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The U.S. Leveraged Loan Market: A Primer

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Abstract:

This paper sets forth the origins and milestones of the quiet revolution that has been the growth of the syndicated loan market. The leveraged portion of the market, the part of the market where most innovation has occurred, receives special attention. This analysis provides a primer to investors and other parties interested in a market that has, without great fanfare, been one of the most rapidly growing and innovating sections of the U.S. capital market in the past 20 years. It explores issues related to the main features of the primary market using the most recent data available and details the characteristics of the secondary market. Investment returns, as well as the risks of the asset class, particularly credit risk, receive special attention.

Keywords: Syndication, leveraged loans, fixed income, loan participation, corporate loans, secondary market, capital markets.

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Introduction

Throughout history, innovation has driven the development of the financial markets, and over the last 20 years, the syndicated loan market has provided particularly fertile ground for financial innovation. From a relatively esoteric field involving commercial banks syndicating lines of credit, financial innovations have helped it develop into a broad, dynamic market encompassing both an efficient primary market that originates syndicated credits and a liquid secondary trading market where prices adjust to reflect credit quality and market conditions. Tufano (2002) notes that financial innovations consist of two categories: innovations in process and innovations involving new products. The market for syndicated loans has benefited from both types of innovations. Process innovations include efforts to increase standardization of confirmation and settlement documentation, development of credit ratings for loans, the provision of market-wide mark-to-market pricing and the recent introduction of CUSIPs. Product innovations include the development of institutional loan tranches, second liens, the creation of benchmark indices and the creation of credit-linked notes.

The development of an efficient and liquid syndicated loan market in the U.S. has greatly impacted its capital markets. The syndicated loan market bridges the private and public fixed income markets and provides borrowers with an alternative to high yield bonds and illiquid bilateral commercial bank loans. It provides much needed credit to lower rated companies and has strengthened the bankruptcy process in the U.S. through its facilitation of DIP (debtor-in-possession) lending. Today's syndicated loan market benefits banks also; in times of adversity, they can sell portions of the syndicated credits into a relatively liquid secondary market and actively manage the risk in their loan portfolios. This allows banks to avoid unnecessary lending restrictions when the economy contracts and thus the impact of an inefficient "credit crunch." The development of the secondary market for syndicated loans has led to the creation of a new asset class with greater return per unit of risk than many other fixed income assets and low correlations with most other classes of assets (Exhibit 1).

This paper sets forth the origins and milestones of the quiet revolution that has been the growth of the syndicated loan market. The leveraged portion of the market, the part of the market where most innovation has occurred, receives special attention.

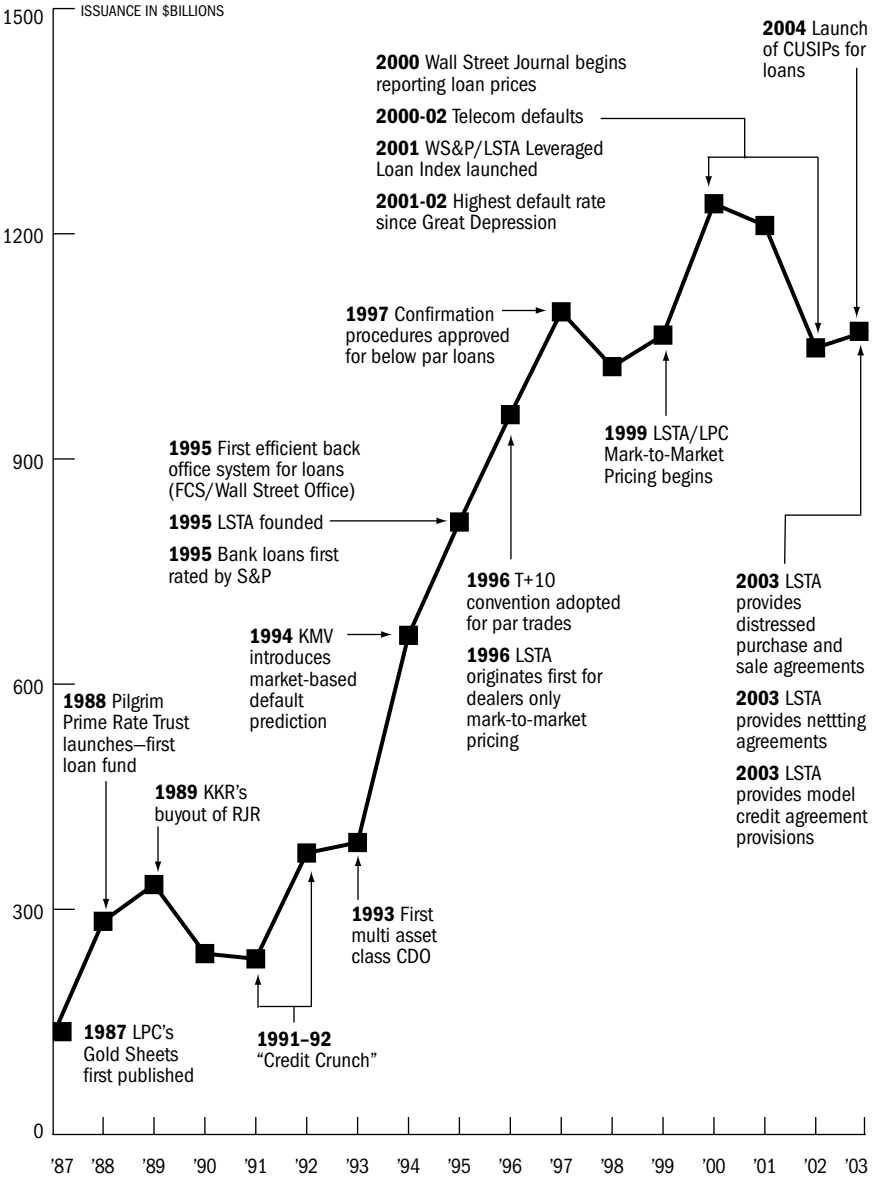
This analysis provides a primer to investors and other parties interested in a market that has, without great fanfare, been one of the most rapidly growing and innovating sectors of the U.S. capital market in the past 20 years (Exhibit 2). It explores issues related to the main features of the primary market using the most recent data available and details the characteristics of the secondary market. The returns and the risks of the asset class, particularly credit risk, receive special attention. Also included is a detailed bibliography that provides the interested reader with additional works that provide fuller treatments of specific features of the market.

EXHIBIT 1: CORRELATIONS BETWEEN ASSET CLASS RETURNS 1992-2002

	U.S.LT Govt	ML Mort.	ML Corp	High Yield Bonds	S&P 500	S&P/ BARRA 500 Growth	CSFB Convertibles	JPM Emerging Mkts	Gold	Leveraged Loans	ML ABS
U.S.LT Govt	1										
ML Mort.	0.79	1									
ML Corp	0.69	0.64	1								
High Yield Bonds	0.09	0.18	0.36	1							
S&P 500	-0.02	0.1	0.18	0.59	1						
S&P/ BARRA 500 Growth	-0.01	0.1	0.16	0.44	0.95	1					
CSFB Convertibles	-0.08	0.05	0.16	0.62	0.75	0.74	1				
JPM Emerging Mkts	0.29	0.39	0.46	0.51	0.54	0.46	0.47	1			
Gold	0.02	0.12	0.11	0.05	-0.1	-0.05	0.06	0.25	1		
Leveraged Loans	-0.05	-0.1	0.07	0.47	0.12	0.05	0.22	0.04	0.01	1	
ML ABS	0.51	0.57	0.53	0.06	-0.06	-0.06	-0.07	0.29	0.09	-0.14	1

Source: CSFB, Ibbotson

EXHIBIT 2: DEVELOPMENTS IN THE MARKET FOR SYNDICATED LOANS



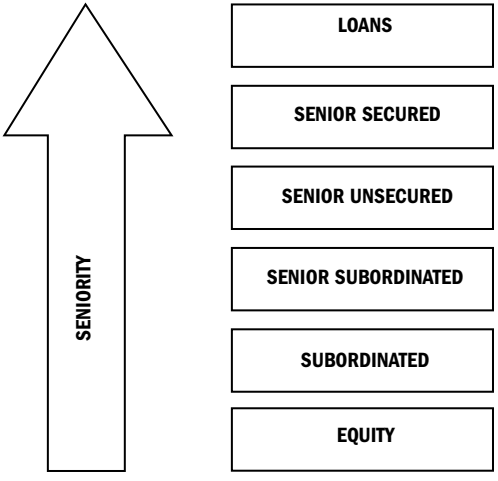
Source: LPC and Thompson Financial

Syndicated loans — an overview

Two particular features characterize syndicated loans or syndicated credit. The transaction must involve more than one lender, and each lender has a separate, severable obligation as an underwriter of a portion of the total in its own right (Rhodes, Clark and Campbell, 2000). Thus, syndication is a credit in which multiple lenders "regardless of any event," are liable "only up to a specified percentage of the total extension of credit or up to a specified dollar amount." (Federal Deposit Insurance Corporation, 1997). Syndicated credit, although involving lenders whose liabilities are several, is governed by a common agreement and a single set of documentation.

Syndicated loans can be both secured and unsecured, but are always senior debt. Leveraged syndicated loans (see below for discussion of leverage) are typically senior to all other debt in the borrower's capital structure, while syndicated loans of investment grade firms are often at the same level of seniority as senior bonds (JPMorgan, 2003). Thus, holders of syndicated loans have priority over the claims of most or all other creditors (Figure 1) and in theory, must be repaid in full before the claims of junior debt holders are satisfied.

FIGURE 1: SENIORITY IN A FIRM'S CAPITAL STRUCTURE



Source: Adapted from Schuermann, 2004

In some cases, senior creditors may find it advantageous to accept less than full payment in return for a rapid resolution of a troubled loan. Senior creditors to a borrower who has entered bankruptcy proceedings may find their influence diminished (Bartlett, 1999).

Syndicated loans are floating rate instruments that make use of a reference rate (the base rate) to which a specified interest rate spread is added. The value of this spread compensates the syndicate members for the liquidity, market and credit risks assumed. As the base rate re-sets, usually quarterly, the actual interest rate that the borrower pays fluctuates, although the spread over the reference rate may or may not, depending upon the tranche type. Typically, the spread adjusts for the revolvers and for some types of term loans (see Types of syndicated loan facilities, below). The most frequently used reference rates are typically LIBOR (London Interbank Offer Rate), the prime rate of a specified bank, or the rate on a specified certificate of deposit (DeRosa-Farag and Blau, 1998). In the 1990s, the U.S. prime rate (the previously agreed upon benchmark rate for corporate lending) was reduced in importance by the popularization of LIBOR-based lending.

Another differentiating feature of syndicated loans is the inclusion of more numerous and stricter covenants than bonds (Assender, 2000) that are generally calculated quarterly, offering loan holders considerable control over and insight into the financial health of a borrower. Designed to decrease the financial risks associated with default and its associated losses, these covenants often include limitations on additional borrowing, and provisions on the use of proceeds from asset sales and on the disbursement of dividends to any holders of the borrower's equity. Additionally, covenants may specify a required level of debt coverage, a required minimum net worth or tangible net worth level, a minimum ratio of current assets to current liabilities and in many cases, a maximum leverage ratio for the borrower (Miller, 2004). Failure to meet these financial covenant levels generally results in an increased spread in order to better compensate the lender for the current level of risk.

A final important feature of syndicated loans is their callability. Syndicated loans are still generally callable at par and are also generally callable without

penalty (McDermott et al, 2004) although prepayment fees are, at present, increasingly included as part of a loan agreement (Standard & Poor's, 2003).

The value of syndicated loans to borrowers and lenders

Syndicated loans allow borrowers to access a larger pool of capital than any one single lender may be prepared to make available and they tend to allow the originating lender the opportunity to provide greater customization than with traditional bilateral relationship-based loans. One large syndicated loan is also simpler to arrange and more likely to be cheaper than borrowing the same amount from a number of lenders through traditional loan underwriting techniques in part because the lead lender may be able to pass on to the borrower savings from not having to incur full capital allocations for loans that are syndicated. As private debt instruments that also have features of public debt such as an active secondary market and credit ratings, syndicated loans are also valuable to borrowers as they complete the financial continuum that runs from relationship-based bilateral loans to bonds and thereby "provide borrowers with a more complete menu of financing options" (Armstrong, 2003). Syndicated loans compare favorable with bonds in many respects. They are prepayable, have customizable terms, and do not require public filing periods.

Identifying the value of syndicated loans to lenders is slightly more complicated. The economic theory of banking posits that an important function of a bank is to monitor a borrower's creditworthiness and that the incentive to engage in monitoring is maximized by the bank holding a borrower's loan to maturity (Diamond, 1991; Gorton and Pennachi, 1990). Moreover, relationship lending is seen as optimal in this framework as it avoids costly duplication of this monitoring function, and also removes a bank's ability to "free ride" on the monitoring activities of other lenders, which can occur when credit is underwritten by several lenders (Freixas and Rochet, 1997; Esty and Megginson, 2003). Syndication would therefore seem to be an inefficient form of lending. However, in truth, the costs of decreased monitoring are often offset by the advantages that syndicated loans offer over bilateral loans. A syndicate can also be valuable in workouts as it can provide for a coordinated means of dealing with a

problem borrowing situation as opposed to an expensive and complex "free for all" of competing claims.

Syndication of a large loan is a way to spread the risk of the loan over several lenders (Assender, 2000; Jones, Lang and Nigro, 2000), and thereby decrease the lender's exposure to a single borrower. Thus, syndicated loans can allow lenders to maintain an important relationship with a borrower, while avoiding any single lender's overexposure to the entire credit. Syndicated loans also allow lenders to diversify their portfolios, minimizing risk and maximizing expected returns by taking advantage of the correlation — or lack thereof — between different loans. Participating in a syndicated transaction may also be a way to avoid regulations that limit the maximum ratio of a single credit to a bank's equity (Dennis and Mullineaux, 2000). Additionally, participating in a syndicate may be attractive to smaller lenders as it allows them to lend to larger (and perhaps more prestigious) borrowers than their smaller balance sheets would allow in the case of bilateral loans (Armstrong, 2003).

Types of syndications

Loans can be divided into two groups by the extent to which underwriters guarantee the placement of the credit. These are *underwritten* (or firm-commitment) deals and *best efforts* deals. An underwritten deal is one in which the arranging syndicate agrees to place the entire amount of the loan. This may mean that the syndicate members must hold portions of the loan on their balance sheets if the credit cannot be fully subscribed. Alternatively, the members may have to sell unsubscribed portions of the credit at a discount (Miller, 2003). This guarantee to underwrite the entire value of the loan is legally binding and the lender is compensated for the resulting risk with higher fees paid by the borrower (Armstrong, 2003). Best efforts syndication involves the syndicate agreeing to guarantee only a portion of the total credit amount. If, for any reason, the deal is not fully placed, then the pricing of the loan may be adjusted, or failing this, the amount of the loan may be reduced to allow the loan to be fully subscribed.

Market-flex was first used in late 1997 and early 1998 by Chase Manhattan and is designed to limit arrangers' underwriting risk (Coffey, 2000). Market-flex allows arrangers to either adjust a loan's pricing, its structure or its

amortization schedule to clear the market for that particular credit. Rather than have an undersubscribed loan, market-flex allows features of the credit to be changed to attract more investors. Commonly, market-flex allows a loan's syndicators to increase or decrease the credit's spread over the reference rate to allow the market to clear. This, of course, creates interest rate risk for the borrower since prior to the advent of market-flex, lenders would agree to a set spread several weeks before the loan was funded (Bavaria, 2002), and thus assume all interest-rate risk. While market-flex creates additional risks for borrowers, it can make loans cheaper for them. Prior to market-flex, lenders would often "build in an extra margin to cover possible market shocks" in the spreads they offered to borrowers (Bavaria, 2002). Market-flex adjustments are not always made upward, but rather can make loans cheaper for borrowers if rates fall. Over the past four years, for example this has not been unusual, especially for institutional tranches. During the first two quarters of 2001 and 2002, and the second and third quarters of 2003, more credits flexed downward than up (Standard & Poor's, 2003).

Types of syndicated loan facilities

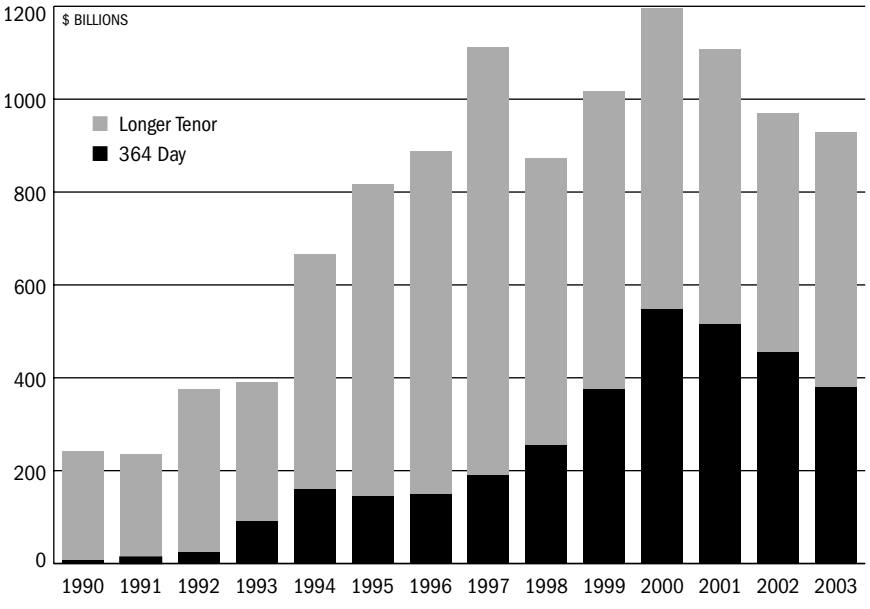
Revolvers are, in certain ways, similar to credit cards. Borrowers have the option — the right, but not the obligation — to draw down some portion of a revolving credit line. They can draw down, repay and indeed re-borrow all or some of the credit line. The amount of credit available can change, however, depending on the creditworthiness of the borrower. Revolvers frequently have "borrowing base calculations" determined by the borrower's accounts receivable and inventory levels. These calculations drive the amount available to the borrower at any time and can reduce the overall size of the revolver. Revolvers are typically used to fund the general working capital requirements of borrowers and may be secured by a borrower's inventory and accounts receivable. The term of a revolver can be as short as a 364-day facility with those revolvers being very common for investment grade credits (Figure 2). The reason for this unusual term is determined by regulatory capital guidelines; banks are required to increase their regulatory capital to cover the undrawn as well as the drawn portions of a revolving credit facility, one year after its extension.

There are also several more specialized types of revolvers in addition to the plain vanilla revolver. A multicurrency revolver allows the borrower

to borrow in two or more currencies. A competitive-bid option allows borrowers to seek competitive loan offers from a syndicate group. A term out is a revolver that gives the borrower the option to convert the revolver into a term loan (see below) at a given date. An evergreen facility allows the borrower (with the consent of the lenders) to extend a 364-day facility for another 364 days. A *swingline facility* is an overnight borrowing facility that is typically designed to provide financing for a firm that is replacing its commercial paper with eurocommercial paper.

Term loans are often packaged together with a revolver facility as part of a syndicated credit. A term loan is a loan for a specified amount with a fixed repayment schedule and a fixed tenor. Unlike revolvers, they are typically of longer tenor and are also generally fully funded at origination. There are two main types: amortizing and institutional term loans. An amortizing term loan (term loan A) is a loan in which both the principal and interest are repaid over the credit's term through a typically progressive repayment schedule. Institutional term loans (term loan B, C, D...) also amortize, but

FIGURE 2: SYNDICATED LOAN ISSUANCE BY TENOR, 1990–2003

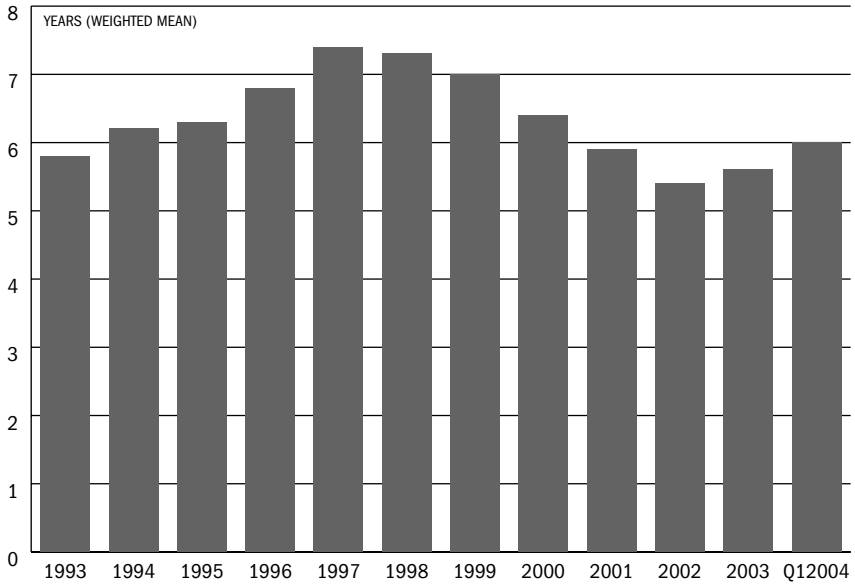


Source: LPC 2004 Annual

typically have a longer tenor, although the average tenor for institutional loans has declined in recent years (Figure 3).

Other credits, usually varieties of term and revolving credits, include standby facilities, letters of credit and acquisition loans. Standby facilities, which are types of revolvers, are essentially a form of liquidity insurance. A revolving credit facility is made available to a borrower who is also seeking alternative and cheaper financing. The bank loan is kept in reserve as a backup to the other financing. Revolving credit facilities can contain letter of credit sub-limits under which letters of credit are issued to third parties who require credit enhancement for the borrower's performance of its obligations. The third party beneficiary can draw on the letter of credit if the borrower fails to perform specified obligations owed to that party or if some other specified event, such as an adverse borrower credit event, occurs. An acquisition loan is a specific type of revolver that typically cannot be reborrowed. Funds can be drawn down from the line only for a specific period of time and only to purchase specified assets. Repaid amounts cannot be reborrowed in contrast to standard revolvers, in which case they can be reborrowed.

FIGURE 3: AVERAGE TENOR OF INSTITUTIONAL LOANS, 1993–2004



Source: LPC 2004 Annual

As syndicated loans have developed, they have increased in sophistication and can quite often have embedded options or other financial innovations packaged with them. Typically, these are hedges against currency or interest rate risk. Dual currency loans have an embedded option to engage in a cross-currency swap of the amount of the loan, from the currency in which it was originated, into another predetermined currency at a predetermined foreign exchange rate. A syndicated loan with a *LIBOR back set* allows the borrower to receive LIBOR fixed two days prior to the loans commencement and pay LIBOR fixed two days prior to the loan's maturity. Syndicated loans can also be packaged with a range of interest rate derivatives. Commonly used instruments include *caps*, *floors* and *collars*. A cap is a contract that offers insurance to the buyer (loan issuer) against interest rates rising above a predetermined rate (the cap rate) and thus provides a hedge to floating rate borrowers against interest rate risk[1]. A collar is a combination of a cap and a floor — a contract that insures against rates falling below a predetermined floor rate. A collar is often costless to a borrower since it is quite common for it to consist of a cap rate chosen by the purchaser, and a floor rate set by the seller (Jarrow and Turnbull, 1996).

Leveraged and investment grade syndicated loans

Syndicated loans can also be divided into leveraged and nonleveraged credits. Different market organizations and lenders define leveraged loans in different ways; however there are two broad ways to classify loans as leveraged or nonleveraged. The first is based on credit ratings, and the second is based on a loan's initial interest rate spread over LIBOR. The extent to which a credit is leveraged reflects, other things being equal, the leverage ratios of a borrower with higher ratios resulting in higher spreads or lower credit ratings.

An example of an organization that defines leveraged loans based on their credit rating is the Loan Pricing Corporation (LPC). Leveraged loans are defined by the LPC as those with BB, BB/B, and B or lower, bank loan ratings. Thompson Financial, Standard & Poor's and Bloomberg are examples of organizations defining leveraged loans by their spreads over

[1] It should be noted that the investor/lender will continue to receive a floating rate of return albeit with the benefit of payments received from the borrower from the counterparty to the swap.

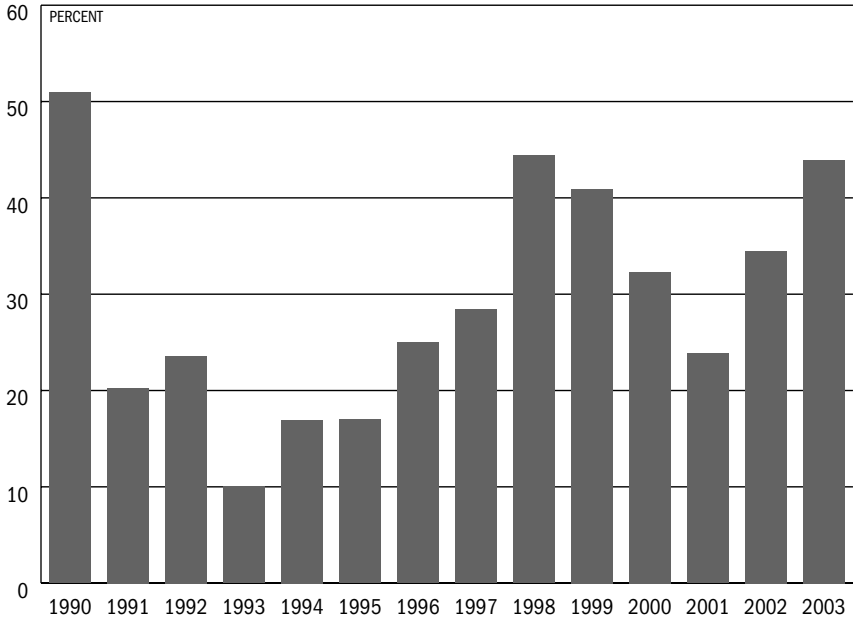
LIBOR. According to Bloomberg, leveraged loans are loans with a spread over LIBOR of 250 basis points or more. Standard & Poor's defines leveraged loans as all loans with spreads of 125 basis points or more and refers to loans with a spread over LIBOR of 500 basis points or more as wide-margin, or more colorfully, as high-octane loans. Thompson Financial has a more complex typology of loans based in part, on the date of a loan's funding. It denotes as leveraged loans, all those loans with an initial spread of 150 basis points or more before June 30, 2002, or 175 basis points or more after July 1, 2002. It deems loans funded before June 30, 2002 as highly leveraged if they have an initial spread of 250 basis points, and loans funded after July 1, 2002 as highly leveraged if they have spreads of 275 basis points or more. For ease of future reference, see textbox **Classifying Leveraged Loans**, below, for a summary.

Classifying Leveraged Loans

- Loan Pricing Corporation: Loans with BB, BB/B, and B or lower, bank loan ratings.
- Bloomberg: Loans with a spread over LIBOR of 250 basis points or more.
- Standard & Poor's: Loans with spreads of 125-499 basis points; wide-margin loans are loans with a spread over LIBOR of 500 basis points or more.
- Thompson Financial: Loans with an initial spread of 150 basis points or more before June 30, 2002 or 175 basis points or more after July 1, 2002. Highly leveraged loans are loans funded before June 30, 2002 with an initial spread of 250 basis points and loans funded after July 1, 2002 as highly leveraged if they have spreads of 275 basis points or more.

Leveraged loans constitute a fairly large portion of the primary syndicated loan market (Figure 4) and a majority of the secondary market. On average, leveraged loans have constituted 29 percent of the primary loans syndicated between 1990 and 2003, and 35 percent of the primary market over the last five years.

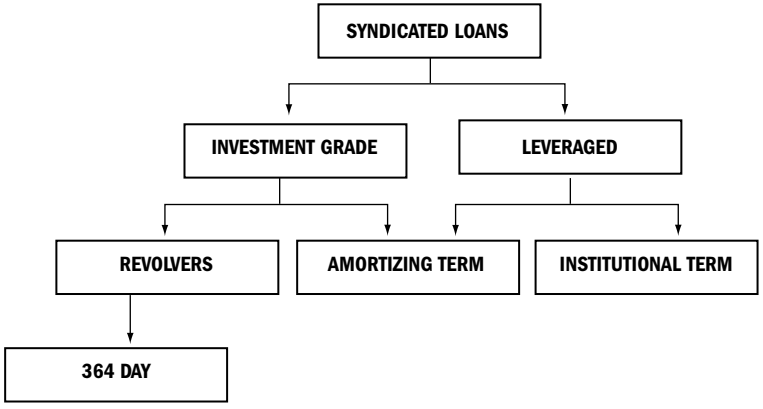
FIGURE 4: LEVERAGED SYNDICATED LENDING—SHARE OF SYNDICATED LENDING 1990–2003



Source: LPC 2004 Annual

Figure 5, below, details the relationship between the different ways of classifying syndicated loans.

FIGURE 5: A TYPOLOGY OF SYNDICATED LOANS



The primary syndicated loan market

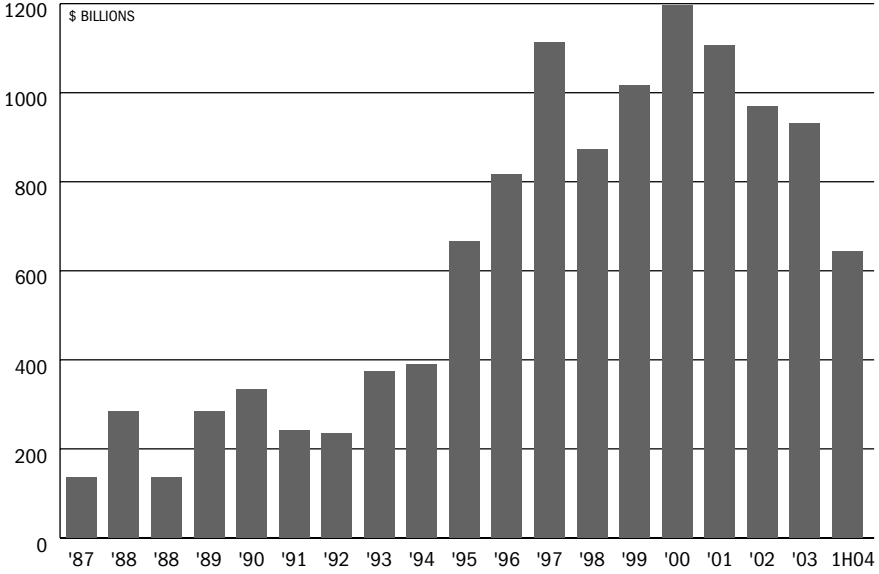
The primary syndicated loan market has grown extremely rapidly in recent years (Figure 6). As issuance has risen, so has the value of loans outstanding. The Federal Reserve estimates that in 1995 there were some $1,000 billion of syndicated loans included in its Shared National Credit program[2].

By 2001, this amount had roughly doubled to more than $2,000 billion, although lower issuance rates and amortization have reduced the figure to $1,600 billion for 2003 (Figure 7).

Primary syndicated loan market participants — supply side

The primary market for syndicated loans was at first dominated by sovereign borrowers and government-owned corporations. A large amount of syndicated lending in the late 1970s and early 1980s consisted of loans extended by large commercial banks to less-developed countries (LDC).

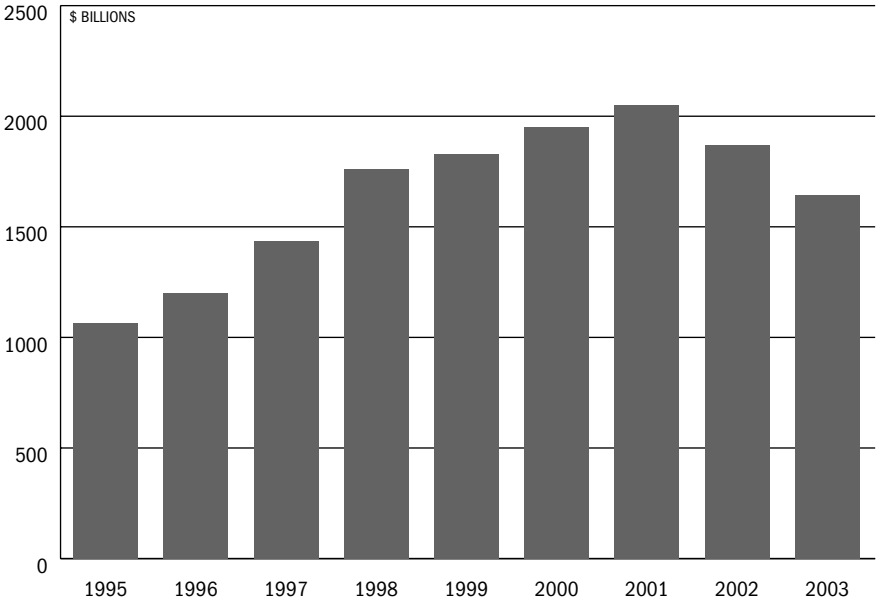
FIGURE 6: SYNDICATED LOAN ISSUANCE, 1987–2004



Source: LPC

[2] The Shared National Credit Program includes all loans arranged by three or more lenders that is of value of $20 million or more. See http://www.federalreserve.gov.

FIGURE 7: LARGE (≥ 20M) SYNDICATED LOANS OUTSTANDING, 1995–2003



Source: Shared National Credit

This lending was a recycling of the deposits of oil producers who had benefited hugely from the increases in oil prices in the 1970s. Particularly active borrowers included Mexico, Nigeria and Venezuela, but loans were also extended in large face values to Yugoslavia, Poland, Hungary (one of the largest Soviet-bloc borrowers), Brazil, Chile and Argentina. Sovereigns from Western Europe were also active in the loan market (Rhodes, Clark and Campbell, 2000).

This stage in the primary market's history was brought to a sudden close by the rescheduling of nearly $10 billion in loans by Poland in 1981, which had responded to its internal political problems by escalating public spending in an attempt to appease its increasingly restive population. This was followed in 1982 by Mexico's massive default. A spate of defaults followed Mexico's default during 1982, including those of Argentina, Brazil, Nigeria, Venezuela and Yugoslavia (Rhodes, Clark and Campbell,

2000). By year-end 1982, 40 sovereigns had missed interest payments and by year-end 1983, 27 sovereigns were seeking to restructure their loans (Federal Deposit Insurance Corporation, 1997).

By the mid-1980s, the sovereign domination of the syndicated loan market was over. The defaults on LDC debt had essentially closed the syndicated market to emerging market sovereigns and more credit-worthy sovereigns replaced their reliance on the loan market with increased use of the Eurobond market.

The next period in the development of the syndicated loan market was driven by the boom in merger and acquisition (M&A) and leveraged buyout (LBO) activity in the mid- to late 1980s (McCrary and Ousterhout, 1989). LBO volumes rose dramatically in the late 1980s, starting with the Safeway buyout, and reached a peak in 1989, both in value of targets and in a symbolic sense with the large buyout of Nabisco by KKR in 1989. As LBO volumes rose, the value of syndicated lending for LBO purposes did too (Figure 8). A similar pattern can be found in M&A activity and volumes (Figure 9).

As with the decline of the sovereign syndicated loan market, this stage in the history of the primary syndicated loan market also came to a close. In 1989, the Office of the Comptroller of the Currency, the Federal Reserve and the Federal Deposit Insurance Corporation, provided guidelines regarding highly leveraged transactions (HLTs)[3] that resulted in limitations to banks' holding HLT loans[4].

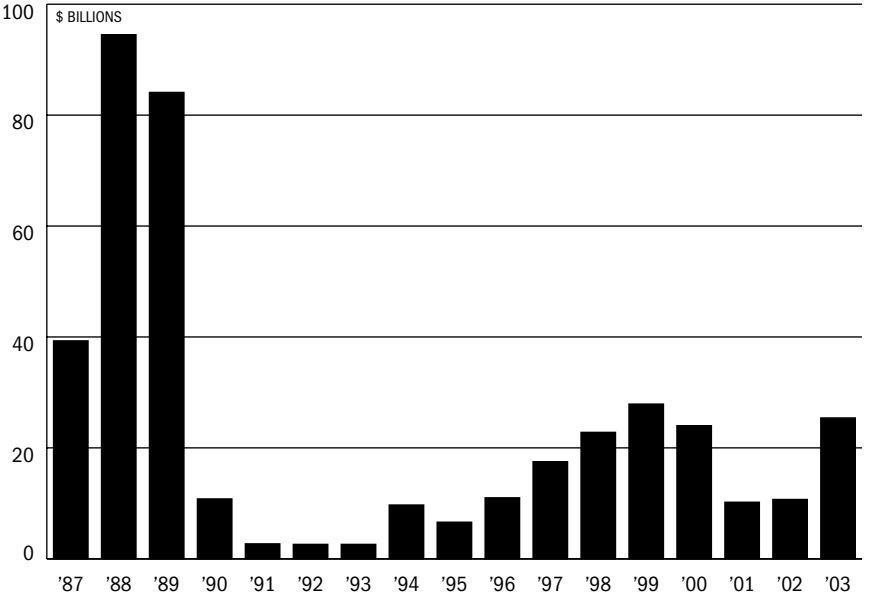
[3] HLTS are "an extension of credit to or investment in a business by an insured depository institution where the financing transaction involves a buyout, acquisition, or recapitalization of an existing business and one of the following criteria is met:

(1) The transaction results in a liabilities-to-assets leverage ratio higher than 75 percent; or
(2) The transaction at least doubles the subject company's liabilities and results in a liabilities-to-assets leverage ratio higher than 50 percent;
(3) The transaction is designated an HLT by a syndication agent or a federal bank regulator."

Federal Deposit Insurance Corporation, 2000.

[4] While negatively impacting the LBO market, the HLT limitations can be argued to have indirectly spurred the growth of the secondary market for loans however.

FIGURE 8: LBO SYNDICATED ISSUANCE, 1987–2003



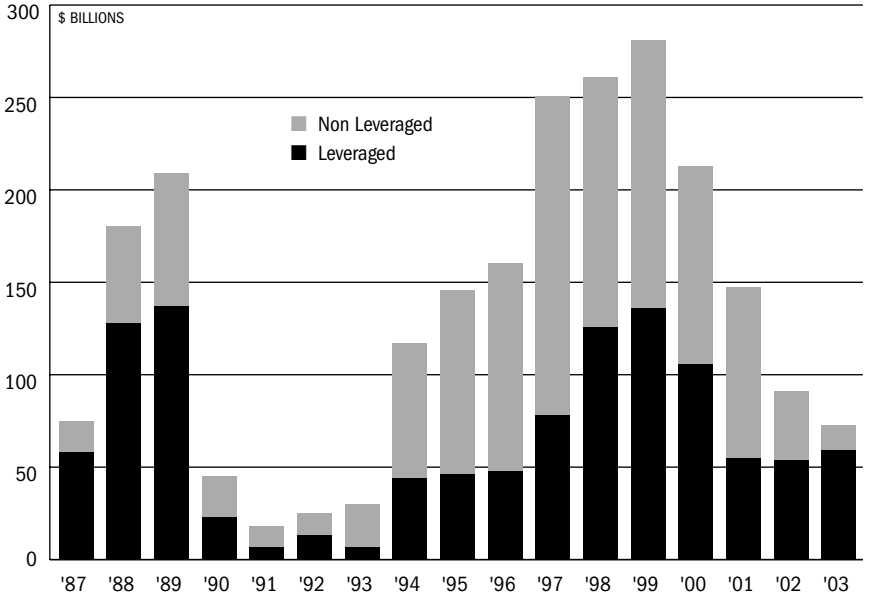
Source: LPC 2004 Annual

The effects were seen immediately (and are still being seen to this day). From $84 billion in 1989, LBO syndicated borrowing fell to $11 billion in 1990, while M&A syndicated borrowing fell from a high of $206 billion to $45 billion from 1989 to 1990[5]. LBO syndicated borrowing would never again reach the levels of the late 1980s. While M&A lending would surpass the level of the late 1980s by the latter half of the 1990s, lending to finance the market for corporate control has not yet recovered its former highly salient role in the primary syndicated loan market.

The 1990s and the beginning of the 21st century were a period of rapid development of the primary syndicated loan market and saw issuance increase massively (Figure 10). In the mid to late 1990s, debt repayment became an important use of syndicated borrowing proceeds, and borrowing

[5] This decline was in no small part due to banks that traditionally were comfortable holding large positions in an investment grade "household name" needing to prudently reduce their hold positions and find others to purchase a piece of those loans.

FIGURE 9: M&A SYNDICATED ISSUANCE, 1987–2003



Source: LPC 2004 Annual

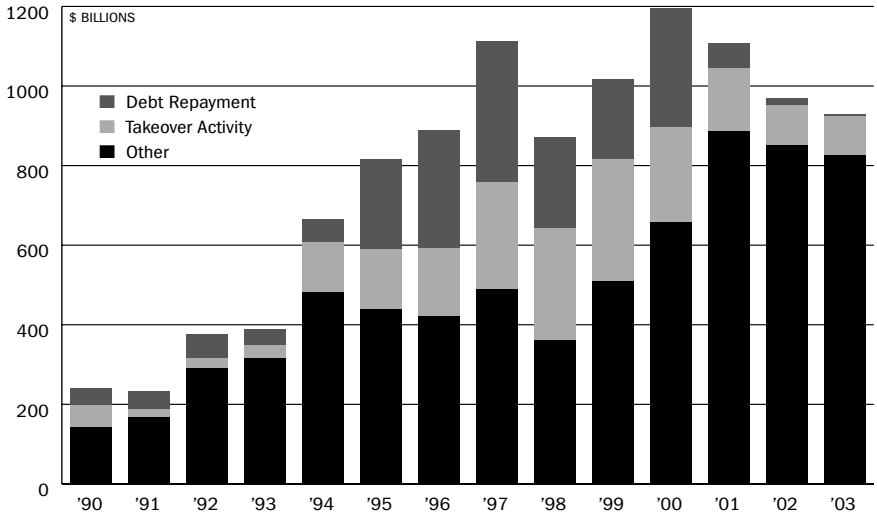
for M&A and LBO activities again became important segments of the market. By the early years of the 21st century, however, general corporate usage had become the dominant part of the market.

Primary syndicated loan market participants — demand side

The primary syndicated loan market is a combination of the market for pro rata loan tranches and institutional loan tranches. A pro rata tranche is typically syndicated by banks and consists of a package of an amortizing term loan and a revolver facility (McDermott et al, 2004). An institutional tranche consists of an institutional term loan and has primarily nonbank institutions as its syndicate members.

Pro rata loans arranged by banks have comprised the main portion of the primary market historically (Coffey, 2000; Taylor and Yang, 2004).

FIGURE 10: SYNDICATED ISSUANCE BY PURPOSE, 1990–2003

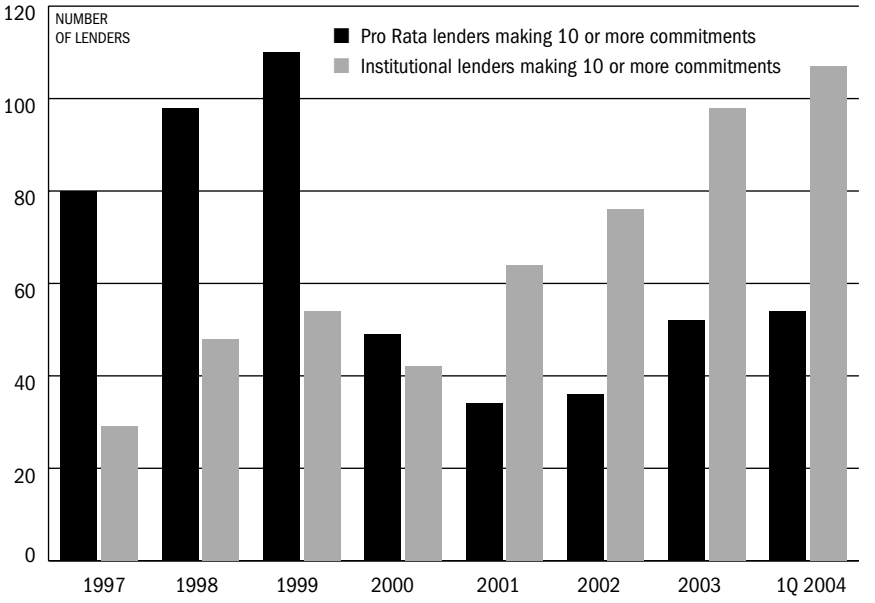


Source: LPC 2004 Annual

However, the fastest growing section of the market has been that for institutional tranches. The last seven years have seen a decline in the number of large pro rata investors and very rapid growth in the number of large institutional investors (Figure 11). The growth of institutional investors has not merely been in terms of numbers. Institutional investors have eclipsed banks in their importance to the market, particularly the leveraged portion of the market. In 1994, banks accounted for 71 percent of primary market leveraged loan purchases, with nonbanks buying just 29 percent. By 2004, nonbank institutions made 78 percent of purchases in the primary market, with banks accounting for just 22 percent (Figure 12). These institutions found these loans to be attractive because unlike high-yield debt, they are senior and generally secured.

A particularly rapidly growing section of the demand side for institutional tranches of syndicated loans is that which is comprised of Collateralized

FIGURE 11: THE DECLINE OF PRO RATA INVESTORS IN THE PRIMARY MARKET 1997–2004

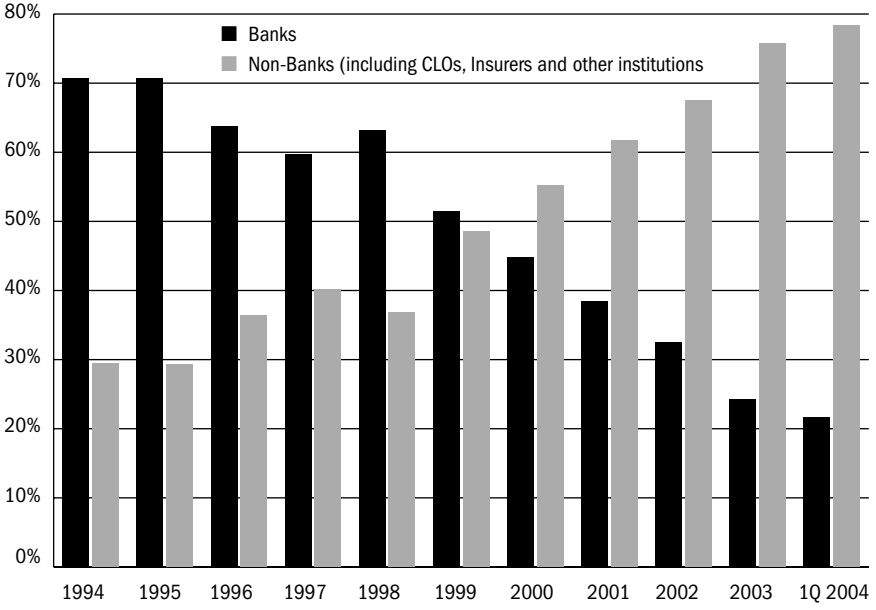


Source: Standard & Poor's LCD

Loan Obligations (CLOs). From a share of the leveraged loan market of 0.1 percent in 1994, CLOs have grown to account for 25 percent of the primary market for leveraged loans in 2004. Over the same period, CLOs have grown from less than $1 billion to nearly $260 billion (Figure 13).

A comparatively recent innovation, a CLO involves the structuring of a special purpose vehicle that purchases fully-funded term loans with the proceeds of bonds it issues to investors. The basic idea of a CLO is to buy assets subject to credit risk (such as syndicated loans and especially leveraged syndicated loans), and securitize them as bonds of various degrees of creditworthiness. This securitization into different tranches allows the CLO to issue investment-grade bonds with a subordinated debt tranche and an equity tranche, containing the credit risk of the

FIGURE 12: THE GROWTH OF NONBANKS IN THE PRIMARY MARKET, 1994–2004

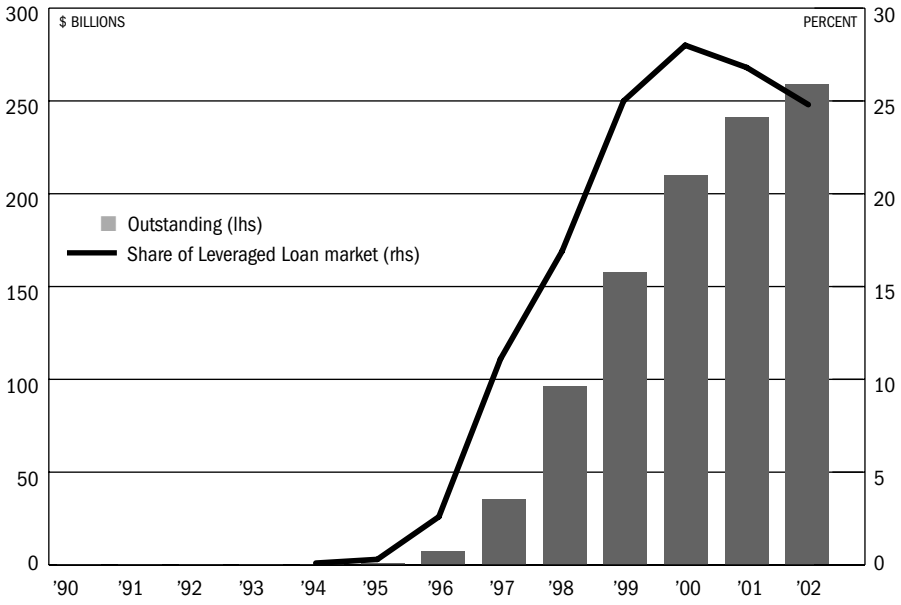


Source: Standard & Poor's Leveraged Lending

original loans. A sample CLO structure is given in Figure 14. Here a loan portfolio is sold to a special purpose vehicle (SPV). This SPV then swaps the floating cash flows of the loans for fixed cash flows by entering into an interest rate swap contract, and issues fixed-rate asset-backed securities (ABS), with the loans as the underlying asset. The payment of coupon and principle on asset-backed securities is handled by a trustee (usually an investment bank).

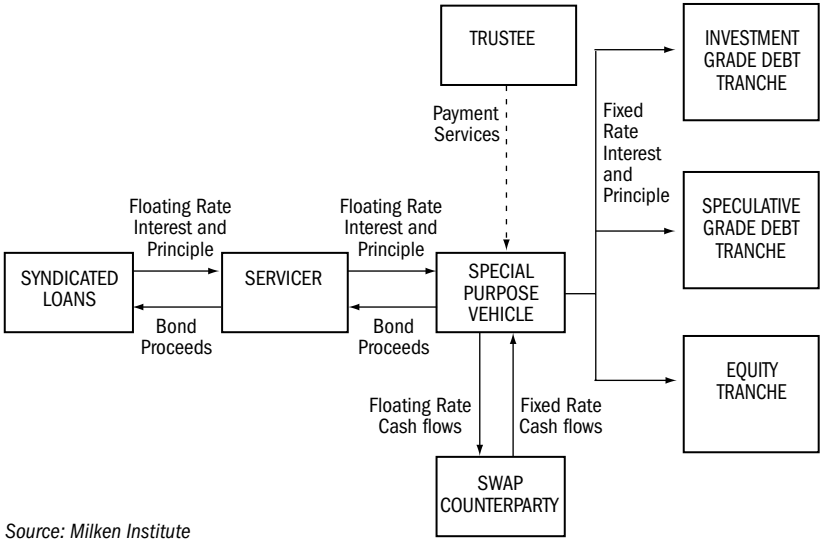
The growth of institutional investor demand has had a striking impact on the relative prices of pro rata and institutional facilities. Historically, institutional tranches have been higher yielding credits. However, over the last three years, the spread of institutional over pro rata loan tranches has narrowed dramatically.

FIGURE 13: GROWTH OF CLOs, 1990–2002



Source: LPC 2003 Annual, Fitch IBCA and Chase Securities Inc.

FIGURE 14: SAMPLE CLO TRANSACTION STRUCTURE



Source: Milken Institute

The secondary syndicated loan market

The sale of loans is not a new phenomenon in the U.S. capital market. Indeed, large banks have long sold portions of loans to avoid regulations restricting over-concentration of loan portfolios. Sales of defaulted LDC loans were added to this traditional activity (Emerging Market Trading Association, 2000; Thomas and Wang, 2004) and the 1980s increasingly saw banks beginning to sell loans and indeed issue loans for resale (Gorton and Haubrich). While the previously mentioned 1989 HLT guidelines had a negative impact on the HLT market, it created incentives for the sale of HLT loans and to this extent stimulated the secondary market. Basel I also stimulated the secondary market. It created incentives for banks to shift portions of their loan portfolios off their balance sheets to reduce the impact of the new capital requirements Basel I brought with it (Barth et al, 2004). By the late 1980s, an inter-trader loan broker had been established and by the early 1990s specialized loan trading desks were operating in a number of institutions led by BT Alex. Brown, Bear Stearns, Citibank, Continental Bank and Goldman Sachs (Miller, 1998) although these traders still acted more as brokers — matching buyers and sellers — than as traders. As the market grew, so did the number of participants. In 1997, some 25 institutions had active trading desks and there were two inter-dealer brokers. By beginning of the 21st century, loan traders at more than 30 institutions were active in the market and increasingly acting less as brokers and more as traders taking positions in syndicated credits (Taylor and Yang, 2004).

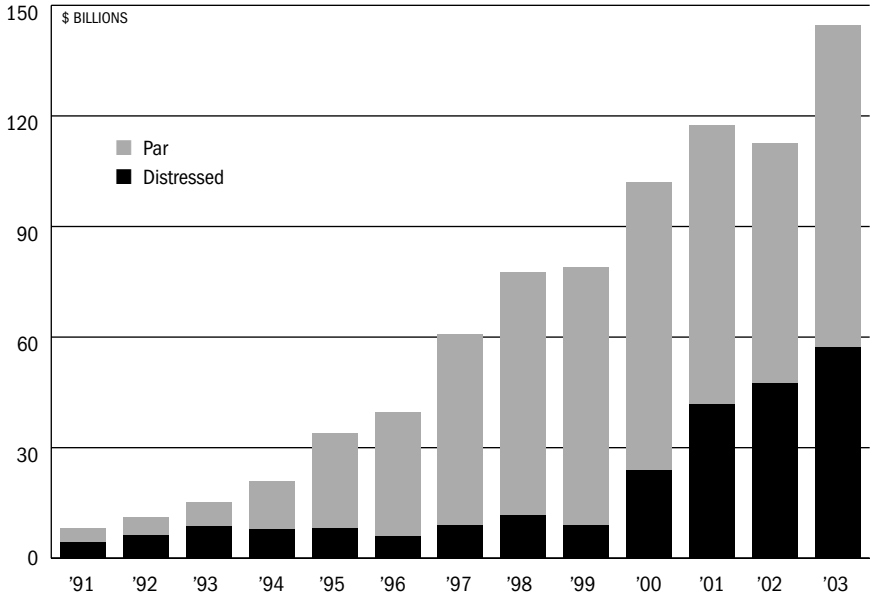
The 1990s saw explosive growth in the transference of loans from the primary to the secondary market and in the trading of syndicated loans (see textbox **The Transfer of Loans from the Primary to the Secondary Market**, below). From a trading volume of just $8 billion in 1991, the secondary market for syndicated loans increased by over 1,700 percent to $145 billion by 2003, a compound annual rate of 27 percent per year (Figure 15). Indeed, the secondary market outpaced the rapidly growing primary market, which increased 450 percent over the same period, a compound annual rate of 14 percent per year. Growth has been rapid in

both the par and the distressed (defined by Standard & Poor's as loans trading below 90 cents on the dollar) sections of the secondary market. A fuller discussion of distressed trading is given below.

THE TRANSFER OF LOANS FROM THE PRIMARY TO THE SECONDARY MARKET

Interests in loans can be transferred by assignment or by participation. The difference between an outright "assignment" of a loan and a "participation" is that an assignment has the effect of substituting the assignee/buyer as the lender of record, while a participation transfers to the participant/buyer the right to re-payment — leaving in place the relationship between the borrower and the original lender. Assignments typically require borrower consent. Participations are created by agreement between the existing lender and its participant and rarely involve borrower consent. A participation involves an additional element of risk to the buyer because the participant does not have a direct claim to the borrower on the loan in the event of insolvency of the original lender. (Miller, 2004.)

FIGURE 15: SECONDARY LOAN MARKET VALUE TRADED 1991–2003

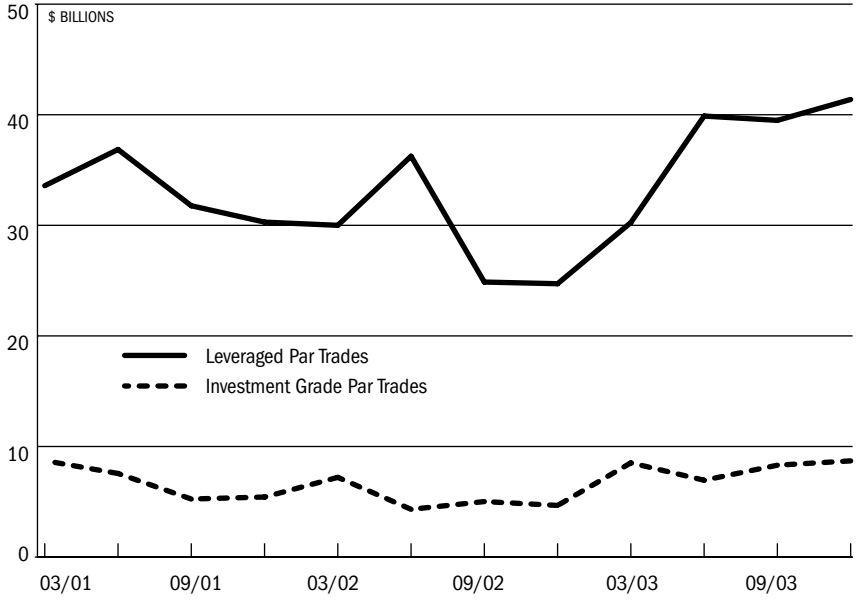


Source: LPC

There are two principal ways to segment the secondary market: by interest rate spread and by price. The first splits the market into investment grade and leveraged (including highly leveraged and "high octane") loans; the second divides the loans traded into distressed loans and those trading at par.

The largest and fastest growing section of the secondary market is that comprised by leveraged loans unlike the primary market where investment grade (pro rata facilities) are still the largest segment (Figure 4). More than 80 percent of the value of par trades over the last three years has been in leveraged trades (Figure 16) and the value of leveraged loans traded has risen 23 percent over this period. This is in contrast to the general lack of growth in the investment grade portion of the market.

FIGURE 16: SECONDARY LOAN MARKET VALUE TRADED, 2001–2003



Source: LPC Gold Sheets

In terms of the market's segmentation by price, the bulk of loan trading in the early part of the 1990s was restricted to distressed loans (defined

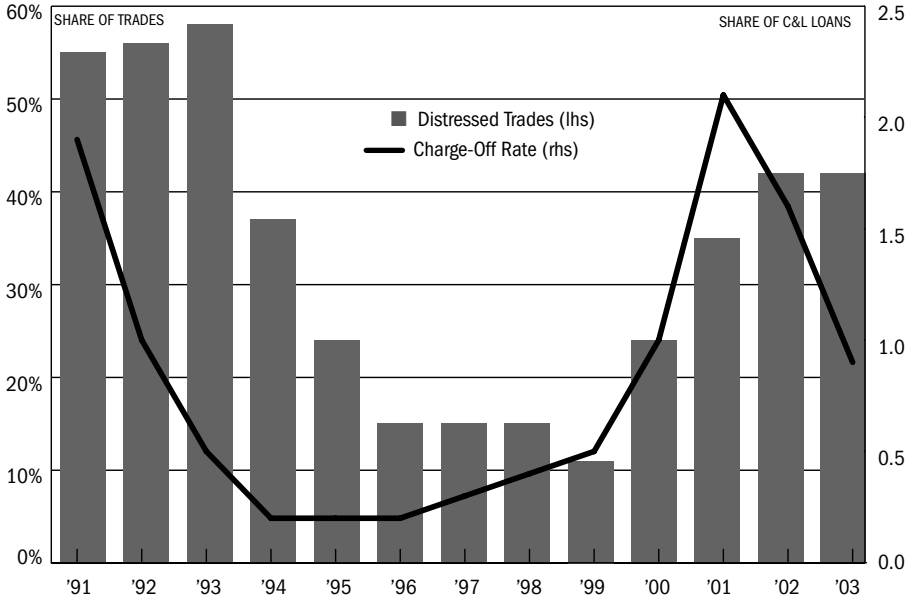
by Standard & Poor's as loans trading below 90 cents on the dollar). This activity was due in large part to a recession-linked decline in syndicated loans' credit quality, and to resulting increases in loan loss reserves and charge-off rates at commercial banks in the early years of the 1990s, which made the sale of loans at below par more attractive (Figure 17). However, as credit quality increased, charge-off rates fell and the share of distressed trading fell throughout the 1990s, rising again with the past recession. However, the distressed share of trades as defined by Standard & Poor's is still less than half of the market today. However, this is not to suggest that the market for distressed loans is unimportant, it provides a vital flexibility as well as liquidity to the overall market for syndicated loans. It has also been the source of substantial innovations in analytics and documentation and, as evidenced in the last 3 years, been a strong source of returns from more aggressive investors seeking to benefit from bottoming out of the credit cycle without the usual concerns for the impact of rising rates that routinely accompanies a recovering economic backdrop.

Secondary syndicated loan market participants

The motivations for secondary market participants are several. One important use of the secondary market is as a tool to manage credit risk. Participants use the secondary market to diversify their loan portfolios (Demsetz, 1999; Simons, 1993), buying portions of loans syndicated by other institutions and selling portions of syndications they originated. Another use of the secondary market that is specific to regulated institutions such as banks is to comply with prudential regulations regarding overline lending and capital adequacy. Many participants trade in order to benefit from price movements and temporary market inefficiencies. Thus the secondary syndicated loan market now tends to resemble other securities markets where traders take positions and arbitragers adjust prices (McDermott, Deitrick, Kroujiline and Mandery, 2004).

Just as the investor base in the primary market has changed over time, so has the investor base of the secondary market. Banks dominated the secondary market for syndicated loans during its infancy, much as they did the primary market at the same time. As the market has

FIGURE 17: DISTRESSED LOAN TRADING AND COMMERCIAL BANK CHARGE-OFFS 1991–2003

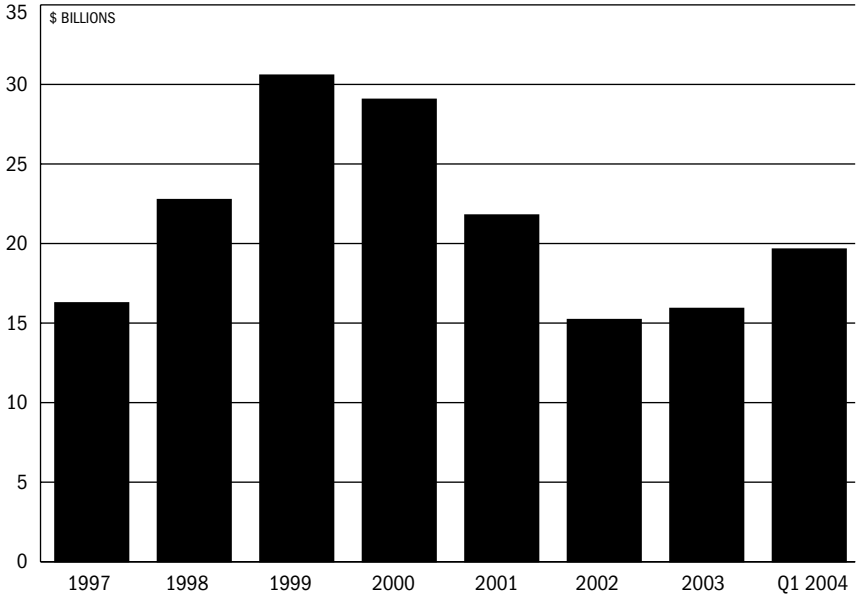


Source: S&P Leveraged Lending 3Q2003 and Federal Reserve
Note: 2003 trading data are annualized data

developed, nonbanks have replaced banks as the main participants in the secondary market. Today, institutions such as prime funds, CLOs, finance companies and insurers are more important than banks in the secondary market (Taylor and Yang, 2003). Loan participation funds are an important part of the market and one that allows individual investors access to the market. Loan participation fund assets peaked in 1999 and declined for three continuous years before recovering quite sharply in 2003 and 2004[6] (Figure 18).

[6] Loan fund assets are a bellweather for investor interest in the asset class as unlike CLOs, they are continuously sold vehicles requiring no sophisticated capital market alignments to be successfully structured and sold. When demand is high they sell and when demand declines, the funds experience redemptions.

FIGURE 18: LOAN PARTICIPATION FUND ASSETS, 1997–2004



Source: LCD LoanStats

Two recent additions to the demand side of the market are hedge funds and pension funds. While still small players at present, they are however, growing in importance as hedge and pension fund managers seek lower volatility, and less correlated returns in an investment climate with the lowest interest rate levels in 40 years and poor traditional fixed income return prospects.

Improvements in information

Developments that have stimulated institutional interest in the secondary loan market include improvements in market information and improved credit risk management tools. From its origins as a relatively arcane market characterized by the absence of public information, the syndicated loan market has become much more transparent and information is increasingly available to outsiders rather than just a handful of large banks. The initiation

of the Loan Pricing Corporation's (LPC) Gold Sheets in 1987 (Thomas and Wang, 2004), which provide detailed loan market news as well as data and analytics, was followed in 1995 by the creation of the Loan Syndications and Trading Association (LSTA), a not-for-profit association of more than 160 market participants and other interested parties including, commercial banks, investment banks, mutual funds, brokers, consultants, advisors, law firms, accounting firms, and loan market vendors.

The LSTA has been instrumental in creating standard documentation for both the primary & secondary market (see textbox **LSTA Standard Documents**), and in increasing secondary loan market transparency. In January 1996, the LSTA began providing monthly mark-to-market pricing based upon dealer quotes. Mark-to-market pricing originated as a dealer oriented service providing a pricing for dealer books by which they could be benchmarked at the close of each month. In late 1999, the LSTA licensed Loan Pricing Corp. (LPC) to run the mark-to-market service and develop it to accommodate the needs of the buy-side which resulted in an overnight four-fold growth in the number of facilities priced daily. This service, LSTA/LPC Mark-to-Market Pricing has become the industry's standard source of daily, third-party pricing data on secondary loans. Today, LSTA/LPC Mark-to-Market Pricing gathers nearly 4,400 dealer quotes on more than 2,000 facilities on a daily basis. LSTA/LPC Mark-to-Market Pricing additionally supports the S&P/LSTA Leveraged Loan Index, an initiative covered in detail below. In 2004, the LSTA and Standard & Poor's took another step toward an efficient secondary loan market with their introduction of CUSIP (Committee on Uniform Securities Identification Procedures) numbers for loans. CUSIPs allow improved communications regarding securities and efficient clearing and settlement. CUSIPs already exist for most securities and are an important feature of public capital markets.

LSTA Standard Documents and Publications (as of 9/04)

LSTA GOVERNANCE AND CODE OF CONDUCT

- LSTA Bylaws
- LSTA/LPC MTM Pricing Approved Formulae And Methodologies
- Code of Conduct
- Confidential Information Supplement to the Code of Conduct

LEGAL ANALYSIS AND REGULATORY MATTERS

- Patriot Act CIP Guidance
- Comment Letters to FASB Regarding FAS 140 Setoff and Isolation
- IRS Tax Shelter Regulations (With Sample Provision)
- JMPF Recommendations for Handling Non-Public Information by Credit Portfolio Managers
- Loan Trades Eligible for Exemption from New York State Statute of Frauds
- Comment Letter to FASB Regarding SPE Consolidation
- UK/US Glossary of Terms for Transfers of Interests in Loans
- LSTA Antitrust Guidelines
- Memorandum re Regulation FD
- Amicus Brief in *Elliot v. Peru* (champerty litigation)
- Memorandum Regarding Use of Faxes

PRIMARY MARKET, AMENDMENT PRACTICES AND AGENT TRANSFER

- Primary Market and Agent Transfer Practices
- Model Credit Agreement Provisions (pdf — with instructions)
- Model Credit Agreement Provisions (Word — for drafting)
- Guidance Note and Legends for Distribution of Bank Books
- Standard Amendment Procedures
- Model Assignment Agreement
- Model Liquidity Language

TRADING DOCUMENTS

Forms of Trade Confirmation

- Par/Near Par Trade Confirmation and Standard Terms & Conditions
- Distressed Trade Confirmation and Standard Terms & Conditions

Netting Agreements

- Bilateral Netting Agreement — Par/Near Par
- Multilateral Netting Agreement — Par/Near Par
- Bilateral Netting Agreement — Distressed
- Multilateral Netting Agreement — Distressed

Distressed Purchase & Sale Agreements

- Distressed Purchase and Sale Agreement (Original Assignment Borrower Not in Bankruptcy)
- Distressed Purchase and Sale Agreement (Secondary Assignment Borrower Not in Bankruptcy)
- Distressed Purchase and Sale Agreement (Original Assignment Borrower in Bankruptcy)
- Distressed Purchase and Sale Agreement (Secondary Assignment Borrower in Bankruptcy)

Trading: Both Par and Distressed

- Trade Checklist (with instructions)
- Master Confidentiality Agreement (Trading)
- Lost Note Affidavit and Indemnity

Reference Documents — Sample Only

- Sample Par/Near Par Participation Agreement

Par Trades that Do Not Settle on Time — Buy-In and Sell-out

- Notice of Closeout for Par Trades that Do Not Settle on Time
- Procedures Timeline: Buy-In
- Procedures Timeline: Sell-out
- Procedures Timeline: No Fault
- Notice of Arbitration for Par Trades that Do Not Settle on Time
- Arbitration Procedures for Disputes over Cover Price

MARKET ADVISORIES

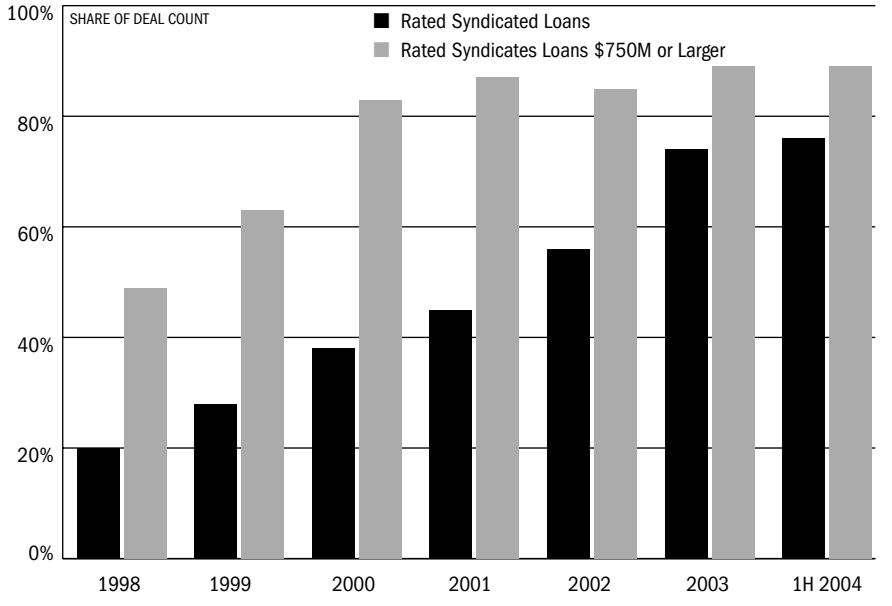
- May 2004 Trade Confirmations — Memorandum
- T + 7 Par Settlement Timeline
- Intended Use of LSTA Documents — Memorandum
- Alternative ERISA Representation
- May 2003 Purchase and Sale Agreements — Memorandum
- Memorandum Regarding Sample Par Participation Agreement

In the same year that the LSTA was launched, Standard & Poor's began rating corporate syndicated loans (Thomas and Wang, 2004). Moody's soon followed, as did Fitch-ICBA. The rating of syndicated loans has increased the amount of public information available about the creditworthiness of borrowers and individual credits, and thus has increased the efficiency of the market. From rating no loans in 1995, Standard & Poor's now rates approximately $900 billion in loans of 1,200 companies (Bavaria, 2003). Equally dramatic has been the growth in the rating of syndicated loans (Figure 19).

Credit risk management tools

Innovations that allow more efficient credit risk management have also attracted institutional investors to the secondary market for syndicated loans, allowing buyers of syndicated loans to hedge their credit risk (Miller, 1998). Broadly termed credit derivatives, they include credit default swaps

FIGURE 19: GROWTH OF SYNDICATED LOAN RATING, 1998–2003

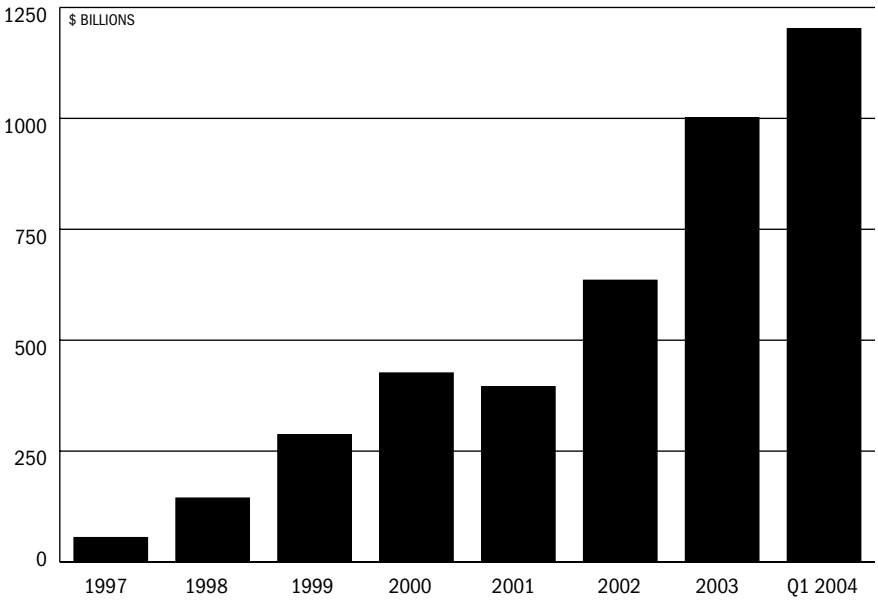


Source: Standard & Poors

(CDS), credit-linked notes and credit-spread options, and their growth has been phenomenal (Figure 20). All credit derivatives have the same purpose — to allow the purchaser to hedge against negative credit events by having cash flows that are triggered by changes in the credit quality of specified borrowers or credits (Duffee and Zhou, 2001). They are designed to transfer all, or a portion of the credit risk associated with investing in the debt of a borrower or borrowers, from the buyer of the credit derivative to the seller of the credit derivative (Rule, 2001).

A CDS involves the payment of an upfront premium by the buyer of the swap to the seller in return for the receipt of a cash flow from the seller, which is contingent on the occurrence of a credit event with reference to a pre-agreed reference credit. The definition of what constitutes a credit event is pre-agreed to by the buyer and seller of the swap, as is the reference credit. A credit event, according to the International Swaps

FIGURE 20: CREDIT DERIVATIVES OUTSTANDING AT U.S. COMMERCIAL BANKS 1997–2004



Source: Office of the Comptroller of the Currency

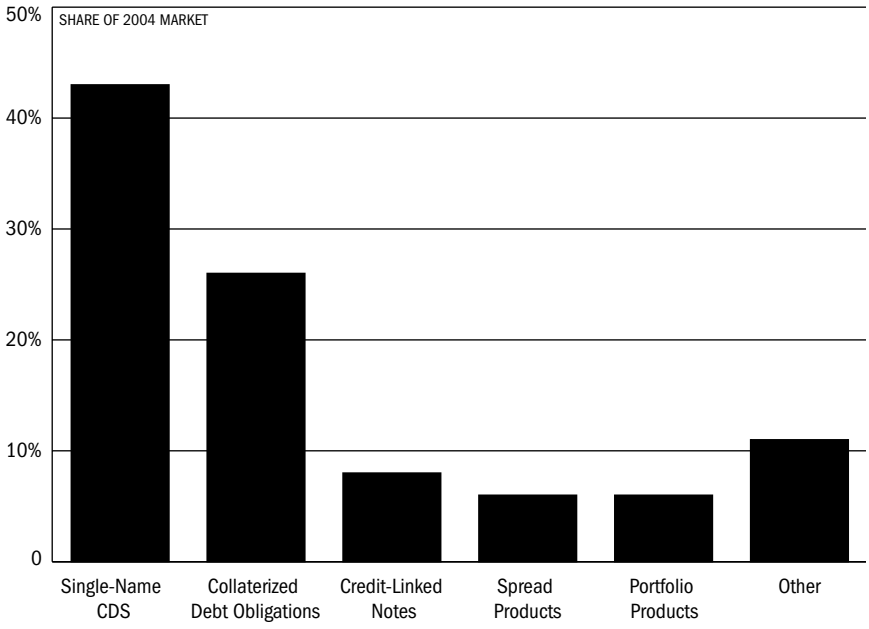
and Derivatives Association (the main self-regulatory association for the swaps market) can be a bankruptcy of the reference credit, an obligation acceleration, a default, a failure to pay, a repudiation or moratorium (in the case of sovereign borrowers), or a restructuring. The most important credit events to the CDS market are bankruptcy, failure to pay and restructuring (Nomura Fixed Income Research, 2004).

In the simplest type of CDS, the single name CDS, the reference credit can be a single specific borrower or a single specific obligation of a borrower. In the case of portfolio-based CDS, the reference credit is a pre-agreed basket of credits. Together, these products account for majority of the credit derivative market (Figure 21).

Credit-linked notes are debt products whose cash flows are dependent upon the performance of a reference credit. The seller of the note will be the buyer of a CDS and will transmit the credit risk of the CDS to a third party by issuing credit-linked notes. The buyer of the credit-linked note will receive coupon payments linked to those of the reference credit. If the credit event does not occur, the credit-linked note buyer receives the reference credit's par amount and if it does occur, the buyer receives the recovery value of the credit (Bank of Montreal, 2003). Credit-linked notes account for an estimated 8 percent of the 2004 market (Figure 21).

Credit spread options allow the buyer to receive cash flows in the event that the spread between two credits widens or narrows. The spread is usually the difference between the interest rate on an asset the buyer holds and a benchmark such as the swap rate or LIBOR. As with all options, credit spread options can be puts or calls with the put being, as usual, the short position and the call being the long position. Thus, a credit spread put involves the buyer paying an upfront fee and receiving a cash flow contingent on the spread widening, while a credit spread call has the buyer receiving a cash flow contingent on the spread narrowing in return for the fee. Credit spread options account for an estimated 6 percent of the 2004 global credit derivatives market (Figure 21).

FIGURE 21: THE GLOBAL CREDIT DERIVATIVES MARKET, 2004



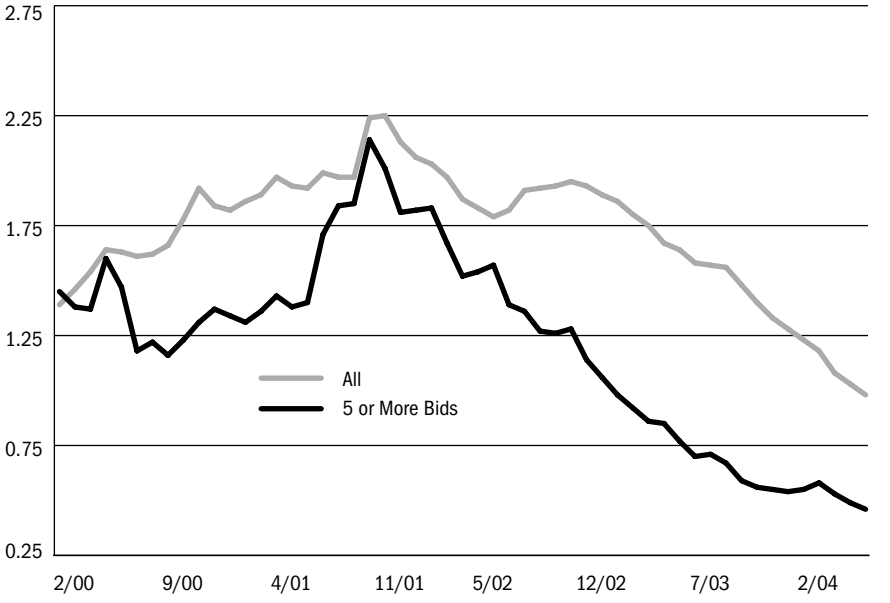
Source: Ernst and Young 2004 estimates (Ernst and Young 2003)

Secondary loan market liquidity

The recent history of the secondary loan market has been one of increasing liquidity with trading volumes growing at some 25 percent per annum between 1991 and 2003 (Figure 16) and narrowing bid-ask spreads. From January 2000, bid-ask spreads, a major measurement of liquidity, have been calculated on a daily basis by the LSTA. As seen in Figure 22, bid-ask spreads have narrowed for all loans and quite dramatically for those loans with more than five bid quotes from Q3 2001 to Q1 2004.

As noted above, leveraged loans dominate the secondary market and there is a marked positive correlation between credit risk and liquidity (Bhasin and Carey, 1999). This is interesting as it is the opposite of the corporate bond market where investment grade credits are more liquid than high yield bonds. In addition to institutional changes such as the growth of

FIGURE 22: AVERAGE BID ASK SPREADS ON LEVERAGED LOANS, 2000–2004

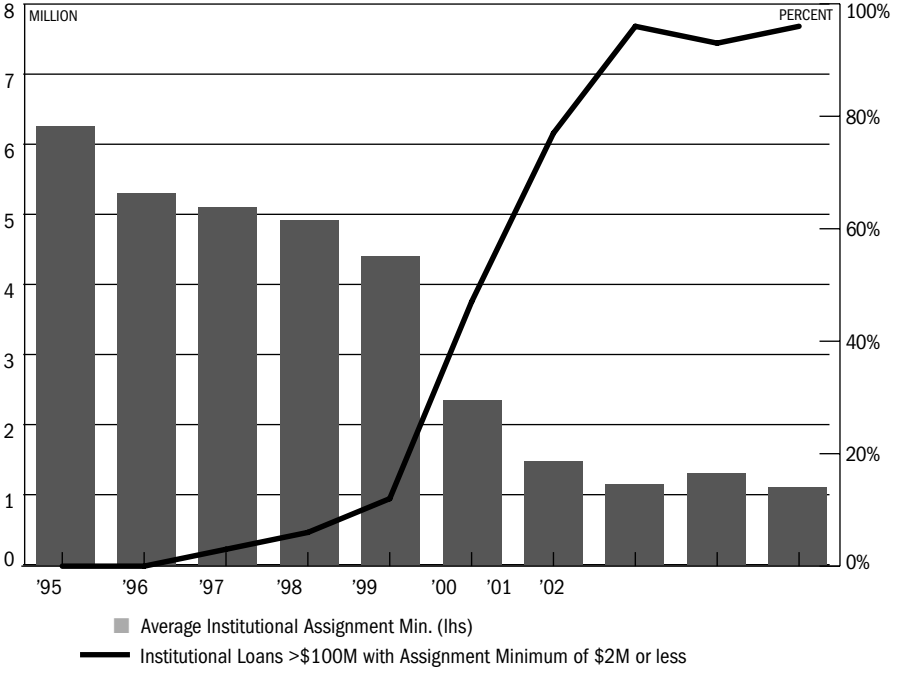


Source: LSTA/LPC Mark-to-Market Pricing

market makers and inter-dealer brokers, there have been developments in assignation that have fostered increased liquidity.

The average minimum assignment size, the size of the smallest piece of a syndication that could be sold to an investor, was $6.25 million in 1995; this presented a considerable barrier to entry for smaller traders and investors. By 2004, the average minimum assignment size had fallen to less than one-sixth of this and was just over $1 million (Figure 23). The trend toward smaller assignment minimums is especially strong in large loans. The share of loans larger than $100 million with minimum assignments less than $2 million has risen over the same period from 0 percent to nearly 100 percent (Figure 23). As this particular barrier to entry has eroded, the average secondary market trade size has fallen from $10 million in 1994 to $1 million in 2003 (McDermott et al, 2004).

FIGURE 23: SMALLER AVERAGE INSTITUTIONAL ASSIGNMENT MINIMUM SIZES, 1995–2004



Source: S&P Leveraged Lending 1Q 2004

Increases in liquidity in the market have important macro-economic effects as well. As financial markets have become more flexible, they enable a flow of capital that potentially shortens and makes more shallow economic contractions. The growth of bank loan trading represents an important part of that story by allowing lenders to remove riskier loans from their balance sheets. This enables lenders to avoid restricting credit when the economy contracts. By providing a steady stream of credit into the business sector, the impact of a recession may be reduced.

Secondary loan market performance — returns

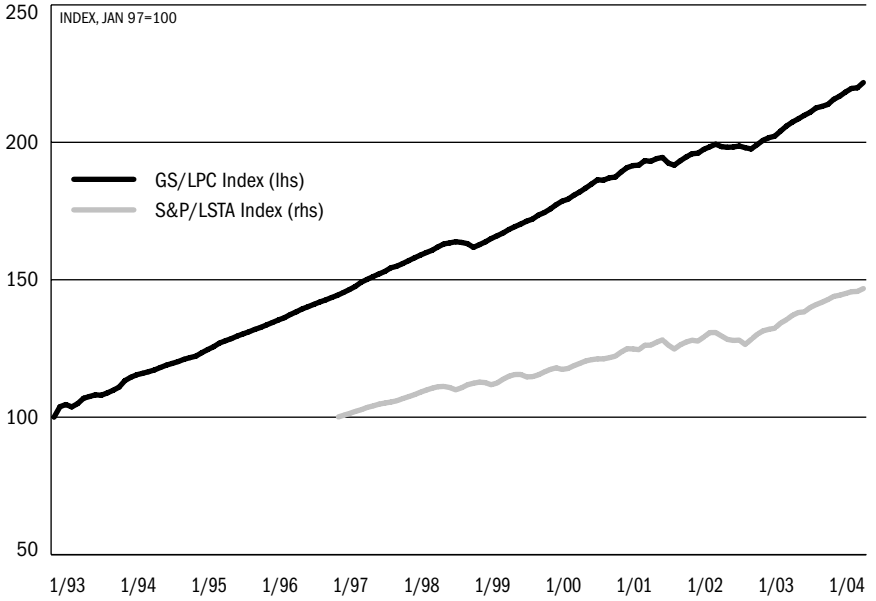
Until comparatively recently, public information regarding loan rates of return was nonexistent. Investors had only private information augmented with anecdotal evidence regarding the performance of syndicated loans. However, as the secondary market for syndicated loans developed, the amount of public information about returns on the asset class increased. From a market characterized by private information, and buy and hold investors, the loan trading market has developed into a relatively transparent market with credit ratings and sophisticated investors using independent data and research (Bavaria, 2002).

The early 1990s saw leveraged loan indices appear for the first time. Early indices included those of Citibank[7] (now discontinued) and Donaldson, Lufkin & Jenrette (that index continues today as the CSFB Leveraged Loan Index). A joint initiative of LPC and Goldman Sachs — the Goldman Sachs LPC Liquid Loan Index — is a weekly index of par loan's total returns and provides a history of returns back to 1993. In 1997, the LSTA, in conjunction with Standard & Poor's, launched the S&P/LSTA Leveraged Loan Index, a weekly total return index that includes a broad cross-section of the U.S. secondary leveraged syndicated loan market with coverage of the market equivalent to the S&P 500's coverage of the U.S. equity market. Since their inception dates, both the Goldman Sachs/LPC and the S&P/LSTA indices have reported positive returns every year (Figure 24). While these time series are short in comparison to those available for some other U.S. asset classes, they do contain data from a recessionary period. The fact that every year's return statistic is positive, including that of the recession, suggests leveraged loans present an attractive and stable rate of return even in times of adversity.

This stability of leveraged loan returns is a particularly attractive feature of the asset class especially in comparison to other asset classes. Figure 25 displays the risk and return (annualized standard deviation and annualized

[7] The Citibank index was first published in 1993 but included data backfilled to 1988 (Asarnow, 1996).

FIGURE 24: LEVERAGED LOAN RETURNS, 1993–2004



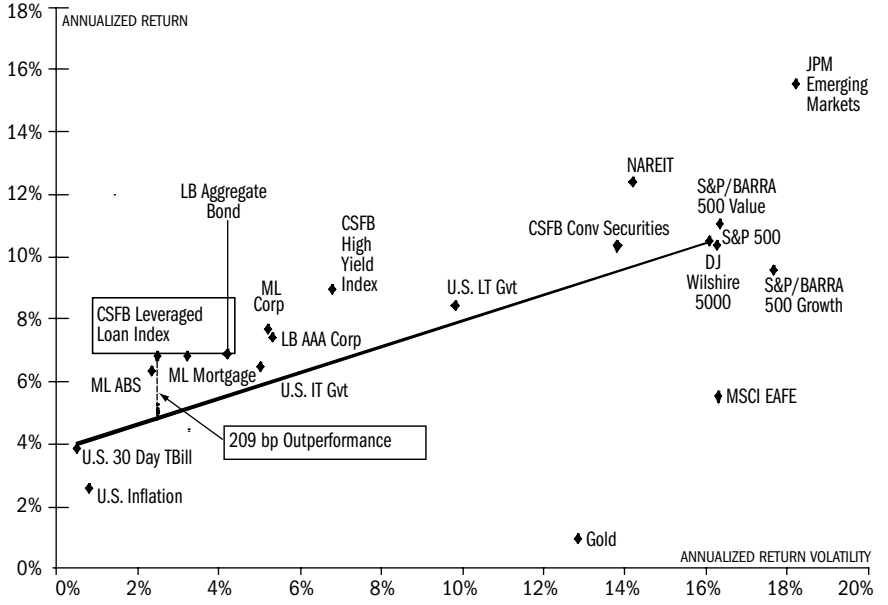
Source: S&P/LSTA Leveraged Loan and Goldman Sachs LPC Liquid Loan Indices

rate of return), for a number of asset classes, both equities and fixed income over the period 1992 to 2004.

The relationship between risk and return can be summarized in a single number — the Sharpe ratio[8]. In these terms, leveraged loans can be seen as a highly attractive asset (Donahue, 1999). Between 1988 and 1994, the Sharpe ratio of the noninvestment grade term loan portion of the Citibank Loan Index was 0.94, higher than those of a number of alternative fixed income assets including high yield bonds (0.61), investment grade bonds

[8] The Sharpe ratio is the return on the risky asset less the risk free rate, divided by the volatility of the risky asset

FIGURE 25: THE RISK AND RETURN OF SELECTED ASSET CLASSES, 1992–1 H2004

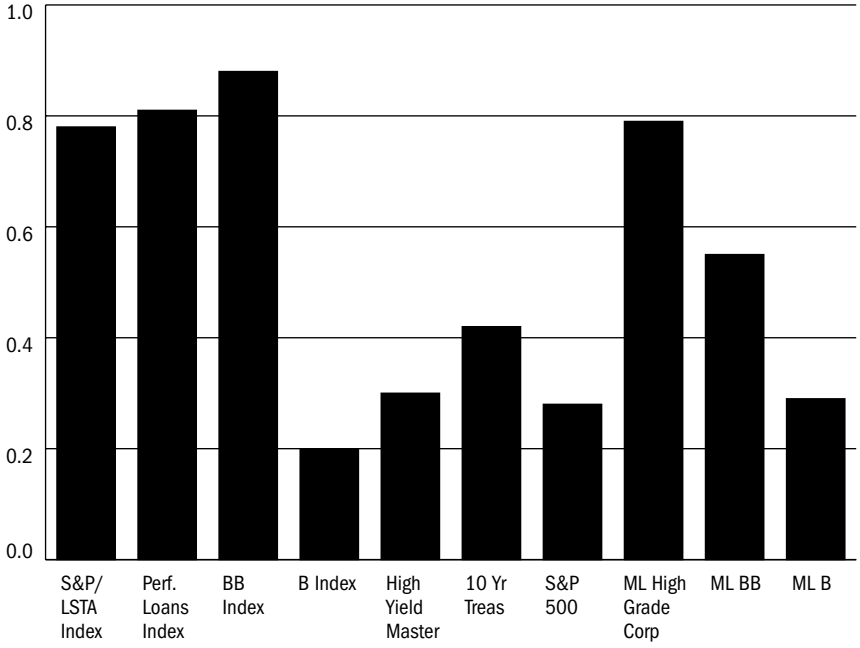


Source: CFSB

(0.74), and U.S. treasuries (a range of 0.26-0.34 depending on tenor) (Asarnow, 1996). This feature of leveraged loans is not merely a relic of the early 1990s and late 1980s as evidenced by Figure 26, which displays the Sharpe ratios for selected asset classes for the period 1997 to 2004.

Additionally, returns to leveraged loans tend to have low correlations with other asset classes (See Exhibit 2). This is especially clear in comparison to high-yield bonds, the asset class that is the closest substitute for leveraged loans (Figure 27).

FIGURE 26: SHARPE RATIOS OF SELECTED ASSETS, 1997–2004

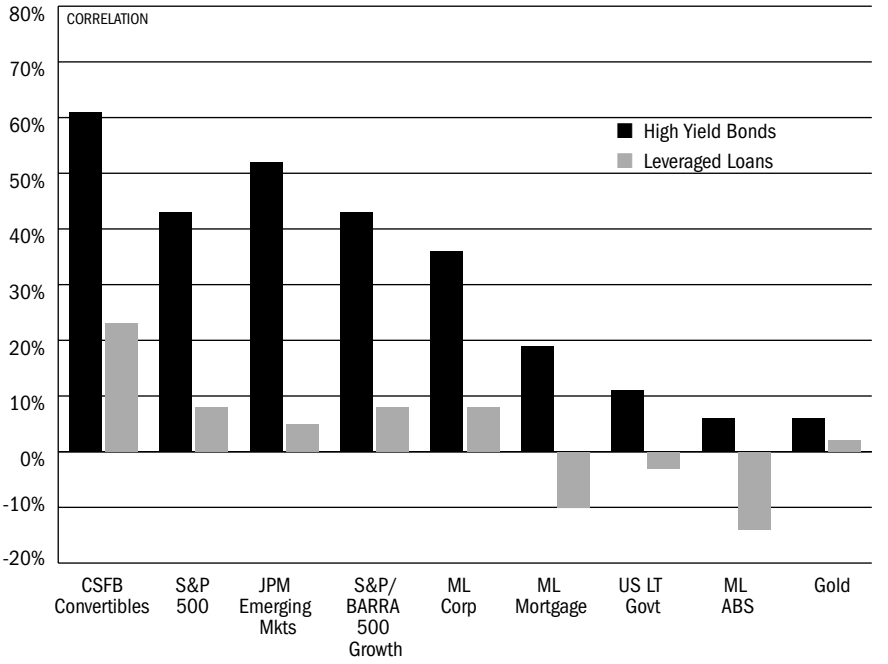


Source: Standard & Poors; S&P/LSTA Index, Merrill Lynch; Bloomberg

Secondary loan market performance — credit risk

Credit risk is a key risk for fixed income securities. Two of the most important components of credit risk are default and the loss-given default (LGD) (Lowe, 2002). Default is not limited to a borrower failing to service its obligations; indeed a default may lead to no loss incurred by the lender. Default is defined by the Bank for International Settlements as having transpired when at least one of the following has occurred:

FIGURE 27: LEVERAGED LOANS AND HIGH YIELD BONDS, 1992–1H04



Source: CSFB, Ibbotson

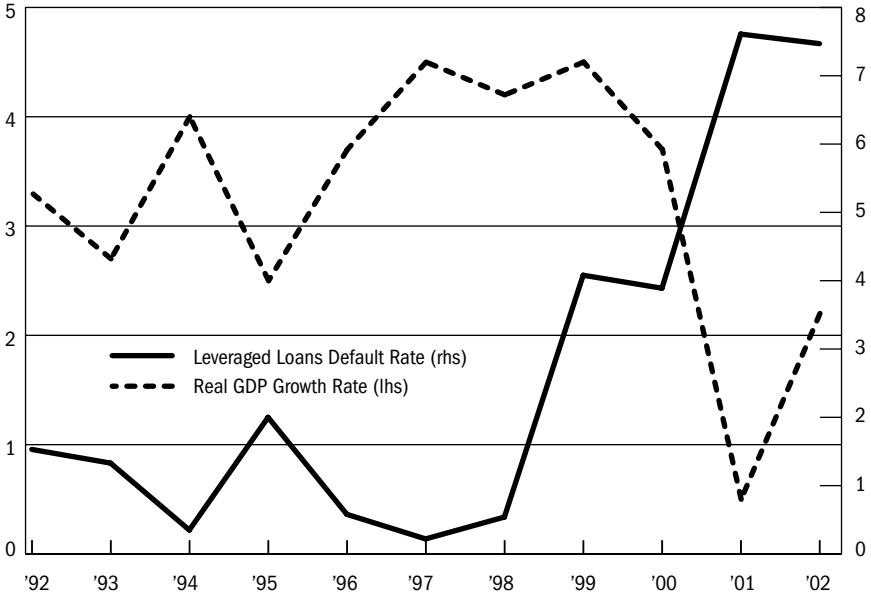
"(a) it is determined that the obligor is unlikely to pay its debt obligations (principal, interest, or fees) in full;

(b) A credit loss event associated with any obligation of the obligor, such as a charge-off, specific provision, or distressed restructuring involving the forgiveness or postponement of principal, interest, or fees;

(c) The obligor is past due more than 90 days on any credit obligation; or

(d) The obligor has filed for bankruptcy or similar protection from creditors." (Bank for International Settlements, 2001a)

FIGURE 28: DEFAULT RATES AND ECONOMIC GROWTH, 1992–2002



Source: Altman and the Bureau of Economic Analysis

Default is a function of the value of a borrower's assets and liabilities and, in general, the probability of a borrower's default increases as the market value of its assets approaches the book value of its liabilities. Data on loan default rates are less comprehensive than bond data, but offer some stylized facts that are of interest. Default rates on leveraged loans are, as might be expected given the nature of the probability of default, associated with the business cycle. In times of robust economic growth, default rates fall, while falling growth periods see an increase in defaults (Figure 28).

Available data suggest that default rates on leveraged loans are not constant across industries either in magnitude or in trend as Table 1 shows.

TABLE 1: ANNUAL LEVERAGED LOAN DEFAULT RATES BY INDUSTRY, 1995–1H 2004

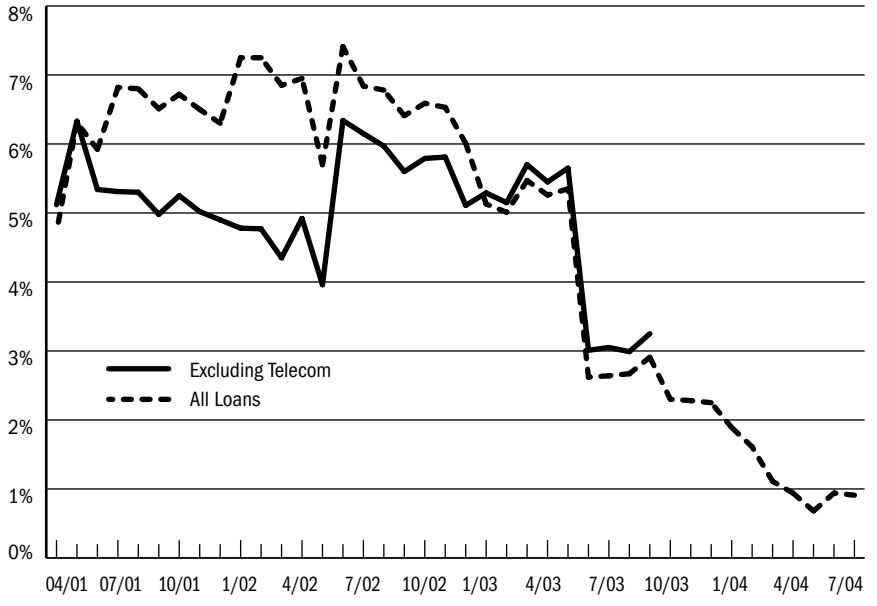
Industry	1995	1996	1997	1998	1999	2000	2001	2002	2003	1H04	Average 1995-1H04
Chemical	0.40%	0.00%	0.00%	1.11%	0.92%	1.55%	4.85%	3.14%	2.67%	2.15%	1.68%
Consumer Durables	0.00%	0.00%	0.00%	0.00%	26.84%	2.10%	6.73%	NA	NA	NA	5.09%
Consumer Non-Durables	1.96%	1.14%	0.65%	3.01%	4.43%	7.09%	6.28%	2.98%	4.01%	1.14%	3.27%
Energy	0.18%	0.33%	0.00%	0.36%	7.50%	0.21%	0.00%	1.28%	1.54%	1.68%	1.31%
Food and Drug	8.50%	0.26%	0.22%	5.78%	9.26%	8.89%	1.59%	1.02%	9.66%	NA	5.02%
Forest Prod/Containers	0.00%	1.18%	0.00%	0.41%	0.29%	1.60%	9.54%	1.61%	0.67%	0.32%	1.56%
Gaming/Leisure	2.28%	0.50%	0.00%	0.36%	1.35%	2.11%	0.97%	0.18%	0.21%	0.21%	0.82%
Healthcare	0.49%	0.00%	0.00%	0.26%	9.85%	3.50%	1.13%	0.19%	6.12%	NA	2.39%
Manufacturing	0.00%	1.04%	0.43%	0.00%	2.70%	3.18%	7.64%	2.76%	1.78%	1.10%	2.06%
Media/Telecom	0.80%	1.07%	0.46%	1.00%	1.55%	2.13%	13.17%	29.57%	3.05%	1.67%	5.45%
Metals/Minerals	0.00%	0.00%	0.00%	0.87%	5.57%	7.19%	11.08%	8.95%	3.72%	1.47%	3.88%
Utility	0.00%	1.75%	0.47%	0.00%	0.93%	0.43%	12.29%	9.10%	2.15%	1.32%	2.84%

Source: CSFB

The heterogeneity of default rates across industries has an impact on the overall rate of defaults on leveraged loans — especially when an industry is large in its issuance. Such was the impact of telecom on default rates in 2001. Telecom borrowers were very active in the loan market, and their obligations comprised some 24 percent of institutional lending and 10 percent of investment grade activity in 2001. As telecom defaults rose, the default rate on leveraged loans in general were exacerbated (Figure 29). Conversely, as telecom defaults fell sharply in 2003, the overall default rate on leveraged loans decreased and the two rates converged.

Recent comparisons of available data on bond and leveraged loan default rates suggest that default rates on loans are the same as, or lower than, those on bonds. Altman and Suggitt (2000) suggest that defaults on loans and bonds from 1991 to 1996 are similar (although defaults on unseasoned loans are higher). However, a study of relative default rates on loans and bonds issued by the same borrower suggests that default rates are lower on loans than bonds (Emery et al, 2003). Indeed, in a sample of 582 nonfinancial firms defaulting on their bond obligations between 1995 and

FIGURE 29: LAGGING 12-MONTH S&P/LSTA LEVERAGED LOAN INDEX DEFAULT RATE BY PRINCIPAL AMOUNT OF INDEX DEFAULTS, 2001–2004



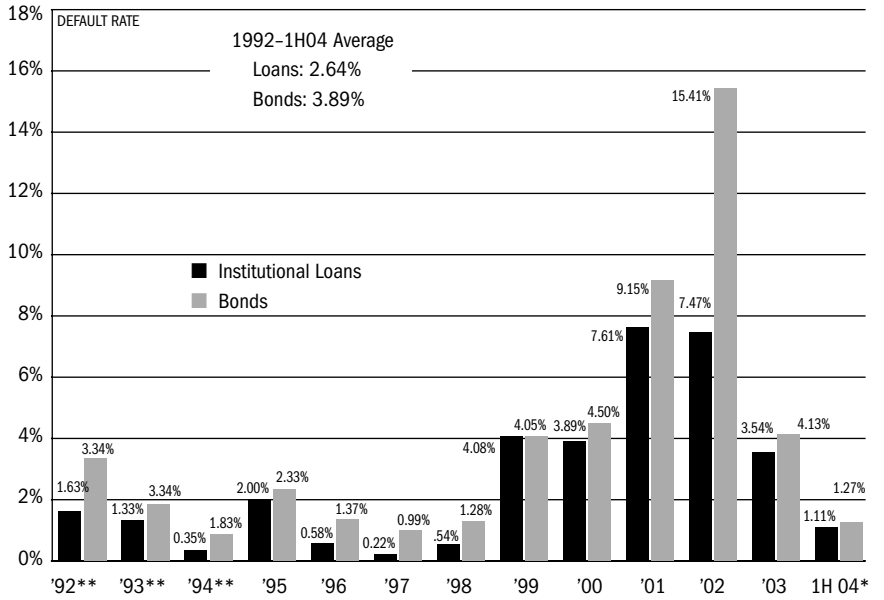
Source: S&P Leveraged Lending 3Q2003 and S&P Leveraged Lending 1Q2004

2003 (a period involving an adverse economic climate), default rates on loans were substantially lower than those on bonds. Focusing on issuers with differential default rates between bonds and loans necessitates an analysis of nonbankrupt bond defaulters,[9] and reveals that for this set of issuers, default rates on loans were some 20 percent lower than on bonds. Figure 30, which presents data on loan and bond defaults tends to support this analysis.

The second principal element of credit risk is loss-given default (LGD). LGD is the loss incurred to the lender in the case of default, and is equal to one minus the recovery rate times the lender's exposure to the defaulting credit (Crosbie and Bohn, 2003). LGD includes loss of principal, loss of fees and coupon, and any workout costs associated with the default

[9] Since bankrupt issuers must have defaulted on both their bonds and loans, by definition.

FIGURE 30: DEFAULT RATES: LOANS AND BONDS, 1992–1H 2004



Defaulted loans defined as missed coupon, filed chapter 11, disressed exchange, or cross-defaults
**Semi-annualized default rate*
***Est. Based on Overall Leveraged Loan Market Cross Defaults with HY Bonds*

Source: CFSB

(Schuermann, 2004). LGD, while more easily defined than default, is more difficult to measure. Three methods of estimating LGD are *market LGD*, *workout LGD*, and *implied LGD*. Market LGD is measured soon after default and is based on the price at which the obligation trades. Workout LGD is based on the discounted cash flows resulting from the workout of the default, while implied LGD is derived using a fixed income asset pricing model and data on risky, but not defaulted obligations (Schuerman, 2004). Both market and implied LGD require an active market with quoted prices to be made in the obligations, and thus, are susceptible to data problems that arise from markets in imperfectly illiquid assets. Workout LGD does not suffer from this problem, but it is not always clear what discount rate

to use and as noted above, workout expenses arising from the default must be included (Schuerman, 2004).

Again, although LGD and thus recovery rate data are not without weaknesses, they present useful stylized facts about losses and recoveries on leveraged loans. A noteworthy feature of recovery rates on defaulted syndicated loans is their bimodality. The median recovery rate is the 71 to 80 percent of face value range with the mode being the 81 to 90 percent of face value range (Figure 31). However, another peak in the distribution is the 31 to 40 percent range. Defaulted loans therefore tend to return either a large portion of the face value or a fairly small amount.

Much as default rates are not homogeneous across industries, recovery rates vary by industry. An analysis (Yang, 2001) of recovery rates using the

FIGURE 31: DISTRIBUTION OF RECOVERY RATES ON DEFAULTED SYNDICATED LOANS, 1989–2003

Source: Emery et al, 2003

Standard & Poor's PMD database suggests that recovery rates are much higher for utilities than for nonutilities. Indeed the average recovery rate for utilities was 126.7 percent of par as compared to 59.97 percent of par for nonutility borrowers. Similarly, the median recovery rate for utilities was 132.2 percent of par and for nonutilities just 53.7 percent.

Although recovery rates on defaulted loans display considerable variance, a comparison with recovery rates on defaulted bonds is favorable. A market value LGD estimate calculated using price data from defaulted loans and bonds from 1989 to 1996, suggests that the mean recovery rate on loans is 71 percent compared to a mean senior secured bond default rate of 57 percent and a mean rate of 46 percent for senior unsecured bonds (Carty and Lieberman, 1996). These data on syndicated loans are broadly corroborated by analysis of recovery rates on 370 defaulted syndicated loan tranches from 202 issuers between 1989 and 2003 (a period including two recessions). This finds a median recovery rate of 70 percent and a mean rate of 66 percent (Emery et al, 2004). Similarly, an analysis of recovery rates based on market values at default and 30 days after default, suggest that loans have higher recovery rates (Altman, 2003). Between 1988 and 2003, a sample of defaulted loans had mean prices of 69 percent of par at default, and 58 percent 30 days after default. This compares to prices of 52 percent and 49 percent for senior secured bonds, 32 percent and 30 percent for senior unsecured bonds, and 29 percent for subordinated bonds (Table 2). Furthermore, the same analysis compares recovery rates based on workouts — discounted ultimate recovery rates — and concludes that the discounted mean of loan recoveries is 79 percent of par, compared to 65 percent for senior secured bonds, 46 percent for senior unsecured bonds, and 29 percent for subordinated bonds (Table 2).

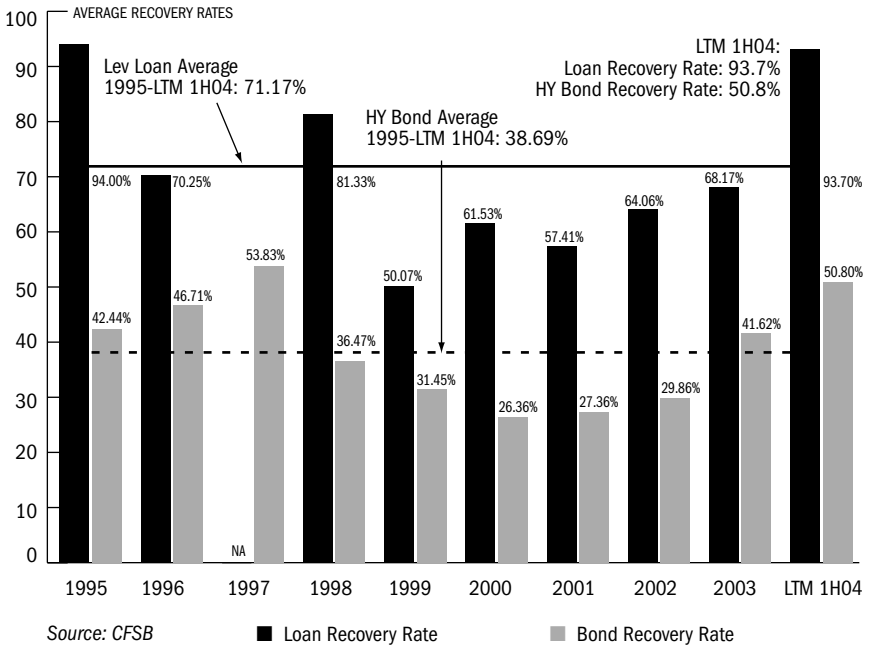
TABLE 2: ESTIMATED RECOVERY RATES BY DEBT TYPE, 1988-2003

	Mean Price at Default (% of par)	Mean Price 30 Days After Default (% of par)	Discounted Mean Ultimate Recovery (% of par)
Bank Loans	69.2	58	78.8
Senior Secured Bonds	51.6	48.8	65.1
Senior Unsecured Bonds	32.4	30.3	46.4
Subordinated Bonds	29	28.9	29.4

Source: Altman, 2003

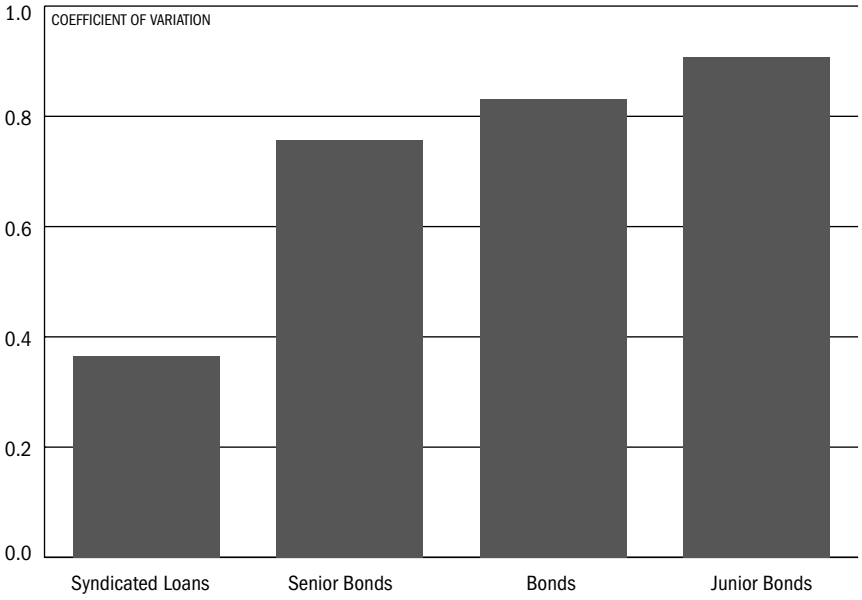
Between 1995 and 2004 recovery rates on defaulted syndicated loans exceeded recovery rates on bonds for every year for which data is available (Figure 32).

FIGURE 32: RECOVERY RATES ON DEFAULTED DEBT: LOANS AND BONDS, 1995–1H 2004



In addition to being higher than those of bonds, recovery rates on defaulted syndicated loans exhibit less variance. The coefficient of variation — the quotient of the standard deviation and the mean — of recoveries on defaulted syndicated loans between 1989 and 2003 is 0.37, while it is 0.76 for senior bonds, 0.83 for all bonds, and 0.91 for junior bonds (Figure 33).

FIGURE 33: VOLATILITY OF RECOVERY RATES ON DEFAULTED DEBT, 1989–2003



Source: Emery, Cantor and Arner, 2003

Conclusions

The evolution of the syndicated loan market has been a major milestone in the development of U.S. capital markets. As a bridge of sorts between private and public debt markets, it has emerged as an alternative to high-yield bonds and to conventional bank loans, and in so doing has widened and deepened access to capital in the U.S. It has provided credit to the below investment grade companies that comprise the engine of the U.S. economy as well as made bankruptcy more efficient. The market has also allowed banks to maintain lending in times of economic difficulty, letting them diversify holdings of credits into a liquid secondary market comprised by a globally varied group of bank and non-bank investors. This lets traditional US commercial and investment banks avoid restricting lending in recessions and lessens the likelihood of the occurrence of a costly and inefficient "credit crunch."

Key to the development of the syndicated loan market has been the growth of the secondary market which has both enabled underwriters to manage their loan portfolios and led to the emergence of specialized investors and traders. The development of the secondary market for syndicated loans has led to the creation of a new asset class with greater return per unit of risk than many other fixed income assets and low correlations with most other classes of assets. Syndicated loans have proven themselves to be an attractive asset class with low correlations to other assets, low volatility of returns and an attractive risk/return profile compared to many other traditional fixed income investment categories.

Glossary

Acquisition: Purchase of a firm by another firm.

Acquisition loan: A specific type of loan that typically cannot be reborrowed. Funds can be drawn down from the line only for a specific period of time and only to purchase specified assets.

Amortizing term loan: A loan in which both the principal and interest are repaid over the loan's term through a progressive repayment schedule.

Arbitrager: One who profits from the differences in price when the same, or extremely similar, security, currency, or commodity is traded on two or more markets. The arbitrager profits by simultaneously purchasing and selling these securities to take advantage of pricing differentials (spreads) created by market conditions (Harvey 2003).

Ask price: price at which a potential seller will agree to sell an asset.

Asset Backed Security (ABS): Securities backed by an underlying asset such as loans, bonds or mortgages.

Assignment: A transfer of a loan that has the effect of substituting the assignee/buyer as the lender of record.

Best efforts deal: A transaction where the arranging syndicate agrees to guarantee only a portion of the total loan amount.

Bid-ask spread (bid-offer spread): Difference between bid and ask prices.

Bid price: price at which a potential buyer will agree to buy a security.

Call: The right, but not the obligation to buy an asset at a specified price at a given date.

Cap: A contract that offers insurance to the buyer against interest rates rising above a predetermined rate (the cap rate).

Collar: A combination of a cap and a floor.

Collateralized Loan Obligation (CLO): In a CLO, commercial loans are pooled and securitized, and participation certificates in the underlying assets are sold to investors. (FDIC 1998)

Correlation: Statistical measure of the degree to which the movements of two variables (stock/option/convertible prices or returns) are related (Harvey 2003).

Covenant: A provision in a contract whereby a party agrees to take certain specified actions (affirmative covenant) or not to take specified actions or allow specified conditions to exist (negative covenant). Credit agreements governing loan facilities contain reporting, compliance, operating and financial covenants. Financial covenants require that specified financial performance targets and ratios be met or maintained by the borrower.

Credit crunch: A situation in which borrowers that are creditworthy cannot get credit, lenders exhibit an attitude of excessive caution, and the inability of would-be borrowers to fund their investment projects is inefficient. (Green and Oh, 1991).

Credit Default Swap (CDS): A contract that involves the payment of an upfront premium by the buyer of the swap to the seller, in return for the receipt of a cash flow from the seller, which is contingent on the occurrence of a credit event with reference to a pre-agreed reference credit.

Credit event: A bankruptcy, an obligation acceleration, a default, a failure to pay, a repudiation or moratorium (in the case of sovereign borrowers), or a restructuring.

Credit-linked note: A bond whose cash flows are dependent on the performance of a reference credit.

Credit risk: The likelihood that a borrower or counterparty will fail to meet its obligations in accordance with agreed terms (Bank for International Settlements 2001b).

Credit spread option: A contract that involves the payment of an upfront premium by the buyer of the option to the seller, in return for cash flows in the event that the spread between two credits widens or narrows.

CUSIP (Committee on Uniform Securities Identification Procedures): A CUSIP number identifies most securities, including stocks of all registered U.S. and Canadian companies, and U.S. government and municipal bonds and, as of January 2004, syndicated loans. (http://www.sec.gov).

Default: In its most general sense, a default is a breach of or failure to fulfill or comply with the terms of a contract or instrument. In the context of loans and other debt obligations, a "default" is a contractually specified event that allows lenders to demand repayment, in some cases subject to a grace period and right to cure. The term "default" includes both payment defaults, i.e., the failure to make required payments of principal or interest when due, and non-payment defaults, i.e., breach of a representation or warranty or covenant. However, in the context of discussions of the likelihood of recovery or loss in the event of default, or when tracking default statistics, its meaning typically is limited to payment defaults. Similarly, most credit default swaps are written as protection against a reference credit experiencing a payment default.

Dual currency loan: A loan with an embedded option to engage in a cross-currency swap of the amount of the loan, from the currency in which it was originated into another predetermined currency at a predetermined foreign exchange rate.

Evergreen facility: A facility that allows the borrower (with the consent of the lenders) to extend a 364-day revolving facility for another 364 days.

Financial innovation: The act of creating and then popularizing new financial instruments as well as new financial technologies, institutions and markets (Tufano 2002).

Floating rate: An interest rate that resets at intervals.

Floor: A contract that offers insurance to the buyer against interest rates falling below a predetermined rate (the floor rate).

Highly Leveraged Transaction (HLT): "(A)n extension of credit to or investment in a business by an insured depository institution where the financing transaction involves a buyout, acquisition, or recapitalization of an existing business and one of the following criteria is met:

> (1) The transaction results in a liabilities-to-assets leverage ratio higher than 75 percent; or
>
> (2) The transaction at least doubles the subject company's liabilities and results in a liabilities-to-assets leverage ratio higher than 50 percent;
>
> (3) the transaction is designated an HLT by a syndication agent or a federal bank regulator." (Federal Deposit Insurance Corporation 2000).

Highly leveraged loans: Loans regarded as less creditworthy than leveraged loans. Different institutions define leveraged loans in different ways:

> *Standard & Poor's*: Loan with a spread over LIBOR of 500 basis points or more.
>
> *Thompson Financial*: Loan funded before June 30 2002 with an initial spread of 250 basis points or loan funded after July 1, 2002 with spread of 275 basis points or more.

High octane loan: See highly leveraged loans.

High yield bond: Bond rated BB+ or below.

Institutional term loan: A term loan where interest is paid throughout the term and the principal is paid back at maturity.

Institutional tranche: A tranche of a syndicated credit consisting of an institutional term loan.

Investment grade loan: Loan regarded as more creditworthy than leveraged loans. Different institutions define investment grade loans in different ways:

> *Loan Pricing Corporation*: Loan with BB+ or higher bank loan rating.

Bloomberg: Loans with a spread over LIBOR of 249 basis points or less.

Standard & Poor's: Loan with spreads of 124 basis points or less.

Thompson Financial: Loan with an initial spread of 149 basis points or less before June 30 2002 or 174 basis points or less after July 1, 2002.

Letter of credit: A guaranty issued by the bank group to support the payment of obligations owed by the borrower to third parties.

Leverage: The ratio of debt to equity.

Leveraged Buyout (LBO): A transaction used to take a public corporation private that is financed through debt such as bank loans and bonds (Harvey 2003).

Leveraged loan: Loan regarded as less creditworthy. Different institutions define leveraged loans in different ways:

Loan Pricing Corporation: Loan with BB, BB/B and B or lower bank loan rating.

Bloomberg: Loans with a spread over LIBOR of 250 basis points or more.

Standard & Poor's: Loan with spread of 125-499 basis points.

Thompson Financial: Loan with an initial spread of 150 basis points or more before June 30, 2002 or 175 basis points or more after July 1, 2002.

LIBOR (London Interbank Offer Rate): The rate of interest at which banks borrow funds from other banks, in marketable size, in the London interbank market *(http://www.bba.org.uk)*.

LIBOR back set: A feature of a loan that creates an imbedded interest rate swap, whereby the borrower receives LIBOR fixed 2 days prior to the loans commencement and pays LIBOR fixed 2 days prior to the loan's maturity.

Loss Given Default (LGD): The loss incurred to the lender in the case of default (Crosbie and Bohn, 2003). LGD can be estimated as market LGD, workout LGD, and implied LGD (Schuerman, 2004).

> *Market LGD* is measured soon after default and is based on the price at which the obligation trades.
>
> *Workout LGD* is based on the discounted cash flows resulting from the workout of the default.
>
> *Implied LGD* is derived using a fixed income asset pricing model and data on risky, but not defaulted obligations.

Mark-to-market: Recording the price or value of an asset, whether it be a loan, bond, stock or other security, portfolio, or account to reflect the current market value. (LSTA).

Market-flex: A practice that allows arrangers to either adjust a loan's pricing, its structure or its amortization schedule to clear the market for that particular credit.

Merger: (1) Acquisition in which all assets and liabilities are absorbed by the buyer. (2) More generally, any combination of two companies (Harvey 2003).

Merger and Acquisition (M&A): See "Merger" and "Acquisition".

Net worth: Total assets minus total liabilities.

Participation: A loan transfer where the participant/buyer has purchased the right to repayment, leaving in place the relationship between the borrower and the original lenders..

Pro-rata tranche: A tranche of a syndicated credit consisting of an amortizing term loan and a revolver facility (McDermott et al, 2004).

Put: The right, but not the obligation to sell an asset at a specified price at a given date.

Recovery rate: The share of a defaulted credit that a lender receives after resolution.

Revolver: A facility that gives borrowers the right but not the obligation to draw down some portion of a revolving credit line. Borrowers can draw down, repay and reborrow all or some of the credit line.

Rule 144a: A Securities and Exchange rule issued in 1990 that modified a two-year holding period requirement on privately placed securities by permitting large institutions to trade these positions among themselves (Gastineau and Kritzman 1999).

Secured: Backed by the pledge of collateral, a mortgage, or other lien (Harvey 2003).

Seniority: The order of repayment. In the event of bankruptcy, senior debt must be repaid before subordinated debt is repaid (Harvey 2003).

Shared National Credit Program (SNC): The Shared National Credit Program was established in 1977 by the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency. It is an interagency effort to perform a uniform credit review of financial institution loans that exceed $20 million and are shared by three or more financial institutions. *(http://www.fdic.gov)*.

Sharpe ratio: Ratio of an asset's excess return (return less the risk free rate) to its variability.

Special Purpose Vehicle (SPV): An entity created to purchase a diversified pool of assets from a bank originator or issuer. The purchase of the assets by the SPV is funded through the sale of debt securities to investors (FDIC 1998).

Standby facility: A form of liquidity insurance involving the extension of a revolving credit facility to a borrower who is also seeking alternative and cheaper financing. This loan is kept in reserve as a back-up to the other financing.

Swingline facility: An overnight borrowing facility that is typically designed to provide financing for a firm that is replacing its commercial paper with eurocommercial paper (Harvey 2003).

Syndicated loan: A loan underwritten by more than one lender where each of the lenders has a separate, severable obligation as an underwriter of a portion of the total in its own right (Rhodes, Clark and Campbell 2000).

Tangible net worth: Tangible assets minus total liabilities (net worth minus intangible assets).

Tenor: Length of time until a loan is due.

Term loans: A bank loan, typically with a floating interest rate, for a specified amount that matures in one to 10 years, and requires a specified repayment schedule (Harvey 2003).

Underwritten deal: A transaction in which the arranging syndicate agrees to place the entire amount of the loan.

Wide-margin loans: See highly leveraged loans

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