The Evolution of the U.S. Commercial Paper Market since 1980

Mitchell A. Post, of the Board's Division of Research and Statistics, prepared this article. Michael A. Schoenbeck and Joyce A. Payne provided research assistance.

The U.S. commercial paper market, an important source of short-term funds for corporations, changed in many ways over the past decade. At the start of the 1980s, the market was reserved primarily for the largest and most creditworthy U.S. companies, and investor holdings of commercial paper were distributed about evenly over several investor groups. Over the next ten years, the market grew to about five times its 1979 size; many new issuers and some new dealers arrived on the scene; some long-standing issuers all but withdrew from the market; holdings of paper became more concentrated by investor group; and a new form of commercial paper emerged.

In the 1980s, relatively high rates on long-term funds and bank loans and an expanding economy fueled a rapid expansion of commercial paper issuance. Old-line borrowers were a large part of the growth, but in addition, many new issuers—including smaller U.S. corporations, foreign corporations, and foreign financial institutions—were attracted to the market. The heavy activity in mergers and acquisitions in the second half of the decade helped drive up issuance. The development of the swaps market also stimulated the issuance of commercial paper, as borrowers combined paper with swaps to create liabilities in other currencies. Asset-backed commercial paper also came into use, providing off-balance-sheet financing for trade and credit card receivables. Finally, the growth of money market mutual funds, coupled with a shift in the composition of their investments toward commercial paper, made them the largest single source of funds to the market.

As the 1990s unfolded in economic recession, the commercial paper market began to exhibit some growing pains and took another turn in its evolution. A series of defaults on commercial paper began in 1989, and tighter regulations were imposed on money market mutual fund holdings of medium-grade paper; these events heightened the concern about credit quality—always paramount—to the point that investors effectively forced many medium-quality issuers to cut back sharply on their use of the commercial paper market. Some other issuers of long standing, rated just above medium-grade, also cut back on their use of the market.

A further change has arisen in the commercial paper market in the area of services supplied by banks. As a result of financial stress on banks and with pressure from the markets and regulators for banks to raise capital levels, the banks' costs of providing letters of credit and backup liquidity to the commercial paper market have increased. The efforts of banks to increase profit margins on loans are tending to make commercial paper funding relatively more attractive. Existing and potential commercial paper issuers, however, must minimize their use of these now more costly services to keep costs down.

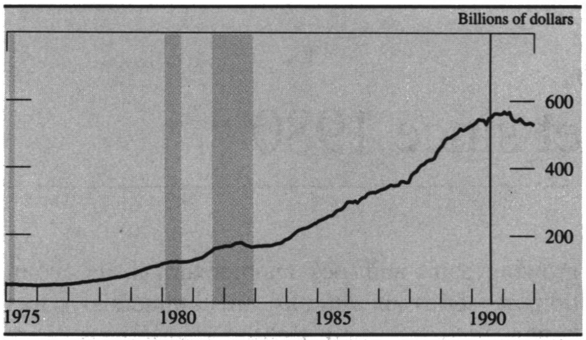
Overall, the U.S. commercial paper market remains an important source of short-term funds for corporations. New issuers of high credit quality will continue to be attracted by the liquidity and low cost of funds available in the market.

SOURCES OF GROWTH IN THE 1980S

Over the 1980s, commercial paper outstanding grew at an average annual compound rate of about 17 percent (chart 1, table 1). In 1988, the size of the commercial paper market even temporarily surpassed that of the U.S. Treasury bill market.

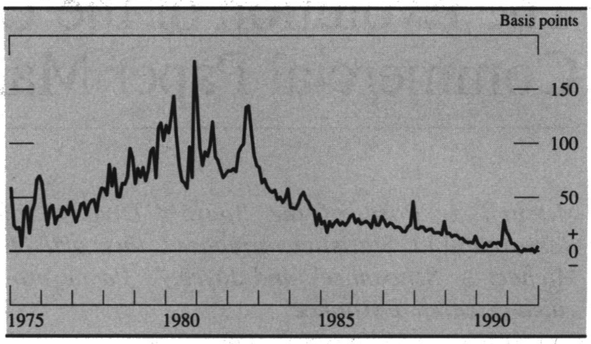
Several market forces fueled the dramatic growth of the commercial paper market in the 1980s. First,

1. Commercial paper outstanding, 1975–91[1]



1. Seasonally adjusted. Shading indicates periods of recession as defined by the National Bureau of Economic Research (NBER). Vertical line indicates peak; NBER has not yet determined the trough of the 1990–91 recession.
SOURCE. Federal Reserve Bank of New York.

2. Spread of the London interbank offered rate over the composite rate for thirty-day commercial paper placed by dealers, 1975–91[1]



1. The rate for commercial paper is the average of offering rates of several leading dealers for industrial firms whose bond rating is AA or the equivalent; the average has been converted to a coupon equivalent to be consistent with LIBOR.
SOURCE. Board of Governors of the Federal Reserve System and the Federal Reserve Bank of New York.

movements in interest rates stimulated the issuance of commercial paper early in the decade. Commercial paper consists of short-term, unsecured promissory notes issued mostly by corporations. Maturities range up to 270 days, with most issues maturing within 60 days; thus, nonbank firms seeking short-term funds regard commercial paper as an alternative to bank loans. At the outset of the 1980s, when the Federal Reserve sought reductions in the trend rate of money growth to lower the high rate of inflation, all interest rates soared, and the high longer-term rates favored short-term borrowing by all firms. Moreover, the base rate on bank loans (the London interbank offered rate) increased markedly relative to the commercial paper rate (chart 2); the large spread encouraged many firms to enter the commercial paper market for the first time. By the end of the decade, the amount of nonfinancial commercial paper outstanding was about 21 percent of outstanding commercial and industrial loans at banks, compared with about 11 percent at the start (table 2).

1. Commercial paper outstanding, by type of issuer, 1979–91
Billions of dollars at year-end, seasonally adjusted

Year	Total	Non-financial firms	Financial firms: Total	Financial firms: Dealer-placed	Financial firms: Directly placed
1979	112.8	30.7	82.2	17.4	64.8
1980	124.4	36.9	87.5	19.6	67.9
1981	165.8	53.8	112.0	30.3	81.7
1982	166.4	47.4	119.0	34.6	84.4
1983	187.7	46.2	141.5	44.5	97.0
1984	237.6	70.6	167.0	56.5	110.5
1985	298.8	85.0	213.7	78.4	135.3
1986	331.3	77.7	253.6	101.7	151.9
1987	359.0	81.9	277.0	102.7	174.3
1988	458.5	103.8	354.7	159.8	194.9
1989	525.8	131.3	394.5	183.6	210.9
1990	561.1	146.2	414.9	215.1	199.8
1991	530.3	132.7	397.6	214.4	183.2
MEMO					
Average annual compound growth rate (percent)					
1979–89	16.6	15.6	17.0	26.5	12.5
1989–91	.4	.5	.4	8.1	−6.8

SOURCE. Federal Reserve Bank of New York.

Second, in 1983, the economy began an expansion that lasted to the end of the decade. In typical fashion, the issuance of commercial paper expanded with the economy as nonfinancial firms—manufacturers, commercial concerns, and utilities—financed growing production, new inventories, or new receivables; and as financial firms, including banks and finance companies, raised funds to finance the growing needs of their customers.

Third, the wave of mergers and acquisitions in the latter half of the 1980s also produced new issues because firms often temporarily financed the transactions with commercial paper before tapping more permanent sources of funding.

Fourth, the development of the derivatives markets, especially for swaps, added to market growth in the second half of the decade. The growing internationalization of financial markets allowed domestic and foreign investment-grade firms to tap any market for funds, including the commercial

2. Nonfinancial commercial paper outstanding as a proportion of banks' commercial and industrial loans outstanding, 1979–91

Billions of dollars except as noted, December average, seasonally adjusted

Year	Commercial and industrial loans	Nonfinancial commercial paper	Paper as a percent of loans
1979	284.8	30.1	10.6
1980	321.0	37.7	11.7
1981	360.6	55.2	15.3
1982	399.0	50.7	12.7
1983	422.5	47.0	11.1
1984	484.5	72.4	14.9
1985	511.3	86.9	17.0
1986	548.1	81.1	14.8
1987	575.9	84.4	14.7
1988	620.3	103.5	16.7
1989	653.9	134.1	20.5
1990	659.8	150.5	22.8
1991	636.7	134.9	21.2

SOURCES. Board of Governors of the Federal Reserve System and the Federal Reserve Bank of New York.

3. Commercial paper held by taxable money market mutual funds as a share of total fund assets and total commercial paper outstanding, 1980–91

Year-end, not seasonally adjusted

Year	Total fund assets (billions of dollars)	Fund holdings of commercial paper		
		Total (billions of dollars)	As a percent of total assets	As a percent of total commercial paper
1980	74.4	25.0	33.6	20.6
1981	181.9	56.8	31.2	35.3
1982	206.6	50.3	24.4	31.0
1983	162.6	46.8	28.8	25.5
1984	209.7	78.3	37.3	33.8
1985	207.4	87.6	42.2	29.9
1986	228.4	94.9	41.5	29.1
1987	254.5	100.4	39.4	26.9
1988	272.0	117.0	43.0	25.9
1989	357.5	178.5	49.9	34.2
1990	414.8	200.6	48.4	36.0
1991	448.3	187.6	41.8	35.5

SOURCES. Investment Company Institute and Federal Reserve Bank of New York.

paper market, and then to transform the funds into the currency, maturity, or interest rate index of choice.

THE INVESTORS AND THEIR SENSITIVITY TO CREDIT RATINGS

The creation of wealth during the long economic expansion made vast sums of investible funds available to meet the burgeoning supply of commercial paper. The six-fold increase in the assets of money market mutual funds between 1980 and the end of 1991 accommodated a significant part of the growth in total commercial paper (table 3). By year-end 1991, the money market mutual fund industry held about one-third of all commercial paper outstanding and was the largest single investor group in the market (table 4). Bank trust companies, on behalf of individuals, were second in share of paper owned.[1] Other important investors in commercial paper in 1991 were nonfinancial corporations, life insurance companies, and the retirement and savings plans for state and local government employees.

All of these investors regard commercial paper as they do other money market instruments, as assets that are highly liquid and have highly stable market values. The liquidity of commercial paper arises, in part, from the vast amount of short-term funds invested every day. Moreover, dealers bid regularly on paper that they have placed for issuers, and direct issuers of paper will often prepay on their paper at the request of investors. Investors, however, typically hold paper to maturity, largely because the maturities of commercial paper are set to suit investor requirements.

Because commercial paper primarily is the debt of corporations, default risk is a major concern of investors. Accordingly, investors place heavy emphasis on the evaluations made by the credit rating agencies concerning the financial health of firms that issue commercial paper. Virtually all commercial paper is rated by at least one of the four major credit rating organizations (see box). Top-rated paper carries a 1+ or 1, and medium-grade paper generally carries a 2; a 3 is the lowest investment-grade rating.

The rating agencies grade commercial paper programs according to the inherent credit quality of the issuers. A firm that agencies consider worthy of a rating of 3 or better, however, generally receives the rating only if it also maintains alternative sources of liquidity sufficient to pay off its out-

1. Flow of Funds Section, Board of Governors of the Federal Reserve System; these data include bankers acceptances. Bank trusts are part of the sector in the flow of funds accounts that covers households, personal trusts, and nonprofit organizations; bank trust departments probably account for most of the commercial paper held in the sector.

4. Distribution of commercial paper and bankers acceptances, by type of investor, selected years, 1980–91
Billions of dollars except as noted, at year-end, not seasonally adjusted

Type of investor	1980		1985		1991	
	Amount	Percent	Amount	Percent	Amount	Percent
Money market mutual funds	31.6	19.3	99.1	27.6	191.9	33.9
Households, trusts, and nonprofit corporations	42.6	26.0	122.1	34.1	165.7	29.3
Nonfinancial corporate business	19.4	11.8	45.3	12.6	53.4	9.4
State and local government retirement plans and savings plans	n.a.	n.a.	n.a.	n.a.	29.4	5.2
Private pension plans	19.5	11.9	19.9	5.6	28.4	5.0
Mutual funds	3.8	2.3	4.1	1.1	21.5	3.8
Life insurance companies	8.3	5.1	20.0	5.6	20.8	3.7
Commercial banks	15.8	9.6	9.7	2.7	10.6	1.9
Other[1]	22.8	13.9	38.3	10.7	44.2	7.8
Total	**163.8**	**100**	**358.5**	**100**	**565.9**	**100**
MEMO						
Commercial paper outstanding	121.6		293.9		528.1	

1. Includes federally sponsored credit agencies, thrift institutions, and securities brokers and dealers.

SOURCE. Flow of Funds Section, Board of Governors of the Federal Reserve System.

standing commercial paper and other short-term liabilities in full at maturity.[2] Backup liquidity provides funds if the issuer suddenly finds that it cannot roll over maturing paper, but only if the issuer otherwise remains creditworthy. Thus, backup liquidity does not guarantee investors that they will be paid off under all circumstances. The rating agencies generally require that backup liquidity should equal 100 percent of the size of the commercial paper program and of other short-term obligations. Top-rated issuers, however, can get by with less.

Backup liquidity may come in several forms, but often the issuer sets up lines of credit with banks. The rating agencies prefer that bank lines be revolving credits with same-day availability of funds. With a revolving line, an issuer has a contractual agreement from the banks, in exchange for a fee, that the banks will lend up to the stated amount of money when needed. Nonetheless, most

2. See, for example, Solomon Samson and Mark Bachmann, "Paper Backup Policies Revised," *Standard & Poor's CreditWeek*, September 10, 1990, pp. 23–24; and Jane Maxwell Grant and others, *Alternative Liquidity for Commercial Paper Issuers*, Moody's Special Report (Moody's Investors Service, February 1992).

Short-Term Ratings by the Major Credit Rating Agencies[1]

Category	Duff & Phelps Credit Rating Co.	Fitch Investors Service	Moody's Investors Service	Standard & Poor's Corporation
Investment grade	Duff 1+	F-1+		A-1+
	Duff 1	F-1	P-1	A-1
	Duff 1−			
	Duff 2	F-2	P-2	A-2
	Duff 3	F-3	P-3	A-3
Noninvestment grade	Duff 4	F-S	NP (Not Prime)	B
				C
In default	Duff 5	D		D

1. The definition of ratings varies by rating agency.

contractual backup commitments also contain a so-called material-adverse-change (MAC) clause, which permits the bank to terminate its commitment if the financial condition of the would-be borrower deteriorates sufficiently to jeopardize repayment to the lending institution.

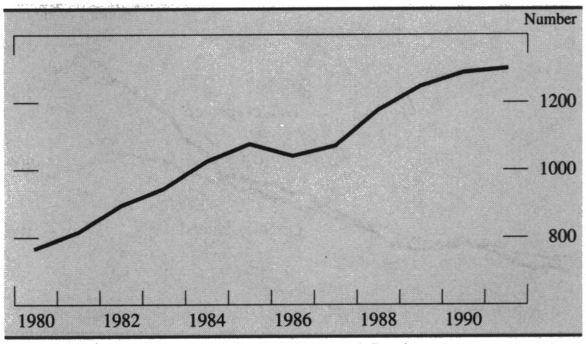
THE CHANGING COMPOSITION OF BORROWERS AND OUTSTANDING ISSUES

A snapshot of issuers at the end of the 1980s would have revealed a collection of firms far different from those in the market at the beginning of the decade. At the end of 1989, about 1,250 corporations and other entities had paper programs in the U.S. commercial paper market (chart 3), about 500 more than in 1980.[3] Many of the new issuers were foreign firms and smaller, less well known U.S. firms, whereas the traditional commercial paper issuer had been a large, well known U.S. corporation. Because of the stringent credit preferences of investors, however, about 95 percent of paper issuers in 1989 were rated 1 or 2, close to the share at the start of the decade.[4]

The Increasing Importance of Dealer-Placed Paper

Early in the 1980s, commercial paper sold directly to investors by the borrower constituted about 60 percent of all issuance. Direct issuers of paper—most of them traditional issuers—borrow in sufficient size and frequency that the costs of developing an in-house distribution system are less than the costs of placing paper through a dealer. For nonbanks, an in-house system may become economical when outstanding commercial paper

3. Number of issuers in the U.S. commercial paper market, 1980–91[1]



1. For programs rated by Moody's Investors Service.
SOURCE. Moody's Investors Service.

reaches $500 million or more. Many issuers surpass that level, but only about 110—mostly the major finance companies and large banking organizations that also distribute wholesale liabilities such as CDs—place their paper directly. Only a few nonfinancial firms are direct issuers of paper, and they account for a small portion of outstanding nonfinancial paper.

The direct issuers responded to the growing credit needs of businesses and consumers alike during the economic expansion. The large finance companies grew rapidly, particularly after the Tax Act of 1981 promoted business use of leasing. Unlike banks, these institutions rely largely on the public markets to fund their loans. Accordingly, their use of bonds and commercial paper grew with their assets. Likewise, bank holding companies continued to use the commercial paper market to support parent company operations and lending by nonbank subsidiaries. By the end of the decade, outstanding paper placed directly by financial firms surpassed $200 billion, more than triple the level at the start of the decade.

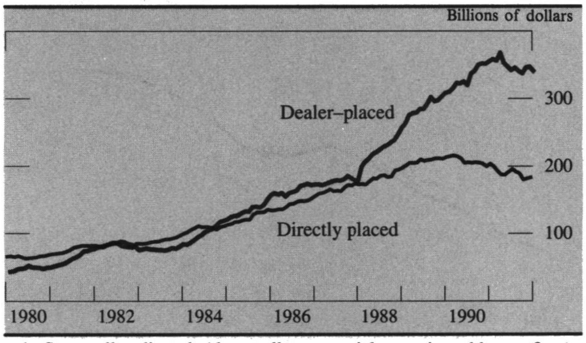
The steady increase in paper placed directly, however, failed to keep pace with paper issued by firms that used dealers to distribute their obligations. By 1989, dealer-placed paper accounted for 60 percent of all commercial paper outstanding, up sharply from about 40 percent at the start of the decade (chart 4). A firm ordinarily requires a dealer to place its paper if it lacks the name recognition necessary to attract investors or if its funding requirements either are too limited or infrequent to warrant building its own distribution system.

3. These data are for commercial paper programs in the U.S. market and rated by Moody's Investors Service.

4. These percentages are for all issues rated by Moody's, including Eurocommercial paper and foreign domestic programs (Jerome S. Fons and Andrew E. Kimball, *Defaults and Orderly Exits of Commercial Paper Issuers, 1972–1991*, Moody's Special Report, Moody's Investors Service, February 1992, p. 16).

In the 1980s, a number of investors were willing to accept noninvestment-grade or unrated paper. Some of this so-called junk commercial paper was associated with the merger and acquisition boom in the latter half of the 1980s; the outstanding value of such paper has probably never exceeded $8 billion.

4. Commercial paper outstanding, directly placed and dealer-placed, 1980–91[1]



1. Seasonally adjusted. Almost all commercial paper issued by nonfinancial firms is dealer-placed; the small amount that is directly placed is included in the totals for dealer-placed paper.

SOURCE. Federal Reserve Bank of New York.

Most dealers are a part of investment banking organizations. In actions taken in 1986 and 1987, however, the Federal Reserve Board authorized certain so-called section 20 subsidiaries of bank holding companies to deal in commercial paper to a limited extent; by year-end 1991, these subsidiaries accounted for about 14 percent of outstanding dealer-placed paper.[5]

In an issue of dealer-placed paper, the dealer generally purchases the paper from the issuer and resells it to investors at a higher price, with the price difference constituting the dealer's compensation for placing the paper. Dealers have extensive distribution systems that can accommodate the paper of a large number of issuers, and new and smaller issuers are thus able to sell their paper at a lower cost than if they tried to place it directly. The increase in the share of dealer-placed paper outstanding in the 1980s in part reflected the changed composition of issuers: Dealers were required for the aggressive marketing required to package and sell new issuers and new types of commercial paper programs.

The Growth of Guaranteed Paper

The share of commercial paper programs that were fully (100 percent) enhanced by credit guarantees—often bank letters of credit—from highly rated third parties grew dramatically in the first half of the decade. In fact, programs with such credit enhancements accounted for about all the net increase in the number of commercial paper issuers rated by Moody's over that period.[6] Presumably, most of these programs were small because their outstandings accounted for less than 10 percent of all outstanding paper.

These guarantees ensure that the commercial paper will be paid in full at maturity regardless of the financial condition of the issuer itself. Because investors in such paper rely on the guarantor, rather than the issuer, to make payment in full upon maturity of the paper, the paper carries the rating of the guarantor. Whereas traditional issuers entered the market on the strength of their own credit quality (or that of their parent), many of the new commercial paper programs of the first half of the 1980s gained access to the market on the strength of guarantees by unrelated entities.[7]

The Growth of Dealer-Placed Financial Paper

Dealers proved particularly successful in marketing new financial programs. In fact, outstandings of dealer-placed financial paper, which accounted for only 26 percent of total paper issued by financial firms in December 1979, overtook outstandings of directly placed financial paper in 1990.

During the mid- to late-1980s, the presence of foreign financial institutions in the U.S. market grew, and these firms generally required dealer assistance to promote their names to U.S. investors (table 5). By year-end 1991, these firms had outstandings in excess of $110 billion, slightly more

---

5. Section 20 of the Glass–Steagall Act prohibits these subsidiaries from being "engaged principally" in the underwriting of, or dealing in, securities that are so proscribed for national banks. The Supreme Court has determined that commercial paper is an ineligible security under the act. The Board has ruled that, to qualify as not "engaged principally" in the underwriting of, or dealing in, ineligible securities, a subsidiary must limit revenues from such activities to 10 percent of its gross revenues. See "Legal Developments" in the following editions of vol. 73 of the *Federal Reserve Bulletin*: February 1987, pp. 138–54; and June 1987, pp. 473–508; and "Announcements," *Federal Reserve Bulletin*, vol. 75 (November 1989), p. 751.

6. *Moody's Commercial Paper Record* (vol. 5, December 1985), and the Statistical Supplement to the December 1980 issue.

7. A subsidiary of a highly rated firm may obtain ratings close to or equal to those of its parent if it has the explicit or implicit support of its parent. But these forms of support may not have the strength of a credit guarantee. For example, even in an explicit support agreement, the parent may pledge only to maintain the subsidiary's fixed charge coverage or net worth at some minimum level; in contrast, a guarantor promises the holder of the guaranteed paper to redeem it at maturity.

5. Outstanding dealer-placed commercial paper issued by financial institutions
Billions of dollars at month-end, not seasonally adjusted

Date	Total	U.S. firms	Foreign firms							
			Total	Banks			Other			
				Total	U.S. subsidiaries	Foreign offices	Total	U.S. subsidiaries	Foreign offices	
1986										
January	79.3	47.3	32.0	25.2	9.3	15.9	6.8	3.3	3.5	
December	102.6	56.3	46.3	36.2	15.3	20.9	10.1	3.7	6.4	
December										
1987	115.0	61.9	53.1	41.2	19.3	21.9	11.9	5.1	6.8	
1988	161.5	89.4	72.1	52.0	26.2	25.8	20.1	7.9	12.2	
1989	188.6	99.8	88.8	57.4	31.0	26.4	31.4	11.0	20.4	
1990	221.4	107.2	114.2	62.6	36.3	26.3	51.6	23.1	28.5	
1991	221.1	109.5	111.6	61.0	39.1	21.9	50.6	16.8	33.8	

SOURCE. Federal Reserve Bank of New York.

than half of all dealer-placed financial paper. Almost all of these programs entered the market with a rating of 1 or 1+. Highly rated foreign banks (or their U.S. subsidiaries) accounted for 55 percent of this paper.

About half of the paper from foreign financial institutions in 1991 was issued by their U.S. subsidiaries. Many U.S. money market investors are limited by statute or bylaws to issues of U.S.-chartered corporations. To attract funds from these investors, foreign corporations—most often banks—establish U.S. funding subsidiaries, which typically channel the proceeds to their affiliated branches and agencies in the United States or move them offshore. U.S. subsidiaries of foreign nonbank financial institutions, such as Japanese leasing companies, issue commercial paper primarily to finance U.S. lending operations.

The remaining half of commercial paper of foreign-related financial institutions was issued by entities outside the United States, generally the parents themselves, who discovered that they could tap the liquidity and low dollar cost of the U.S. commercial paper market. If so desired, the issuer could swap the proceeds into the home currency or other currency of choice. For example, British building societies—the primary mortgage lenders in the United Kingdom—found the U.S. commercial paper market highly receptive to their paper. After obtaining cheap dollar funds, they then often swapped into sterling, obtaining an all-in cost of funds below the cost of raising funds directly in sterling markets.

Outstanding paper placed by dealers on behalf of domestic nonbank financial firms—purely domestic entities—also grew rapidly, to $110 billion at year-end 1991. Asset-backed commercial paper programs accounted for about 45 percent of outstandings in this category. About 25 percent of nonbank financial paper was placed by dealers on behalf of their own investment banking firms. Smaller finance companies, bank holding companies, insurance companies, and other firms too small to issue commercial paper directly made up the remainder of these companies.

ASSET-BACKED COMMERCIAL PAPER

One of the most significant developments in the commercial paper market in the 1980s was the growth of asset-backed paper, a form of asset securitization used predominantly to finance credit card receivables and trade receivables. Asset-backed paper expands the funding options available to existing issuers of commercial paper and opens the market to a wide range of new firms. Asset-backed paper also reduces the use of capital by financial intermediaries, an important factor in recent years, when the marketplace and regulators have pressured many intermediaries to build capital levels.

The Structure of an Asset-Backed Program

The issuer in a typical asset-backed program consists of a business entity called a special-purpose vehicle (SPV), established as a going concern. The SPV purchases pools of receivables from participating firms (or lends to these firms with their receivables as collateral); the SPV acquires the funds for these transactions by issuing commercial paper.[8] In a typical bank-advised program, a banking organization evaluates the credit quality of participants—that is, sellers of receivables—and of the pools and may provide other services.

To obtain the highest possible ratings, a necessity for funding, these programs are designed carefully to protect holders of the commercial paper issued by the SPVs. First, and perhaps most important, an asset-backed program is designed so that the SPV is "bankruptcy remote."[9] Such a condition is based, in large part, on an agreement by the entities that do business with the SPV, other than the commercial paper investors themselves, that they not file the SPV into bankruptcy for one year plus one day after the last paper matures. In addition, the SPV is owned by a party unaffiliated with a participant and the bank advisers (if any), often a nonprofit organization or employees of an investment bank; in the event of the bankruptcy or receivership of a participating firm or advisory banking organization, this arrangement minimizes the likelihood that the SPV would be consolidated, to the detriment of investors in its commercial paper, into the distressed entity.

Second, the face value of the receivables purchased by the program exceeds the purchase price paid for them: The excess over the discount required for payment of interest provides an equity cushion to commercial paper investors. The amount of this over-collateralization depends on the loss experience of existing or similar pools of receivables and usually is set at several multiples of such losses.

Third, investors require a second level of credit enhancement, generally in the form of a bank letter of credit or insurance company surety bond on some fraction of the maximum program size. Finally, the rating agencies require liquidity backup, as in any commercial paper program.[10]

Firms may choose to sell assets to, or borrow from, an SPV for several reasons. By selling receivables, the firm removes them from its balance sheet and limits its use of leverage. At the same time, the selling firm maintains customer relationships by servicing the receivables. In addition, an asset-backed program can provide a useful means of diversifying sources of liquidity. Highly rated firms with their own commercial paper programs nonetheless tap asset-backed programs for funds for these reasons. Finally, a firm that is too small or rated too low to participate in the commercial paper market directly can sell its receivables to an asset-backed program, effectively financing its receivables at commercial paper rates (plus its share of the cost of operating the program).

The Development of Asset-Backed Commercial Paper

The development of the asset-backed sector of the commercial paper market arose from several factors. U.S. banking organizations saw an opportunity to generate fee income from potential participants in their programs—many of which were the same investment-grade firms that they had lost as loan customers to the commercial paper market. These banking organizations also became more familiar with asset securitization. This familiarity resulted, in part, from increased market and regulatory pressure to increase their capital ratios. Asset securitization, and asset-backed commercial paper in particular, permitted banks to channel would-be borrowers to funding off of bank balance sheets.

Another factor was that, as discussed earlier, financial markets became increasingly familiar with, and thus more willing to accept, programs that required structuring, such as those with credit guarantees. Dealers saw opportunities to market asset-backed programs to companies seeking to increase liquidity or to reduce leverage, regardless of size or rating. Moreover, they already had proved successful in marketing lower-rated firms to the commercial paper market via guaranteed programs and realized that a pool of potential business existed in companies that were too small to tap the commercial paper market through their own guaranteed programs.

Thus, banking organizations formed bank-advised asset-backed programs, relying on dealers

8. Pools of receivables must be of high credit quality either through diversification that reduces risk or by virtue of the credit quality of each entity in the pool.

9. For a detailed discussion of the concept of being bankruptcy-remote, see, for example, Standard & Poor's Corporation, *S&P's Structured Finance Criteria* (New York, 1988), pp. 75–76.

10. The high rating of an SPV requires a high rating for the banks providing such support. See Barbara Kavanaugh, Thomas R. Boemio, and Gerald A. Edwards, Jr., "Asset-Backed Commercial Paper Programs," *Federal Reserve Bulletin* (vol. 78, February 1992), pp. 107–16.

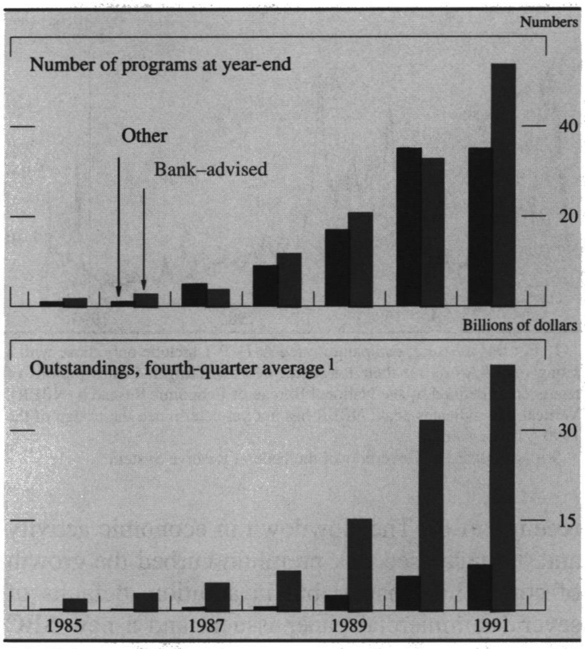
to market the paper. Most bank-advised programs entail the purchase of trade credit and credit card receivables from a large number and variety of investment-grade corporations. The first such program was established in 1983. The advising banking organization had multiple fee-generating roles: Its asset-based lending subsidiary established minimum credit standards for participating firms and pools of receivables and determined the appropriate "haircut" (over-collateralization) necessary for receivables; the subsidiary also monitored the SPV's portfolio of receivables. The advising bank itself made commitments to purchase receivables from the program at par to ensure payment of maturing commercial paper, effectively combining 100 percent credit enhancement and liquidity backup in one facility.

Nonbank programs have also formed, some targeted at lower-rated firms, which banking organizations have avoided for the most part in their programs. A nonbank program typically specializes in one type of receivable and, in some cases, in the receivables of one firm. Examples of the latter case were nonbank programs, each established to purchase the private-label credit card receivables generated by sales at the department store chains of an operator that had a noninvestment-grade credit rating and that could not tap the paper market directly. Several of these department store operators have filed for bankruptcy since the creation of the dedicated SPVs, triggering the orderly liquidation of their asset-backed programs without loss to paper holders.[11]

The number of asset-backed programs increased from three in 1985 to eighty-nine by year-end 1991, and these programs accounted for virtually all the increase in the number of U.S. commercial paper issuers (as rated by Moody's) after December 1989 (chart 5). Outstandings doubled in 1989 and again in 1990, and by year-end 1991, asset-backed paper accounted for about 9 percent of all outstanding commercial paper. As indicated in chart 5, the number of bank-advised programs is not much larger than the number of other asset-backed programs, but the average amount of outstanding commercial paper in bank-advised programs is far greater.

11. Some new asset-backed commercial paper programs, each dedicated to financing the receivables of a bankrupt operator, have emerged from the ashes of the earlier programs. The bankrupt operators, in effect, borrow from these SPVs using receivables for collateral. Each operator in bankruptcy can thus continue to finance receivables at low cost.

5. Asset-backed commercial paper, bank-advised and other, 1985–91



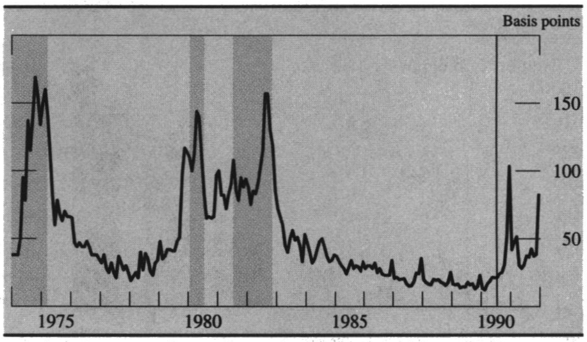
1. Not seasonally adjusted.

SOURCES. *Asset Sales Reports*, American Banker–Bond Buyer Newsletters; *Moody's Global Short-Term Market Record*, Moody's Investors Service; and *Short-Term Ratings and Research Guide*, Duff and Phelps Credit Rating Co.

FINANCIAL STRESSES AND MARKET RETRENCHMENT IN THE 1990S

The composition of firms issuing commercial paper has continued to change in the 1990s, in large part because events fostered a sharp decline in the issuance of medium-grade paper (mostly 2-rated), some of which was from the ranks of traditional borrowers. The primary engine of growth for the commercial paper market in the mid-to-late 1980s, the long economic expansion, came to an end with the close of the decade. Recession set in during the summer of 1990, and the economy since has been in an extraordinarily slow recovery. Consumers and firms cut back on borrowing, investors and banks became more wary of extending credit, and downgrades became more frequent. In a pattern typical of recessions, the interest rate premium required by investors to hold medium-grade paper

6. Spread of rates for paper rated A-2/P-2 over rates for paper rated A-1+/P-1, 1974–91[1]



1. For this measure, companies rated A-1+/P-1 include only those with a rating of AAA/Aaa on their long-term debt. Shading indicates periods of recession as defined by the National Bureau of Economic Research (NBER). Vertical line indicates peak; NBER has not yet determined the trough of the 1990–91 recession.

SOURCE. Board of Governors of the Federal Reserve System.

rose (chart 6). The slowdown in economic activity and the increased risk premium curbed the growth of commercial paper; but in addition, defaults of several commercial paper issuers and a new SEC policy that restricted money market fund investments in medium-grade paper exacerbated the market's normal response to recession.

Defaults

Between 1971 and mid-1989, the U.S. commercial paper market was free of defaults except for the abrupt litigation-related default of Manville Corporation, in 1982.[12] The absence of defaults has been attributed to the fact that most commercial paper investors did not purchase paper of low quality and to the requirement of rating agencies that an issuer maintain adequate backup liquidity. Thus, as the credit quality of a highly rated issuer deteriorated, investors required increasingly greater compensation for risk, ultimately refusing to purchase new paper at any interest rate that the issuer willingly would pay. For the protection of such a firm, of investors and of itself, the firm's dealer often would advise it to withdraw from the market. As the firm relied less on commercial paper, it increasingly drew on its backup lines of credit at banks or other backup sources of liquidity. Thus, in most cases, an issuer with declining credit quality would have time to cease issuing commercial paper and to have its outstanding paper mature well before a default became imminent. Moody's has described this process as an "orderly exit."[13]

In contrast, the defaults in the U.S. commercial paper market at the end of the decade reflected some of the structural shifts that occurred in the market over the 1980s. An increasing number of investors became receptive to low-quality credits during the 1980s, including paper considered to be noninvestment grade; and banks became more likely to resist providing adequate backup liquidity to those firms under financial stress and unable to roll over their maturing paper.[14] In mid-1989, the U.S. commercial paper market was hit with the first default (other than Manville's litigation-related default in 1982) in eighteen years; two more followed that year and four more in 1990.

The 1989 defaults created some concern among investors, primarily for paper rated 3 or below, but broad effects on the market for higher-rated paper did not materialize until the default of Mortgage & Realty Trust (MRT), in March 1990.[15] Two agencies had rated MRT at 2, or medium-grade, in the month before its default; at the time, money market mutual funds were allowed to hold medium-grade paper without an overall limit, and such funds were among the holders of MRT's defaulted paper. Fund advisers chose to make up the shortfall rather than let fund investors lose money.[16] Subsequently, investors began to demand a larger interest rate

12. On August 26, Manville defaulted on its commercial paper after filing in bankruptcy court for protection against potential liability under litigation regarding asbestos sickness. In Moody's rating, all the defaulted paper had a prime rating (P-2) from the time it was issued to the day of default. Immediately after the filing, Manville's short-term rating dropped to noninvestment grade (Fons and Kimball, *Defaults and Orderly Exits*, pp. 9 and 21).

13. See Douglas J. Lucas and Donald E. Noe, *Defaults and Orderly Exits of U.S. and European Commercial Paper Issuers, 1972–1989*, Moody's Special Report (Moody's Investors Service, November 1989).

14. Fons and Kimball, *Defaults and Orderly Exits*, pp. 16–17.

15. In February 1990, Drexel Burnham Lambert Group, Inc., a major dealer of junk commercial paper, defaulted on its own paper (rated 3 by two agencies until just before the default). With the fall of Drexel, the market in junk paper withered; outstandings of unrated paper shrank from a high of $5 billion in January 1990 to $700 million at the end of 1991. The rest of the commercial paper market, however, was little affected by the demise of Drexel.

16. 55 *Federal Register* 30239, July 25, 1990, p. 30241. Money funds also held some of the paper on which Integrated Resources, Inc., defaulted in June 1989. At the time of its default, the firm was rated 2 by one credit rating agency.

premium on the commercial paper of other medium-grade credits, presumably because of MRT's relatively high rating before default.

Amendments to SEC Rule 2a-7

In response to concerns about the effect of the commercial paper defaults on the portfolios of money market mutual funds, the Securities and Exchange Commission (SEC) proposed in July 1990 to limit money fund holdings of medium-grade paper through amendments to its Rule 2a-7, which governs the investments of money funds. The amendments, approved in February 1991 and efective in June 1991, were complex but for the most part raised the minimum acceptable credit quality of paper with two or more ratings from that of a single rating of 2 to at least two ratings of 2. In addition, the amendments created two categories of such eligible paper: first-tier paper, which generally requires at least two ratings of 1; and second-tier paper, which generally either has one rating of 1 and one rating of 2 or two ratings of 2. Second-tier paper essentially includes all paper that is generally considered medium-grade, such as paper rated A-2 by Standard & Poor's and P-2 by Moody's.

In addition, before the amendments, money funds could hold unlimited aggregate amounts of what became defined as second-tier paper. After the amendments, money funds could hold no more than 5 percent of their assets in such paper; and they could hold no more than 1 percent of their assets in the paper of any one second-tier issuer, a sharp reduction from earlier limits.[17]

The Effects of Credit Concerns on the Market

In the months after the SEC's July 1990 proposal, dealers faced growing investor resistance to medium-grade issues, especially for paper maturing past the end of the year. The interest rate premium that medium-grade firms had to pay over top-rated firms continued to rise, and many found that borrowing at banks was the cheaper funding alternative. Dealers encouraged other medium-grade issuers to test the availability of their backup lines at banks. The new risk-based capital guidelines for banks would become effective at year-end, however, and market participants grew increasingly uncertain about the capacity of banks to honor all their loan commitments. As a result, rates paid on commercial paper, even by highly rated firms, jumped in December.

December 1990 proved, however, to be the point of maximum stress. The financial markets calmed somewhat and thereafter were capable of handling the funding needs of medium-grade firms. Medium-grade issuers successfully tapped bank lines of credit or their commercial paper dealers, while asset-backed commercial paper absorbed some of the needs of these firms and grew rapidly.

But investors remained wary of medium-grade paper. Interest rates on it spiked again both at midyear and at year-end 1991 because many investors did not want to show such holdings on their published financial statements. The June 1991 default of Columbia Gas, a second-tier issuer until just before its default, renewed concerns about the safety of medium-grade paper. With the persistence of concerns about credit quality, many medium-grade firms that had turned to their banks in 1990 still found banks cheaper than the commercial paper market.

Overall, these events sharply curtailed the market for medium-grade commercial paper. In 1988 and 1989, money market mutual funds with at least some private instruments held, in the aggregate, up to 8 percent of their assets in medium-grade paper (table 6). Money funds started to cut back on such paper in the first half of 1990, presumably in response to the defaults that prompted the SEC rule change. Just before the SEC's July 1990 proposal, however, they still held an estimated $14 billion in medium-grade paper. By year-end 1990, these holdings had fallen to $6 billion, and by year-end 1991, six months after the SEC amendments took effect, second-tier paper vanished from money fund portfolios. Other investors also cut back on their investments in such paper: Paper rated P-2 by Moody's declined by about half in absolute terms from July 1990 to December 1991, far in excess of

17. Some of the complications in the amendments concerned unrated paper and paper with a rating from only one agency. The amendments to Rule 2a-7 and a comparison of them with the preceding version of the rule are in 56 *Federal Register* 8113, February 27, 1991.

6. Money fund holdings of second-tier commercial paper and the size of the second-tier market, 1988–91

Billions of dollars except as noted, not seasonally adjusted

Period	Money fund holdings of second-tier paper[1]		P-2 paper outstanding[2]	
	Amount	Percent of fund assets[3]	Amount	Percent of rated commercial paper
1988:H1	12.9	5.6	n.a.	n.a.
H2	16.2	7.0	n.a.	n.a.
1989:H1	19.6	7.7	94	14.8
H2	24.7	8.2	97	14.4
1990:H1	13.8	4.2	102	14.4
December	6.0	1.3	94	12.7
1991:June	1.4	.4	n.a.	n.a.
September	.4	.1	n.a.	n.a.
December	*	.0	48	7.7

1. Average portfolio weights for sixty money market mutual funds, as developed by the SEC. For 1988 and 1989, the data cover fund holdings of paper rated P-2 by Moody's Investors Service; for 1990:H1, the data cover fund holdings of paper (1) rated P-2 by Moody's or A-2 by Standard and Poor's Corp. and (2) rated not less than P-2 or A-2.

For 1988:H1 through 1990:H1, dollar levels are the sample portfolio weights, as developed by the SEC, multiplied by the total assets of all non-government-only taxable money market funds, as reported by the Investment Company Institute; for December 1990, the data are an SEC staff estimate; for 1991, the data are from IBC/Donoghue's Money Fund Report.

2. Jerome S. Fons and Andrew E. Kimball, *Defaults and Orderly Exits of Commercial Paper Issuers, 1972–1991*, Moody's Special Report (Moody's Investors Service, February 1992); and Douglas J. Lucas and Donald E. Noe *Defaults and Orderly Exits of U.S. and European Commercial Paper Issuers, 1972–1989*, Moody's Special Report (Moody's Investors Service, November 1989).

3. Excludes government-only funds.

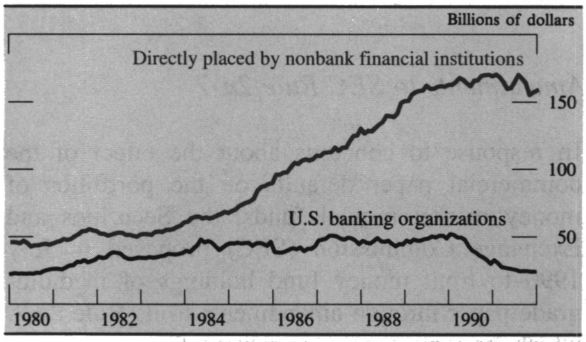
* Less than $50 million.

n.a. Not available.

the amount held by money funds; and as a share of all outstanding paper rated by Moody's, P-2 paper fell from 14 percent to 8 percent over the same period.[18]

These developments—defaults, deteriorating credit quality, and the SEC's amendments—also contributed to a runoff in directly placed financial paper after 1990. Firms on the border between first- and second-tier by that time faced potentially sharp

7. Outstanding commercial paper issued by U.S. banking organizations and directly placed by nonbank financial institutions, 1980–91[1]



1. Not seasonally adjusted. Commercial paper issued by U.S. banking organizations is almost all directly placed.

SOURCES. Board of Governors of the Federal Reserve System and the Federal Reserve Bank of New York.

declines in their base of investors if they received a downgrade to 2. Much of the 1991 decline in outstanding financial paper placed directly by nonbanks was due to efforts by first-tier firms to forestall potential further ratings changes and potential losses of their investor base (chart 7).

Credit problems also plagued a number of the large bank holding companies. Ratings downgrades of U.S. banking organizations picked up in response to large loan losses and the need to raise capital ratios. Accordingly, outstanding commercial paper of bank holding companies—almost all directly issued—started a decline from a peak of $52 billion in January 1990 to $43 billion just before the SEC proposed its rule change.[19] By year-end 1991, outstanding paper of bank holding companies had fallen to $24 billion, around where it has since stabilized.

THE EFFECT OF RISING COSTS OF BANK SERVICES

With steps taken by regulators to raise bank capital standards, the financial stresses placed on banks

18. These data are for all short-term issuers rated by Moody's, including Eurocommercial paper and foreign domestic commercial paper. The absolute decline in the level of P-2 paper therefore overstates the actual decline of paper outstanding of medium-grade issuers in the U.S. market.

To some extent, the decline in P-2 paper also reflects movements of firms among ratings categories. A sample of firms that carried P-2 ratings throughout the sample period significantly reduced their reliance on commercial paper to fund assets relative to a sample of firms rated P-1 throughout. See Leland Crabbe and Mitchell A. Post, "The Effect of SEC Amendments to Rule 2a-7 on the Commercial Paper Market," Finance and Economics Discussion Series 199 (Board of Governors of the Federal Reserve System, May 1992).

19. Leland Crabbe and Mitchell A. Post, "The Effect of a Rating Change on Commercial Paper Outstandings," Board of Governors of the Federal Reserve System, August 1992. The authors show that a downgrade to the short-term rating of a banking organization conveys new information about the deteriorating financial condition of the company. As a result, its outstandings decline significantly in the weeks after the downgrade.

have reduced their ability to provide letters of credit and lines of credit to the commercial paper market. As the financial health of banks has deteriorated, the number of those with the high ratings necessary to provide these services has diminished. In addition, the new risk-based capital standards have raised the capital backing required for business loans relative to U.S. Treasury securities and off-balance-sheet items such as letters of credit and credit lines with original maturities in excess of one year. In turn, the increased capital required presumably raises the cost of the products for those banks with capital ratios at or below the required levels.

Before these constraints emerged, highly rated commercial banks competed fiercely to supply backup lines and letters of credit. Much of this competitive pressure came from Japanese banks, and more recently, European banks, attempting to gain U.S. market share. As a result of this competition, the banks probably were less than fully compensated for the risks borne and other costs of providing these services. As the number of domestic and foreign banks capable of supplying these services in the United States has dwindled, the remaining banks have responded to the incentives of the new capital guidelines by passing on the costs of added capital to users of these services. Other financial intermediaries have entered the markets for these services as profit margins have widened, but the reduced availability and increased cost remain factors affecting the commercial paper market.

For example, the current climate rendered uneconomic several of the earlier bank-advised asset-backed structures. In those programs, the bank adviser provided all the credit enhancement and the liquidity backup. The enhancement, moreover, covered 100 percent of the outstanding paper, an excessive amount given the levels of over-collateralization and previous loss experience. When the bank itself was downgraded, the rating agencies also earmarked the programs advised by the bank for possible downgrades; moreover, the excess of credit enhancement became particularly costly in terms of the capital backing now required. Accordingly, many of these programs were restructured in 1991. To isolate the problems of one bank from the asset-backed program that it advises, backup liquidity most often now is provided by a number of highly rated banks. Credit enhancement now is kept to a necessary minimum, and alternatives to bank guarantees—such as insurance company surety bonds or cash collateral accounts—have been used in newer programs.

More generally, the increased cost to banks of carrying out their business appears to have important ramifications for the loan and commercial paper markets, at least in the near-term. The upward pressure on the cost of bank loans will tend to make commercial paper the more attractive funding alternative for firms. Because bank letters of credit on commercial paper also have become more costly, however, potential new entrants of low credit quality may have to resort to guarantees provided by nonbanks to obtain any cost savings. Finally, backup lines of credit provided by banks now typically carry maturities of less than one year.

Outlook for the Commercial Paper Market

Despite the market's recent setbacks and its somewhat changed operating environment, the investor base remains, and the commercial paper market continues to be a major source of short-term funds for corporations. Among the new issuers that enter the market will be highly rated foreign firms attracted by the liquidity and low cost of the market and other programs carefully structured to obtain high ratings at low cost. The market already has devised some of these structures: The prototypical modern asset-backed program minimizes credit enhancement provided by banks; and banking organizations have formed SPVs that simply make loans to a limited number of medium-grade firms that the banks otherwise would have booked on their own balance sheets and that therefore would have entailed capital backing. □