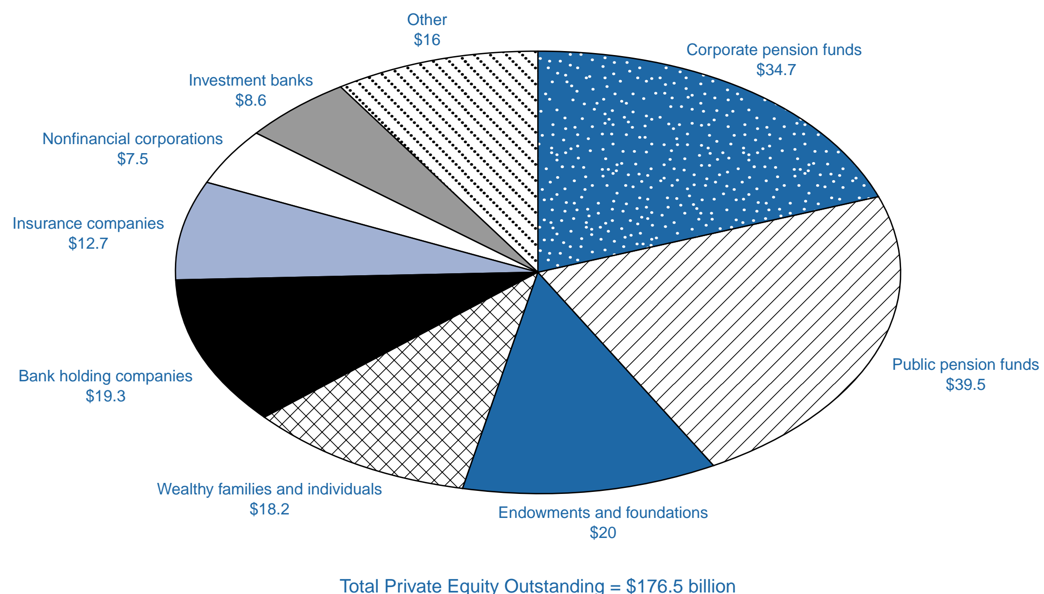


Table 1
Characteristics of Major Issuers in the Private Equity Market

Characteristic	Early-stage new ventures	Later stage new ventures	Middle-market private firms	Public and private firms in financial distress	Public buyouts	Other public firms
Size	Revenues between zero and $15 million	Revenues between $15 million and $50 million	Established, with stable cash flows between $25 million and $500 million	Any size	Any size	Any size
Financial attributes	High growth potential	High growth potential	Growth prospects vary widely	May be over-leveraged or have operating problems	Under-performing High levels of free cash flow	Depend on reasons for seeking private equity
Reason(s) for seeking private equity	To start operations	To expand plant and operations To cash out early-stage investors	To finance a required change in ownership or capital structure To expand by acquiring or purchasing new plant	To effect a turnaround	To finance a change in management or in management incentives	To ensure confidentiality To issue a small offering For convenience Because industry is temporarily out of favor with public equity markets
Major source(s) of private equity	"Angels" Early-stage venture partnerships	Later stage venture partnerships	Later stage venture partnerships Nonventure partnerships	"Turnaround" partnerships	LBO and mezzanine debt partnerships	Nonventure partnerships
Extent of access to other financial markets	For more mature firms with collateral, limited access to bank loans	Access to bank loans to finance working capital	Access to bank loans For more mature, larger firms, access to private place-ment market	Very limited access	Generally, access to all public and private markets	Generally, access to all public and private markets

less than $1 billion of the $176.5 billion market. The reduced role of SBICs has resulted in part from their inability to make long-term equity investments when they themselves are financed with debt. Publicly traded investment companies also played a role in the past, but today fewer than a dozen such companies are active, and together they manage less than $300 million. Apparently the long-term nature of private equity investing is not compatible with the short-term investment horizons of stock analysts and public investors.[9]

The dramatic growth of the limited partnership as the major intermediary in the private equity market is a result of the limited partnership's success in mitigating the severe information problems that exist in the market—both for institutional investors looking for appropriate partnerships in which to invest and for partnerships looking for appropriate portfolio company investments. The mechanisms the limited partnerships use to control these problems are explored in detail in a following section.

Issuers

Issuers in the private equity market vary widely in size and their motivation for raising capital, as well as in other ways. They do share a common trait, however: because private equity is one of the most expensive forms of finance, issuers generally are firms that cannot raise financing from the debt or public equity markets.

Table 1 lists six major issuers of private equity and their main characteristics. Issuers of

Table 2
Average Internal Rates of Return for Venture and Nonventure Private Equity Limited Partnerships and for Public Small-Company Stocks

Average annual return (percent)

Partnerships formed in:	Venture capital	Nonventure capital	Public small-company stocks
1969–79	23.3	—	11.5*
1980–84	10.0	24.8	15.3†
1985–89	15.2	15.3	13.4‡
1990–91	24.1	28.9	15.6§

* Over the period 1969 to 1988.
† Over the period 1980 to 1993.
‡ Over the period 1985 to 1996.
§ Over the period 1990 to 1996.

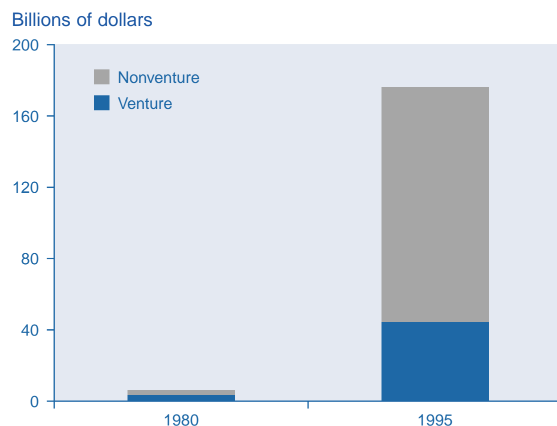
SOURCE: Fenn, Liang, and Prowse (1997).

traditional venture capital are young firms, most often those developing innovative technologies that are predicted to show very high growth rates in the future. They may be early-stage companies, those still in the research and development stage or the earliest stages of commercialization, or later stage companies, those with several years of sales but still trying to grow rapidly.

Since 1980, nonventure private equity investment—comprising investments in established public and private companies—has outpaced venture investment, as illustrated in Figure 5. Nonventure investments include those in middle-market companies (roughly, those with annual sales of $25 million to $500 million), which have become increasingly attractive to private equity investors. Many of these companies are stable, profitable businesses in low-technology manufacturing, distribution, services, and retail industries. They use the private equity market to finance expansion—through new capital expenditures and acquisitions—and to finance changes in capital structure and in ownership (the latter increasingly the result of private business owners reaching retirement age).

Public companies also are issuers in the nonventure sector of the private equity market. Such companies often issue a combination of debt and private equity to finance their management or leveraged buyout. Indeed, between the mid- and late 1980s such transactions absorbed most new nonventure private equity capital. Public companies also issue private equity to help them through periods of financial distress, to avoid registration costs and public disclosures, and to raise funds during periods when their industry is out of favor with public market investors.

Figure 5
Private Equity Capital Outstanding, by Type of Investment, 1980 and 1995



SOURCES: *Venture Economics*; Fenn, Liang, and Prowse (1997).

Agents and Advisors

Also important in the private equity market is a group of "information producers" whose role has increased significantly in recent years. These are the agents and advisors who place private equity, raise funds for private equity partnerships, and evaluate partnerships for potential investors. They exist because they reduce the costs associated with the information problems that arise in private equity investing. Agents facilitate private companies' searches for equity capital and limited partnerships' searches for institutional investors; they also advise on the structure, timing, and pricing of private equity issues and assist in negotiations. Advisors facilitate institutional investors' evaluations of limited partnerships; they may be particularly valuable to financial institutions unfamiliar with the workings of the private equity market.

RETURNS IN THE PRIVATE EQUITY MARKET

A major reason for the explosive growth of the private equity market since 1980 has been the anticipation by institutional investors of returns substantially higher than can be earned in alternative markets. Of course, private equity investments are regarded as considerably more risky and more illiquid than other assets. For those institutional investors that can bear such risk and illiquidity, however, the high expected returns are a major attraction.

Available data indicate that returns to private equity have at times far exceeded returns in the public market. Table 2 shows internal

rates of return on venture and nonventure private equity partnerships during the period in which the partnership was formed. These returns are those experienced by the limited partners; they are measured net of management fees and other partnership expenses. Returns to partnerships that have not yet been liquidated reflect the valuation of a residual component comprising investments whose market values are unknown but are often reported at cost. This may bias downward the returns reported for the funds formed from the mid-1980s onward.

Overall, Table 2 suggests that returns to private equity have generally been above those experienced in the public equity market. The fourth column of Table 2 shows the annual average returns on a portfolio of public small-company stocks over various periods. These periods are intended to be roughly comparable with the ones during which the partnerships listed were earning the bulk of their returns.[10] Except for the early 1980s, returns to both venture and nonventure private equity are greater than returns to public small-company stocks, sometimes substantially so. Whether this is enough to compensate investors for the increased risk of such investments is, of course, another matter. However, as mentioned above, returns for more recent partnerships may be biased downward.

Table 2 also suggests that returns have been higher for nonventure than for venture partnerships. This pattern may partly explain the faster growth of the later stage and, particularly, nonventure sectors of the private equity market over the past fifteen years.

Table 3
Mechanisms Used to Align the Interests of Participants in the Private Equity Market

Limited partners – general partners	Partnership – portfolio companies
Performance incentives	Performance incentives
Reputation	Managerial ownership
General partner compensation	Managerial compensation
Direct means of control	**Direct means of control**
Partnership covenants	**Voting rights**
Advisory boards	**Board seats**
	Access to capital

NOTE: Most important mechanisms are in bold type.

To a certain extent, returns are driven by capital availability. For venture investments, for example, returns have been greatest on investments made during periods when relatively small amounts of capital were available (*Figure 6*). Conversely, there is concern, if not a large amount of evidence, that periods of greater capital availability depress future returns.

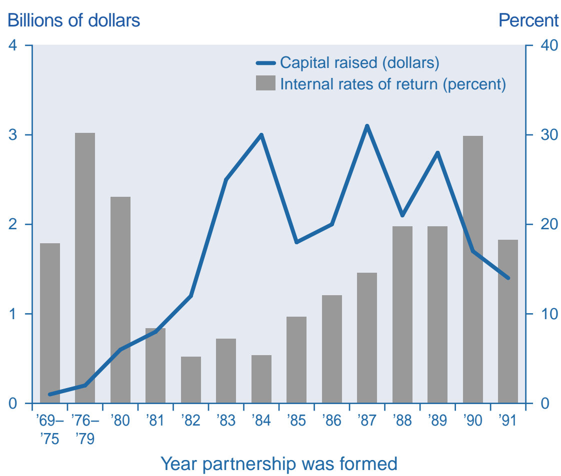
THE ROLE OF LIMITED PARTNERSHIPS IN THE PRIVATE EQUITY MARKET

Accompanying the rapid growth of the private equity market in the 1980s was the rise of professionally managed limited partnerships as intermediaries, as illustrated in Figure 2. In certain respects, the success of limited partnerships is paradoxical. Funds invested in such partnerships are illiquid over the partnership's life, which in some cases runs more than ten years. During this period, investors have little control over the way their funds are managed. Nevertheless, the increasing dominance of limited partnerships suggests that they benefit both investors and issuers.

Table 3 provides an overview of the mechanisms that are used to align the interests of (1) the limited and general partners and (2) the partnerships and the management of the companies in which they invest. These mechanisms can be categorized under the broad headings of performance incentives and direct means of control.

As shown on the left-hand side of Table 3, performance incentives that align the interests of the limited and general partners are twofold. First, the general partners must establish a favorable track record to raise new partnerships. Second, they operate under a pay-for-performance scheme in which most of their expected compensation is a share of the profits earned on

Figure 6
Capital Raised by Venture Capital Partnerships and Internal Rates of Return as of 1995



SOURCE: Fenn, Liang, and Prowse (1997).

investments. These provisions are the principal means by which the interests of the general and limited partners are harmonized. Of secondary importance are direct control mechanisms such as partnership agreements and advisory boards composed of limited partners. Partnership agreements give limited partners restricted direct control over the general partners' activities. These agreements consist mainly of restrictions on allowable investments and other partnership covenants, which the advisory board can waive by majority vote.

In contrast, the direct means of oversight and control are the principal mechanisms for aligning the interests of the partnership and portfolio company management. The most important of these mechanisms are a partnership's voting rights, its seats on the company board, and its ability to control companies' access to additional capital. Performance incentives for company management, including managerial ownership of stock, are also important but are secondary to direct partnership control.

Information Problems in Private Equity Investing

Two types of problems frequently occur when outsiders finance a firm's investment activity—sorting problems and incentive problems. Sorting (or adverse selection) problems arise in the course of selecting investments. Firm owners and managers typically know much more about the condition of their business than do outsiders, and it is in their interest to accent the positive while downplaying potential difficulties (see Leland and Pyle 1977; Ross 1977). Incentive (or moral hazard) problems arise in the course of the firm's operations. Managers have many opportunities to take actions that benefit themselves at the expense of outside investors.

Private equity is used in financing situations in which the sorting and incentive problems are especially severe.[11] Resolving these problems requires that investors engage in intensive preinvestment due diligence and postinvestment monitoring. These activities are not efficiently performed by large numbers of investors; there can either be too much of both types of activities because investors duplicate each others' work, or too little of each owing to the tendency for investors to free ride on the efforts of others. Thus, delegating these activities to a single intermediary is potentially efficient.

The efficiency of intermediation depends on how effectively the sorting and incentive problems between the ultimate investors and intermediaries can be resolved.[12] In the private equity market, reputation plays a key role in addressing these problems because the market consists of a few actors that repeatedly interact with each other. For example, partnership managers that fail to establish a favorable track record may subsequently be unable to raise funds or participate in investment syndicates with other partnerships.[13]

Overview of Private Equity Partnerships

Private equity partnerships are limited partnerships in which the senior managers of a partnership management firm serve as the general partners and institutional investors are the limited partners. The general partners are responsible for managing the partnership's investments and contributing a very small proportion of the partnership's capital (most often, 1 percent); the limited partners provide the balance and bulk of the investment funds.

Each partnership has a contractually fixed lifetime—generally ten years—with provisions to extend the partnership, usually in one- or two-year increments, up to a maximum of four years. During the first three to five years, the partnership's capital is invested. Thereafter, the investments are managed and gradually liquidated. As the investments are liquidated, distributions are made to the limited partners in the form of cash or securities. The partnership managers typically raise a new partnership fund at about the time the investment phase for an existing partnership has been completed. Thus, the managers are raising new partnership funds approximately every three to five years and at any one time may be managing several funds, each in a different phase of its life. Each partnership is legally separate, however, and is managed independently of the others.

A partnership typically invests in ten to fifty portfolio companies (two to fifteen companies a year) during its three- to five-year investment phase. The number of limited partners is not fixed: most private equity partnerships have ten to thirty, though some have as few as one and others more than fifty.[14] The minimum commitment is typically $1 million, but partnerships that cater to wealthy individuals may have a lower minimum and larger partnerships may have a $10 million to $20 million minimum.

Most partnership management firms have six to twelve senior managers who serve as general partners, although many new firms are started by two or three general partners and a few large firms have twenty or more. Partnership management firms also employ

associates—general partners in training—usually in the ratio of one associate to every one or two general partners. General partners often have backgrounds as entrepreneurs and senior managers in industries in which private equity partnerships invest and, to a lesser extent, in investment and commercial banking.

RELATIONSHIP BETWEEN A PARTNERSHIP AND ITS PORTFOLIO COMPANIES

Partnership managers receive hundreds of investment proposals each year. Of these proposals, only about 1 percent are chosen for investment. The partnership managers' success depends upon their ability to select these proposals efficiently. Efficient selection is properly regarded as more art than science and depends on the acumen of the general partners acquired through experience operating businesses as well as experience in the private equity field.

Investment proposals are first screened to eliminate those that are unpromising or that fail to meet the partnership's investment criteria. Private equity partnerships typically specialize by type of investment and by industry and location of the investment. Specialization reduces the number of investment opportunities considered and reflects the degree of specialized knowledge required to make successful investment decisions.

This initial review consumes only a few hours and results in the rejection of up to 90 percent of the proposals the partnership receives. In many cases, the remaining proposals are subjected to a second review, which may take several days. Critical information included in the investment proposal is verified and the major assumptions of the business plans are scrutinized. As many as half the proposals that survived the initial screening are rejected at this stage.

Proposals that survive these preliminary reviews become the subject of a more comprehensive due-diligence process that can last up to six weeks. It includes visits to the firm; meetings and telephone discussions with key employees, customers, suppliers, and creditors; and the retention of outside lawyers, accountants, and industry consultants. For proposals that involve new ventures, the main concerns are the quality of the firm's management and the economic viability of the firm's product or service (Gladstone 1988). For proposals involving established firms, the general objective is to gain a thorough understanding of the existing business, although the precise focus of the investigation varies with the type of investment. With distressed companies, efforts are focused on discussions with the company's lenders; for buyouts of family-owned businesses, management succession issues will warrant greater attention; and for highly leveraged acquisitions, efforts will focus on developing detailed cash-flow projections.

Extensive due diligence in the private equity market is needed because little, if any, information about issuers is publicly available and in most cases the partnership has had no relationship with the issuer. Thus, the partnership must rely heavily on information that it can produce *de novo*. Moreover, the management of the issuing firm typically knows more than outsiders do about many aspects of its business. This information asymmetry, combined with the fact that issuing private equity is very expensive, has the potential to create severe adverse selection problems for investors. In the private equity market, this problem is mitigated by the extensive amount of due diligence and by the fact that alternative sources of financing for private equity issuers are limited.

Information asymmetries between investors and managers of the issuing firm give rise to a potential moral hazard problem, whereby management pursues its own interests at the expense of investors. Private equity partnerships rely on various mechanisms to align the interests of managers and investors. These mechanisms can be classified into two main categories. The first category comprises mechanisms that relate to performance incentives, including the level of managerial stock ownership, the type of private equity issued to investors, and the terms of management employment contracts. The second comprises mechanisms that relate to direct means of control of the firm, including board representation, allocation of voting rights, and control of access to additional financing. These mechanisms are examined in turn.

Performance Incentives

Managerial Stock Ownership. Private equity managers usually insist that the portfolio firm's senior managers own a significant share of their company's stock, and stock ownership often accounts for a large part of managers' total compensation. In venture capital, management stock ownership varies widely depending upon the management's financial resources and the company's financing needs and projected future value. It also depends upon the number of rounds of financing, as dilution typically occurs

with each round. Even in later stage companies, however, management ownership of 20 percent is not unusual. For nonventure companies, managerial share ownership usually ranges between 10 percent and 20 percent.

A common provision in both venture and nonventure financing is an equity "earn-out" (Golder 1983). This arrangement allows management to increase its ownership share (at the expense of investors) if certain performance objectives are met.

Type of Private Equity Issued to Investors. Convertible preferred stock is the private equity security most frequently issued to investors. The major difference between convertible preferred stock and common stock is that holders of preferred stock are paid before holders of common stock in the event of liquidation. From the partnership's standpoint, this offers two advantages. First, it reduces the partnership's investment risk. Second, and more important, it provides strong performance incentives to the company's management because management typically holds either common stock or warrants to purchase common stock. If the company is only marginally successful, its common stock will be worth relatively little. Thus, the use of convertible preferred stock mitigates moral hazard problems. Subordinated debt with conversion privileges or warrants is sometimes used as an alternative way of financing the firm: it confers the same liquidation preference to investors as convertible preferred equity and, thus, the same performance incentives to management.

Management Employment Contracts. In principle, management's equity position in the firm could induce excessive risk taking. However, management compensation can also be structured to include provisions that penalize poor performance, thereby offsetting incentives for risk taking. Such provisions often take the form of employment contracts that specify conditions under which management can be replaced and buyback provisions that allow the firm to repurchase a manager's shares in the event that he or she is replaced.

Mechanisms of Direct Control

Although managerial incentives are a very important means of aligning the interests of management and investors, a private equity partnership relies primarily on its ability to exercise control over the firm to protect its interests.

Board Representation. In principle, a firm's board of directors bears the ultimate responsibility for the management of the firm, including hiring and firing the CEO, monitoring and evaluating the firm's performance, and contributing significantly to the firm's business and financial planning process.

General partners can be extremely influential and effective outside directors. As large stakeholders, they have an incentive to incur the expense necessary to monitor the firm. Moreover, they have the resources to be effective monitors—in the form of their own staff members, information acquired during the due-diligence process, and the expertise acquired while monitoring similar companies.

Private equity partnerships in many cases dominate the boards of their portfolio companies. Lerner (1994) reports that general partners hold more than one-third of the seats on the boards of venture-backed biotechnology firms, which is more than the share held by management or other outside directors. Even if it is a minority investor, a private equity partnership usually has at least one board seat and is able to participate actively in a company's management.

Allocation of Voting Rights. For early-stage new ventures, leveraged buyouts, and financially distressed firms, the investment is often large enough to confer majority ownership. In other situations, the partnership may obtain voting control even if it is not a majority shareholder. Even if the partnership lacks voting control, however, it is generally the largest nonmanagement shareholder. Thus, it has a disproportionate degree of influence on matters that come to a shareholder vote.

In general, a partnership's voting rights do not depend on the type of stock issued. For example, holders of convertible preferred stock may be allowed to vote their shares on an "as-converted" basis. Similarly, subordinated debt can be designed so that investors have voting rights should a vote take place. The issue of voting control can also be addressed by creating separate classes of voting and nonvoting stock.

Control of Access to Additional Financing. Partnerships can also exercise control by providing a company with continued access to funds. This is especially the case for new ventures. Venture capital is typically provided to portfolio companies in several rounds at fairly well-defined development stages, generally with the amount provided just enough for the firm to advance to the next stage of development. Even if diversification provisions in the partnership agreement prevent the partnership itself from providing further financing, the general partners have the power, through their extensive contacts, to bring in other investors.

Conversely, if the original partnership is unwilling to arrange for additional financing, it is unlikely that any other partnership will choose to do so; the reluctance of the original partnership is a strong signal that the company is a poor investment.

Nonventure capital is also provided in stages, though to a lesser extent. For example, middle-market firms that embark on a strategy of acquisitions periodically require capital infusions to finance growth; that capital is not provided all at once. Similarly, companies that undergo leveraged buyouts are forced to service debt out of free cash flow and subsequently must justify the need for any new capital (Palepu 1990).

Other Control Mechanisms. Other mechanisms by which partnerships control and monitor the activities of the companies in which they invest include covenants that give the partnership the right to inspect the company's facilities, books, and records and to receive timely financial reports and operating statements. Other covenants require that the company not sell stock or securities, merge or sell the company, or enter into large contracts without the approval of the partnership.

RELATIONSHIP BETWEEN THE LIMITED PARTNERS AND THE GENERAL PARTNERS

By investing through a partnership rather than directly in issuing firms, investors delegate to the general partners the labor-intensive responsibilities of selecting, structuring, managing, and eventually liquidating private equity investments. However, limited partners must be concerned with how effectively the general partners safeguard their interests. Among the more obvious ways in which general partners can further their own interests at the expense of the limited partners are spending too little effort monitoring and advising portfolio firms, charging excessive management fees, taking undue investment risks, and reserving the most attractive investment opportunities for themselves.

Private equity partnerships address these problems in two basic ways: by using mechanisms that relate to performance incentives and mechanisms that relate to direct means of control. Performance incentives are the more important means of aligning general partners' interests with those of the limited partners. These incentives involve the general partners' need to protect their reputations and the terms of the general partners' compensation structure, such as their share of the profits. These incentives can significantly curtail the general partners' inclination to engage in behavior that does not maximize value for investors. Direct control mechanisms in the partnership agreement are relatively less important means of controlling the moral hazard problem between general and limited partners.

Performance Incentives

Reputation. Partnerships have finite lives. To remain in business, private equity managers must regularly raise new funds, and fund raising is less costly for more reputable firms. In fact, to invest in portfolio companies on a continuous basis, managers must raise new partnerships once the funds from the existing partnership are fully invested, or about once every three to five years.

Raising partnership funds is time consuming and costly, involving presentations to institutional investors and their advisors that can take from two months to well over a year, depending on the general partners' reputation and experience. A favorable track record is important because it conveys some information about ability and suggests that general partners will take extra care to protect their reputation. Also, experience itself is regarded as an asset. To minimize their expenses, partnership managers generally turn first to those who invested in their previous partnerships—assuming, of course, that their previous relationships were satisfactory.

Certain features of a partnership enhance the ability of the general partners to establish a reputation. These features essentially make both the partnership's performance and the managers' activities more transparent to investors than might be the case for other financial intermediaries. One such feature is segregated investment pools. By comparing one partnership's investment returns with those of other partnerships raised at the same time, it is easier to account for factors that are beyond the control of the general partners, such as the stage of the business cycle or the condition of the market for initial public offerings, mergers, and acquisitions. By contrast, if private equity intermediaries did not maintain segregated investment pools, earnings would represent a blend of investment returns that occur at different stages of the business cycle or under different market conditions.

Another feature is the separation of management expenses and investment funds. In a limited partnership, management fees are specified in the partnership agreement (described

below). Thus, the amount of investment capital that can be consumed in the form of manager salaries and other perquisites is capped. Moreover, because such expenses are transparent, it is easier to compare expenses across partnerships. Other types of financial intermediaries pay expenses and finance investments out of the same funds raised from investors; although expenses are reported, they are difficult to control before the fact and are not always transparent after the fact.

Compensation Structure. General partners earn a management fee and a share of a partnership's profits, the latter known as carried interest. For a partnership that yields average returns, carried interest may be several times larger than the management fees (Sahlman 1990). This arrangement—providing limited compensation for making and managing investments and significant compensation in the form of profit sharing—lies at the heart of the partnership's incentive structure.

Management fees are frequently set at a fixed percentage of committed capital and remain at that level over the partnership's life. Fee percentages range from 1 percent to 3 percent. Carried interest is most often set at 20 percent of the partnership's net return.

Direct Control Mechanisms

Partnership agreements also protect limited partners' interests through covenants that place restrictions on a partnership's investments and on other activities of the general partners. Restrictions on investments are especially important because a considerable portion of the general partners' compensation is in the form of an option-like claim on the fund's assets. This form of compensation can lead to excessive risk taking. In particular, it may be in the interest of the general partners to maximize the partnership's risk—and hence the expected value of their carried interest—rather than the partnership's risk-adjusted expected rate of return.

To address the problem of excessive risk taking, partnership covenants usually set limits on the percentage of the partnership's capital that may be invested in a single firm. Covenants may also preclude investments in publicly traded and foreign securities, derivatives, other private equity funds, and private equity investments that deviate significantly from the partnership's primary focus. Finally, covenants usually restrict the fund's use of debt and in many cases require that cash from the sale of portfolio assets be distributed to investors immediately.

Partnership covenants also limit deal fees (by requiring that deal fees be offset against management fees), restrict coinvestment with the general partners' earlier or later funds, and restrict the ability of general partners and their associates to coinvest selectively in the partnership's deals.

Finally, partnership agreements allow limited partners some degree of oversight over the partnership. Most partnerships have an advisory board composed of the largest limited partners. These boards help resolve conflicts involving deal fees and conflict-of-interest transactions. They do so by approving exemptions from partnership covenants. Special committees are also created to help determine the value of the partnership's investments. However, these two types of bodies do not provide the kind of management oversight that a board of directors can for a corporation; indeed, their power is limited by the legal nature of the partnership, which prohibits limited partners from taking an active role in management.

CONCLUSION

This article has presented an economic analysis of the private equity market. In particular, it has detailed how the contracts that limited partnerships write with investors and portfolio firms address many of the adverse selection and moral hazard problems that face investors considering investments in small and medium-sized firms.

The private equity market's success in addressing these problems is evidenced by the large number of successful firms that received initial financing in this market. This success has been much admired in the rest of the industrialized world, particularly in Japan and Germany. In these countries, private equity markets of the U.S. kind do not exist, primarily due to the heavily regulated nature of their securities markets, and so firms rely much more on bank financing. While such bank-centered systems may have had advantages in the past, there is an increasing feeling that such systems may not adequately provide funds for small and medium-sized firms that are the engine of future economic growth and innovation. Both Japan and Germany have recently taken steps to deregulate their financial markets. By fostering the growth of U.S. private equity market practices, these countries hope to solve the informational and governance problems of small firms looking for capital.

NOTES

[1] This article draws selectively from a longer, more comprehensive research paper on the private equity market by Fenn, Liang, and Prowse (1997).

[2] Some studies have been made of particular market sectors, such as venture capital and leveraged buyouts (LBOs) of large public companies. On venture capital, see Sahlman (1990) and special issues of *Financial Management* (1994) and *The Financier* (1994). For a summary of the LBO literature, see Jensen (1994).

[3] An equity investment is any form of security that has an equity participation feature. The most common forms are common stock, convertible preferred stock, and subordinated debt with conversion privileges or warrants.

[4] The emergence of limited partnerships is actually more dramatic than these figures indicate. As recently as 1977, limited partnerships managed less than 20 percent of the private equity stock.

[5] These and other figures in this section are my estimates based on information from a variety of sources. See Fenn, Liang, and Prowse (1997) for details on how these estimates are constructed.

[6] Private equity is often included in a portfolio of "alternative assets" that also includes distressed debt, emerging market stocks, real estate, oil and gas, timber and farmland, and economically targeted investments.

[7] Two other types of private equity organizations are SBICs owned by bank holding companies and venture capital subsidiaries of nonfinancial corporations. Both types were extremely important in the 1960s, and they still manage significant amounts of private equity. However, these organizations invest only their corporate parent's capital. In this sense, neither is really an intermediary but rather a conduit for direct investments. I treat the investments by these organizations as direct investments, not as investments by intermediaries.

[8] See the *Venture Capital Journal*, October 1983.

[9] This, of course, raises the question of why private equity investments haven't proven to be ideal for closed-end mutual funds, wherein the fund invests money for the long term but investors can get out in the short term.

[10] For example, partnerships in the first row were formed between the years 1969 and 1979. These funds would have invested and earned returns on their capital between the years 1969 and 1988. The first row/fourth column thus shows the annual average return to public small companies over this 20-year period. Returns for small-company stocks for the other periods are similarly calculated. Returns for small-company stocks are after transactions costs (Ibbotson 1997).

[11] In venture investing, for example, the firm is often a start-up with no track record. In a leveraged buyout, while there may be ample information about the firm, management may have little or no incentive to act in equityholders' best interests.

[12] If, for example, investors must investigate the intermediary to the same extent that they would investigate the investments that the intermediary makes on their behalf, using one may be *less* efficient (Diamond 1984).

[13] Intermediaries are also important because selecting, structuring, and managing private equity investments require considerable expertise. Gaining such expertise requires a critical mass of investment activity that most institutional investors cannot attain on their own. Managers of private equity intermediaries are able to acquire such expertise through exposure to and participation in a large number of investment opportunities. Although institutional investors could also specialize in this way, they would lose the benefits of diversification. Finally, intermediaries play an important role in furnishing business expertise to the firms in which they invest. Reputation, learning, and specialization all enhance an intermediary's ability to provide these services. For example, a reputation for investing in well-managed firms is valuable in obtaining the services of underwriters. Likewise, specialization allows an intermediary to more effectively assist its portfolio companies in hiring personnel, dealing with suppliers, and helping in other operations-related matters.

[14] Many partnerships that have a single limited partner have been initiated and organized by the limited partner rather than by the general partner. Such limited partners are in many cases nonfinancial corporations that want to invest for strategic as well as financial reasons—for example, a corporation that wants exposure to emerging technologies in its field.

REFERENCES

Diamond, Douglas W. (1984), "Financial Intermediation and Delegated Monitoring," *Review of Economic Studies* 51 (July): 393–414.

Fenn, George, Nellie Liang, and Stephen D. Prowse (1997), "The Private Equity Market: An Overview," *Financial Markets, Institutions and Instruments* 6 (4): 1–105.

Financial Management 23 (1994), May.

The Financier 1 (1994), Autumn.

Gladstone, David (1988), *Venture Capital Handbook* (Englewood Cliffs, N.J.: Prentice Hall).

Golder, Stanley (1983), "Structuring and Pricing the Financing," in *Guide to Venture Capital*, ed. Stanley Pratt (Wellesley, Mass.: Capital Publishing Corp.).

Ibbotson, Roger (1997), *Stocks, Bonds, Bills, and Inflation 1997 Yearbook* (Chicago: Ibbotson Associates).

Jensen, Michael C. (1994), "The Modern Industrial Revolution, Exit, and the Failure of Internal Control Systems," *Journal of Applied Corporate Finance* 6 (Winter): 4–23.

Leland, Hayne, and David Pyle (1977), "Information Asymmetries, Financial Structure and Financial Intermediation," *Journal of Finance* 32 (May): 371–87.

Lerner, Joshua (1994), "Venture Capitalists and the Oversight of Private Firms" (unpublished working paper, Harvard University).

Palepu, Krishna (1990), "Consequences of Leveraged Buyouts," *Journal of Financial Economics* 27 (September): 247–62.

Ross, Stephen A. (1977), "The Determination of Financial Structure: The Incentive-Signalling Approach," *Bell Journal of Economics* 8 (Spring): 23–40.

Sahlman, William A. (1990), "The Structure and Governance of Venture Capital Organizations," *Journal of Financial Economics* 27 (Spring): 473–521.

Venture Capital Journal (1983), "SBICs After 25 Years: Pioneers and Builders of Organized Venture Capital," October.

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