

C A M B R I D G E A S S O C I A T E S L L C

U.S. MARKET COMMENTARY

U.S. BONDS: NAVIGATING THE SHIFTING STRUCTURE OF THE FIXED INCOME MARKETPLACE

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U.S. Bonds: Navigating the Shifting Structure of the Fixed Income Marketplace

The composition of U.S. bond manager portfolios has changed dramatically over the last few decades, prompted largely by the development of securities that may not have even been imagined in 1980. Mortgage debt as a percentage of the bond market has tripled and asset-backed securities have grown from virtually nothing in the 1980s to 7.5% of the market today (Tables A and B). At the same time, use of bond derivatives has soared. For example, the notional amount of outstanding credit-default swaps (CDS) topped \$12.4 trillion as of June 30, 2005, nearly a 20-fold increase from the first half of 2001, when the International Swaps and Derivatives Association began tracking the data. As a result, core bond managers have generally increased their exposure to mortgage-related securities and asset-backed securities, while growing numbers of these managers are obtaining long credit exposure through the CDS market and total return swaps. High-yield bond managers have also been investing in private bank loans to unrated or low-rated firms, while core-plus bond managers have expanded their emerging markets debt allocations to include small allocations to local currency sovereign issues.

The following provides a summary of the major changes in the U.S. bond market, including the key investment characteristics of the more esoteric investments that have been making their way into core bond managers' portfolios.

U.S. Treasury Securities

Washington has issued new debt at a furious pace, and as of November 2005, there were nearly \$4.2 trillion in outstanding Treasury securities (a 30% increase in less than three years). The supply of nominal Treasury notes (such as the ten-year maturity) grew by 47% over that time, while Treasury Inflation-Protected Securities (TIPS) ballooned by 114% from a small base. TIPS supply has grown from less than 5% of Treasury issuance three years ago to 8% today. While TIPS were relatively illiquid when first introduced, the average daily trading volume has increased nearly fourfold over the past three years.

Corporate Bonds

As of September 30, 2005, corporations were on pace to issue about \$697 billion in securities for the year. Nearly half of 2005 corporate bond issuance was floating rate, the highest portion we have seen since our data begin in 1990, and about twice the average (Table C). As might be expected, this increase has been concentrated in the investment-grade sector, as more than 90% of high-yield debt is fixed rate, while more than half of investment-grade debt is floating rate. Increasingly, corporations that do not have an investment-grade credit rating are turning to hedge funds for financing, which may be cutting into the supply of available high-yield credits. While high-yield bond issuance was still strong in 2005, volume fell by 28% during the first three quarters of the year, compared to the same period in 2004, and issuance has declined for four straight quarters. More than 20% of 2005 high-yield issues carried a very low CCC rating, or were unrated, compared to an historical average of 11.0%. In addition, debt issuance under the Securities and Exchange Commission's (SEC) Rule 144a, which allows the issuance of debt to qualified investors without registering

with the SEC, has increased significantly since 1990, when the rule went into effect. By 2004, corporations issued about half as much 144a debt as they did registered debt. Some core bond managers have been including modest allocations to 144a debt if the credit is sound. Ninety percent of 144a debt comes to market with registration rights and will be SEC registered in the near future.

Mortgage-Related Securities

The Federal Reserve Bulletin pegs total mortgage debt at \$11.1 trillion. The variety of mortgage-related products is staggering, ranging from pools of 30-year conventional fixed rate mortgages with a full government guarantee, to securitized subprime, interest-only adjustable rate mortgages. While the volume of mortgage-related securities has increased significantly since 1990, the composition of this sector has shifted from primarily agency mortgage-backed securities (MBS) and collateralized mortgage obligations to include higher allocations to private label issues and commercial mortgage-backed securities. Private label issues' share of new issuance jumped to one-third in 2005, up from 20% in 2004, thanks in large part to gains in the subprime, jumbo, and adjustable rate markets. Asset-backed securities (ABS) with home equity loans as collateral are also appearing in core bond portfolios. As noted below, issuance of these securities has grown rapidly, particularly since 2002.

Mortgage debt may underperform other types of debt during a falling rate environment, since property owners tend to refinance (and therefore prepay) their debt as interest rates fall. Owners of most MBS should bear in mind that they are effectively short a call-option to the mortgage holders. In addition, during a rising rate environment, property owners may hold on to their mortgage with its now cheap interest rate for longer than the prepayment models have predicted, rather than allowing the lender to reinvest the money at a more favorable rate.

Asset-Backed Securities

Like mortgage lenders, many lenders that issue credit cards, home equity loans, or loans used to purchase cars or mobile homes, do not wish to hold the loans in their own portfolio. These lenders often sponsor ABS that create a bond or note backed by financial assets. The ABS obtains a credit rating that is often higher than the rating of the lender (more than 90% of outstanding issues hold a AAA rating, at least for their most secure class). Setting aside ABS backed by fixed rate home equity loans, which will have significant repayment in the event interest rates decline, early repayment is generally less substantial for ABS than for MBS. Growth in home-equity securitization has outstripped the issuance that of the credit card and auto loan sectors that were the bread-and-butter of the ABS market a decade ago. Home equity ABS now make up 27% of the market (Table D). ABS may offer more attractive spreads when consumer credit defaults are high; many are now priced for perfection, reflecting a strong employment picture and low delinquencies.

Collateralized Debt Obligations

While we have seen only limited interest in collateralized debt obligations (CDOs) from core bond managers, these managers have increasingly been offering discrete CDO products. CDOs utilize many types of bonds, ABS, or leveraged bank loans as collateral, and some of the fastest-growing sectors of this market are synthetic, collateralized only by derivatives, such as CDS. Synthetics can provide leveraged exposure to relatively pure credit risk and allow investors to capture the credit spread premium over the default spread premium. The senior debt tranches of CDOs often carry AA or AAA ratings, yields that are a bit higher than comparably rated corporate bonds to compensate for a higher perceived systematic risk, and much less left tail risk than the equity tranche. In addition to the “waterfall” (i.e., the priority of payments to each tranche), the key components in pricing and analyzing a CDO senior debt tranche are the probabilities that the underlying assets will default, the correlation of defaults with one another, and the default severity (i.e., the loss in the event of a default). Senior-tranche holders will of course benefit in an environment in which default correlations are high and there are no defaults, but they can also prosper when default correlations are low, as an isolated default would likely be absorbed by the equity tranche. However, defaults are not always independent events and correlations are not stable over time.

Bond Derivatives

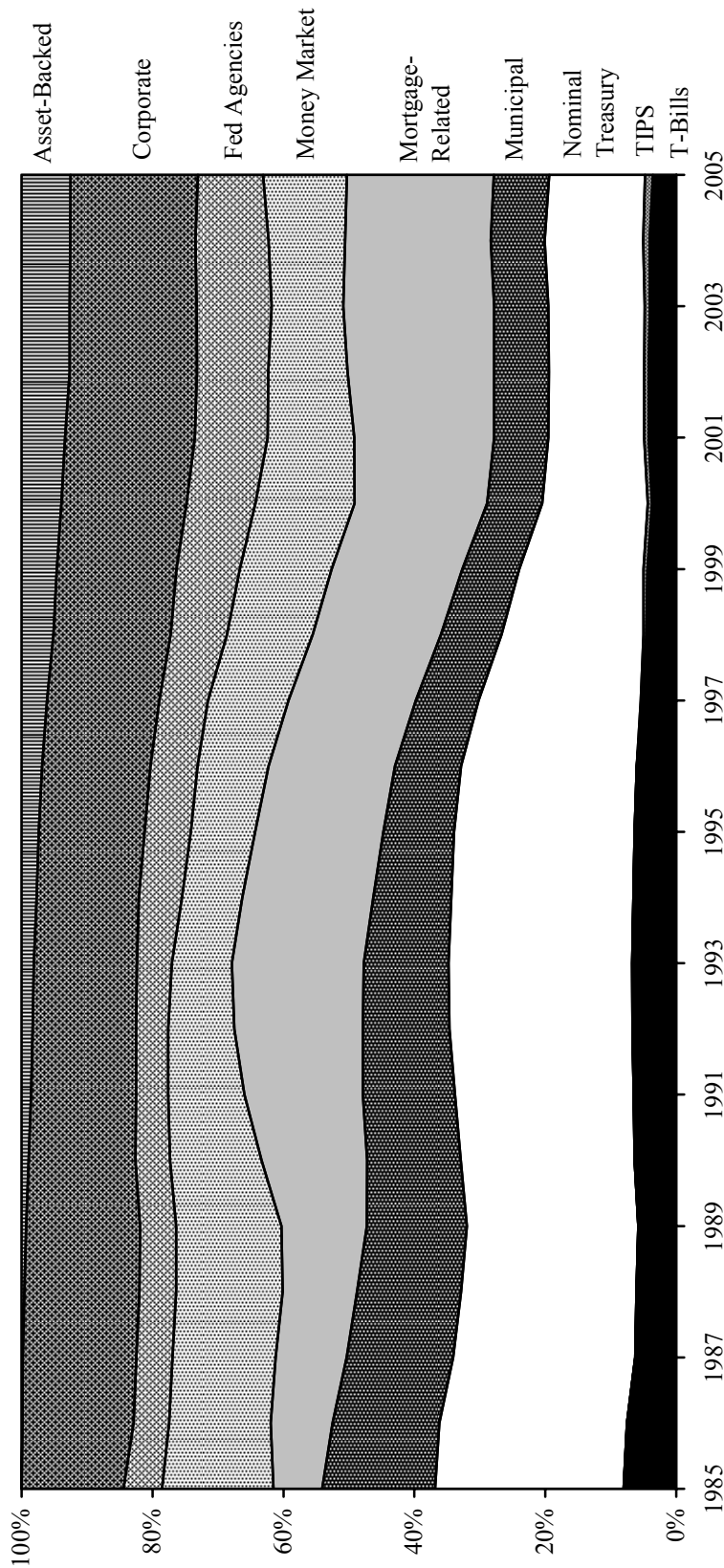
Derivatives including CDS, total return swaps, and interest rate swaps provide investment managers with tools for implementing credit trades, increases in corporate bond exposure, and directional interest rate bets (we would note that surveys of Wall Street professionals indicate they fare poorly at predicting the future direction of rates). Increased interest in CDS has been particularly strong, and we have found that some core bond managers began participating in the CDS market once these securities were standardized in 2002. A CDS is a derivative that allows investors to hedge or speculate on the probability that a corporation will default on its debt. CDS facilitate establishing positions in long and short positions in pure credit exposure. Unlike single-name CDS, with a payoff dependent on whether one firm defaults on its debt, CDX allow investors to go long or short the default probability of an entire basket of similar issues, such as investment-grade credits, high-yield credits, or emerging markets issues, with one contract. CDS expose owners to counterparty risk, though it is possible to lower that risk by diversifying among counterparties, and by ensuring that collateral is marked-to-market each day and adjusted accordingly. CDS are liquid, though their liquidity has not been tested during a credit crunch. Default rates historically have tended to rise sharply a year or so after high-yield issuance has peaked. While high-yield issuance peaked in 2004, default rates have not yet climbed (Table F).

Conclusion

The fixed income investment landscape has changed considerably and bond managers have more investment options at their disposal than ever. Investors should carefully examine the key performance drivers of their bond portfolios to ensure that they are consistent with their return objectives. As the market

share of Treasuries and high-quality corporate bonds shrinks, it is important that investors monitor their bond portfolios to ensure they have an adequate allocation to intermediate- or long-duration, high-quality, noncallable bonds to preserve principal while maintaining spending power in the event of a sustained deflationary period. Investors seeking to outperform the fixed income market through broader bond mandates should consider that low yields and a flood of cash have driven up bond prices and compressed credit spreads leaving few bond sectors particularly attractive today. The best bargains will likely be found when the economy is recovering from a slump or recession, rather than near a credit peak.

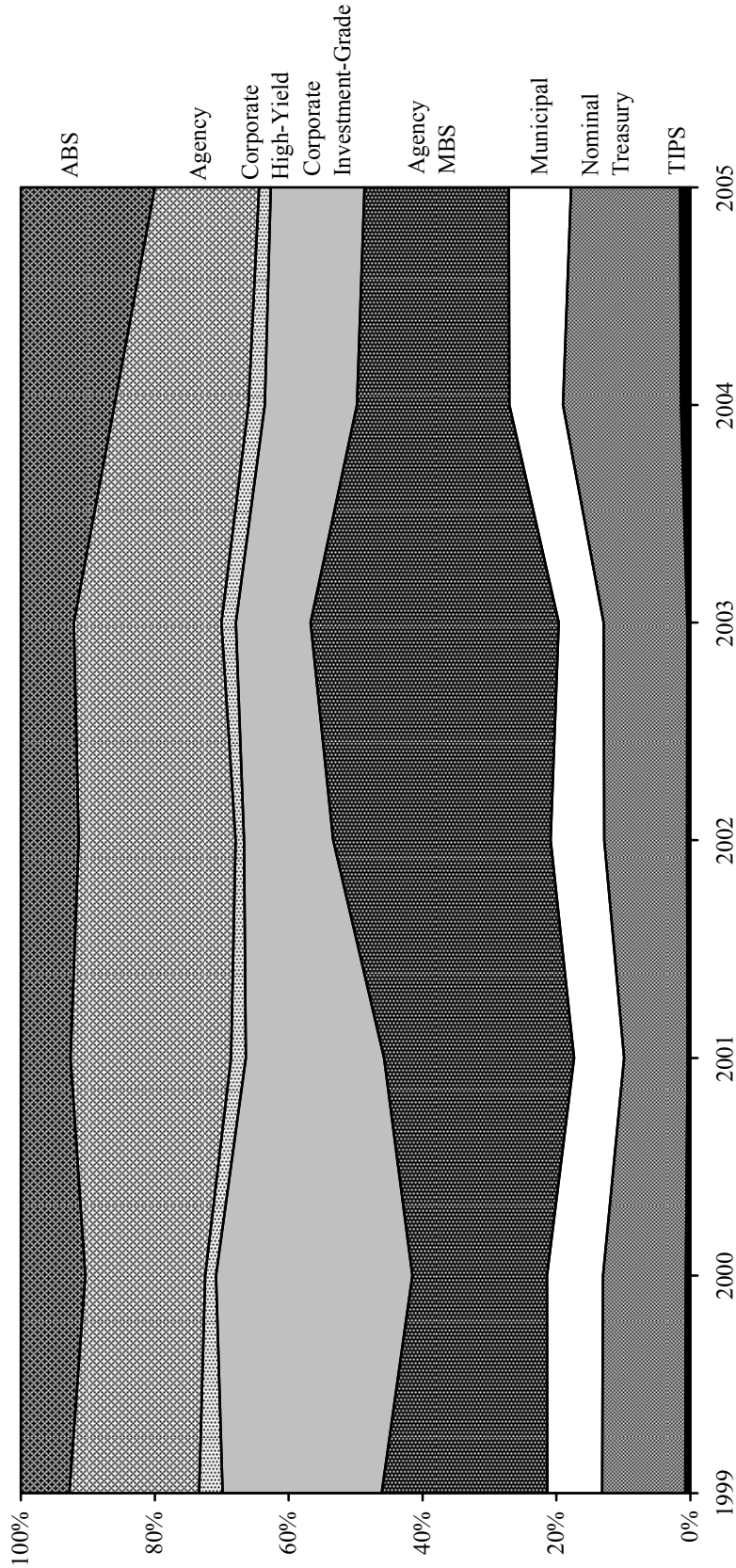
Table A
SECTOR ALLOCATION OF BOND MARKET CAPITALIZATION
1985-2005



Sources: Bond Markets Association, The Bureau of the Public Debt, Federal Home Loan Mortgage Corporation, Federal National Mortgage Association, Federal Reserve System, Government National Mortgage Association, Thomson Financial, and U.S. Department of Treasury.

Notes: Data for 2005 are through third quarter. Asset-backed data include public and private placements. Money market data include commercial paper, bankers' acceptances, and large time deposits. Mortgage-related data include GNMA, FNMA, and FHLMC mortgage-backed securities and CMOs and non-agency MBS/CMOs. Nominal Treasury data represent interest-bearing marketable public debt.

Table B
SECTOR ALLOCATION OF BOND MARKET ISSUANCE
1999-2005



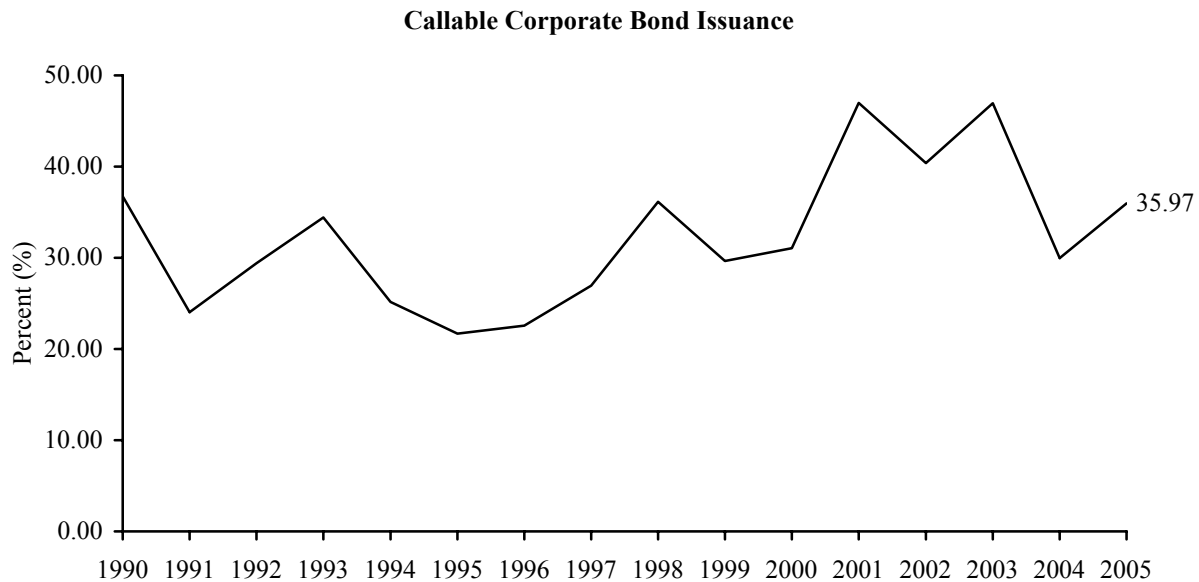
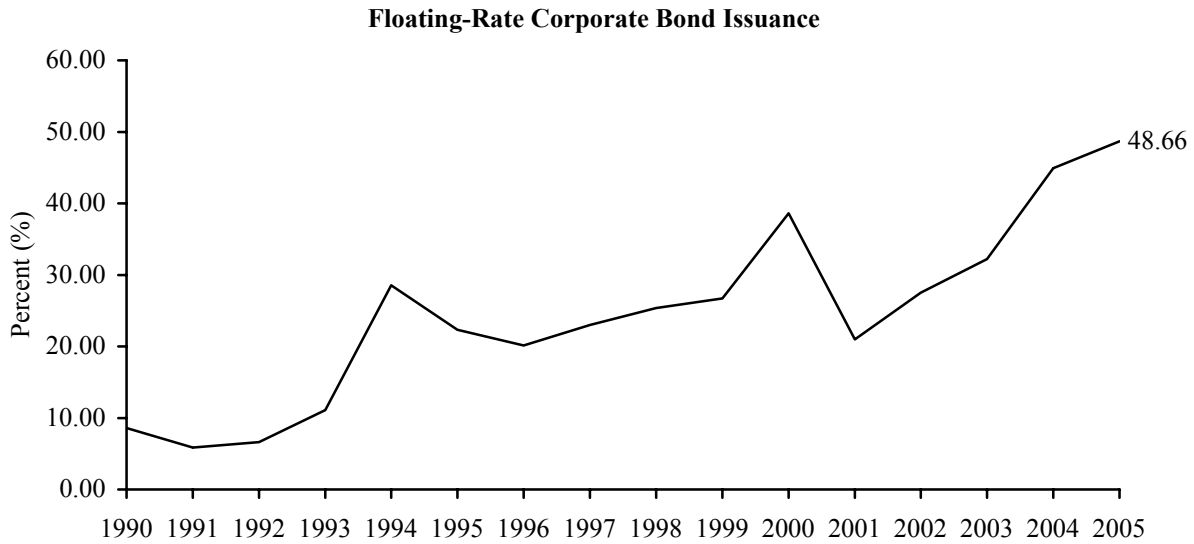
Sources: The Bloomberg, Bond Markets Association, The Bureau of the Public Debt, Farm Credit System, Federal Home Loan Bank, Federal Home Loan Mortgage Corporation, Federal National Mortgage Association, Government National Mortgage Association, JPMorgan, MCM Corporate Watch, Student Loan Marketing Association, Tennessee Valley Authority, Thomson Financial Securities Data, and U.S. Department of Treasury.

Notes: Data for 2005 are through third quarter. All bond issuance exclude those with maturities of one year or less. ABS bond issuance include public debt only. Corporate bond issuance include all non-convertible corporate debt, MTNs, and Yankee bonds, but exclude CDs and federal and agency debt. Treasury issuance include marketable securities only. ABS issuance data are from JPMorgan from 1999-2004, and from Bond Markets Association for 2005.

Table C

PERCENTAGE OF FLOATING RATE AND CALLABLE CORPORATE BOND ISSUANCE

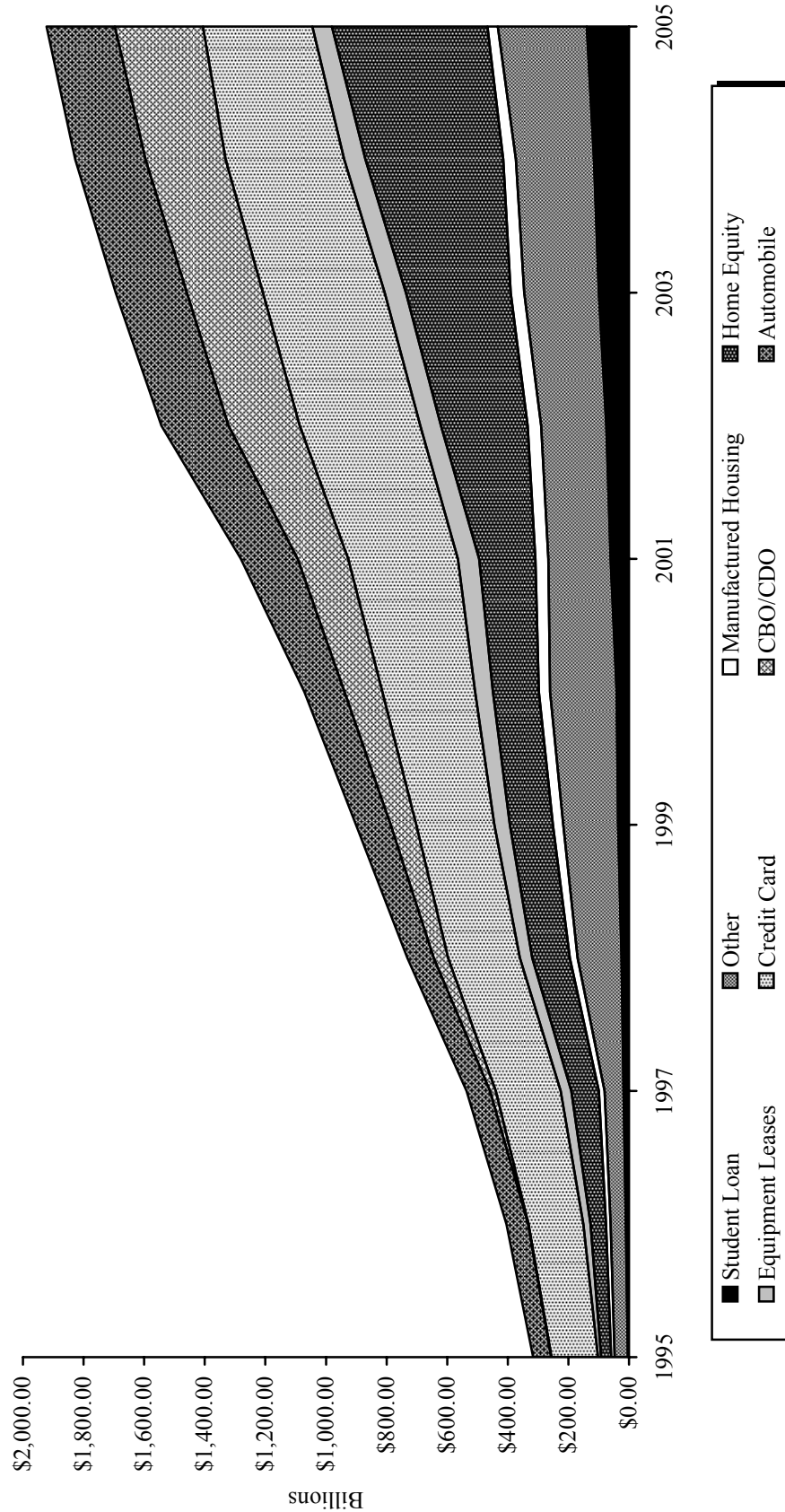
1990-2005



Source: Thomson Financial.

Notes: Bonds include all non-convertible corporate debt, MTNs, and Yankee bonds, but exclude all issues with maturities of one year or less, CDs, and federal and agency debt. Data for 2005 are through September 30.

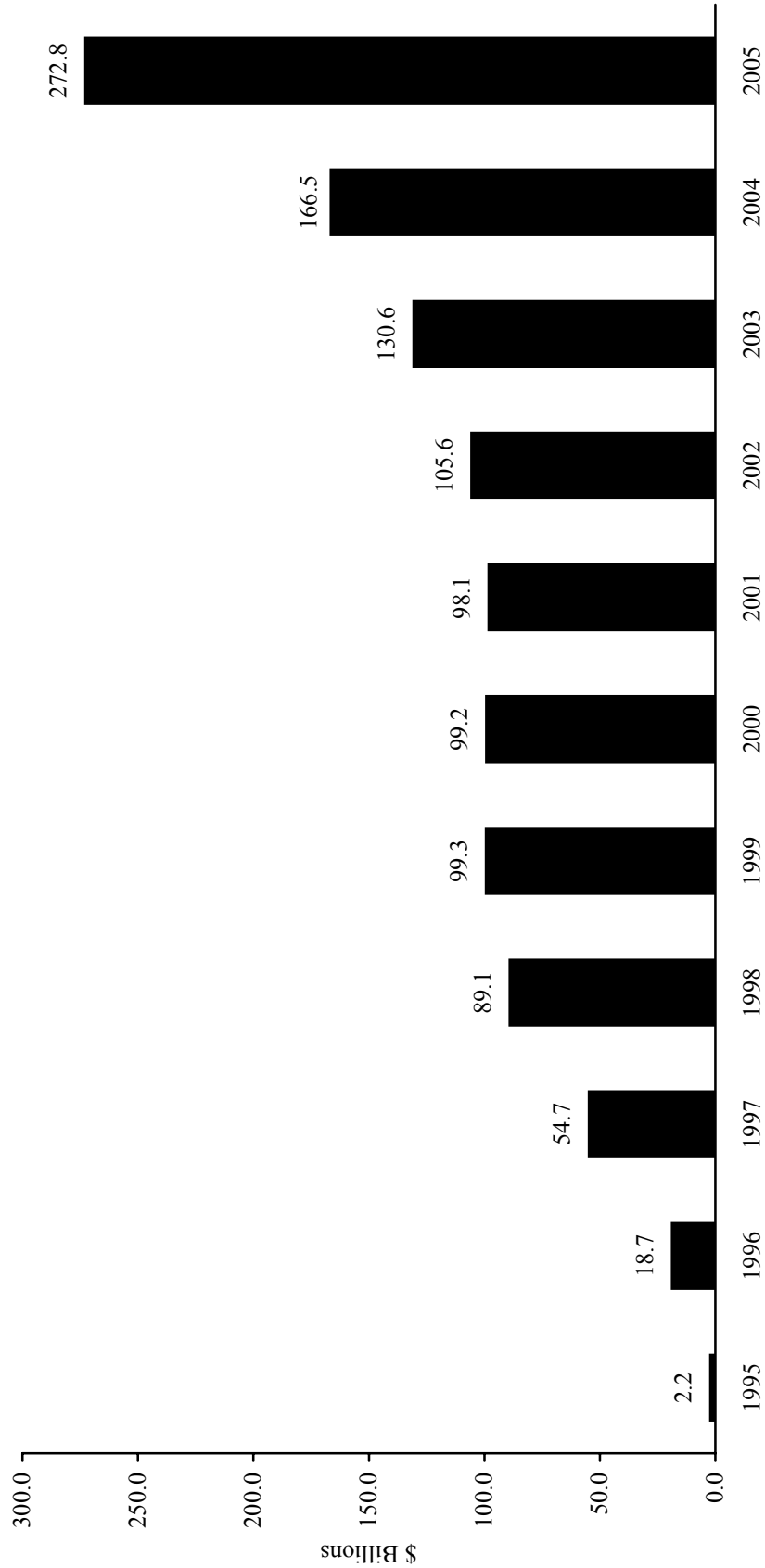
Table D
ASSET-BACKED SECURITIES OUTSTANDING BY MAJOR TYPES OF CREDIT
1995-2005



Source: Bond Markets Association.

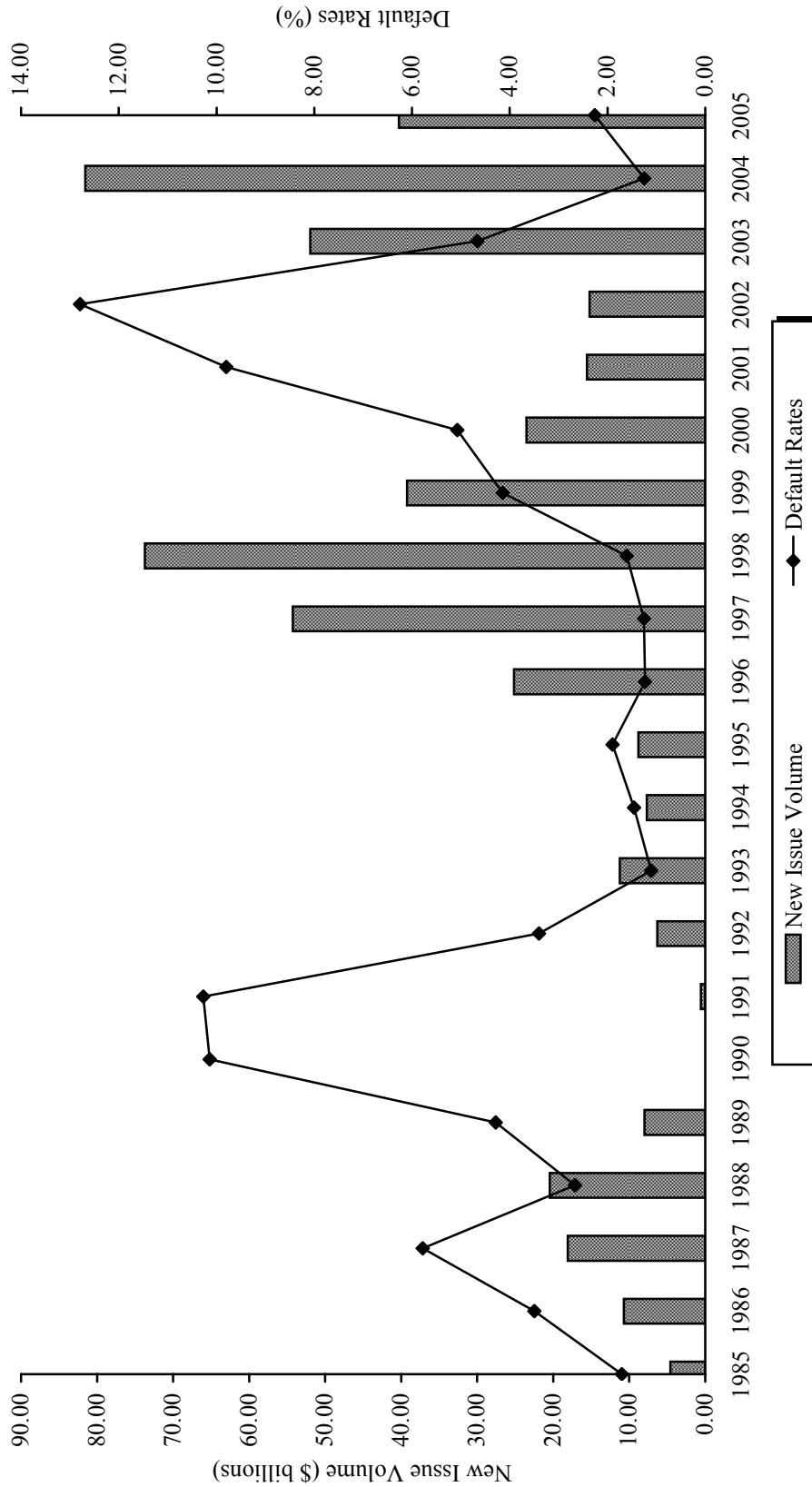
Note: Data for 2005 are through third quarter.

Table E
GLOBAL COLLATERALIZED DEBT OBLIGATIONS ISSUANCE
1995-2005
U.S. Dollar (\$)



Source: Lehman Brothers, Inc.

Table F
HIGH-YIELD BOND DEFAULT RATES AND PAR VALUE OF HIGH-YIELD BOND NEW ISSUES
1985-2005



Sources: Edward I. Altman-NYU Salomon Center and Merrill Lynch & Company.

Notes: Data for 2005 are through third quarter. Par value of high-yield new issues are for those rated B- or lower.