



LEVERAGED FINANCIAL MARKETS

A COMPREHENSIVE GUIDE TO HIGH-YIELD
BONDS, LOANS, AND OTHER INSTRUMENTS

— EDITED BY —
WILLIAM F. MAXWELL
MARK R. SHENKMAN

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WILLIAM MAXWELL
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AN OVERVIEW OF LEVERAGED FINANCE

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Broadly defined, *leveraged finance* deals with the riskiest forms of debt financing. These encompass original issue debt from investment-bank-issued debt, high-yield bonds, or bank-issued debt (leveraged loans), and debt that has fallen from investment grade to high-yield status (“fallen angels”). Credit default swaps also play an important role in these markets because they are derivative contracts deriving their value from the risk of default on specific firm debt or aggregate default risk. As such, they provide an alternative mechanism for investors to take short or long positions on the underlying assets.

The modern high-yield bond market began in the early to mid-1980s when Drexel Burnham started issuing bonds, which were rated high yield at issuance. Before this time, high-yield bonds consisted of “fallen angels.” Since the mid-1980s, the high-yield market has gone through significant changes and upheavals, and the market has evolved from being solely based on high-yield bonds to being a broader and more diverse market. Leveraged loans (the equivalent of high-yield bonds issued by banks) and credit default swaps (default-triggered

derivative instruments) became prevalent in the market in the middle to late 1990s.

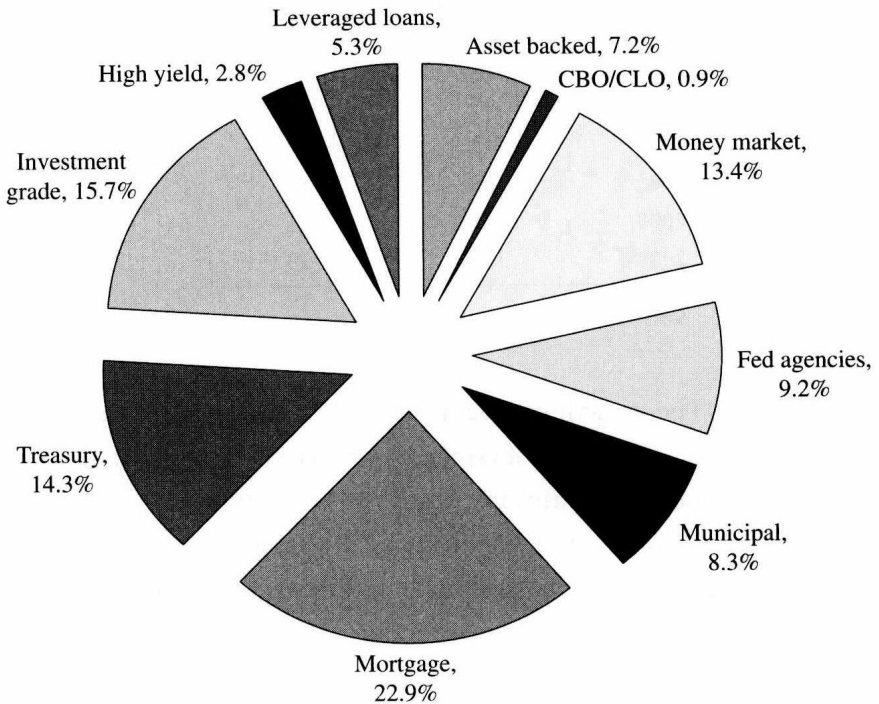
The leveraged finance market has always been a volatile market, with the market experiencing significant boom and bust periods. It is not surprising then that the leveraged finance market as well as all aspects of the financial market experienced dramatic upheaval during 2008. In 2008, the high-yield bond, leveraged loan, and credit default swap (CDS) indexes were down by 27%, 29%, and 13%, respectively. However, the high-yield bond and leveraged loan markets recovered with historically high returns of 50% in 2009. In addition, 2009 was a record year for high-yield bond issuance, but it also evolved back closer to its roots with the virtual disappearance of leveraged loans. Even after the financial market meltdown in 2008, it is clear that leveraged finance remains one of the cornerstones of financial markets.

Leveraged finance is a large and significant component of the fixed-income market. It has grown dramatically since its inception, and there were \$864 billion and \$1.64 trillion in high-yield bonds and leveraged loans outstanding in 2007. In total this represents 8% of all fixed-income assets (see Figure 1.1).

Debt is the primary source of external capital for public companies. Within the broader category of debt financing, leveraged finance is the predominant source (Table 1.1 provides issuance volume by security class). It is clear that leveraged finance (high-yield and leveraged loans) is the primary source of capital. However, there is significant variation in the proportion of new financing associated with leveraged finance over time. During down economic periods, access to these markets is limited. This is apparent as issuance volume in the leveraged finance market can drop significantly in down periods.

What also is apparent from Tables 1.1 and 1.2 is that there has been dramatic growth in the use of leveraged loans. (Some of the leveraged loans issuance volume can be misleading because it includes “revolvers.” These are a commitment by the banks to issue short-term debt, less than a year to maturity, but rarely do firms fully draw on these

FIGURE 1.1 Fixed-Income Asset Classes, 2007



Source: Bond Market Association/Credit Suisse

TABLE 1.1 Issuance Volume by Security Class as Percent

Year	Equity Markets		Corporate Debt		
	Initial Public Offerings	Seasoned Equity Offerings	Investment Grade	High Yield	Leveraged Loans
1998	6.5%	8.0%	35.4%	16.8%	33.4%
2000	11.3%	14.5%	36.6%	5.0%	32.6%
2002	4.7%	8.3%	49.4%	6.8%	30.7%
2004	6.6%	8.0%	30.8%	12.3%	42.4%
2006	4.6%	8.1%	35.8%	3.2%	48.3%

Source: Lehman Brothers

TABLE 1.2 Issuance Volume by Security Class

Year	High Yield	Leveraged Loans
2004	158	154
2005	106	184
2006	149	306
2007	148	387
2008	53	71
2009	164	38

Source: J.P. Morgan

“revolvers.”) The growth of leveraged loans is the result of the introduction of the institutional leveraged loan market, loans that are syndicated to nonbank institutions. Until the late 1990s, leveraged loans were issued by banks with the loans typically being syndicated to other banks. In the late 1990s, loan documentation was standardized, which permitted the development of a secondary market in bank loans. This was necessary before nonbank institutional investors would purchase the securities in either the primary or the secondary market. In addition, the late 1990s and early 2000s led to an increased demand for securitized products. Given the matched payout structures and variable rates of leveraged loans and securitized products, there was a strong demand for leveraged loans, which were then packaged into collateralized loan obligations (CLOs). With these developments, the leveraged loan market exploded (see Tables 1.1 and 1.2).

The sizes of the leveraged loan and high-yield bond market were roughly equivalent in 2004 (Table 1.2). But by 2007, the leveraged loan market was 2.5 times larger than the high-yield market in terms of new issuance. However, the financial meltdown in 2008 brought about a fundamental shift back to the issuance of high-yield bonds away from leveraged loans for corporations. While new issuance volume dropped dramatically for both high-yield bonds and leveraged loans in 2008, this shift was more pronounced in the leveraged loan markets as bank capital was seriously constrained. This trend continued into 2009 as the

high-yield bond market experienced a historical peak of new issuance volume while the leveraged loan market was next to nonexistent.

The Increasing Use of High-Yield Debt as a Financing Source

As we note above, until the mid-1980s firms had very limited ability to issue high-yield bonds. Since this constraint has been relaxed, there has been a huge growth in the market as more firms restructured, were acquired, or gradually added leverage to their financial structures. In doing so, firms and acquirers relied more on debt financing, and thus we see on average more debt in the capital structure and lower bond ratings. One way to demonstrate this change is to look at the percentage of U.S. industrial publicly traded firms by rating class over time. We track this information over time from the early stage of the modern high yield market, 1986, through 2008 (Table 1.3). In viewing Table 1.3, what is readily apparent is the structural shift in credit ratings over time. Across the board, bond ratings have declined. For example, the highest level of credit rating (AAA–A) represented over 30% of U.S. industrial firms in 1986. This had fallen to only a little over 11% by

TABLE 1.3 U.S. Publicly Traded Companies by Rating Class (Industrials Only)

Bond Ratings	1986	1991	1996	2001	2006	2008
AAA	3.2%	4.0%	2.6%	1.0%	0.9%	0.6%
AA	7.5%	5.7%	3.6%	1.5%	1.5%	3.0%
A	20.7%	21.2%	16.4%	11.5%	9.0%	13.3%
BBB	15.8%	21.4%	22.1%	23.4%	21.8%	24.2%
Investment grade	47.3%	52.2%	44.8%	37.4%	33.2%	41.2%
BB	13.0%	16.3%	20.2%	22.7%	25.4%	29.1%
B	32.1%	25.6%	30.9%	32.1%	34.2%	26.7%
CCC/C	7.7%	5.8%	4.1%	7.8%	7.3%	3.1%
High yield	52.7%	47.8%	55.2%	62.6%	66.8%	58.8%

Source: Compustat

TABLE 1.4 High-Yield New Issues by Rating

High-Yield Bond Rating	1986	1991	1996	2001	2006
BB	29.9%	76.9%	34.5%	55.0%	38.9%
B	63.3%	12.8%	59.5%	43.1%	53.2%
CCC	1.8%	0.0%	0.8%	1.1%	7.7%
NR	5.0%	10.3%	5.2%	0.8%	0.2%

Source: Credit Suisse

2006. Accordingly, the total level of investment-grade firms fell from 47% in 1986 to 33% in 2006. This trend reversed slightly by the end of 2008 because firms had significant concerns about accessing the capital markets during what is expected to be a protracted period of economic uncertainty.

Looking at the overall percentage of firms by rating class can mask some of the variation that we see over time in the new issuance market, which reflects the demand for a particular level of rating quality at that time. In Table 1.4, we show how the variation in rating class within the high-yield market can vary over time. For example, in 1991 77% of high-yield bonds issued were rated BB, and only 13% were rated B. In contrast, in 2006 only 39% were BB and the majority, 53%, were rated B. Part of the trend reflects differences in acquisition activity. During periods of increased leveraged buyouts (LBOs) and mergers and acquisitions (M&A) activity, firms are being financed at the lower end of the rating spectrum. Other differences reflect demand-driven considerations from the capital markets. During periods of higher defaults, it can be difficult for firms to issue debt in the lowest rating classes (B and below).

The Demand for Leveraged Finance

The increased use of leveraged finance is a function of investor demand. Leveraged finance provides investors with a correlation structure that is favorable to other asset classes, an attractive risk/return profile, and a constant income stream.

TABLE 1.5 Correlation Structure—10 Years (2000 to 2009)

Indexes	Treasury 10 Year	J.P. Morgan High Grade	J.P. Morgan Leveraged Loans	J.P. Morgan High Yield	S&P 500
J.P. Morgan high grade	0.61				
J.P. Morgan leveraged loans	-0.37	0.28			
J.P. Morgan high yield	-0.20	0.49	0.83		
S&P 500	-0.25	0.21	0.45	0.63	
Russell 2000	-0.25	0.18	0.46	0.64	0.64

Source: J.P. Morgan

Table 1.5 presents the correlation structure of various asset classes over the last 10 years and includes two significant downturns in the high-yield markets. It is apparent that both leveraged loans and high-yield bonds have a low correlation with traditional fixed income and, in fact, have higher correlations to stock indexes. Overall, the leveraged financial markets fit somewhere between traditional fixed income and stocks as an asset class and thus provide investors with an attractive asset class in which they can diversify risk.

Even more important, the leveraged finance market has provided an excellent risk/return profile for investors. Table 1.6 provides

TABLE 1.6 Risk Versus Return—15 Years (1996 to 2009)

Category	Mean	Volatility	Sharpe Ratio
J.P. Morgan global high yield	7.8%	9.1%	0.85
Leveraged loan	5.2%	6.4%	0.82
Investment-grade bonds	7.5%	5.7%	1.33
S&P 500	8.0%	15.8%	0.51
Russell 2000	7.3%	20.3%	0.36

Source: J.P. Morgan

information regarding the long-run risk versus return trade-off of the leveraged loan and high-yield bond markets. When examining a risk versus return measure, the Sharpe ratio, the leveraged loan, and the high-yield market have produced a significantly higher Sharpe ratio than either a large-cap (S&P 500) or small-cap stock index (Russell 2000).

Finally, most leveraged finance products provide significant yearly cash flows to investors. This is attractive to investors seeking current income from their portfolios. Overall, given the low correlation and impressive risk and return trade-off, it is not surprising that investors continue to demand leveraged finance products. Hence, while the issuance of leveraged finance products may vary over the economic cycle, it is apparent that it is an ever growing presence in the financial markets.

Resilience of Leveraged Finance

Even after the most significant financial crisis since the Great Depression, it remains clear that leveraged finance is an integral part of the world's financial markets. The leveraged financial markets not only survived their most tumultuous period, but they have in fact recorded a record year of issuance in the high-yield market in 2009. High yield remains the predominant rating for U.S. industrial firms issuing bonds. It offers an impressive risk/return metric for investors. Hence, while leveraged finance will continue to evolve over time, it will remain one of the predominant asset classes for investors and companies.

THE COMPONENTS OF THE LEVERAGED FINANCE MARKET

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In this chapter, we examine the growth of the main components of the leveraged finance market and how they have evolved over time. We begin by discussing the high-yield bond market. Second, we examine the leveraged loans market, and finally, we examine credit default swaps.

High-Yield Bonds

As a viable new issuance market, the high-yield market began in the mid-1980s with the rise of Drexel Burnham Lambert. The market has gone through a number of peaks and valleys as periods of easy financing have been followed by higher default rates. For example, new issuance volume from 1986 to 1989 was consistently around \$30 billion with much of the proceeds used to fund the leveraged buyouts (LBOs) market during that time (see Table 2.1). But the economy slowed in the late 1980s and into the early 1990s, which led to a significant peak in

TABLE 2.1 High-Yield Bond Market

Year	Amount Outstanding	New Issuance Volume	Moody's Speculative Grade Default Rate
1986	136	33	5.6%
1987	181	30	4.2%
1988	206	32	3.6%
1989	242	28	5.8%
1990	214	2	9.9%
1991	205	15	9.2%
1992	205	47	5.1%
1993	247	77	3.0%
1994	283	43	2.1%
1995	308	45	2.9%
1996	363	72	1.6%
1997	467	133	1.9%
1998	580	151	3.1%
1999	652	101	5.4%
2000	668	45	6.3%
2001	737	89	10.0%
2002	853	67	8.0%
2003	881	136	5.1%
2004	848	135	2.4%
2005	878	82	1.7%
2006	876	116	1.7%
2007	888	113	0.9%
2008	928	40	4.1%
2009	1,012	138	9.4%

Source: Credit Suisse

default rates, over 9% in both 1990 and 1991. During this period of time there was very little new issuance volume, and the total market value of high-yield bonds outstanding actually decreased from 1990 to 1991. A similar pattern emerged around the economic downturn in the early 2000s. On a compressed scale, we see a similar bust and boom period in 2008 and 2009. What is of interest to note is the lagged

relation between default rates and high-yield markets. Default rates lag according to the economic condition of the high-yield bond market.

New issuance patterns are also related to the overall cost of debt capital, which is driven by macroeconomic factors, the government cost of debt, and the risk of a particular asset class defined by the spread relative to Treasuries (the spread is measured as the additional yield for an asset class above and beyond the government yield of a similar maturity). The correlation among spreads, new issuance patterns, and default rates is easy to see when one examines Tables 2.1 and 2.2.

Spreads can vary significantly over time as demonstrated in Table 2.2. For the BB category the spread varied from a low of 206 basis points in 2006 to 591 in 2002 to a high of 1,182 at the end of 2008. There has been even greater variation in the B category as the spreads

TABLE 2.2 Spread (Basis Points) by Rating Category at Year End

Year	BB	B	CCC/C
1994	270	450	1,051
1995	306	562	1,013
1996	214	382	1,123
1997	229	367	926
1998	375	615	1,503
1999	300	483	1,452
2000	451	900	2,484
2001	471	733	2,351
2002	591	858	2,368
2003	292	462	1,033
2004	210	328	718
2005	256	356	822
2006	206	313	606
2007	444	565	969
2008	1,182	1,698	3,139
2009	459	629	1,082

Source: J.P. Morgan

were as low as 313 in 2006 and as high as 1,698 in 2008. These spreads can also change very quickly. The 2006 to 2009 time period demonstrates this phenomenon. It is also interesting to note that the spreads in the BB and B categories don't move in lockstep, thus demonstrating the segmented nature of the markets.

As shown in Table 2.3, the characteristics of the new issue high-yield bonds also vary over time. The percentage of senior debt has ranged from 67% in 1997 up to 99% in 2009. The market for deferred interest types of securities varies across credit cycles because these are typically some of the riskiest types of issuances. As seen in Table 2.3, deferred securities are at their lowest when defaults are at their highest (2001–2002 and 2009). Acquisition issuance volume follows a similar cyclical pattern. Finally, foreign issuance in the U.S. market had been decreasing after 2003, which does not reflect decreased demand

TABLE 2.3 Breakdown of New Issues by Type

Year	Senior Debt	Deferred/ Pay-in-Kind (PIK) Toggle	Refinancing Related	Acquisition Related	Foreign Issuance
1997	67%	9%	52%	20%	13%
1998	73%	11%	52%	21%	12%
1999	70%	7%	49%	27%	10%
2000	79%	7%	32%	26%	19%
2001	74%	1%	76%	13%	2%
2002	68%	1%	73%	15%	5%
2003	81%	2%	75%	13%	12%
2004	78%	2%	57%	26%	6%
2005	78%	4%	50%	38%	7%
2006	89%	8%	38%	44%	8%
2007	90%	12%	35%	51%	4%
2008	89%	11%	41%	46%	2%
2009	99%	1%	76%	5%	12%

Source: J.P. Morgan