Securitization, Loan Sales, and the Credit Slowdown

by Richard Cantor and Rebecca Demsetz

Household and business lending has slowed sharply in recent years, but the anemic growth in loans booked at depository institutions, mortgage companies, and finance companies may overstate the decline in credit originated by these institutions In particular, increased financial stress at banks and nonbank intermediaries may have strengthened incentives to transfer loans booked on their balance sheets to other investors with lower funding costs. In this article, we report measures of credit growth that include "off-balance-sheet lending," loans that were originated by intermediaries but are absent from their balance sheets because of direct loan sales or the issuance of asset-backed securities. We also compare the relative volume of off-balance-sheet lending by types of intermediaries.

We examine three important lending categories home mortgages, consumer credit, and loans to businesses. Our evaluation shows that for all three categories, the growth in loans inclusive of off-balance-sheet lending exceeded the growth in loans on the books of banks, thrifts, mortgage companies, and finance companies as a group in the two years following the onset of the recession. In the case of home mortgage credit, total lending rose 10 3 percent while loans on the books actually fell by 4.1 percent For consumer loans, total lending fell by 0.4 percent, much less than the 7.2 percent decline in loans on the books of these institutions Similarly, total business loans fell by 4.1 percent, less than the 5.0 percent decline in loans held on the books. As these figures show, however, even after lending totals are adjusted to include securitization and loan sales, business and consumer credit at these intermediaries declined during the last two years.

We also find that while all types of intermediaries used securitization to take loans off their balance sheets, nonbank financial institutions were relatively more active in this regard than commercial banks for certain types of loans Thrifts, mortgage companies, and finance companies securitized a larger fraction of their mortgage originations than did banks. Similarly, finance companies securitized a larger fraction of their consumer credit than did banks In the area of commercial lending, both banks and nonbanks increased securitizations, but direct loan sales by banks have declined over the last few years These patterns suggest that banks' efforts to limit balance sheet growth through securitization and loan sales were no greater than those of nonbanks.[1]

This article proceeds with an overview of mortgage,

[1]Several authors have documented restraints on the supply of business lending from bank and nonbank sources of credit For a discussion of the "credit crunch" at banks, see, for example, Ron Johnson, "The Bank Credit Crumble," Federal Reserve Bank of New York *Quarterly Review*, Summer 1991, pp 40-51, and Ben Bernanke and Cara Lown, "The Credit Crunch," *Brookings Papers on Economic Activity*, 1991 2, pp 205-39 Other authors have documented "credit crunches" at nonbank intermediaries See, for example, Patrick Corcoran, "The Credit Slowdown of 1989-1991 The Role of Supply and Demand," *Credit Markets in Transition*, Federal Reserve Bank of Chicago, 1992, pp 445-62, and Mark Carey, Stephen Prowse, John Rea, and Gregory Udell, "The Private Placement Market Intermediation, Life Insurance Companies, and a Credit Crunch," *Credit Markets in Transition*, pp 843-77 Both papers find evidence that life insurance companies sharply curtailed their purchases of below-investment-grade private placement securities beginning in 1990 Leland Crabbe and Mitchell Post, in "The Effect of SEC Amendments to Rule 2A-7 on the Commercial Paper Market," Board of Governors of the Federal Reserve System, unpublished paper, 1992, find that in 1990, money market mutual funds began shunning lower quality commercial paper following a few prominent defaults by commercial paper issuers See also Richard Cantor and Anthony Rodrigues, "Nonbank Lenders and the Credit Slowdown," Federal Reserve Bank of New York, mimeo, 1993

consumer, and business credit growth—both on and off the balance sheets of depository institutions, mortgage companies, and finance companies and before and after the onset of the recession. The next two sections examine in some detail the growth of off-balance-sheet funding for home mortgages and consumer credit. The fourth section, which analyzes off-balance-sheet funding sources for business credit, includes background information on asset-backed commercial paper programs and the commercial loan sales market. We present a summary of our results at the end of the article.[2]

[2]For a recent overview of securitization, see Charles Carlstrom and Katherine Samolyk, "Examining the Microfoundations of Market Incentives for Asset-Backed Lending," Federal Reserve Bank of Cleveland *Economic Review*, vol. 29, no. 1 (1993-I), pp. 27-38, and the references cited therein.

An overview of on-balance-sheet and off-balance-sheet credit growth

In the table, we contrast the growth of loans on the balance sheets of intermediaries with the growth of credits that were originated by those intermediaries but are absent from their balance sheets. We present on-balance-sheet and off-balance-sheet aggregates for home mortgage, consumer, and business lending originated by banks, thrifts, mortgage companies, and finance companies on three dates: June 30, 1988, June 30, 1990, and June 30, 1992. This sequence of dates allows us to track the changes in the aggregates before and after the onset of the most recent recession.[3]

[3]The National Bureau of Economic Research has identified July 1990 as the beginning of the most recent recession and March 1991 as

On-Balance-Sheet and Off-Balance-Sheet Lending by Banks, Thrifts, Mortgage Companies, and Finance Companies

	Outstanding Loans in Billions of Dollars			Percentage Changes	
	1988-II	1990-II	1992-II	From 1988-II to 1990-II	From 1990-II to 1992-II
Home mortgages					
On-balance-sheet†	1123	1352	1296	20.4	−4.1
Off-balance-sheet‡	789	1040	1343	31.8	29.1
Total	1912	2392	2639	25.1	10.3
Consumer instalment credit					
On-balance-sheet§	620	665	617	7.3	−7.2
Off-balance-sheet‖	15	66	111	340.0	68.2
Total	635	731	728	15.1	−0.4
Business credit					
On-balance-sheet††	964	1072	1018	11.2	−5.0
Off-balance-sheet‡‡	25	45	53	81.5	16.7
Total	989	1117	1071	12.9	−4.1
Memo items					
Components of off-balance-sheet business credit					
Finance companies	0	2	10	n/a	336.4
Asset-backed commercial paper	4	16	30	305.1	92.4
Bank loan sales	21	27	13	29.2	−53.7

Definitions and Data Sources
Data sources appear in parentheses.

†Home mortgages held by commercial banks, thrifts, finance companies, and mortgage companies (Board of Governors of the Federal Reserve System, Flow of Funds Accounts).
‡Securitized home mortgage pools and mortgages held by government-sponsored agencies (Board of Governors of the Federal Reserve System, Flow of Funds Accounts).
§Consumer instalment credit on the books of banks, thrifts, retailers, gasoline companies, and finance companies (Board of Governors of the Federal Reserve System, G.19 statistical release).
‖Securitized consumer instalment credit (Board of Governors of the Federal Reserve System, G.19 statistical release).
††Commercial and industrial loans on the books of U.S. banks and U.S. branches and agencies of foreign banks (Federal Financial Institutions Examination Council, Reports of Condition and Income), plus loans and leases to business on the books of finance companies and thrifts (Board of Governors of the Federal Reserve System, G.19 statistical release and Flow of Funds Accounts).
‡‡Loans and leases to business securitized by finance companies (Board of Governors of the Federal Reserve System, G.20 statistical release), plus 67 percent of bank-advised asset-backed commercial paper outstanding (Board of Governors of the Federal Reserve System, staff estimates), plus commercial and industrial loans outstanding sold by U.S. banks to nonbank institutions and non-U.S. offices of foreign banks (Federal Reserve Bank of New York, staff estimates).

Some brief definitions of these aggregates follow:

- On-balance-sheet home mortgages consist of the one-to-four-family residential mortgages booked at thrifts, banks, finance companies, and mortgage companies. Off-balance-sheet mortgages are mortgage-backed securities plus the unsecuritized holdings of government-sponsored agencies.
- On-balance-sheet consumer instalment credit consists of receivables booked at thrifts, banks, finance companies, retailers, and gas companies. Off-balance-sheet consumer credit consists of all outstanding consumer receivables underlying asset-backed securities.
- On-balance-sheet business credit consists of finance company loans and leases to businesses together with commercial and industrial loans on the books of thrifts, U.S.-chartered commercial banks, and U.S. branches and agencies of foreign banks. Off-balance-sheet business credit consists of asset-backed securities backed by business receivables issued by finance companies, commercial paper issued by bank-advised commercial paper programs backed by business receivables or loans, and outstanding balances on loans sold by U.S. banks to nonbank institutions and foreign offices of foreign banks.

More detailed descriptions of the off-balance-sheet items are given in later sections of this article.

In all three loan categories, the growth of off-balance-sheet credit was strongly positive during the two years following the onset of the recession, while the growth of on-balance-sheet credit was negative. Still, all three loan categories experienced substantial decelerations in total lending growth from two years before to two years after the start of the recession. Mortgage credit growth fell from a 25.1 percent increase to a 10.3 percent increase, consumer credit growth fell from a 15.1 percent increase to a 0.4 percent decline, and business credit growth fell from a 12.9 percent increase to a 4.1 percent decline.

Home mortgage credit

For well over a decade, a mature, highly liquid secondary market in residential mortgages has made it possible to separate the mortgage origination process from mortgage funding. The mortgage pools underlying mortgage-backed securities ("MBS") now exceed the stock of home mortgages held by financial intermediaries. Moreover, the MBS market has grown so large that it now exceeds the size of the entire market for U.S. corporate bonds. The MBS market has undoubtedly played a key role in sustaining the supply of home mortgages throughout the recession and the period of thrift industry contraction.

The growth of total mortgage credit has been reasonably strong over the last few years despite the recession and changing household attitudes toward indebtedness. Nevertheless, measures of mortgage credit growth that include the mortgage pools underlying MBS differ substantially from those that exclude the pools. The two panels of Chart 1 depict the growth in home mortgages by type of funding since 1985. At year-end 1992, mortgage pools (at $1.2 trillion) almost equaled the combined amount of home mortgage holdings of thrifts, banks, finance companies, and mortgage companies (at $1.3 trillion).[4] From 1988 to 1992, mortgage pools grew about 50 percent ($420 billion) while home mortgages held by financial intermediaries rose only about 2 percent ($22 billion). After combining these two funding sources, we calculate that mortgages grew 22 percent.[5]

The mortgage funding practices of different intermediaries are illustrated by the three panels of Chart 2. In each of the panels, gross mortgage additions to lender balance sheets are represented by the combination of originations and purchases (though purchases are relatively small). Mortgage sales (primarily to the government-sponsored agencies that sell MBS) represent reductions in balance-sheet holdings of mortgages. Following the wave of refinancings in 1986 and continuing through the end of 1989, commercial banks increased originations and purchases. During this period, thrifts reduced their originations and purchases while the pace of originations and purchases by mortgage companies and finance companies was relatively unchanged. Since 1990, all types of lenders have dramatically increased the pace of their mortgage originations and purchases (largely because of refinancings), although that increase has been the greatest for mortgage companies and finance companies. Chart 3 presents the ratio of mortgage sales to mortgage originations and purchases for the three types of lenders and provides additional insight into the recent rise

Footnote 3 continued
the beginning of the recovery. Necessary data on the sales of commercial and industrial loans are currently available only through June 1992.

[4]In addition, government-sponsored agencies held about $157 billion in home mortgages at year-end, most of these mortgages are now being packaged into pass-through securities.

[5]The right panel of Chart 1 shows that commercial banks increased their share of mortgage outstandings relative to thrifts in recent years. This increase, however, understates the degree to which banks have surpassed thrifts in funding home mortgages because during this period banks dramatically increased their holdings of mortgage-backed securities while thrifts reduced their holdings.

in mortgage securitization. Mortgage companies and finance companies, whose market share has been rising, generally sell about 100 percent of the home mortgages they acquire, whereas thrifts and banks sell only about 60 percent and 40 percent of their mortgage acquisitions, respectively These percentages, however, have been rising for thrifts and banks in recent years.

The home mortgage market dramatizes how loan originations can be robust while loan growth on the books of intermediaries appears anemic This sharp difference between total mortgage outstandings and mortgages on the books of intermediaries, however, results in part from factors specific to the home mortgage market and should not be expected to apply to other types of loans In particular, home mortgages are fairly homogeneous and can be easily packaged to diversify away idiosyncratic risks. Moreover, government-sponsored agencies have been established to support the MBS market and provide guarantees against any remaining credit risks (including macroeconomic credit risks) at below-market prices Lastly, the collapse of the thrift industry has provided a continuous flow of mortgage sales that has given depth to the secondary mortgage market

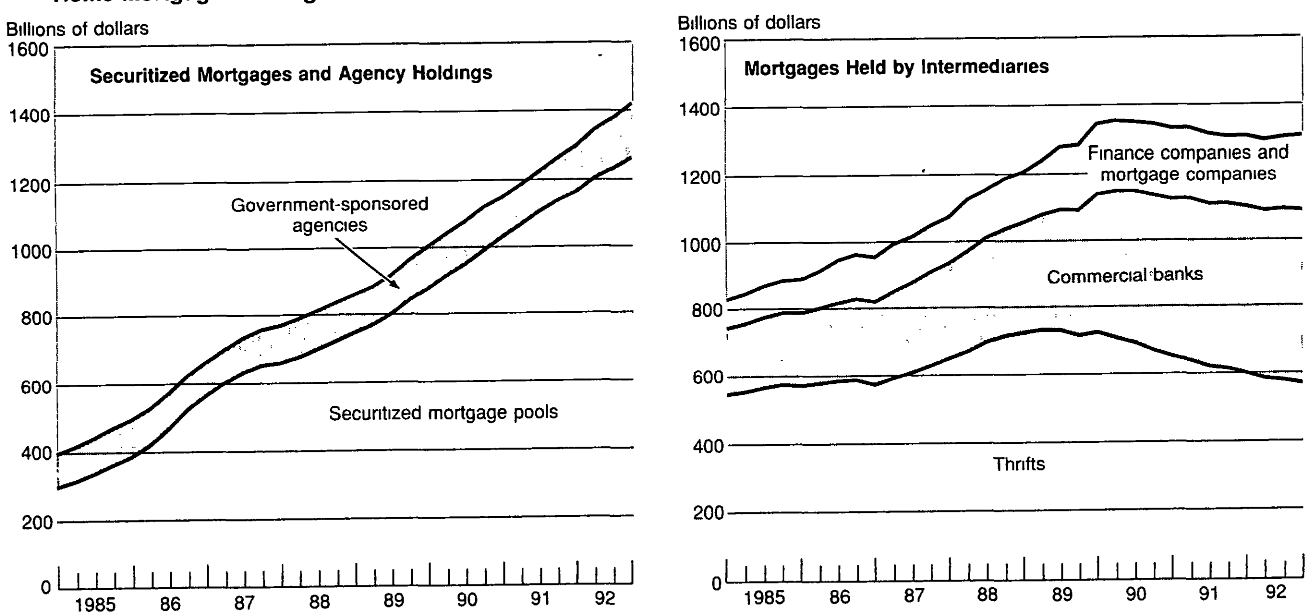
Consumer credit

The last four years have witnessed a rapid expansion of the market for securities backed by consumer receivables. The major issuers are finance companies, banks, and retailers. Banks and retailers primarily issue securities backed by credit card receivables; the majority of finance company issues are backed by retail auto loans These and other intermediaries, however, have also issued securities backed by a wide variety of other types of consumer instalment credits The growth rate of securitization of consumer credit has been even more rapid than the growth of mortgage-backed securities over the past few years. In total, securitized consumer credit rose $95 billion, from $30 billion to $125 billion, between year-end 1988 and year-end 1992

The recent behavior of securitized and unsecuritized consumer instalment credit is depicted in the four panels of Chart 4 The upper left panel presents, in graphic form, the data on consumer credit reported in the table. The panel shows that on-balance-sheet consumer credit has declined slightly over the past few years, while securitized consumer credit has been growing rapidly. The other three panels show that securitized credit has grown at the same time that on-balance-

Chart 1

Home Mortgage Funding



Source Board of Governors of the Federal Reserve System, Flow of Funds Accounts sheet credit has fallen at all the major originators of consumer credit—finance companies, banks, and retailers.

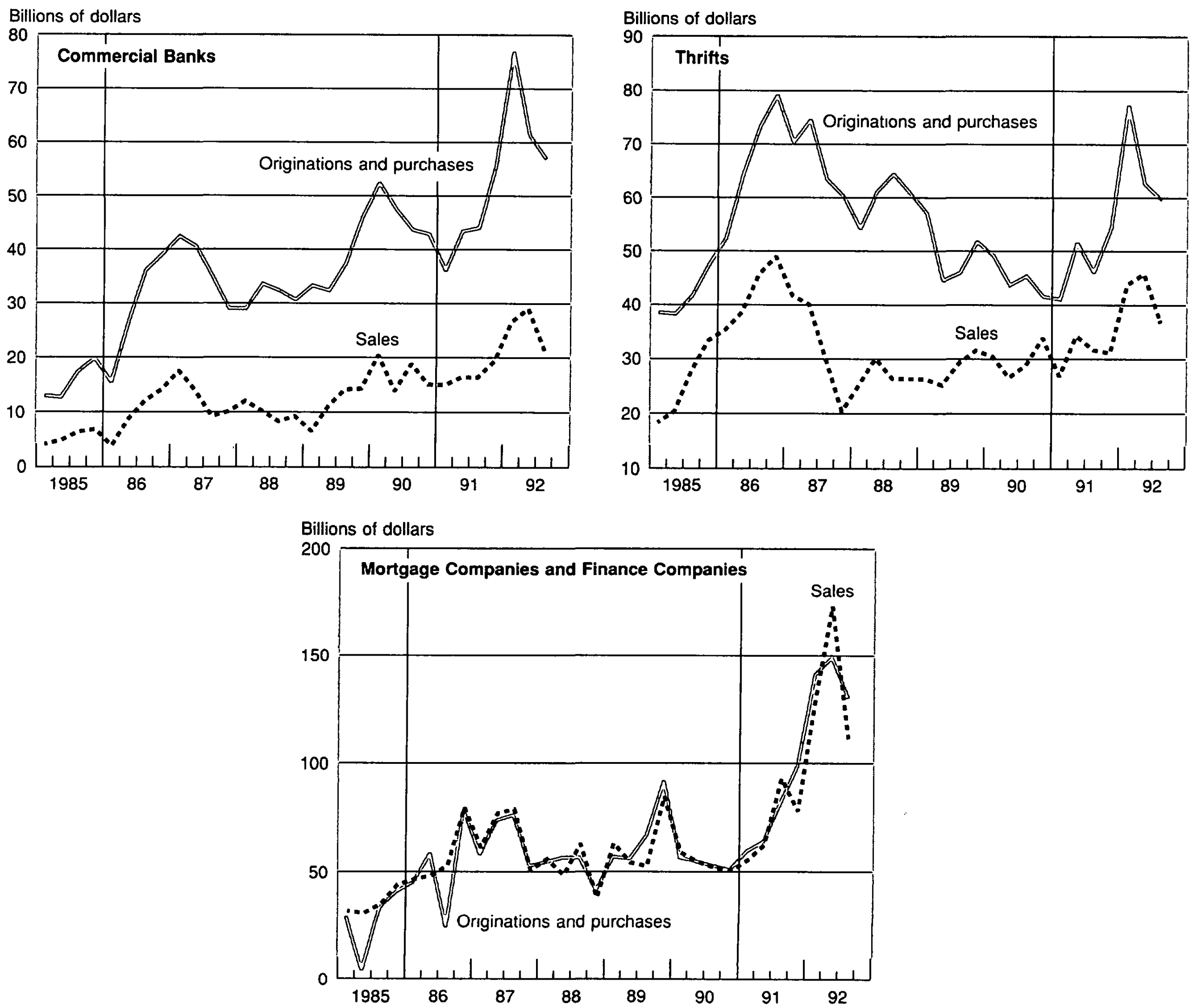
Chart 5 compares the fraction of total consumer credit originated and securitized by these three types of lenders and reveals that retailers and finance companies securitize more intensively than banks. This pattern can be explained by the differences in the relative cost of funds: retailers typically have unimpressive credit ratings and finance companies are often rated below banks.[6] In general, however, efforts by banks to limit the

[6]Of course, the last few years have been turbulent years for all three classes of intermediaries. Retailers fared badly in the recession following a number of leveraged buyouts and other restructurings within the industry in the 1980s. Many banks also suffered credit rating downgrades in 1990, 1991, and 1992 and experienced a rise in their cost of capital. During the same period, several finance

Chart 2

Home Mortgage Originations, Purchases, and Sales by Type of Lender

Quarterly Flows



Source: U.S. Department of Housing and Urban Development.

growth of consumer receivables on their balance sheets have been similar to those of other institutions.

Business credit

Highly idiosyncratic in nature, business loans are not pooled into asset-backed securities as commonly as mortgages or consumer receivables. Finance companies have nonetheless been rapidly increasing their issuance of securities backed by business receivables Banks and other intermediaries have focused their efforts on providing off-balance-sheet funding to businesses by establishing and advising asset-backed commercial paper programs. In addition, banks often originate business credits that are later removed from their balance sheets through the direct sale of loans to other financial and nonfinancial institutions. The following subsections discuss these various forms of off-balance-sheet business credit.

Securities issued by finance companies and backed by business receivables

Finance companies now securitize a wide variety of business credits, including leases, roughly 5 percent of all business credit originated by finance companies is securitized Chart 6 presents the finance company components of on- and off-balance-sheet business credit reported in the table. As the chart shows, the outstanding business receivables backing asset-backed securities have increased from a little more than $1 billion in the beginning of 1989 to more than $15 billion as of March 1993 Finance companies have been more active in issuing securities backed by business receivables than have banks, in part because finance company loans tend to be more homogeneous and easier to package than traditional commercial and industrial bank loans

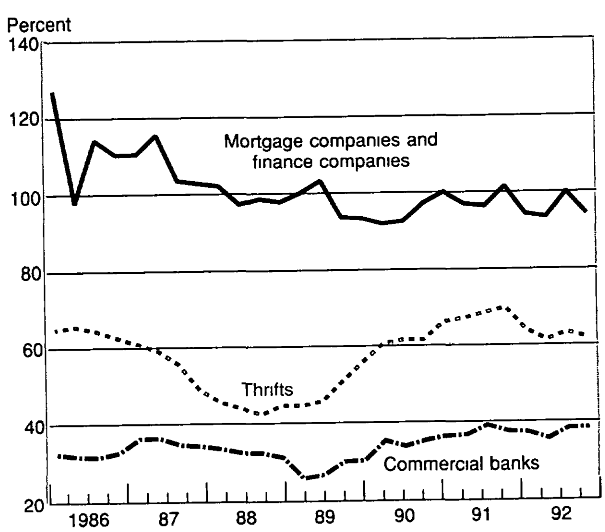
Until recently, most securities backed by business receivables have been privately placed rather than sold to the general public Private placement ensures that the special purpose vehicle that pools the assets does not fall under the strictures of the Investment Company Act of 1940, which governs the regulation of mutual funds and unit investment trusts. The act exempts asset-backed securities from these regulations if (1) the asset pools consist of real estate-related investments or loans made in conjunction with the acquisition of merchandise or services or (2) the number of investors in the securities is less than 300. Private placement fulfills the second condition but implies that the securities will be less liquid and must offer higher yields than comparable public issues. In November 1992, the Securities and Exchange Commission passed Rule 3A-7, which liberally expanded the range of assets that could be securitized without requiring that the investment trust be subjected to the act Market participants anticipate that this liberalization will lead to more public issuance of asset-backed securities and securitization of a wider range of assets

Asset-backed commercial paper

Asset-backed commercial paper, in existence since 1983, is another means by which business credits are securitized [7] Under asset-backed commercial paper programs, sponsoring banks or nonbank financial institutions are able to provide receivables financing for their customers without making direct loans. These programs utilize special purpose vehicles that issue commercial paper collateralized by a diversified pool of credits, often business trade receivables originated by corporate clients of the sponsor. When this asset-backed

Footnote 6 continued
companies—including the automotive captives that rank among the largest issuers of asset-backed securities—faced similar credit problems and experienced a rise in their cost of funding, particularly in the commercial paper market

Chart 3
Home Mortgage Sales as a Percentage of Originations and Purchases by Type of Lender
Four-Quarter Moving Average



Source U S Department of Housing and Urban Development

[7]Comprehensive analyses of this topic have been written by Barbara Kavanaugh, Thomas Boemio, and Gerald Edwards, Jr, "Asset-Backed Commercial Paper Programs," *Federal Reserve Bulletin*, vol 78, no 2 (February 1992), pp 107-16, and Mark Adelson, "Asset-Backed Commercial Paper Understanding the Risks," *Structured Finance Research and Commentary*, Moody's Investors Service, April 1993

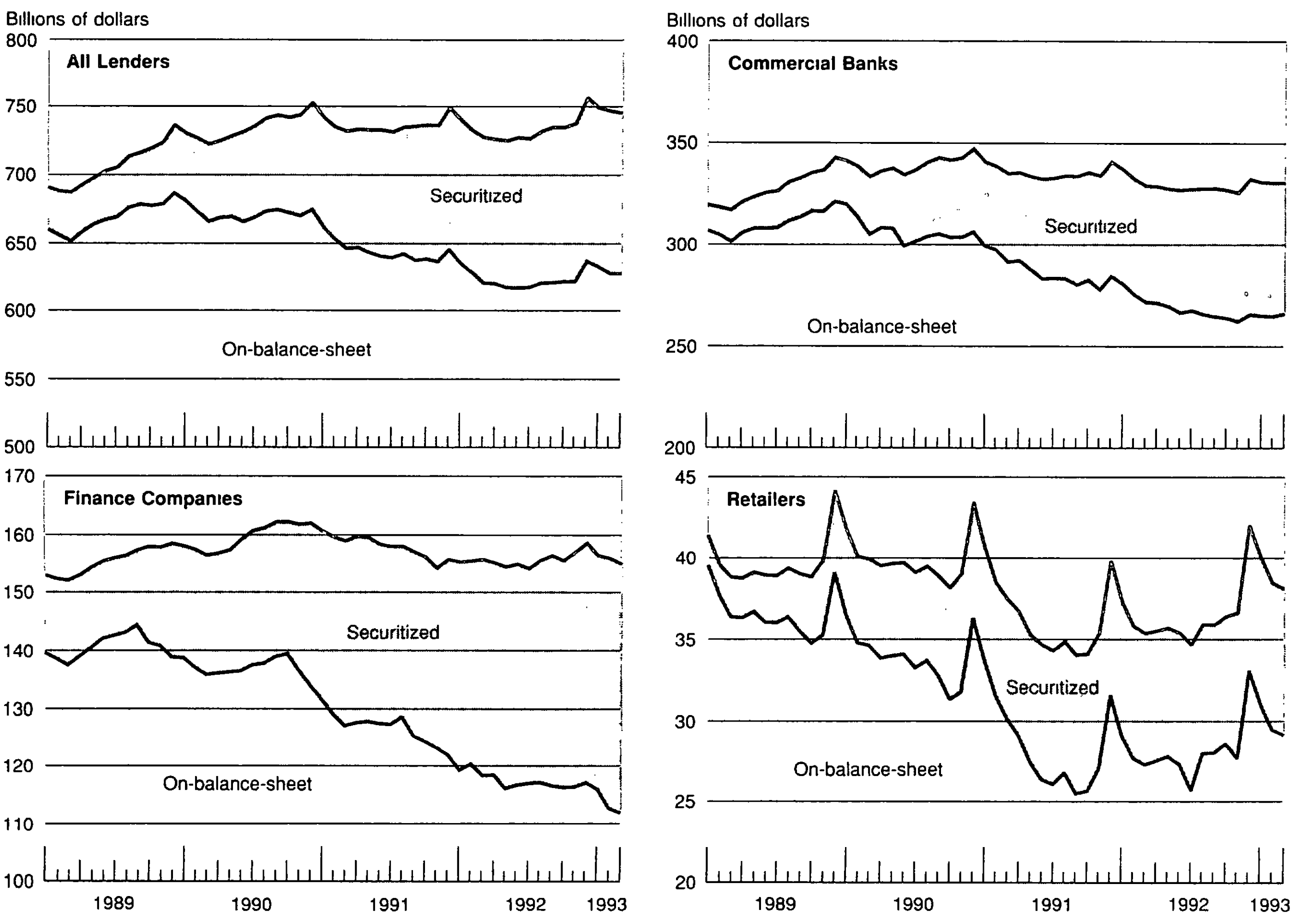
structure is combined with some other form of credit support, such as a third-party guaranty, the commercial paper often receives a top rating from the credit rating agencies. Banks or investment banks that arrange these programs for their clients are in effect using the capital markets to provide inexpensive funding to businesses that cannot directly access the markets as cheaply or at all.

The funding of trade receivables makes up roughly 60 percent of all asset-backed commercial paper programs, although other types of assets, particularly credit card receivables, have increasingly been securitized through such programs. In addition, about 12 percent of all programs have been set up to fund corporate loans. The loans funded by these programs typically represent new originations rather than purchases of existing loans. Many of these corporate loan programs are new and have not yet issued much commercial paper We estimate that if the trade receivable and corporate loan programs are combined, roughly two-thirds of all outstanding commercial paper issued by asset-backed programs is effectively backed by business receivables

The amount of commercial paper issued by asset-backed programs has grown from roughly $7 billion to $58 billion between the fourth quarter of 1988 and the fourth quarter of 1992 As shown in the two panels of Chart 7, banks are the primary advisors to 72 of the 120

Chart 4

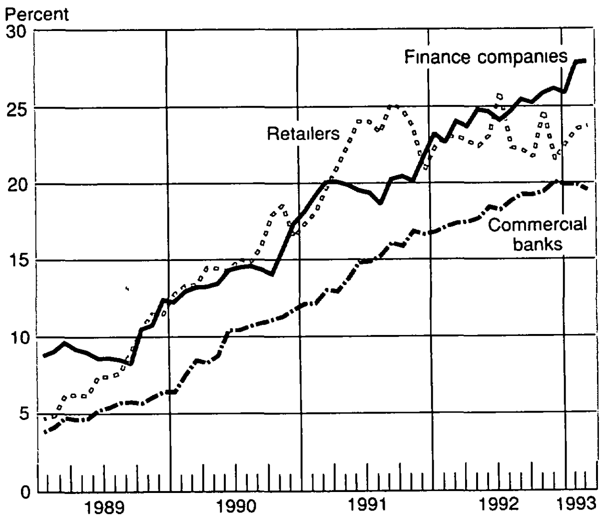
Consumer Instalment Credit by Type of Lender



Source Board of Governors of the Federal Reserve System

Chart 5

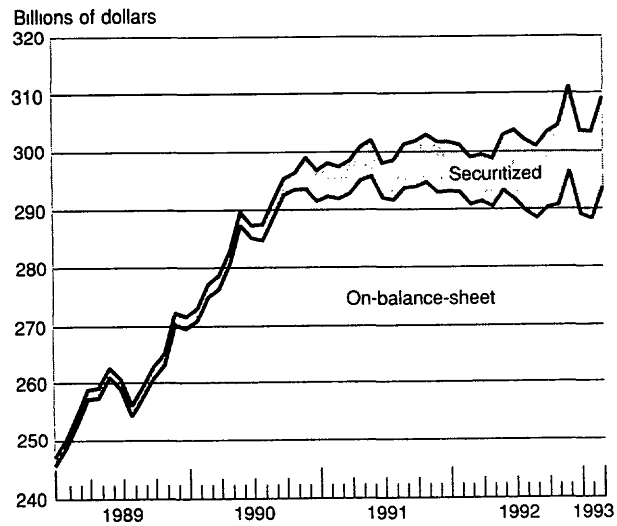
Securitized Share of Consumer Instalment Credit Outstanding by Type of Lender



Source Board of Governors of the Federal Reserve System

Chart 6

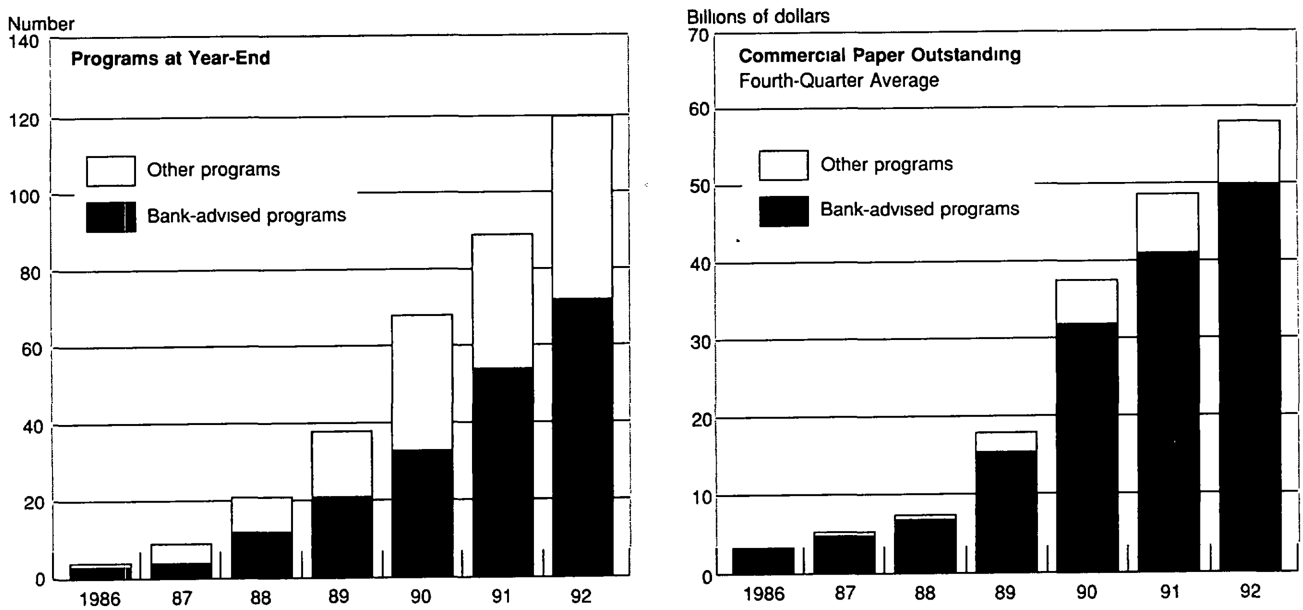
Finance Company Loans and Leases to Businesses



Source Board of Governors of the Federal Reserve System

Chart 7

Asset-backed Commercial Paper



Source Board of Governors of the Federal Reserve System, staff estimates programs in existence, and these bank-advised programs issued $50 billion of the total $58 billion in asset-backed commercial paper in the fourth quarter of 1992.

Some of the $58 billion in commercial paper issuance represents off-balance-sheet credits accounted for elsewhere in this article. In particular, the data on consumer credit and finance company business credit securitization reported above include any loans sold to asset-backed commercial paper programs. Therefore, for the calculations underlying the table, we considered only bank-advised commercial paper programs that issued commercial paper backed by trade receivables or corporate loans.[8] Under the assumption that two-thirds of commercial paper issued by bank-advised programs is backed by business receivables or corporate loans, we conclude that this source of business credit rose dramatically from $4.6 billion in fourth-quarter 1988 to $21.3 billion in fourth-quarter 1990 and reached $33.4 billion in fourth-quarter 1992.

Sales of commercial and industrial loans by banks

In this section, we use information from the Federal Financial Institutions Examination Council's Reports of Condition and Income ("Call Reports") and from the Federal Reserve Board's Senior Loan Officer Opinion Survey on Bank Lending Practices ("Opinion Survey") to examine recent trends in commercial and industrial loan sales. During the late 1980s, the loan sales market underwent a rapid expansion that was followed by a significant decline. In particular, in the two years following the onset of the recession, loan sales by U.S. banks declined sharply, falling more in percentage terms than did on-balance-sheet loans.

To be removed from the originating bank's books, a loan or a portion of a loan (a "participation") must be sold "without recourse"—that is, the originating bank gives no guarantee to the loan buyer. Most loans are sold without recourse, and the data reported below pertain only to such loans. Large banks have consistently been the most active loan sellers, with the largest 1 percent of all banks typically accounting for over 90 percent of all sales flows. The average credit quality of the loans sold has varied over time. The Opinion Survey indicates that the fraction of loan sales representing lending to investment-grade borrowers declined from almost 70 percent in 1986 to about 35 percent in 1989, but by 1992 climbed back to almost 60 percent. While the typical loan sale involves a loan of short maturity, maturities of outstanding sold loans tend to be much longer because the shorter maturity loans are repaid more quickly. Data from 1987, 1988, and 1989 suggest that at least half of the outstanding stock of sold loans had maturities of at least one year.[9]

Chart 8 draws on data from the Call Reports to present the quarterly flow of commercial and industrial loan sales by insured U.S. commercial banks from 1986 through year-end 1992. Loan sales grew rapidly during the second half of the 1980s, reaching almost $300 billion per quarter in 1989. After the third quarter of 1989, loan sales slowed sharply, falling to about $100 billion per quarter by year-end 1991. Unfortunately, these data tell us very little about the stock of commercial and industrial loans originated by domestic banks (U.S. banks and U.S. branches and agencies of foreign banks) but now absent from the consolidated balance sheet of the domestic banking system. One problem is that Call Report data measure the flow of loan sales

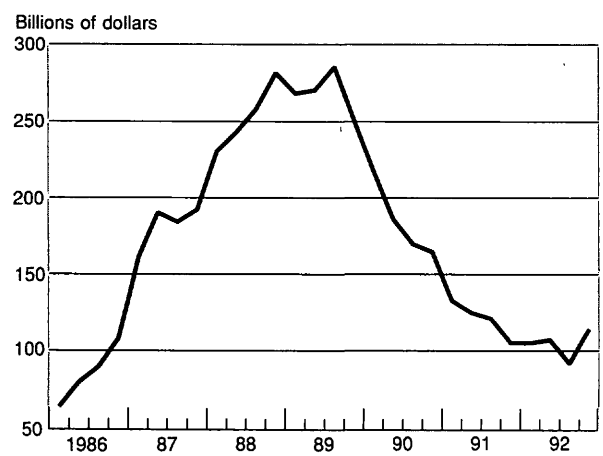
[8]The commercial paper programs sponsored by securities firms were excluded from these calculations because the table is intended to measure the extent to which traditional lenders (banks and finance companies) provide off-balance-sheet funding.

[9]For a more detailed description of the loan sales market, see Gary Gorton and Joseph Haubrich, "The Loan Sales Market," in George Kaufman, ed., *Research in Financial Services: Private and Public Policy*, vol 2 (1990), pp 85-135, Dennis McCrary and Jo Ousterhout, "The Development and Future of the Loan Sales Market," *Journal of Applied Corporate Finance*, vol 2, no. 3 (Fall 1989), pp 74-84; and Allen Berger and Gregory Udell, "Securitization, Risk, and the Liquidity Problem in Banking," in Michael Klausner and Lawrence White, eds., *Structural Change in Banking* (Homewood, Ill.: Irwin Publishing, 1992), pp 227-91

Chart 8

Commercial and Industrial Loan Sales by U.S. Banks

Quarterly Flows



Source: Federal Financial Institutions Examination Council, Reports of Condition.

rather than the stock of sold loans. A second problem is that these data include loans sold to domestic banks.[10]

As noted by Berger and Udell, the Opinion Survey provides the information necessary to estimate the stock of outstanding business loans sold by domestic banks to buyers *outside* the domestic banking system, loans that contribute to the off-balance-sheet business credit reported in the table. In the survey, responding banks report on outstanding balances of commercial and industrial loans originated by them but sold or participated to others and describe the types of institutions buying their loans. Starting in 1988, the survey classifies buyers into five groups: U.S. banks, U.S. branches and agencies of foreign banks, foreign offices of foreign banks, nonfinancial corporations, and "other" institutions, a catch-all group including finance companies, insurance companies, pension funds, mutual funds, and bank trust departments. Using a variant of this classification scheme, we divide loan buyers into two groups. Our first buyer group consists of foreign offices of foreign banks and all nonbank institutions.[11] Sales to these buyers contribute to the off-balance-sheet lending reported in the table. Our second buyer group consists of U.S. banks and U.S. branches and agencies of foreign banks.[12] Sales to these buyers do *not* contribute to the off-balance-sheet lending reported in the table since they are already included in the on-balance-sheet statistics.[13]

The left panel of Chart 9 reports our estimates of the outstanding balances on loans sold by U.S. banks to

[10]Data on loan purchases by U.S. banks are available from the Call Reports, but data on purchases by U.S. branches and agencies of foreign banks are not. For a comparison of Call Report and Opinion Survey loan purchase data, see Berger and Udell, "Securitization, Risk, and the Liquidity Problem in Banking."

[11]Over the period examined, sales to nonbanks are consistently greater than sales to foreign offices.

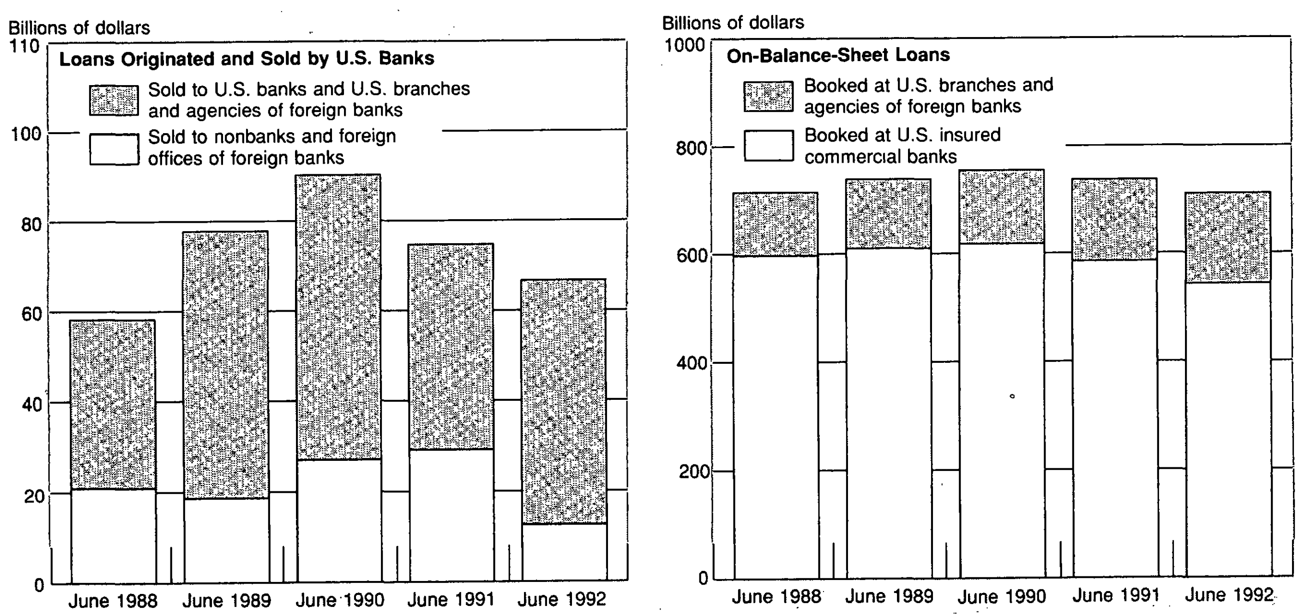
[12]Sales to U.S. branches and agencies are approximately equal to sales to U.S. banks over the five years examined.

[13]We believe that any remaining double-counting in the table is likely to be small. Finance companies, however, occasionally buy bank loans; therefore, some loans may be recorded in the table both as off-balance-sheet loans for banks and on-balance-sheet loans for finance companies.

Chart 9

Commercial and Industrial Loans Originated by Banks

End-of-Quarter Values



Sources: Board of Governors of the Federal Reserve System, Senior Loan Officer Opinion Survey; Federal Financial Institutions Examination Council, Reports of Condition; Federal Reserve Bank of New York staff estimates.

each of our two buyer groups over the 1988-92 period.[14] The total stock of sold loans increased substantially through June 1990; however, by June 1992, sales had declined from their high of $90 billion to $67 billion. It is difficult to compare these loan sales figures with those from the Call Reports because the reporting frequency differs for the two sources and because we lack the loan duration information needed to translate sales flows into changes in the stock of sold loans. Nevertheless, trends in the Call Report and Opinion Survey series appear roughly consistent, with a slightly later decline in the survey series.[15]

Focusing on sales from U.S. banks to nonbanks and foreign offices of foreign banks (sales contributing to the off-balance-sheet lending reported in the table), we find that outstanding balances on loans sold increased through June 1991 but fell sharply by June 1992.[16] As Chart 9 shows, the percentage decline in these outstanding balances between June 1990 and June 1992 was larger than the percentage decline in on-balance-sheet commercial and industrial lending by domestic banks over the same two years. In contrast, the other off-balance-sheet lending activities examined in this article grew over both of the periods captured in the table, and grew faster than their on-balance-sheet counterparts between June 1990 and June 1992. Thus, statistics that do not account for direct loan sales will understate the magnitude of the recent decline in business lending, whereas those that do not account for business loan securitization more generally will overstate the magnitude of the decline.

That loan sales to non-domestic-bank buyers not only fell, but also fell more sharply than on-balance-sheet commercial and industrial lending, is surprising given the observed strength in securitization of consumer and mortgage credit. Three explanations are possible for the recent decline in loan sales to non-domestic-bank buyers: reduced willingness to sell by banks, reduced secondary market loan demand by nonbanks and foreign banks, and reduced stock of salable loans. We suspect that the third explanation is the most important. Reduced willingness to sell by banks is unlikely, since banks demonstrated a growing preference for off-balance-sheet funding by securitizing a larger share of their mortgage and consumer credit originations in 1990 and 1991.[17] We also have little evidence that secondary market loan demand has significantly weakened. Although the demand for secondary market loans may have declined in a recession-related "flight to quality," responses to a question included in the 1992 Opinion Survey indicate little change in demand by typical loan purchasers between 1991 and 1992.[18] In contrast, the stock of salable loans has surely declined in recent years. In addition to the recession-related decline in bank borrowing by large corporations, the sharp drop in mergers and acquisitions and leveraged buyout activity and the reductions in bank debt by highly leveraged firms have probably caused the stock of salable loans to fall more dramatically than total commercial and industrial lending. According to market participants, the recent decline in loan sales did not result from a disruption in the secondary loan market; rather, it primarily reflected these reductions in loan originations and outstandings of large corporations.

Summary

The stock of loans originated by financial intermediaries but transferred to other investors through securitization or loan sales has grown rapidly in recent years. Over the two years following the onset of the recession, off-balance-sheet mortgage credit grew 29.1 percent, while

[14]These data are derived by scaling the Opinion Survey data Using Call Reports, we calculate the fraction of quarterly commercial bank loan sales flows attributable to Opinion Survey banks The magnitude of this scaling factor is quite high, averaging about 90 percent over the relevant period Though we believe that our approach is appropriate given the available data, we offer three cautions first, our scaling factor is based on flow data rather than stock data, second, the same scaling factor is applied to all loan sales, regardless of purchaser identity; and third, since the Opinion Survey responses of individual banks are not available, our scaling factor cannot reflect changes in the set of Opinion Survey banks reporting sales volume The total number of Opinion Survey banks reporting sales volume reaches a minimum of 53 and a maximum of 57 over the 1988-92 time period This range may overstate the severity of the reporting problem, however, since the largest banks tend to be the most active loan sellers as well as the most consistent reporters of survey sales data

[15]As noted by Berger and Udell, "Securitization, Risk, and the Liquidity Problem in Banking," just two large institutions account for a significant share of the rise and fall of the sales flow series Both of these institutions contribute to the Opinion Survey, hence, their sales activity likely accounts for a large portion of the rise and decline of the loan sales reported in Chart 9

[16]The 1991-92 decline primarily reflects sales to nonbank financials. A precise measure of off-balance-sheet lending should include sales by U S branches and agencies to nonbanks and foreign offices of foreign banks. We lack sufficient data to calculate these sales for each year examined, however, data from the 1991 and 1992 surveys suggest that sales by U.S branches and agencies of foreign banks to nonbanks and foreign offices of foreign banks are very small relative to U S bank sales to these same institutions

[17]According to market participants, however, one prominent loan seller may have reduced its willingness to sell loans as part of a changing business strategy related to a mid-1992 merger

[18]Of the fifty-one banks commenting on changes in demand by loan purchasers between June 1991 and June 1992, thirty-one reported little change, twelve reported an increased demand by loan purchasers, and only eight reported reduced demand Market participants confirm that demand for secondary market loans has remained strong, with the possible exception of demand by Japanese banks

on-balance-sheet credit dropped 4.1 percent. Similarly, off-balance-sheet consumer credit grew by 68.2 percent compared with a 7.2 percent decline for on-balance-sheet credit. Finally, although direct loan sales by banks fell substantially over recent years, the combined components of off-balance-sheet business loans grew 16.7 percent compared with a 5.0 percent decline for on-balance-sheet credit. Largely because of the mortgage-backed securities market, residential mortgage credit appears to have remained plentiful over the past few years despite the continued contraction of the thrift industry. By contrast, even after adjusting on-balance-sheet consumer and commercial lending to include securitization and loan sales, we find that the stock of consumer and business loans declined during the two years following the onset of the recession.

Securitization helped ease the effects of capital shortages and other funding constraints at banks and perhaps even more so at nonbanks. Thrifts, finance companies, and mortgage companies securitized a larger fraction of their mortgage originations than did banks, and finance companies and retailers securitized a larger fraction of their consumer credit than did banks. Although direct sales of bank-originated business loans have declined, both banks and nonbanks have increasingly securitized business credit.