FDIC Outlook

SUMMER 2006

# In Focus This Quarter: The Evolution of the Credit Cycle

The notion of the *credit cycle*—or a periodic fluctuation in the volume and quality of credit—has a long and colorful history. Cycles of expanding, and then contracting, credit volumes are observed in virtually every type of lending, but they may differ markedly across the various bank loan types. Following the late-20th century deregulation of financial services, some argue that cycles in bank lending and loan performance are rising in importance as drivers of banking industry performance. This issue of ***FDIC Outlook*** first discusses the credit cycle in conceptual terms, and then examines how applicable the concept may be to the three most important loan types for FDIC-insured institutions.

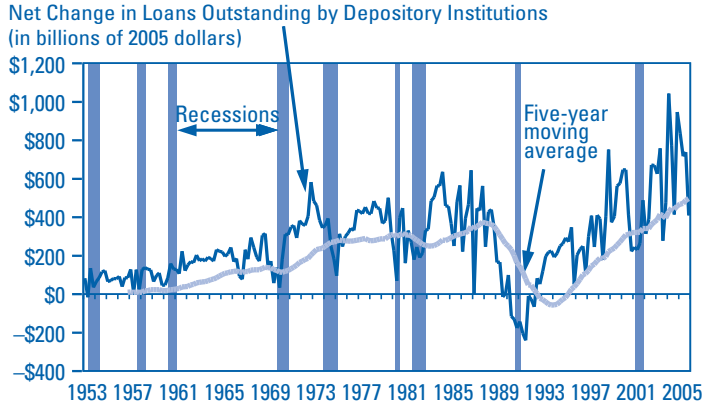
## Cycles of Thought: An Historical Context for the Modern Credit Cycle

Theories about credit cycles and their importance have a surprisingly long history and have evolved steadily over time. This article provides an overview of the topic and discusses how modern ideas about the credit cycle came into being. *See page 3.*

## Outlook for C&I Credit Quality

Commercial and industrial (C&I) loan balances are once again growing at double-digit rates at FDIC-insured institutions, and the performance of these loans remains at or near an historic high. The question on the minds of bankers and regulators now becomes: How much will C&I credit quality deteriorate when the cycle turns? To address this question, our analysts assess the outlook for the U.S. nonfinancial business sector. *See page 8.*

### Short-Term Cycles Are Evident amid Larger Trends in Bank Lending




Note: Depository institutions include commercial banks, thrifts, and credit unions.
Source: Federal Reserve Board (Flow of Funds).

## CRE Credit Expansion Raises Portfolio Concentrations

The credit cycle in commercial real estate (CRE) lending differs from other lines of business in large part due to the long lead times associated with the development of CRE projects. Historically, cyclical imbalances between CRE supply and demand have resulted in periods of oversupply. The volatility of the CRE cycle appears to have been smoothed recently, in part because of improved transparency and the increased availability of market-based financing. However, as FDIC-insured institutions continue to grow their portfolios of CRE loans, concentrations in this line of business have risen to historic highs. *See page 14.*

## Breaking New Ground in U.S. Mortgage Lending

The U.S. residential mortgage market continues to reinvent itself. While government involvement remains extensive, private asset-backed issuers have doubled their share of the market in just the past two years. Meanwhile, the structure of U.S. mortgage loans has undergone dramatic changes—the consequences of which remain unclear. Despite strong loan performance at present, there are concerns about increased risk taking on the part of lenders and homeowners. *See page 21.*

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# Cycles of Thought: An Historical Context for the Modern Credit Cycle

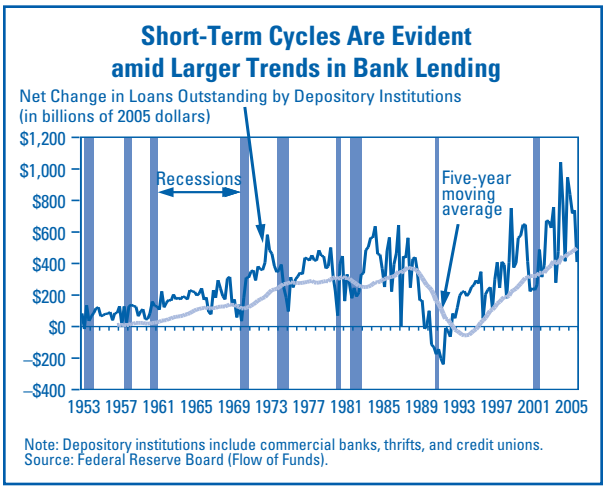
Since ancient times, credit markets have undergone periodic booms and busts. In 594 BC, for example, the Greek state of Attica found itself under severe economic stress because of the massive debt incurred by many of its citizens. The ensuing civil disorder resulted in a handover of power to Solon, one of the "seven wise men" of Greece. Solon took radical steps to restore balance to the economy, such as canceling debts, freeing those enslaved for failing to repay their loans, and devaluing the currency by 25 percent.[1] Although times have changed, the credit cycle and its dynamics of credit extension and retrenchment continue to affect the course and health of the economy and the banking sector.

Simply put, credit cycles are fluctuations in loan quality and quantity. They are often correlated with, but not always identical to, business cycles, which are based on fluctuations in the overall output of goods and services. This article provides an overview of credit cycles in general, exploring their theoretical underpinnings and history over the past 200 years.

## Credit Cycles Relate to Both Quantity and Quality

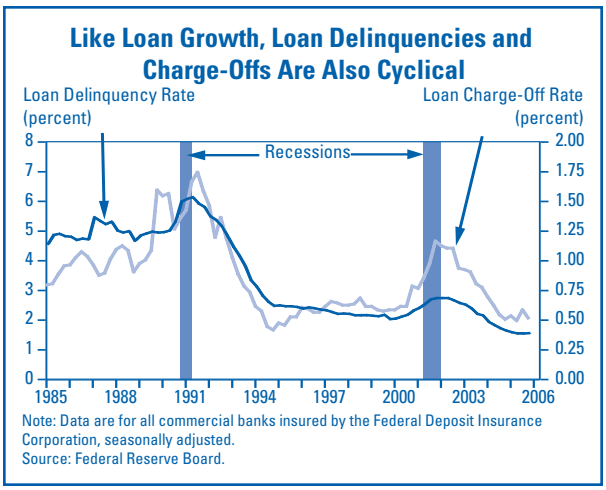
Credit and credit cycles have two dimensions: quantity and quality. In terms of *quantity*, the credit cycle essentially traces the ups and downs in the supply and demand for credit, encompassing both long-term and cyclical components. Chart 1 shows inflation-adjusted lending by banks, thrifts, and credit unions during the past 50 years. While loan growth typically decelerates during recessions, two periods stand out as exceptions. One is the sharp contraction in credit during the early 1990s; the other is the strong credit growth of the past five years, driven by historically low interest rates and an unprecedented surge in mortgage activity.[2]

Chart 1




Credit cycles can also be characterized by various measures of credit *quality*, such as delinquency rates and charge-off rates. Generally, these statistics can only be measured several years after the credit has been extended, because the borrower's problems usually occur some time after the loan's origination. Like credit growth, the metrics of credit cycle quality tend to be fairly well coordinated with the overall business cycle, as shown in Chart 2. Because companies and consumers have more trouble paying their debts when the economy is stagnant or in recession, loan performance tends to deteriorate during those periods.

Chart 2




[1] Sidney Homer and Richard E. Sylla, *A History of Interest Rates,* 3rd ed. (New Brunswick, NJ: Rutgers University Press, 1991).

[2] The early 1990s was a time of major stress in the banking industry, which experienced hundreds of failures and a significant rebuilding of capital. Credit growth was significantly curtailed during this time. For more information, see: Federal Deposit Insurance Corporation (FDIC), *History of the Eighties—Lessons for the Future* (Washington, DC: FDIC, 1997), http://www.fdic.gov/bank/historical/history.

So, is the credit cycle merely a reflection of the general business cycle, or is it a phenomenon unto itself? Clearly, looking at quantity and *ex-post* quality measures, such as charge-offs, the credit cycle in recent decades has tracked the economic cycle fairly closely. However, many observers of the credit cycle throughout history believed that credit extension and contraction drive business activity, rather than the other way around.

Credit cycles may not be just a contemporaneous response to economic conditions. They can reflect reductions in underwriting standards and other *ex-ante* measures of loan quality motivated by times of over-optimism, heightened competition, or narrowing net interest margins. Underwriting standards wax and wane, and banks sometimes take on more risk than they ordinarily would for a given level of compensation.[3]

A better understanding of how underwriting standards change over time can benefit both bankers and their regulators. By the time loan performance deteriorates, it is often too late to salvage the credit, and the risk it poses to the institution is at its highest. Identifying emerging lending risks earlier by keeping a close eye on marketing practices and underwriting standards can help reduce future losses.

## Early Thoughts on the Credit Cycle

Much of our understanding of how the credit cycle develops in terms of underwriting standards comes from its earliest theorists. Study of the credit cycle was particularly prominent in the 19th century, a time much more prone to violent economic fluctuations than today. Many contemporary commentators blamed the tendency for economies to boom and bust on credit cycles. In the words of economic historian David Laidler:

> *It was not until the 1830s that it became widely recognized that financial crises were simply one repeating event in a cyclical pattern…. The name commonly given to that pattern, "the credit cycle" suggests that it was regarded primarily as a phenomenon of organized financial and commodity markets.*[4]

The first theories of the credit cycle centered on the importance of speculation, not unlike the "irrational exuberance" theories of the late 1990s. Although many contradictory theories were proposed to explain how the cycle worked, one might simplify and group their advocates into "American theorists," who focused on banks overextending credit, and "British theorists," who focused on overborrowing by speculators.

The American theorists, perhaps because of the rapid growth and fragmented nature of the 19th-century banking system, tended to blame banks for extending too much credit in good times and then tightening too much or too quickly when conditions turned bad. In 1841, Albert Gallatin, who had been secretary of the Treasury under Thomas Jefferson, argued that "all active, enterprising, commercial countries are necessarily subject to commercial crises…. Those revolutions will be more frequent and greater in proportion to the spirit of enterprise and to the extension or abuse of credit."[5] Edmund Dwight argued in 1857 that panics are an inherent part of banking: "The law of interest is always urging [banks] towards the last point of expansion, and that of necessity and safety hurrying back to contraction…. The only recognized limit is *danger* … and the mode of contraction, therefore, suits the cause; it is run for life."[6] Nineteenth-century economic downturns tended to be sudden and were often attributed to a lack of investor and creditor confidence, as opposed to downturns since the Great Depression, which have usually been preceded by other types of shocks, such as rising interest rates. Hence these earlier downturns, with their roots in financial markets, were usually called "panics," whereas modern downturns are more often called "recessions" (see Table).

A great deal of blame for these financial panics was placed on banks contracting credit, as "the banks were … accused of aggravating the panic [of 1857] by their policy of calling in loans both precipitately and indiscriminately."[7] The Great Depression, wrote a contem-

[3] Federal Reserve Governor Susan Bies noted that "banking supervisors are always worried that, in good times of rising loan growth and competition among bankers, more-aggressive underwriting may set the stage for future deterioration in credit quality." Quoted from a speech by Susan Bies given at the American Bankers Association Chief Financial Officers Exchange Conference, Chicago, Illinois, June 7, 2005, and available at http://www.federalreserve.gov/Boarddocs/Speeches/2005/20050607/default.htm.

[4] David Laidler, "Rules, Discretion and Financial Crises in Classical and Neoclassical Monetary Economics," *Economic Issues* 7 (part 2; September 2002): 13.

[5] Harry Miller, "Earlier Theories of Crises and Cycles in the United States," *Quarterly Journal of Economics* 38, no. 2 (1924).

[6] Ibid.

[7] Samuel Rezneck, *Business Depressions and Financial Panics: Collected Essays in American Business and Economic History* (New York: Greenwood Press, 1969), 105.

Table

**Major Financial "Panics" of the 19th Century**

| Name | Cause |
|---|---|
| **Panic of 1819** | The Second Bank of the United States, worried about land speculation, abruptly reined in lending, causing a six-year depression. |
| **Panic of 1837** | The Specie Circular, under which the federal government would accept land payment only in gold and silver, helped start a run on banks and the failure of more than 800 of them. |
| **Panic of 1857** | Failure of the New York City branch of Ohio Life Insurance and Trust Co. led to bank runs and widespread bankruptcies. |
| **Panic of 1873** | Speculation in railroads led to the insolvency of Philadelphia bank Jay Cooke and Co. Eighty-nine of the nation's 364 railroads went bankrupt. |
| **Panic of 1893** | Controversy over the gold standard provoked "Industrial Black Friday" on the stock market. More than 500 banks and 16,000 businesses failed. |

Source: Samuel Rezneck, *Business Depressions and Financial Panics: Collected Essays in American Business and Economic History* (New York: Greenwood Press, 1969).

porary economist, was precipitated by excessive credit creation, particularly by selling goods on installment plans, a popular financial innovation of the time.[8]

In contrast to their American peers, British theorists tended to blame speculative investors more than banks and particularly focused on the role of emotions and expectations in the credit cycle. The philosopher John Stuart Mill attributed cycles to "some accident which excites expectations of rising prices" among speculators with "a generally reckless and adventurous feeling."[9] In his 1867 book entitled ***On Credit Cycles and the Origin of Commercial Panics***, economist John Mills presented the first methodical explanation of investor psychology by using four terms to describe the phases of the cycle: activity, excitement, collapse, and depression. William Beveridge in 1909 claimed that expectations were the "single underlying" factor of cycles.[10] Arthur Pigou claimed in 1927 that "the varying expectations of business men … and not anything else, constitute the immediate and direct causes or antecedents of industrial fluctuations."[11]

## The Increasing Sophistication of Credit Cycle Theories

By the early 20th century, credit cycle theory had become more complex and refined, taking into account the effects of monetary policy and interest rates. Irving Fisher popularized the "quantity theory" of money, which states that inflation is caused by an increase in the money supply.[12] Because interest rates and prices are "sticky" and rise more slowly than they should given the rate of money supply increase, investors have an incentive to borrow more, which increases asset prices. Once interest rates adjust to the correct level and borrowing slows, the value of the assets decreases, forming a credit cycle. Meanwhile, the Swedish economist Knut Wicksell emphasized the difference between the "real" (or "natural") interest rate, which equalizes supply and demand in the market for goods and services, and the "money" interest rate, which refers to the interest rate in the capital markets.[13] A money rate below the real rate will encourage overinvestment, which leads to rising prices, encouraging more investment. Wicksell called this the "cumulative process." He also emphasized the role of banks in creating money through credit, arguing that rising investment leads to a higher money supply (as opposed to Fisher's theory).

In ***A Treatise on Money***, John Maynard Keynes separated the concepts of saving and investment, defining the credit cycle as "the alternations of excess and defect in the cost of investment over the volume of saving and the accompanying see-saw in the purchasing power of money due to these alternations."[14] Attempts by businesses to invest more than is available through savings—because of technological innovation, overconfidence, or some other reason—will lead to higher output and prices in that sector. The initial increase will then spread and lead to higher levels of production

[8] Charles Persons, "Credit Expansion, 1920 to 1929, and Its Lessons," *Quarterly Journal of Economics* 45, no. 1 (1930): 94.
[9] John Stuart Mill, *Principles of Political Economy with Some of Their Applications to Social Philosophy,* ed. William J. Ashley, 7th ed. (London: Longmans, Green and Co., 1909), http://www.econlib.org/library/Mill/mlP41.html#Bk.III,Ch.XII.
[10] The New School for Social Research, "Psychological and Lead/Lag Theories: The Anglo-American Tradition," http://cepa.newschool.edu/het/essays/cycle/psycho.htm.
[11] Pigou as quoted in David Collard, "Pigou and Modern Business Cycle Theory," *Economic Journal* 106, no. 427 (1996): 916.
[12] Irving Fisher, "The Equation of Exchange," *American Economic Review* 1, no. 2 (June 1911): 296–305.
[13] Knut Wicksell, *Lectures on Political Economy,* vol. 2 (London: Routledge & Kegan Paul, 1906).
[14] John Maynard Keynes, *A Treatise on Money* (New York: Harcourt, Brace, and Co., 1930), 277.

of all types of goods, as well as inflation. This "contains within it the seeds of a reaction," as supply catches up with demand and prices return to normal.[15] Thus, Keynes was firmly planted in the British tradition of associating credit cycles with speculating investors, coining the term "animal spirits" to refer to business confidence and its impact on the economic cycle.

After the Keynesian revolution of the 1920s, academic interest in the credit cycle shifted to other explanations of economic fluctuations. An early example of this change in attitude was British economist R. G. Hawtrey's writings in 1929 about the "trade cycle." Acknowledging that "it was the credit cycle that attracted attention before the other phenomena of the trade cycle," he argued that "that view is no longer universally accepted" and thought that monetary policy was more important.[16]

## The Modern View of the Credit Cycle and the Changing Nature of Regulation

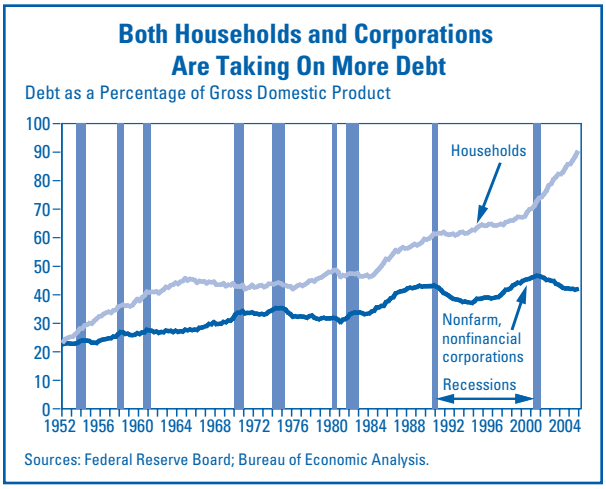
Interest in the credit cycle fell off dramatically during the middle of the 20th century. Economists turned their attention to building mathematical models that contained perfectly rational, profit-maximizing borrowers and lenders. Meanwhile, the U.S. financial system was heavily regulated, with legislative prohibitions effectively acting to dampen the pace of financial activity.[17] During this time, conservatively underwritten bank loans dominated both corporate and consumer financing options; it was the era of 20 percent down payments on houses and a free toaster with every new savings account.

Toward the end of the century, however, the financial services market was substantially deregulated, leading to a wealth of new products and dramatically increased competition. The savings and loan crisis and localized banking problems during the 1980s and early 1990s were the first wide-scale disruptions in the financial sector since the Great Depression, although they might have looked familiar in some respects to people who lived in the 19th century.[18] The international financial system experienced another near-crisis in 1997 and 1998 with the successive financial collapses of several East Asian countries, a massive Russian debt default, and the abrupt demise of the large hedge fund Long-Term Capital Management. In some respects, these events resembled an old-fashioned financial panic as investors rushed to the safest, most liquid instruments available, culminating in a severe credit disruption. On the whole, however, there is evidence to suggest that deregulation has benefited the financial services industry, which accounted for approximately one-third of domestic corporate profits in the first half of this decade.[19] Theoretical advances and more powerful information technology have enabled lenders to measure and price risk more accurately, while consumers have benefited from improved access to credit. In fact, household debt relative to gross domestic product (GDP) is at an all-time high of 90 percent.[20] Nonfarm, nonfinancial corporate debt has also risen, although at a slower pace (see Chart 3).[21]

Do the regulatory changes in the banking industry over the past 25 years mean that 19th-century-style credit cycles are more likely to occur in the future? The empirical evidence does not yet firmly point one way or the other. Even if deregulation has increased volatility, financial innovation and the deepening of capital markets could help smooth credit availability compared with the experience of the 19th century. While banks emerged from the 2001 downturn with record levels of earnings and capital, some analysts argue that increased risk taking over the past few years on the part of all market participants may have simply prolonged an inevitable credit bust.[22] Furthermore, different asset types may be

[15] Ibid., 302.
[16] R. G. Hawtrey, "London and the Trade Cycle," *American Economic Review* 19, no. 1 (March 1929): 70.
[17] The Banking Act of 1933, also known as the Glass-Steagall Act, prohibited commercial banks from selling securities, created the FDIC, and capped interest rates (implemented by the Federal Reserve's Regulation Q). It was partially repealed by the Gramm-Leach-Bliley Act in 1999.
[18] For more information, see: FDIC, *History of the Eighties.*
[19] Profits of the financial industry as a percentage of total domestic profits rose from an average of 19 percent in the 1970s and 17 percent in the 1980s to 25 percent in the 1990s and 35 percent since 2000 (source: Bureau of Economic Analysis).
[20] Data as of fourth quarter 2005. Household debt is in excess of 100 percent of personal income, which is the sum of individuals' wages, salaries, rental income, and other types of income.
[21] FDIC regression analysis reveals that both of these ratios are increasing at a statistically significant rate. Household debt as a percentage of GDP is growing at a trend rate of approximately 0.8 percent per year, and nonfinancial corporate debt relative to GDP is growing at a trend rate of approximately 0.4 percent per year.
[22] Mark Whitehouse, "Year-End Review of Markets & Finance 2005: Bonds' Gravity-Defying Act," *Wall Street Journal,* January 3, 2006. Whitehouse writes: "Believers in the idea that markets go through cycles of greed and fear … find [current conditions] spooky. 'I can't tell you when, but it's all going to end very badly,' says Dan Vandivort, chief investment officer at Weiss, Peck & Greer Investments in New York. 'That's the way the credit cycle works.'"

Chart 3




subject to their own distinct credit cycles, as other articles in this *FDIC Outlook* explain.

The economics profession has recently begun to reconsider the role of psychology and expectations in investment decisions. Recent research has found that underwriting standards, as measured by the ***Federal Reserve Board Senior Loan Officer Opinion Survey on Bank Lending Practices,*** are a better determinant of future business lending than either GDP or the federal funds rate.[23] Similarly, analysis of a Federal Deposit Insurance Corporation survey of underwriting standards finds that underwriting standards are an important determinant of future loan losses.[24] A modern theoretical response to this finding might be that credit markets are efficient and that loan officers, having just as good access to GDP and interest rate numbers as anyone else, should make decisions that incorporate all available information in a rational, profit-maximizing way. Another interpretation from a 19th-century perspective might describe the easing and tightening of standards as the reflection of alternate swings between "greed and fear."[25]

[23] Cara Lown and Donald P. Morgan, *The Credit Cycle and the Business Cycle: New Findings Using the Loan Officer Opinion Survey,* Research Report Series 27 (Stockholm: Swedish Institute for Financial Research, 2004).

[24] John O'Keefe, Virginia Olin, and Christopher A. Richardson, "Bank Loan Underwriting Practices: Can Examiners' Risk Assessments Contribute to Early-Warning Systems?" (Working Paper No. 2003-06, FDIC, November 2003), http://www.fdic.gov/bank/analytical/working/wp2003_06/index.html.

[25] See note 22 regarding the reference to "greed and fear."

## Finding the Balance between Risk Management and Market Innovation

The "generally reckless and adventurous feeling" among borrowers and lenders that John Stuart Mill described a century and a half ago appears to play an important role in a dynamic economy. Shifts in investor sentiment were associated with extreme credit cycles in the 19th and early 20th centuries that contributed to periods of financial instability. While increased regulation in the middle years of the 20th century appears to have helped dampen these credit swings, this stability may well have been achieved at the cost of a less competitive and less dynamic banking industry. Over the past 20 years, as the financial services industry has operated in a more deregulated environment, credit markets may once again be demonstrating a tendency toward greater cyclicality. This rising variability in the credit environment places a greater premium on banks' ability to measure and manage risks in order to minimize the fallout of adverse credit trends.

Greater cyclicality creates both opportunities and challenges for market participants. Bankers have proven to be highly responsive to the changing needs of households and businesses, both by expanding the availability of credit to meet rising demand and by developing innovative products to meet new marketplace needs. However, they must remain aware that credit volume and quality are both unlikely to follow a continuous upward path. Bankers must manage their exposures and their lending policies with an eye toward what will happen when the cycle inevitably takes a turn for the worse. For their part, regulators must also recognize that the banking industry does not operate in a static credit environment. Their task is to define and enforce standards of safety and soundness and fair treatment of consumers consistently across both the highs and the lows of the credit cycle. In doing so, regulators must be careful not to needlessly stifle marketplace innovations that could benefit lenders and borrowers. For both bankers and regulators, achieving the sometimes difficult balance between optimism and caution is essential to maintaining financial stability throughout the credit cycle.

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# Outlook for C&I Credit Quality

The commercial and industrial (C&I) lending cycle is closely related to conditions in the business sector. During much of the 1990s, the volume of C&I loans outstanding at financial institutions insured by the Federal Deposit Insurance Corporation (FDIC) increased steadily as business financing needs for capital equipment, inventories, and acquisitions grew along with corporate profits. However, the corporate recession in 2001 led to 13 quarters of declining C&I loans on the books of the nation's commercial banks and thrifts. After the recovery, corporate profits rebounded, but ample internal funds kept C&I loan demand at bay until 2004, when loan growth resumed.

C&I credit quality trends are also linked to business conditions. During the mid-1990s, the C&I charge-off rate reached a trough as corporate profits soared. However, profits weakened considerably in the late 1990s, causing a rise in C&I loan charge-off rates that did not peak until fourth quarter 2001.[1]

Now C&I loans are growing, and credit quality seems to be as good as it gets. The question on the minds of bankers, regulators, and analysts alike is: When will the cycle start all over again? This article provides some insights that may help answer that question.

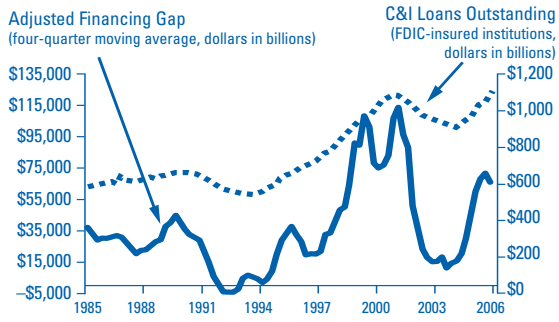
## C&I Lending Is Very Competitive When Demand Is High

The external financing needs of U.S. businesses have been growing steadily over the past 20 years. In real (inflation-adjusted) terms, growth was interrupted only by the recessions of 1990 and 2001. Businesses borrow to finance a wide variety of needs, including capital equipment purchases, accounts receivables, acquisitions, and stock repurchases. When the economy is strong and business is expanding, the demand for financing is generally robust. As the economy slows and the outlook dims, businesses tend to pull back their expansion plans, which softens external financing demand.

One gauge of business loan demand is the adjusted *financing gap*, which consists of business-sector capital spending plus net new equity issues less internal funds. In this equation, the component of net new equity issues is a proxy for the spending associated with acquisitions and stock repurchases.[2] A rising adjusted financing gap suggests growing loan demand; conversely, a falling adjusted financing gap points to declining loan demand. During most of the 1990s when business was booming in the United States, the adjusted financing gap soared, and C&I loans outstanding grew to a peak of $1.1 trillion in fourth quarter 2000 (see Chart 1). By that time, however, real corporate profits had been sliding for a few years, and the 2001 recession was just around the corner. The result was about three years of falling C&I loans held by FDIC-insured institutions.

Chart 1

**C&I Loan Volume Is Driven by Capital Expenditures, Acquisitions, and Other Spending**




Note: C&I = commercial and industrial.
Sources: Federal Deposit Insurance Corporation; Federal Reserve Board.

The faltering business sector of the late 1990s through 2001 only partly explains the declining C&I loan balances outstanding earlier this decade. Competition from other nonbank lenders, as well as corporate bond issuances, also led to lower market share for banks and thrifts. The period from 2001 to 2003 was marked by relatively poor C&I credit quality and tight underwriting standards that made other sources of financing

[1] The C&I loan credit cycle is driven mostly by large banks. Consequently, the trends and developments discussed in this article primarily relate to large banks active in C&I lending.

[2] Zoltan Pozsar, "Another Look at the U.S. Financing Gap," *Dismal Scientist,* Moody's Economy.com, February 14, 2006.

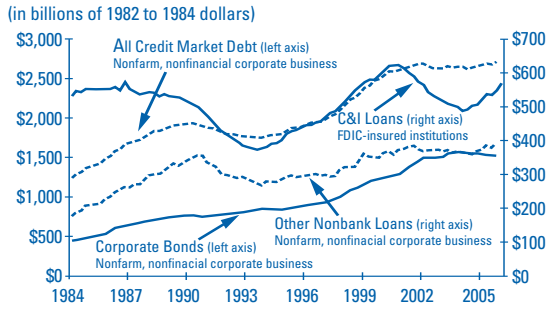
more attractive.[3] Indeed, nonbank competitors have become a fact of life in the C&I line of business. The increased appetite of these new players for commercial loans is evidenced by their growing participation in the Shared National Credit (SNC) Program.[4] Nonbank lenders expanded their share of SNC commitments from 8 percent in 2001 to 13 percent in 2005. However, nonbank lenders seem to be targeting higher-risk credits than commercial banks. From 2001 through 2005, adversely classified loans as a percentage of total commitments have been significantly higher for nonbanks than for banks—11.7 percent versus 1.6 percent in 2005, for example.[5]

The difficult competitive situation faced by commercial banks and thrifts vying for a piece of the C&I market is confirmed by the fact that, after adjusting for inflation, there was almost no growth in the secular trend for C&I outstanding loans from 1984 to 2005 (see Chart 2). However, there was a distinct positive trend for all credit market debt, other nonbank loans, and corporate bonds. From first quarter 1984 to fourth quarter 2005, the inflation-adjusted volume of C&I loans outstanding was up just 3.2 percent—essentially no growth. Other nonbank loans, however, increased 123 percent, while corporate bonds outstanding increased 242 percent. Overall, total credit market debt increased some 117 percent during this period.

Not only is the cycle for C&I loan volume oscillating around a fairly flat secular trend line, but its cycles are more pronounced than those of other forms of business debt. More marked volume cycles for C&I loans may be due to the fact that banks tend to tighten underwriting standards in response to growing credit problems, encouraging businesses to seek alternative sources of financing. Also, the regulatory environment for the various business lenders differs considerably. Banks may be more responsive to credit problems than nonbank lenders because of the bank supervisory process.

Chart 2

**The C&I Loan Cycle Has Been Far More Pronounced Than Other Business Debt**




Note: C&I = commercial and industrial.
Sources: Federal Deposit Insurance Corporation; Federal Reserve Board.

## C&I Credit Quality Reflects Business Conditions and Underwriting Standards

Banks generally extend commercial loans based on the perceived ability of the borrower to repay the loan with interest in a timely manner after considering the borrower's recent earnings history, current performance, and future prospects. When corporate profit weakens, it likely falls short of what was assumed in the loan underwriting process, increasing the chances of a delinquent loan payment and, ultimately, a charge-off. Conversely, when business conditions are healthy and corporate profits are rising, the business's capacity to service its loans exceeds expectations, and the likelihood of credit problems declines.

This pattern is borne out in the aggregate as well. Since 1984, the C&I loan net charge-off rate has risen when real corporate profits declined and fallen when earnings were strong and rising (see Chart 3). Of course, there can be lags between when the profit trend turns and when C&I charge-offs respond to the change in conditions. For example, real corporate profits hit a low point in third quarter 2001, but it took a full four quarters for the C&I charge-off rate (four-quarter moving average) to reach its peak. Since that time, corporate profits have continued to rise, and the charge-off rate has tumbled to extremely low levels.

[3] Bank underwriting standards during this period made it very difficult for companies—in particular, in industries like telecom and high tech—to obtain credit. In addition, many speculative-grade companies found the high-yield market very receptive. For example, the high-yield market required no covenants, and loans had longer terms than were available at banks. Once problem-loan levels dropped, banks started getting back into the deals, loosening covenants, lowering pricing, and competing for the business.

[4] The SNC Program provides a mechanism to efficiently and consistently review and classify large syndicated loans and loan commitments of at least $20 million that are shared by three or more financial institutions.

[5] Board of Governors of the Federal Reserve System, FDIC, Office of the Comptroller of the Currency, and Office of Thrift Supervision, "Data Show Continued Improvement in Credit Quality, Slight Increase in Credit Commitment Volume," joint news release, September 15, 2005, http://www.fdic.gov/news/news/press/2005/pr9105.html.

Chart 3

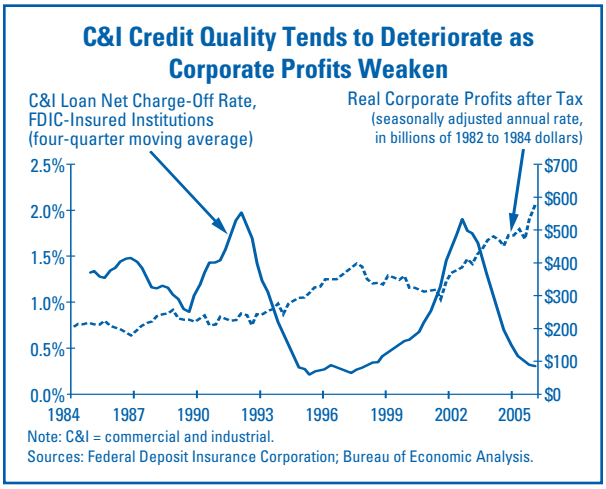
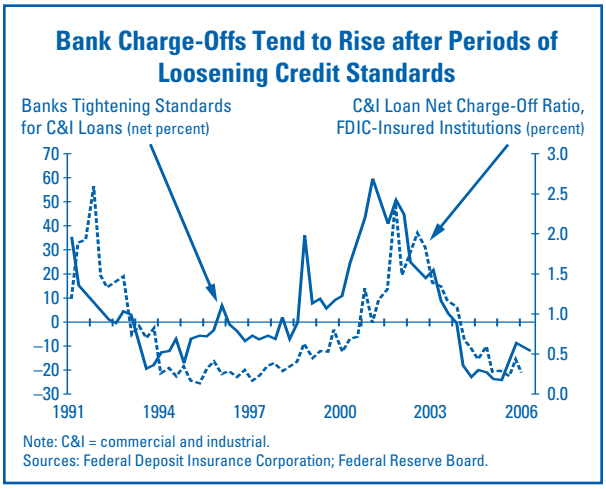



Chart 4




Another factor contributing to favorable C&I loan performance is that corporate balance sheets are the strongest they have been in a long time. In fact, it has been 20 years since the ratio of liabilities to net worth of nonfarm, nonfinancial corporate businesses was lower than it is today.

Underwriting standards also play a crucial role in determining the incidence of C&I credit problems over time. It is likely that underwriting standards both react and contribute to changes in C&I loan charge-off rates. Based on responses to the quarterly ***Federal Reserve Board Senior Loan Officer Opinion Survey on Bank Lending Practices,*** bank underwriting standards seem to tighten as charge-off rates rise (see Chart 4). Banks clearly react to the elevated risk associated with rising charge-offs by raising their underwriting standards. This circumstance occurred in the late 1990s and in the early part of this decade, when real corporate profits waned and charge-offs began to soar.

Many analysts believe that underwriting standards also have a strong influence on future bank loan quality.[6] Banks' weak underwriting standards of today generally come back to haunt them tomorrow when the business cycle turns and corporate profits begin to flag. The last cycle demonstrated this condition clearly when C&I charge-offs surged after several years of relatively loose underwriting. Today, a strong economy combined with robust business conditions and fierce competition for commercial lending business has resulted in more than two years of relatively loose C&I underwriting. In fact, a recent study by ***Fitch Ratings*** found that in 2005, fewer covenants were applied to credit extended in the syndicated loan market.[7] It is reasonable to expect that when the business environment sours in the future, many of the problem commercial loans that surface will be those made under the more relaxed underwriting standards of the past two years.

## Recent Innovations in C&I Lending

In the years since the last recession, banks have changed the way credit risk is managed. New risk-management tools and financial market developments have helped banks monitor and control risk more effectively. Some of the more important developments include the adoption of improved risk-measurement tools, the rapid growth in the use of credit default swaps (CDS), the expanded secondary market, and the use of economic capital modeling.

*Improved Risk-Measurement Tools.* Large-bank risk-measurement tools have evolved into more objective, model-based control systems and away from using "expert judgment" to quantify risk. The proposed transition to Basel II capital standards has also provided some impetus for more transparent measurement techniques. For example, consider a scenario in which a bank has 22 distinct

[6] John O'Keefe, Virginia Olin, and Christopher A. Richardson, "Bank Loan-Underwriting Practices: Can Examiners' Risk Assessments Contribute to Early-Warning Systems?" (Working Paper No. 2003–06, FDIC, November 2003), http://www.fdic.gov/bank/analytical/working/wp2003_06/index.html; and Patrick Asea and S. Brock Blomberg, "Lending Cycles" (Working Paper No. 5951, National Bureau of Economic Research, March 1997).

[7] William May and Mariarosa Verde, "Loan Volumes Surge, Covenants Shrink in 2005," Credit Market Research, Fitch Ratings, April 5, 2006.

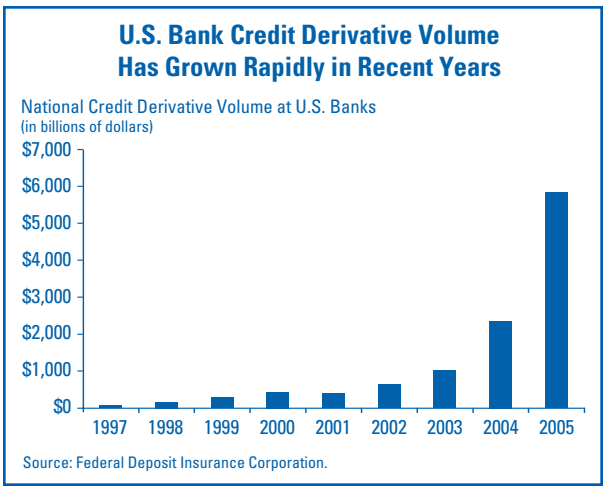
ratings bands, and analysts are spread across the country trying to grade each obligor accurately. The likelihood of error is high as each analyst attempts to differentiate "above-average" from "well-above-average" cash flow.

In today's system, banks have identified the key drivers that measure risk, and they set breakpoints to measure such factors as cash flow, leverage, liquidity, and company size. Grades are automatically selected based on the borrower's financial data. Thus, the use of expert judgment is greatly reduced, yet still included to override the grading system when necessary. Overrides are then tracked to monitor the frequency and cause of each occurrence. Banks use this information to refine risk drivers and breakpoints further to reduce future overrides. The primary advantages of such a system are fewer errors in risk identification, more accurate risk-based capital calculations, and better support for determining the level of reserves maintained by the bank.

*Use of Credit Default Swaps.* One of the risk-mitigation tools widely used today involves buying and selling CDS to manage risk. CDS protect buyers from loss following certain credit events. For example, if a borrower files for bankruptcy, the bank can exercise its right to exchange its loan with the CDS seller for par, thereby protecting the bank from loss on the notional amount. In return, the bank pays the seller an upfront fee as well as periodic payments to maintain the derivative protection.

The CDS market has grown exponentially over the past few years, enabling banks to purchase protection on an ever-increasing volume of borrowers (see Chart 5). However, most positions actually are purchased on investment-grade companies, rather than used to mitigate the deteriorating situation of subinvestment-grade firms. In reality, once a credit situation begins to worsen, protection in the form of CDS usually becomes too expensive to be economically feasible.

Chart 5




Banks also sell CDS, which effectively allows them to increase exposure to a particular company, industry, or geographic region without having to physically make the loan. In addition to CDS, derivative products can be sold as an index to increase credit risk on a more diverse position and help achieve a more optimal mix of assets. Selling protection also provides fee income to the bank without increasing assets.

*Expanded Secondary Market.* Syndicated credit facilities now trade very actively in the secondary market compared with just five or six years ago. During the 1990s, the secondary market was restricted primarily to large, investment-grade obligors. This market now has expanded to include many smaller companies. In addition, the type of credit trading ranges from investment grade to distressed debt, giving management more options to reduce positions, if necessary. If a satisfactory price can be obtained in the secondary market, the expense of purchasing a CDS becomes unnecessary. Most of the impetus for the expansion of the secondary market is the ever-increasing number of new players looking for this type of asset. Hedge funds, mutual funds, private equity firms, and other institutional investors make up most of the nonbank participants.

The expansion of new investors has also prompted additional structuring of debt for the syndicated market. Deals now routinely contain a mix of revolver, term, and second-lien loans covering a variety of pricing. Agent banks have become quite adept at selling this paper on the secondary market. Many times, positions can be reduced to only the senior position or even completely eliminated to reap only the benefit of fee income. The mix of structures has fluctuated over time, depending on what the marketplace is seeking. This trend is expected to continue, with the product mix changing to meet market requirements.

The development of the secondary market for commercial loans likely has amplified the competitive pressures faced by commercial banks and thrifts. However, it has also provided an effective mechanism for transferring risk to institutions willing to accept it.

*Economic Capital Modeling and Portfolio Diversification*. The advent of economic capital modeling also has provided banks a more objective method of evaluating risk and return for any given asset or group of assets. Theoretically, the models should determine the level of capital necessary to support the risk taken on by the bank. Management can then use the results to set hold levels by product, industry, and geographic location to maximize diversity in the portfolio. Beyond these aggregate hold limits, management can then set individual hold limits on single-name exposures to maximize the return for the level of risk. The results should help banks reach an optimal mix of assets to produce the maximum return with the minimum risk.

## Risk-Management Innovations May Influence the C&I Credit Cycle

New tools for measuring, managing, and transferring credit risk could lead to less-severe C&I credit cycles in the future, all other things being equal. During the 2001 downturn, the growing secondary market for C&I loans and the relatively small, but emerging, use of CDS may have helped to moderate that cycle.[8] Thus, it is reasonable to expect that bankers' ability to transfer risk and adjust exposures using CDS and the secondary market should result in lower peaks in charge-off and delinquency rates when the incidence of problem loans begins to climb. Conversely, one might expect shallower troughs in credit quality measures if banks can measure their risk more accurately, allowing them to achieve the best return given their risk tolerance. That is, when times are good, banks can seek higher-risk, higher-return investments with greater confidence because of their enhanced ability to generate accurate risk-return metrics. Nevertheless, the business world is dynamic, and new risks will emerge to test the skills of today's risk managers.

## C&I Outlook Hinges on Future Business Conditions

Commercial credit quality is not likely to improve much more during this cycle. The net charge-off rate stood at 0.22 percent in first quarter 2006, down from 0.28 percent a year earlier and a peak of 2.37 percent in fourth quarter 2001. The percentage of noncurrent C&I loans has followed a similar pattern: In third quarter 2002, the percentage of noncurrent C&I loans peaked at just under 3 percent, falling every quarter until reaching 0.70 percent in first quarter 2006.[9]

If the C&I charge-off rate is, indeed, at the beginning of a trough, how long will the trough continue, and when will commercial loan charge-offs begin a decisive trend upward? The answers to these questions lie in the outlook for the economy and the business sector. Indeed, higher interest rates and high, volatile energy prices form a cloud of uncertainty on the horizon. The consensus forecast of ***Blue Chip Economic Indicators*** predicts that the U.S. economy will grow steadily at about 3 percent through the end of 2007. It also is forecasting sharply lower growth in real corporate profits in 2007 (see Chart 6). These projections suggest continued low charge-off rates that may extend through 2007, although a gradual upward drift is possible.

Another approach to assessing the outlook for the C&I charge-off rate is to look at ***Moody's*** forecast for the global speculative-grade corporate bond issuer default rate (speculative bond default rate).[10] Indeed, the C&I loan net charge-off rate appears to be highly correlated to the speculative bond default rate (see Chart 7). Moody's is forecasting the speculative bond default rate to increase from 1.7 percent in March 2006 to about 2.7 percent in March 2007, which supports the notion that the C&I default rate may drift upward somewhat over the next couple of years. But, most important, C&I loan quality is likely to remain fairly strong through 2007, barring an unexpected economic shock that pulls the economy and the nation's business sector into either a recession or a much slower growth path.

## Conclusion

The C&I credit cycle is closely associated with developments in the U.S. business sector. Based on the current outlook, C&I charge-offs and other measures of loan performance problems are likely near their low points for the cycle. An appreciable, sustained improvement in C&I loan quality is not expected. Conversely,

[8] For example, William Bassett and Egon Zakrajsek pointed out that during the 2001 downturn, a number of banks sold distressed C&I loans in the secondary market, allowing them to accelerate charge-offs and reduce delinquencies. See: William F. Bassett and Egon Zakrajsek, "Recent Developments in Business Lending by Commercial Banks," *Federal Reserve Bulletin,* December 2003.

[9] This article has focused on the C&I charge-off rate as a measure of credit quality. The percentage of noncurrent C&I loans generally follows a pattern similar to that of charge-offs.

[10] Moody's, "Moody's Monthly Default Report," Default Research, http://www.moodys.com.

Chart 6

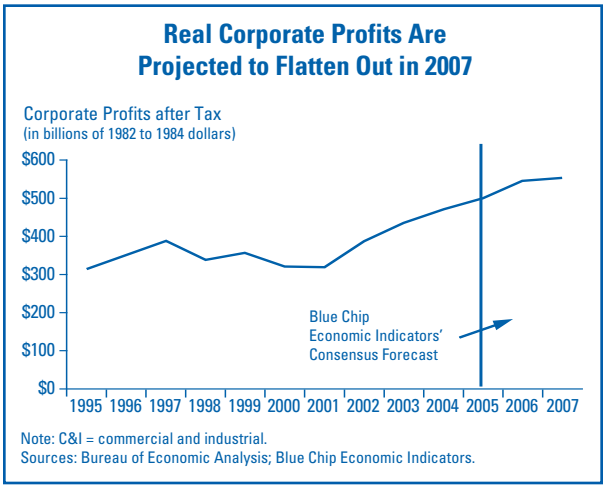
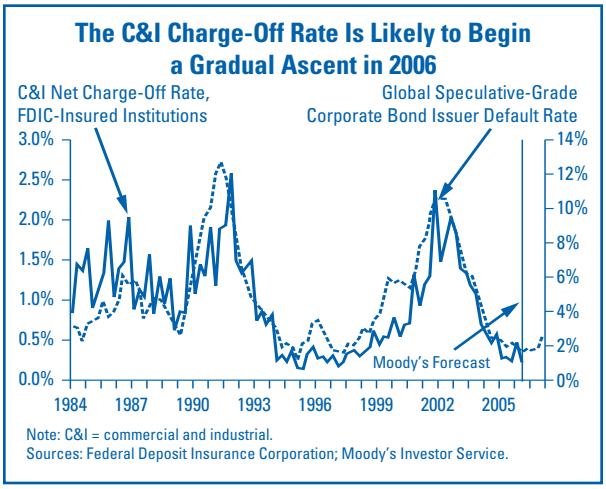



Chart 7




although charge-off rates may rise gradually over the next year or so, steady economic growth and healthy corporate profits suggest that no decisive increase is likely in the near term.

The consequences of the current aggressive underwriting will not be known until the next market downturn. When that time comes, will the new nonbank participants continue to provide liquidity to the secondary market? Will spreads on CDS remain affordable enough that lenders can use them effectively for risk mitigation? Regardless of the recent advances in risk-management techniques, banks must remain vigilant in controlling risk. The next downturn will likely differ somewhat from those of the past, introducing its own unique circumstances and spawning a new set of risk-management tools for the future.

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# CRE Credit Expansion Raises Portfolio Concentrations

Commercial real estate (CRE) lending has come to be recognized as a highly cyclical business.[1] Waves of construction and growth in credit to support CRE investment often have been followed by gluts of commercial space, rising vacancies, and sometimes severe credit problems arising from the sector. During the last broad CRE credit cycle, collapsing property values in the southwestern United States and New England contributed to many of the more than 2,000 failures of institutions insured by the Federal Deposit Insurance Corporation (FDIC) that occurred between 1980 and 1993.[2] From this experience, one could make the case that CRE and construction and development (C&D) lending are among the riskiest of asset classes over the complete cycle.

Much has changed since the last broad CRE credit cycle. The volatility of the cycle may have been dampened by more and better structures to bring capital market financing to CRE, including commercial mortgage-backed securities (CMBS) and real estate investment trusts (REITs), better market data available to all participants, and relatively improved underwriting standards.[3] However, FDIC-insured institutions continue to face risks related to the CRE credit cycle. CRE loan concentrations at FDIC-insured financial institutions now exceed levels seen in the last cycle. With so much at stake, it is important to understand the nature and stages of the CRE credit cycle. This article describes the unique attributes of the CRE credit cycle, looks at how the cycle has evolved over time, and examines the nature of the current CRE credit cycle, which started in the mid-1990s.

## A Theory of CRE Credit Cycles

In one of the earliest characterizations of the U.S. CRE cycle, Homer Hoyt described a lack of transparency contributing to overbuilding when he chronicled changes in Chicago land values over a 100-year period ending in 1933:

> *A great many men worked secretly and independently on a great variety of structures in many sections of the city. There was no central clearing house to correlate the impending supply of buildings with the probable demand, so that when all these plans came to fruition, an astonishing number of new structures had been erected.*[4]

Hoyt described four phases of the U.S. real estate cycle.[5] In the first phase, expansion occurs at the beginning of a CRE cycle when improving business conditions and increasing corporate profits prompt the hiring of new workers and an increased demand for CRE space. The second phase occurs as more workers fill available space, vacancy rates fall, rents rise, and the remaining space is offered at higher prices. The third phase is characterized by declining vacancies and rising rents placing upward pressure on property values, which signals developers that constructing new CRE supply would be profitable. In turn, new construction begins but reaches completion only after the lengthy time inherent in CRE product development. In the fourth and final phase, new construction continues until supply exceeds demand, and the resulting oversupply leads to rising vacancies, falling rents, and lower property values. As has been the case with a number of U.S. CRE cycles since Hoyt's theory was published, builders' incentives to halt construction occur only after the new supply exceeds demand and the profit

[1] For purposes of this analysis, CRE loans include nonfarm nonresidential real estate loans, multifamily housing loans, and construction and development (C&D) loans. Complicating this analysis somewhat is the fact that C&D loans as reported in regulatory reports include loans made for both residential and commercial property construction.

[2] For more information, see: James Freund et al., "Commercial Real Estate Crises of the 1980s and Early 1990s," in *History of the Eighties—Lessons for the Future* (Washington, DC: FDIC, 1997), http://www.fdic.gov/bank/historical/history/137_165.pdf.

[3] A REIT is a company that owns and usually manages CRE properties. To qualify as a REIT, a company must pay at least 90 percent of its taxable income to its shareholders every year, have at least 100 shareholders, invest at least 75 percent of its total assets in real estate, and derive at least 75 percent of its income from rent or mortgage interest from properties in its portfolio.

[4] Homer Hoyt, *One Hundred Years of Land Values in Chicago, 1830–1933* (Chicago: University of Chicago Press, 1933). Hoyt's book chronicles five real estate cycles that occurred in the 100-year period during which the population of Chicago grew from only a few hundred to more than 3.5 million. At the same time, land values increased from a few thousand dollars to more than $5 billion.

[5] Ibid. Hoyt's original descriptions are retained, but expanded upon, in this framework. Hoyt examined the period between 1830 and 1933 and identified five boom periods and six troughs, or bust periods. He noted that property values varied from 80 percent below to more than 456 percent above what he deemed "normal" prices during the 100 years, and that business troughs lasted nearly twice as long as the peaks.

potential disappears.[6] The severity of the bust phase of the CRE credit cycle can be measured by the extent of the increase in vacancies, decline in rents, deterioration in property prices, and increase in CRE loan defaults.[7]

Cycles in CRE lending are tied to the nature of the real estate business. First, CRE cycles are often product-specific. Demand for commercial space is not uniform across the five major CRE property types (office, industrial, retail, hotel and motel, and multifamily); one sector may be hot while others are retrenching. Second, CRE cycles tend to be local. Although there are national elements that relate to the business cycle and to interest rates, the broader national trends are distinctly punctuated by regional booms and busts.[8] The most obvious recent examples were the pronounced boom-and-bust cycles of the southwestern United States and New England, much of which was attributable to local factors.[9]

## Past Evidence of CRE Credit Cycles

CRE cycles are certainly influenced by standard business cycles, but they tend to be longer than other types of credit cycles. The reason is that CRE loans are subject to considerable delays in the process of bringing underlying properties to market. It may be several years from the time that a project is approved and funded to the time the new property is ready for occupancy.

The 1970s CRE credit cycle had a construction boom in the early part of the decade that was fueled by increased capital flows from mortgage REITs. According to Mueller, the office market crash in the mid-1970s followed from the recession of 1974 and the slowdown in employment growth.[10] In the aftermath, vacant properties were foreclosed on, construction loans defaulted and never converted to permanent loan status, and the nascent mortgage REIT industry retrenched as REIT market capitalization shrunk from more than $10 billion at the beginning of the 1970s to about $2 billion in 1975.[11]

The expansion, or boom, phase of the next CRE cycle began in the early 1980s. The deceleration (bust) phase started in the late 1980s and continued for a number of years. Several external events exaggerated the boom and the bust phases. For example, tax law changes in the early 1980s, along with new regulations that expanded the CRE lending powers of savings institutions, fueled and funded the heightened investor demand for CRE properties.[12] Because net returns on CRE investments exceeded those of other asset classes, investor demand for CRE intensified. Another factor was that additional regulatory changes implemented in 1982 enabled thrifts (but not banks) to take a small ownership share, and therefore participate, in any upside potential from their CRE investments.[13]

From 1983 to 1985, savings institutions increased CRE holdings by $16 billion per year, compared to $4 billion per year in the previous six years.[14] Heightened competition for CRE credits contributed to a loosening of underwriting standards—debt coverage levels were relaxed, and low (or zero) borrower equity in speculative CRE projects became commonplace. Poor and often overly optimistic appraisals also contributed to a brewing storm.[15]

Also during this time, CRE investors relied on substantial federal tax write-offs to sustain the profitability of "passive" CRE investments; the boom was driven in part by investors' expectations that this tax shelter would continue. The 1986 Tax Reform Act limited deductions for losses from passive investments, making many CRE investments unprofitable. The oversupply of CRE properties that had developed during the previous several years began to correct quickly. As a result, CRE vacancies rose, rents fell, and property

[6] For additional research on CRE cycles, see: Stephen Pyhrr, Stephen Roulac, and Waldo Born, "Real Estate Cycles and Their Strategic Implications for Investors and Portfolio Managers in the Global Economy," *Journal of Real Estate Research* 18, no. 1 (1999).
[7] A CRE credit cycle features involvement by financial intermediaries, such as insurance and pension companies and banks, in providing capital for CRE loans. The repayment of CRE loans comes from either the property rental income or sale of the building.
[8] For a more in-depth discussion of the unique property cycles of U.S. cities, see: R. G. Witten, "Riding the Real Estate Cycle," *Real Estate Today,* 1987.
[9] For more information, see: Freund, "Commercial Real Estate Crises," in *History of the Eighties.*
[10] Glenn R. Mueller, "What Will the Next Real Estate Cycle Look Like?" *Journal of Real Estate Portfolio Management* 8, no. 2 (2002).
[11] Ibid. Mueller states that the mortgage REITs were created by commercial banks to bypass regulatory restrictions on real estate project investments.
[12] For more information, including details on the tax, legislative, and regulatory changes, see: Freund, "Commercial Real Estate," in *History of the Eighties.*
[13] Ibid., 178.
[14] Ron Donohue, "Fund Flows and Commercial Real Estate Investment: Evidence from the Commercial Mortgage Market," *Journal of Real Estate Research,* October–December 2004.
[15] Freund, "Commercial Real Estate," in *History of the Eighties,* 157.

prices declined quickly.[16] The CRE credit cycle remained in this bust, or trough, phase for several years, and during this time, more than 2,500 federally insured banks and thrifts failed.[17]

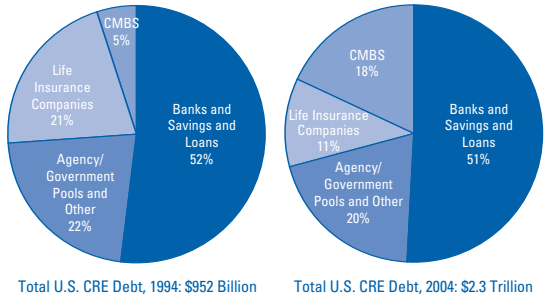
In response to the significant number of federally insured institution failures during the last CRE credit cycle, Congress passed the Financial Institutions Reform, Recovery and Enforcement Act of 1989.[18] This law restricted thrift lending powers and subjected federally insured institutions to closer supervisory scrutiny. Also, new capital standards were being phased in at this time that forced institutions to increase ratios of capital to risk-weighted assets either by raising capital or reducing assets with higher risk weights, such as CRE loans. In the early 1990s, federally insured institutions began to reduce their CRE loan exposure and increase Treasury holdings.[19] The new capital requirements contributed to less liquidity in CRE markets as federally insured institutions scaled back CRE lending.

## The Current Cycle Has Benefited from CMBS Growth

In response to the limited liquidity at the end of the last cycle, a new financial intermediary has gained prominence: commercial mortgage-backed securities.[20] The CMBS share of outstanding CRE loans grew from 5 percent to 18 percent between 1994 and 2004 (see Chart 1).[21] This sector was jump-started by the Resolution Trust Corporation (RTC), the government agency charged with disposing of the nonperforming assets of failed thrifts from the last cycle. Selling loans individually would have exerted further downward pressure on prices. The solution was for the RTC to bundle whole loans into a package (a security) and sell shares (tranches) of the security to investors, with repayment priorities matching their risk appetites.[22]

Chart 1

**The Growing CMBS Market Improved Transparency in CRE Lending**




Total U.S. CRE Debt, 1994: $952 Billion — Total U.S. CRE Debt, 2004: $2.3 Trillion

Note: CRE = commercial real estate, CMBS = commercial mortgage-backed securities.
Sources: Capital Trust; Federal Deposit Insurance Corporation.

The CMBS vehicle worked well for the RTC and helped to restore liquidity to the strained CRE markets. In addition, "commoditization" of CRE loans occurred, because CRE loans earmarked for CMBS pools must be more uniformly underwritten to specific maturities, terms, and conditions to be eligible for placement in the security pool. Investors in CMBS pools, along with FDIC-insured institutions and the CRE industry, benefited from enhanced disclosures required for the underlying investments. As a result, the transparency that was lacking in Hoyt's CRE cycle became more readily available.[23]

As a liquidity provider, the CMBS market helped substitute for bank and thrift lending on CRE projects until bank and thrift lending momentum returned in the mid-1990s. Then in 1998, the scenario was reversed after a series of financial crises caused liquidity in the CMBS market to vanish. CMBS were shunned when U.S. investors responded with a "flight to quality" after the Asian currency crisis in 1997, the collapse of Long-Term Capital Management, and Russia's default on its foreign debt in 1998. Consequently, the liquidity in the U.S. public capital markets "dried up," and many

[16] According to the National Council of Real Estate Investment Fiduciaries, the value of different CRE property types declined at varying rates, with office buildings dropping in value by almost 57 percent.
[17] Not all of the federally insured institution failures were directly attributable to the CRE cycle, as many occurred in combination with fraud and poor risk management practices. For more information, see: "Scenarios for the Next U.S. Recession," *FYI*, FDIC, March 23, 2006, http://www.fdic.gov/bank/analytical/fyi/2006/032306fyi.html.
[18] The text of the Financial Institutions Reform, Recovery and Enforcement Act of 1989 is available at http://www.fdic.gov/regulations/laws/important/.
[19] For FDIC-insured institutions, annual CRE loan growth in 1991 and 1992 fell by -2 percent and -3 percent, respectively, while U.S. Treasuries held by these institutions increased by 31 percent and 24 percent in the same periods.
[20] CMBS existed for some time before the early 1990s, but their importance as financial intermediaries grew at the end of the last cycle.
[21] Many FDIC-insured institutions now serve as "conduits" to the CMBS market; the incentive is the fee income generated by the transaction.
[22] Development of CMBS was an extension of the practice in which residential mortgage securities were already being offered to investors.
[23] For more information on the development of the CMBS market, see: Thomas Murray, "The Changing Paradigm in Commercial Real Estate," *FYI*, FDIC, October 28, 2003, http://www.fdic.gov/bank/analytical/fyi/2003/102803fyi.html.

CMBS originators were left holding millions of dollars of CRE loans with no buyers. Nomura Securities folded most of its U.S. CMBS operations in 1998 for some time after losing almost $1 billion, and Criimi Mae, a provider and servicer of CMBS, filed for bankruptcy protection.[24]

FDIC-insured institutions then accelerated CRE lending, effectively filling in some of the funding gap left by the retreat of the public markets.[25] In characterizing these events, then-***Federal Reserve Board*** Chairman Alan Greenspan referred to the "spare tire" effect that efficient financial markets possess. He noted that when public capital markets and FDIC-insured institutions can substitute for each other, recessions can be shortened and liquidity problems can be averted.[26]

In addition to CMBS, REITs have returned to favor since the last CRE cycle. REIT market capitalization has expanded rapidly, from $44.3 billion in 1994 to $330.7 billion at year-end 2005.[27] Similar to the CMBS market, REITs provide funding for CRE projects. In addition, because of the public ownership of most REITs, an increased availability of market data enhances transparency, which facilitates the early identification of any supply-and-demand imbalances. REITs have been a favored investment class because of their superior returns over the past several years (see Chart 2).

The increased transparency and liquidity associated with REITs and CMBS have benefited the CRE credit cycle and possibly contributed to a dampening in the cycle's volatility. For instance, during the current CRE credit cycle and the business cycle of the past several years, FDIC-insured institutions have not suffered significant losses on CRE loans even though they did sustain losses on traditional business loans (see Chart 3).[28] Further,

Chart 2

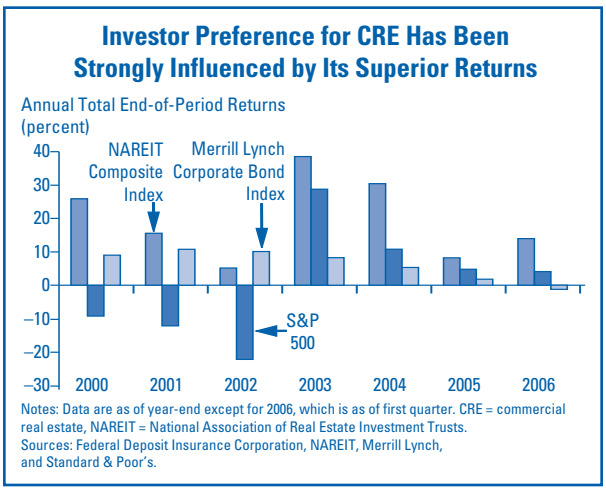
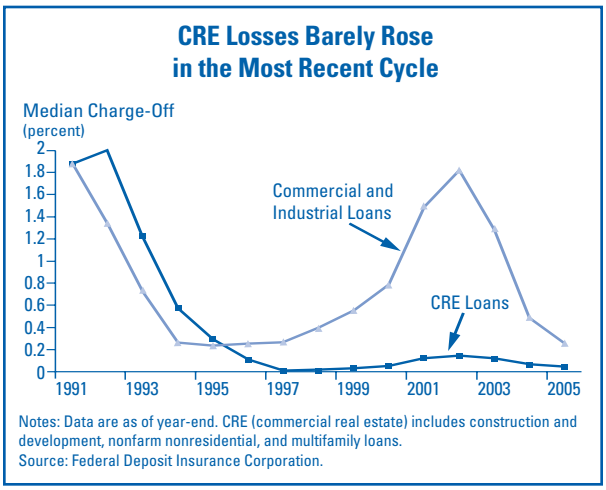



Chart 3




the "tech collapse" in 2000 and the recession of 2001 caused rapid deterioration in CRE fundamentals, with vacancies up and rents down. However, despite weakened fundamentals, CRE loan performance among FDIC-insured institutions was, and remains, strong. In addition, a favorable interest rate environment enabled landlords to remain current on mortgage payments and helped sustain investor demand for CRE products.

## Market Fundamentals Are Improving, but Risks Remain

CRE lending can be very profitable for banks. Interest rates on CRE loans are often higher than those on other, more commoditized asset classes. In addition, many of these credits, particularly C&D loans, charge upfront fee income as well as periodic interest. Also,

[24] Michael Siconolfi, "Nomura Hit by U.S. Loss of $1 Billion—Fiasco in Real Estate Spurs Unit's Overhaul," *Wall Street Journal,* October 20, 1998.

[25] CRE lending at FDIC-insured institutions grew from 9.4 percent in 1997 to 10.5 and 16.5 percent in 1998 and 1999, respectively.

[26] Alan Greenspan, "Do Efficient Financial Markets Mitigate Financial Crises?" (speech, Financial Markets Conference of the Federal Reserve Bank of Atlanta, Sea Island, Georgia, October 19, 1999), www.federalreserve.gov/boarddocs/Speeches/1999/19991019.htm.

[27] According to data from the National Association of Real Estate Investment Trusts.

[28] To the degree that loan losses have been avoided and property prices have only accelerated during this cycle, the price volatility in the down stage of the cycle may have been dampened. The earlier stage of oversupply (or contraction of demand) resulted in two of the four components that typically occur during the down stage of the CRE credit cycle—rising vacancies and falling rents.

the strong local component of CRE markets can frequently give smaller, community institutions an advantage in making CRE loans. Small and mid-size institutions frequently can use their local knowledge to effectively compete with larger institutions that may not be as attuned to local conditions in this line of business.[29] But this higher potential for profitability may come with a higher risk of loss. In 1991, following the significant loan portfolio expansion of the 1980s, the ratio of noncurrent CRE loans to total CRE loans was 8.2 percent; the ratio of all nonperforming loans to total loans was 5.2 percent.[30]

Today, FDIC-insured financial institutions are exhibiting strong performance. The number of FDIC-insured problem institutions (those rated "4" or "5") in the current CRE credit cycle has fallen to historical lows, and the banking industry's ability to absorb losses is strong as capital levels remain historically high. However, much of that capital is allocated to increasing levels of CRE loans. FDIC-insured institutions now have CRE concentrations in excess of levels during the last CRE cycle of the late 1980s and early 1990s (see Chart 4, next page). In addition, robust growth in FDIC-insured institution C&D lending is exceeding prior peaks, with annual growth levels of 35 percent and 36 percent for year-end 2005 and first quarter 2006, respectively.

Sound underwriting standards can mitigate some of this concentration risk. However, according to each quarterly Federal Reserve Board ***Senior Loan Officer Opinion Survey on Bank Lending Practices*** between January 2004 and July 2005, underwriting standards have eased, although they are still improved from the last cycle. Examples of considerable loosening in CRE terms from the January 2006 survey include reductions in loan rate spreads over the cost of funds, increases in loan volume ceilings, and higher loan-to-value ratios and maximum loan maturities.[31] The April 2006 survey reported no net changes in CRE loan underwriting standards from the prior survey.

Record low short-term interest rates during the past several years benefited the net cash flows of many CRE property landlords, as lower debt expenses offset declining rents. However, going forward, owners will have to address the effects of rising energy and insurance costs and taxes. In addition, landlords who have not locked in fixed rates or who need to refinance will have to stretch rental receipts to cover climbing costs of debt service in a rising-rate environment. With slowly improving CRE rents, a critical situation could occur if interest rates rise so high or so quickly that borrower cash flow cannot cover the increasingly expensive cost of debt.

Even though CRE fundamentals are only beginning to improve in many markets, the average price per square foot for U.S. office properties increased almost 24 percent between first quarter 2002 and year-end 2005. However, during the same period, the average office rent fell 10 percent. With falling rents and increasing sales prices, it is not surprising that average capitalization rates declined from 9 percent to 6.7 percent.[32] Buyers are willing to accept lower rates of return when overall interest rates are low. However, when capitalization rates are this low, should interest rates rise rapidly or to a relatively high level, properties could develop *negative leverage*—that is, borrowers would owe more for the loan than cash flow provides.[33]

***Moody's Investors Service*** has raised concerns over falling debt service coverage and rising loan-to-value ratios in commercial mortgages underwritten in the past several years. It also points to a number of high-quality borrowers who have exercised "default options" inherent

[29] From 1985 through 2003, community banks significantly increased their nonfarm nonresidential real estate lending as a percentage of their assets, from 5.9 percent to 15.2 percent. For the same group, C&D loans increased from 3.3 percent to 5.2 percent of total assets. For more information, see: Tim Critchfield et al., "The Future of Banking in America—Community Banks: Their Recent Past, Current Performance, and Future Prospects," *FDIC Banking Review* 16, nos. 3 and 4 (2004), http://www.fdic.gov/bank/analytical/banking/2005jan/article1.html.

[30] Freund, "Commercial Real Estate," in *History of the Eighties,* 157.

[31] Results of the Federal Reserve Board *Senior Loan Officer Opinion Survey* are available at http://www.federalreserve.gov/boarddocs/snloansurvey/.

[32] Office sales price changes and capitalization rates are derived from Real Capital Analytics data as of April 2006. Office rent data are based on information from Torto Wheaton Research.

[33] For more information on current CRE risks, see: Joseph V. Rizzi, "Managing the Credit Cycle: A Behavioral Risk Interpretation," *Commercial Lending Review,* January–February 2006. According to Rizzi, managing director at ABN AMRO Bank: "Weak risk management is masked during economic good times. We are in a benign credit environment characterized by low interest rates, tight spreads, excess liquidity and limited defaults. Markets in general and credit markets in particular are cyclical. Procyclical risk appetite and feedback loops underlie credit cycles. As risk appetite increases, credit extension expands. Investors use the increased debt capacity to bid asset prices higher. The higher asset prices increase collateral values, which supports additional credit expansion creating a virtuous credit circle with increasing liquidity. A tipping point or event can, however, prompt investors to adjust simultaneously their positions triggering a decline in asset prices. [The] decline can trigger a vicious circle leading to reduced collateral values, curtailed credit, declining investor demand, falling asset prices and reduced liquidity."

in their nonrecourse loans.[34] Nonrecourse loans were prevalent in the last cycle, and this loan type, along with recourse loans with high loan-to-value ratios (minimal borrower equity), fail to "incentivize" borrowers to protect the underlying security.

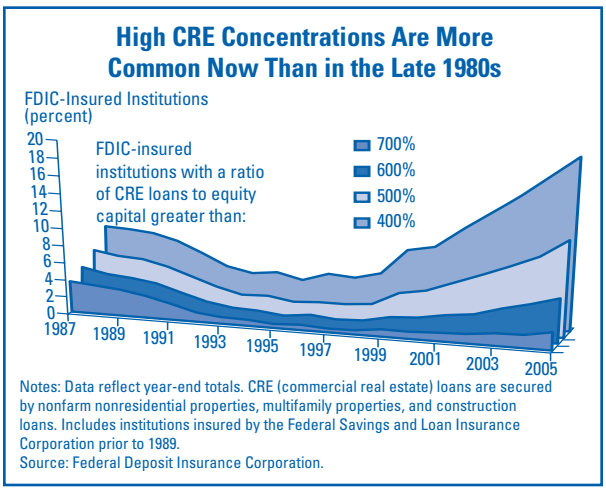
On a positive note, enhanced transparency during the current cycle has helped to reduce speculation by calling attention to speculation early on. Among CRE property types, significant speculative construction activity has been mostly limited to the condominium conversion market (see inset box, "Speculation in This Cycle Has Been Mostly Constrained to Condominiums," next page).

## Regulators Respond to Elevated CRE Concentrations with Proposed Interagency Guidance

In response to concern about the effects of higher CRE loan concentrations on FDIC-insured institutions, the FDIC, ***Office of the Comptroller of the Currency,*** Board of Governors of the Federal Reserve System, and ***Office of Thrift Supervision*** issued proposed interagency guidance for public comment in January 2006. The proposal states that institutions holding higher CRE concentrations (above 100 percent for the ratio of C&D loans to capital and above 300 percent for CRE loans to capital) are expected to have commensurate risk-management practices in place and maintain appropriate capital levels. The guidance reiterates best practices guidelines, and the regulators emphasize that the proposed guidance does not establish limits on individual institution CRE lending.[35]

Comments received by the regulatory agencies indicate that many FDIC-insured institutions believe that they are adequately monitoring risks in their CRE portfolios. In addition, comments indicate that any increase in capital contributions could limit institutions' abilities to make CRE loans and hurt local communities. Some comments state that CRE lending is one of the few remaining profitable areas available to smaller community institutions as they compete with larger banks.[36]

Chart 4




## The CRE Cycle Continues to Evolve

The CRE cycle has been significantly influenced by greater availability of market data and heightened transparency, new technological advances such as the commoditization of loans and more uniform underwriting, and greater integration between traditional bank and capital markets funding sources. As a result, and unlike the last CRE credit cycle, risk is more dispersed and shared among banks and the public equity and debt markets. However, even as these changes have resulted in more liquidity and transparency, the potential exists for greater market volatility driven by changes in investor sentiment.

During the current cycle, landlords have benefited from a benign interest rate environment and heightened investor preference for CRE properties. However, trends suggest that CRE credit quality could weaken going forward, as underwriting standards have eased. With FDIC-insured institution CRE loan concentrations now exceeding those of the last CRE cycle, we must learn from the past: Relatively high CRE concentrations heighten an institution's vulnerability to a range of risks, including rising delinquencies, defaults, and even failure. As a result, institutions' risk-management practices must be assessed and revised continually to reflect changing market conditions.

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*The author would like to acknowledge the valuable input for this article provided by Steven Johnson, Senior Examination Specialist, FDIC Division of Supervision and Consumer Protection.*

[34] Tad Phillip, Pamela Dent, and Paolo Obias, "U.S. CMBS and CRE CDO 1Q 2006 Review: Commercial Mortgage Finance Enters Uncharted Territory," *Structured Finance Special Report,* Moody's Investors Service, April 25, 2006.

[35] The proposed interagency guidance is available at http://www.fdic.gov/news/news/financial/2006/fil06004.html.

[36] Responses received by the FDIC to the proposed CRE guidance are available at http://www.fdic.gov/regulations/laws/federal/2006/06comcrelending.html.

## *Speculation in This Cycle Has Been Mostly Constrained to Condominiums*

Except for robust activity in the condominium market, speculative construction activity has been relatively restrained in this credit cycle so far. This commercial real estate (CRE) segment now appears to be either entering or already in the bust phase in some metropolitan areas. Demand for hotel properties also has been particularly strong, with property sales for first quarter 2006 at $9 billion—nearly twice the $5 billion in sales a year earlier.[1]

Condominium conversions have been a popular investment for the past few years, particularly among speculators and others using innovative mortgage products.[2] However, the period of "flipping" properties for quick profits is apparently nearing its end—the classic CRE cyclical pattern, in which profits drive investments and construction, has resulted in oversupply in many markets.

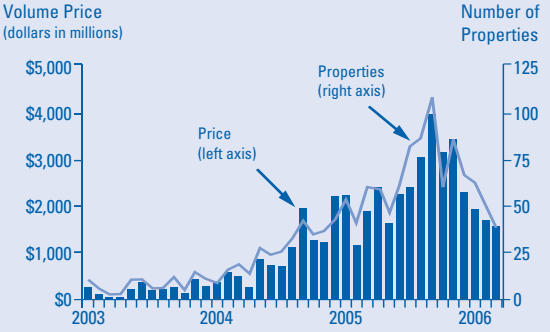
According to ***Real Capital Analytics***, of the $88.5 billion in total apartment sales in 2005, 34 percent were sales of apartments for conversion to condominiums. However, after a near-peak in November 2005, sales fell for each of the next four months (see Chart).[3] Condominium conversion sales have occurred in many markets across the country, but the **Miami, Broward County, Palm Beach, San Diego, Orlando,** and **Washington, D.C.,** markets have been particularly active. More than 60 percent of apartments sold between 2004 and 2005 in these metropolitan areas were for conversions.[4]

New construction of condominiums also has been strong in these markets with anecdotal evidence emerging regarding excess supply. One suburb in the Washington, D.C., area reportedly had more than 14,000 condominiums under construction at the beginning of 2006, while only 4,000 units were sold in the same market in 2005.[5] In addition, new condominium sales were 43 percent lower in this metro area in first quarter 2006 than a year ago.[6] There is evidence that builders are suing to enforce purchase contracts for condominiums that have declined in value.

A ***Hanley Wood Market Intelligence*** report found that more than half the condominium purchase contracts had been cancelled in **Fairfax County, Virginia,** in March 2006, compared to none a year earlier.[7] Reportedly, investors have withdrawn from many markets, because rising interest rates are limiting the profit potential on condominium investments. Other buyers are deciding not to fulfill purchase obligations because they can no longer afford higher interest rates on underlying mortgages.

Chart

**Retraction in Sales of Condominium Conversions Reflects Prompt Market Correction**




Note: Data are from January 2003 to March 2006.
Sources: Real Capital Analytics; Federal Deposit Insurance Corporation.

[1] Parke Chapman, "Hotel Lenders Pushing the Envelope," *National Real Estate Investor,* May 17, 2006.
[2] Innovative mortgages include interest-only and negative amortizing loans. For more information, see "Breaking New Ground in U.S. Mortgage Lending" in this issue.
[3] The Real Capital Analytics multifamily sales statistics comprise properties selling for $5 million and above.
[4] According to Real Capital Analytics.
[5] Sandra Fleishman, "Reports Indicate Glut of Condos in D.C. Area," *Washington Post,* January 31, 2006.
[6] Kirstin Downey, "Doors Close for Real Estate Speculators," *Washington Post,* April 22, 2006.
[7] Sandra Fleishman, "Sold—or Not: When Home Buyers Walk," *Washington Post,* May 6, 2006.

# Breaking New Ground in U.S. Mortgage Lending

Mortgage lending activity has been expanding in the United States for decades. The nation has seen a substantial increase in homeownership in just the past ten years, while the recent housing boom has further boosted the demand for mortgage credit. A series of historical legislative and regulatory changes in the 1970s and 1980s shaped the mortgage market, transforming it into a more competitive marketplace. The mortgage market has again been transformed in recent years as significant product innovation by lenders has expanded the supply of mortgage credit to meet the rising demand.

Despite the rapid growth in credit volumes, mortgage loan performance among financial institutions insured by the Federal Deposit Insurance Corporation (FDIC) is favorable at present. Nevertheless, growth has not come without risk. Widespread marketing of nontraditional products could be raising the risk profile of some mortgage lenders and consumers. Growing unease about risk taking by lenders and consumers recently led bank regulators to propose new supervisory guidelines on risks of, and disclosures for, various mortgage products.

This article examines historical developments in mortgage loan volume and underwriting trends. It also assesses the significance of recent market and institutional innovations in light of historical trends, reviews mortgage loan performance trends, discusses the role of regulation, and considers the near-term outlook for the mortgage lending cycle.

## A Look Back

Government involvement has played a fundamental role in shaping the U.S. mortgage credit market. Historical legislative reforms intended to improve housing affordability and increase homeownership have been an important factor in a strong upward trend in mortgage loan volume. At the same time, history shows us that the volume and quality of mortgage credit exhibit cyclical patterns as economic and housing cycles further influence credit availability and performance. For example, periods of high interest rates and inflation during the late 1970s and early 1980s dampened mortgage growth. Credit quality also deteriorated considerably during this time of economic stress. However, beginning in the late 1980s, mortgage credit volume grew significantly, and the dramatic upswing in mortgage volume since 2000 has been unprecedented (see Chart 1).

The recent housing boom reflects the confluence of rising borrower demand, historically low interest rates, intense lender competition, innovations in the structure and marketing of mortgages, and an abundance of capital from lenders and mortgage securities investors. A look at historical milestones that helped define the current mortgage credit landscape will assist in understanding the evolution of the mortgage market.

### *Impact of Legislative Reforms*

Key influences on the U.S. mortgage credit cycle during the past century are legislative reforms and the mandates of certain government and quasi-government institutions. For example, the establishment of the Federal Home Loan Bank system in 1932 and the Federal Housing Administration in 1937 broadened borrower qualifications for mortgages and paved the way for the modern mortgage market (see Chart 2). By the beginning of the 1980s, the mortgage market was delineated such that savings and loan associations (S&Ls) processed conventional mortgage loans, mortgage bankers originated government mortgage loans, and mortgage brokers handled the balance, including second mortgages and those with elevated credit risk.[1]

Before 1980, institutional lenders were subject to strict interest rate ceilings on their deposits, established by the Federal Reserve's Regulation Q. This regulation provided

Chart 1

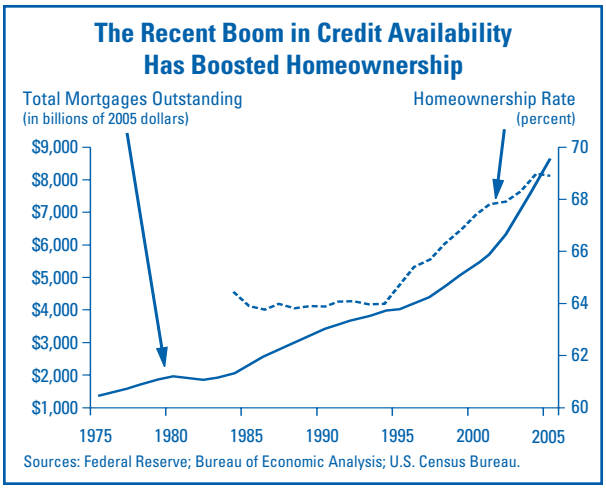
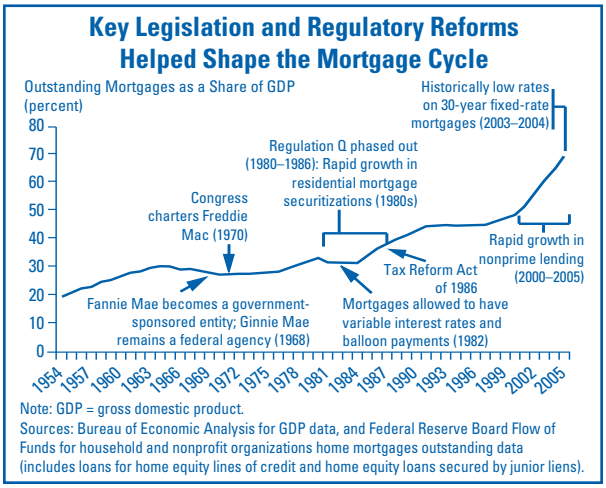


Chart 2




Note: GDP = gross domestic product.
Sources: Bureau of Economic Analysis for GDP data, and Federal Reserve Board Flow of Funds for household and nonprofit organizations home mortgages outstanding data (includes loans for home equity lines of credit and home equity loans secured by junior liens).

for higher ceilings on thrift institution deposits than on commercial bank deposits, securing S&Ls' funding advantage.[2] The late 1970s inflationary environment opened an unsustainable gap between income generated by assets and short-term funding costs, thereby undermining S&Ls' theoretical foundation that had provided economic stability for them in the past. Further, as inflation soared, depositors fled from S&Ls to higher-yielding opportunities outside the regulated banking system. The resulting disintermediation helped set the stage for the enactment of the Depository Institutions Deregulation and Monetary Act of 1980, which mandated a six-year phase-out of the Regulation Q interest-rate ceiling and created the money market deposit to enable FDIC-insured institutions to compete with brokerage houses for wholesale funds.[3] Although it helped S&Ls retain deposits, the elimination of Regulation Q ended their favored status in the U.S. mortgage market.[4]

The enactment of the Alternative Mortgage Transaction Parity Act in 1982 eliminated regulatory disparities between state- and federal-chartered mortgage banks by granting state-chartered institutions the authority to issue alternative mortgages, including the use of variable interest rates and balloon payments, regardless of state mortgage lending laws.[5] This legislation increased the supply of mortgage credit. The Tax Reform Act of 1986 then stimulated demand for mortgage debt by retaining the deduction for home mortgage interest while eliminating the deduction for nonmortgage consumer debt, such as car loans and educational loans. The tax-deductible status of debt secured by homes made mortgage debt a more attractive after-tax financing option than nondeductible consumer debt (see inset box, "Substituting Mortgage Debt for Consumer Debt," next page).

### *Impact of Mortgage Securitizations*

Following the elimination of Regulation Q, control of the mortgage market shifted dramatically in the 1980s from savings institutions to banks and to federal government-sponsored enterprises (GSEs), which played a major role in the creation of mortgage-backed securities (MBS). These securitizations further opened the U.S. mortgage market to investors, introducing considerable new liquidity.[6] By 2005, almost 68 percent of home mortgage originations were securitized.[7] This reliance on securitization underscores its importance as a risk-management tool that allows lenders to shift mortgage credit risk and interest rate risk to investors who have greater risk tolerance.

A significant development in the mortgage securities market is the recent and dramatic expansion of "private-label" MBS, which are securitized by entities other than the GSEs and do not carry an explicit or implicit guarantee. Total outstanding private-label MBS represented 29 percent of total outstanding MBS in 2005, more than double the share in 2003.[8] Of total private-label MBS issuance, two-thirds comprised

[1] Alex Nackoul, "Mortgage Brokering: A Short History (part 1 of 2)," *Scotsman Guide Residential Edition,* March 2006, http://www.scotsmanguide.com/default.asp?ID=1299.
[2] R. Alton Gilbert, "Will the Removal of Regulation Q Raise Mortgage Interest Rates?" Federal Reserve Bank of St. Louis, December 1981, http://research.stlouisfed.org/publications/review/81/12/Removal_Dec1981.pdf.
[3] Disintermediation is an excess of withdrawals from an FDIC-insured institution's interest-bearing accounts over its deposits in these accounts. It occurs when rates on competing investments, such as Treasury bills or money market mutual funds, offer the investor a higher return. For more information, see: FDIC, *History of the Eighties—Lessons for the Future* (Washington, DC: FDIC, 1997), http://www.fdic.gov/bank/historical/history.
[4] Alan Greenspan (speech, Mortgage Markets and Economic Activity Conference, sponsored by America's Community Bankers, Washington, DC, November 2, 1999).
[5] Department of the Treasury and Office of Thrift Supervision, 12 CFR Parts 560, 590, and 591, No. 2002-43, Alternative Mortgage Transaction Parity Act; Preemption.
[6] The two main GSEs, Fannie Mae and Freddie Mac, buy mortgages to create MBS that are then sold to investors. The GSEs help improve housing affordability for lower- and middle-income Americans by (1) allowing originators to respond more quickly to fluctuating mortgage demand and lower mortgage rates and (2) passing on their risk-free funding advantage to mortgage holders.
[7] John Bancroft, ed., *Inside MBS & ABS*, May 26, 2006, http://www.imfpubs.com. The securitization rate includes MBS securitized by the GSEs as well as by "private" entities such as banks, thrifts, and investment firms.

## *Substituting Mortgage Debt for Consumer Debt*

Consumer credit growth has historically been positively correlated with job growth. However, this relationship appears to have broken down in the late 1980s (see Chart 1). One of the factors contributing to the breakdown may be the phenomenon of substituting mortgage debt for consumer debt. This debt substitution phenomenon began 20 years ago when the Tax Reform Act of 1986 eliminated interest deductions on consumer loans but retained interest deductions on mortgage debt, making mortgage debt a more attractive source of financing.

In recent years, the combination of low interest rates and rapidly appreciating housing values resulted in a surge of mortgage equity withdrawals. Mortgage debt grew by nearly $4 trillion from year-end 2000 to year-end 2005, with an estimated one-half of this growth resulting from the refinancing of existing mortgages.[1] Many homeowners who refinanced were able to take advantage of the low mortgage interest rates, taking cash out and still reducing their monthly payments. A 2002 ***Federal Reserve*** survey found that approximately 25 percent of mortgage refinance funds were used to pay for consumer expenditures.[2] The switch from consumer debt to mortgage debt is evident in that growth in home equity lines of credit (HELOCs) outstripped growth in credit card debt, even though the average interest rate for credit cards declined (see Chart 2).

Although growth in HELOCs continued to outpace that of credit cards, HELOC growth fell from 40 percent in 2004 to 8 percent in 2005. Rising interest rates and slowing home price appreciation may make home equity lending and cash-out refinancing less financially advantageous, which in turn could reinvigorate growth in other forms of consumer lending, such as credit cards.

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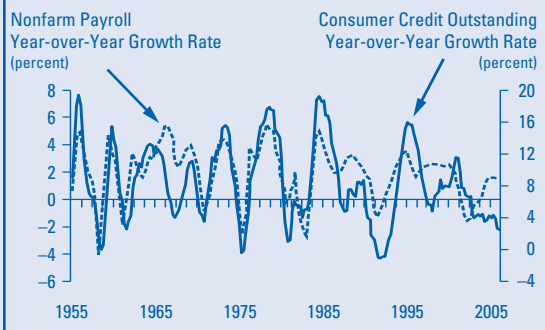
Chart 1

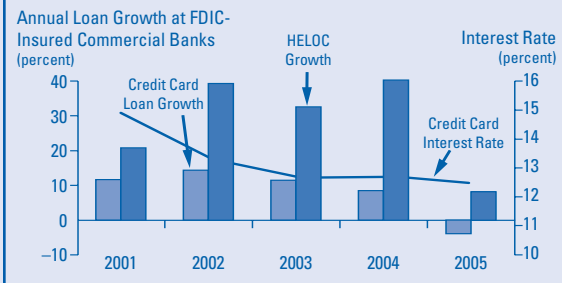
**Consumer Credit Is Less Closely Tied to Job Growth**




Sources: Federal Reserve; Bureau of Economic Analysis.

Chart 2

**HELOCs Have Grown Faster Than Credit Cards**




Note: HELOCs = home equity lines of credit. Credit card growth includes growth in credit card loans held by banks, securitized credit card loans, and credit card loans that were sold but are serviced by banks.
Sources: Federal Deposit Insurance Corporation; Federal Reserve (via Haver Analytics).

[1] Based on data from the Federal Reserve Board and from the 2001–2005 annual average "percent refinancing" share of the total dollar volume of new mortgages reported by the Mortgage Bankers Association.

[2] Glenn Canner, Karen Dynan, and Wayne Passmore, "Mortgage Refinancing in 2001 and Early 2002," *Federal Reserve Bulletin,* December 2002, http://www.federalreserve.gov/pubs/bulletin/2002/1202lead.pdf.

nonprime loans in 2005, up from 46 percent in 2003.[9] With the increased exposure to private-label MBS and a large share of higher-risk nontraditional mortgages being securitized in this sector, investors appear willing to assume greater risk in their search for yield.

The legislative changes and increased use of securitization during the 1980s significantly altered the mortgage market by facilitating product innovation and expanding mortgage credit availability. The increased liquidity provided by securitization allowed lenders to offer credit to more borrowers, because lenders were no longer limited to lending on their deposit base. Lenders not only could increase their underwriting of traditional mortgages, but also were able to develop new mortgage products to appeal to borrowers seeking nontraditional features.

## Recent Innovations in Mortgage Products

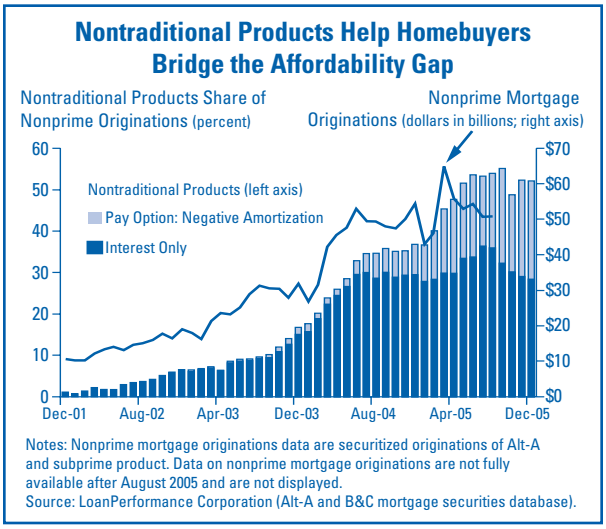
The U.S. mortgage market, which for decades was dominated by fixed-rate mortgages, now includes innovations such as nontraditional mortgages, simultaneous second-lien (or piggyback) mortgages, and no-documentation or low-documentation loans.[10] Nontraditional mortgages allow borrowers to defer payment of principal and, sometimes, interest and include interest-only mortgages (IOs) and adjustable-rate mortgages (ARMs) with flexible payment options (also called pay-option ARMs, or POs). Although perceived as fairly new, many of these loan types are a repackaging of existing products, marketed again in the 2000s in response to growing demand. For example, record-high fixed rates in the late 1970s and early 1980s stimulated innovation in the form of various types of ARMs. Some of today's pay-option ARMs are a reincarnation of negative amortization loans that were popular in the 1980s, but then fell out of favor in the early 1990s when rising interest rates and falling home prices in certain areas left some borrowers owing more than their homes were worth.

Since 2003, strong home price appreciation and declining affordability have helped drive growing demand for nontraditional mortgage products that can be used to stretch home-buying power.[11] Aided by new computer models and an easing in lending standards, many lenders have accommodated this demand by expanding the variety of nontraditional mortgage products offered while also extending loans to borrowers with less-than-stellar credit histories. As a result, by 2005, nonprime lending, comprised of subprime and Alt-A (low- or no-documentation) loans, accounted for about 33 percent of all mortgage loan originations, up from almost 11 percent in 2003.[12]

Rapid growth also has occurred among some of the higher-risk mortgage alternatives within the nonprime arena. As recently as 2002, IOs and pay-option ARMs represented only 3 percent of total nonprime mortgage originations that were securitized. However, the IO share of credit to nonprime borrowers has soared during the past two years to 30 percent of securitized nonprime mortgages, while the pay-option product jumped to a similar share in less time (see Chart 3). Furthermore, the low- or no-documentation share of subprime lending has grown significantly since 2001, from about 25 percent to just over 40 percent.

Lenders continue to diversify mortgage offerings as they compete to attract borrowers and accommodate

Chart 3




[8] A growing portion of total outstanding private-label MBS is held by FDIC-insured institutions. These holdings accounted for 19.6 percent of their total MBS holdings in 2005, up from 12.9 percent in 2003. However, it may be that these institutions carry only the best-rated tranches in their private-label MBS holdings and therefore have limited risk.

[9] Bancroft, *Inside MBS & ABS*, April 14, 2006.

[10] For more information, see the Appendix, "Overview of Nonprime Mortgage Lending and Nontraditional Mortgage Product Terms."

[11] For more analysis on the recent housing boom, see the FDIC's *FYI* articles on "U.S. Home Prices: Does Bust Always Follow Boom?" issued February 10, 2005 (revised April 8, 2005), http://www.fdic.gov/bank/analytical/fyi/2005/021005fyi.html, and May 2005, http://www.fdic.gov/bank/analytical/fyi/2005/050205fyi.html.

[12] John Bancroft, ed., *Inside Mortgage Finance*, February 24, 2006, http://www.imfpubs.com.

prospective homebuyers' financing needs. Many banks now offer 40-year mortgages, which are gaining in popularity as an alternative to IOs and pay-option ARMs. The extended amortization period reduces monthly mortgage payments, thereby stretching a buyer's purchasing power, and allows equity to build from the first mortgage payment.

### *Risk Layering among Nontraditional Mortgage Products Raises Concerns*

Nontraditional loan products can be appropriate for financially savvy borrowers with low credit risk. Indeed, many of these products have been offered for years to such borrowers, and credit quality generally has been good. What has changed, however, is how these loans have been marketed and used in recent years. Lenders have targeted a wider spectrum of consumers, who may not fully understand the embedded risks but use the loans to close the affordability gap.[13]

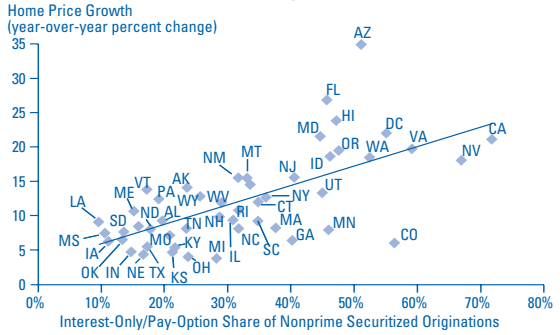
The degree to which mortgage market innovation, fueled by significant MBS liquidity, boosted home sales last year is unknown. Anecdotal evidence suggests that affordability and financing played a strong role in extending the volume component of the mortgage credit cycle last year. For example, there is a correlation between nontraditional mortgage loans and home price growth. An analysis of state-level data from ***LoanPerformance Corporation*** shows the penetration of IOs and pay-option ARMs for nonprime borrowers into areas with strong price appreciation and reveals a strong positive relationship between the concentration of such loans and home price growth (see Chart 4). This analysis illustrates the recent development of borrowers increasingly using IOs and pay-option ARMs to purchase homes they might not otherwise have been able to afford. A June 2006 study by Harvard's ***Joint Center for Housing Studies*** also confirms this trend.[14]

Analysts are concerned that higher-risk borrowers are more likely to be affected by a major payment shock during the life of their mortgage and may be more likely to default. Compounding this possibility is the fact that the increasing availability of mortgage credit is occurring at a time when mitigating controls on credit exposures have weakened. Evidence of loosening underwriting standards was noted in the ***Office of the Comptroller of the Currency***'s annual survey of credit underwriting practices at nationally chartered banks.[15] A telling result of the 2005 survey was the significant extent to which banks had relaxed underwriting standards for home equity and first mortgage loans (notably, the first time in the survey's 11-year history that a net easing has been reported) by allowing lower minimum credit scores, reduced documentation in evaluating the applicant's creditworthiness, and simultaneous second-lien mortgages.

As a result, risk layering appears to have become more prevalent. For example, there is growing evidence of nonamortizing IOs and pay-option ARMs being made to borrowers with little or no documentation to verify income sources or financial assets (see Table). When one loan combines several such features, the total risk is heightened. The risk compounds in the case of a high loan-to-value ratio of a first-mortgage loan that is combined with a second-lien mortgage because, historically, as combined loan-to-value ratios rise, defaults have tended to rise as well.

Chart 4

**Nontraditional Mortgage Products Are Most Popular in States with the Strongest Home Price Growth**




Note: Data as of fourth quarter 2005.
Sources: Office of Federal Housing Enterprise Oversight; LoanPerformance Corporation (Alt-A and B&C securities database).

[13] Pay-option ARMs have been offered for years primarily to meet the needs of borrowers with uneven income streams during the year, such as the self-employed or those who receive year-end bonuses. Some producers of nontraditional mortgage loans are marketing products that may not be suitable for some borrowers. Sales pitches appeal to a homebuyer's affordability squeeze and highlight the "benefits" of the minimal payment option: greater monthly cash flow, maximized buying power, and the ability to afford a bigger house than a buyer thought possible.

[14] Joint Center for Housing Studies of Harvard University, *The State of the Nation's Housing 2006* (Cambridge, MA: Harvard University, June 2006), http://www.jchs.harvard.edu/publications/markets/son2006/index.htm.

[15] Office of the Comptroller of the Currency, "Survey of Credit Underwriting Practices, 2005," http://www.occ.treas.gov/cusurvey/scup2005.pdf.

Table

**Recent Collateral Trends in Lending for Interest-Only and Pay-Option Adjustable Rate Mortgages: Combining Higher-Risk Loan Features Results in "Risk Layering" and Heightens the Overall Level of Credit Risk**

| Year | Low or No Documentation[a] | Loan to Value[b] | Credit Score[b] | Investor Share[c] | Prepayment Penalty[a] |
|---|---|---|---|---|---|
| 2003 | 53.9% | 76.0 | 701 | 11.6% | 50.5% |
| 2004 | 58.0% | 77.1 | 692 | 12.6% | 51.9% |
| 2005 | 65.7% | 76.4 | 696 | 14.1% | 59.2% |

[a] Calculated as a percentage of total interest-only or pay-option adjustable-rate mortgage originations.
[b] Original combined loans to value and credit scores are weighted averages.
[c] Calculated as nonowner and second home originations.
Source: LoanPerformance Corporation (Alt-A and B&C mortgage securities database).

## Mortgage Loan Performance Trends

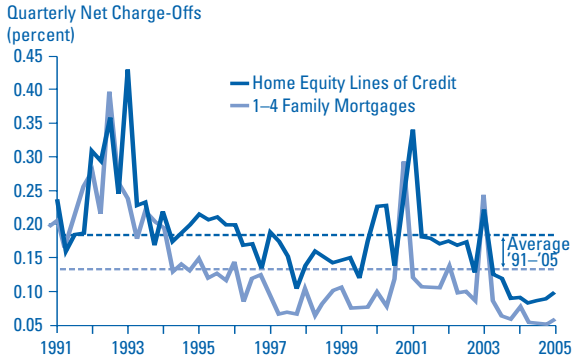
Even in stressful times, mortgages have been among the best performing assets held by banks and thrifts. In the early 1990s, a time of serious dislocation in housing markets in **California** and the **Northeast**, FDIC-insured institutions reported exceptionally low net charge-off rates of less than 1 percent nationwide on home equity and residential mortgage loans compared to other loan types, ranging up to 12 percent for commercial and industrial loans. Mortgage charge-off rates barely budged during the 2001 recession, and large and small banks alike survived the recession with only a slight decline in credit quality.

In recent years, the combination of strong home price appreciation and a low interest rate environment has benefited homeowners and stimulated strong mortgage demand. FDIC-insured institutions are reporting exceptionally strong asset quality, and charge-off rates are at historic lows. On a quarterly basis, one-to-four family mortgage charge-off rates are in the single digits (in basis points) and considerably lower than in earlier stress periods (see Chart 5). The loss rate also is well below historical averages. The same is true for home equity lines of credit (HELOCs), although this may in part reflect their rapid growth of more than 40 percent during 2004.[16]

The sustainability of solid mortgage performance and historically low losses among FDIC-insured institutions is at the forefront of current industry analysis. How long can such favorable conditions last, especially in light of recent developments?

Chart 5

**Charge-Off Rates for Mortgages and Home Equity Lines of Credit Remain Well Below the Long-Term Average**




Source: Federal Deposit Insurance Corporation.

There are growing signs that mortgage loan performance may have peaked. The increase in risk layering in residential mortgage lending as well as recent market and institutional developments support this perception. Lenders themselves exhibit modest concern about nontraditional mortgage loan quality, as reported in the ***Federal Reserve Board***'s quarterly survey of senior loan officers. Almost 41 percent of respondents believe credit quality on nontraditional loans is likely to decline in 2006, compared with 12 percent who view similar worsening in traditional mortgage loans.[17]

[16] Rapid loan growth can mask increases in nonperforming loans. Because delinquencies or losses generally do not appear for some time after loans are originated, growth in the numerator of the ratio of nonperforming loans to total loans may show up later than growth in the denominator.

[17] Federal Reserve Board, *Senior Loan Officer Opinion Survey on Bank Lending Practices*, January 2006.

## Outlook for Nontraditional Mortgages

The growing popularity of nontraditional products may have moved the mortgage credit cycle into uncharted territory. Industry analysts are uncertain how loans such as IOs and pay-option ARMs might perform in periods of rising rates or in stagnant housing markets. Recent media attention has highlighted the risk of payment shock when interest rates are adjusted, or reset, for IOs and hybrid ARM products. Despite favorable delinquency and default trends thus far, analysts fear that the current rising interest rate environment, combined with cooling home price appreciation, will limit borrowers' options when they face large monthly payment increases. Homeowners who have not built up sufficient equity to either cover the cost of refinancing or pay down additional debt could face delinquency, particularly within the subprime markets.[18]

A recent ***Fitch*** analysis warns that the payment shock associated with subprime IOs of 2005 vintage is strong even if rates do not rise. When rates do reset, these loans' high margins and low initial rates will make the monthly payment increases significantly greater than the increase from principal. Despite favorable performance of previous years' subprime IOs, the ratings agency expects subprime IO loan delinquency rates to increase, because those borrowers may not be able to keep up with payment increases, especially if the housing market softens.[19]

Although some analysts emphasize borrowers' susceptibility to increasing monthly payments, others foresee a more balanced outcome. A national analysis of mortgage payment reset undertaken by ***First American Real Estate Solutions*** suggests that mortgages originated or refinanced before 2004 have built sufficient equity as a result of strong home price appreciation and are not as likely to default.[20] This study also puts the volume of potential loss associated with interest rate resets into perspective, finding that the volume of ARM defaults is relatively small compared to overall mortgage originations. The majority of homeowners will not be significantly adversely affected by reset.

[18] James R. Hagerty, "At the Doorstep: Millions Are Facing Monthly Squeeze on House Payments," *Wall Street Journal*, March 11, 2006.
[19] Suzanne Mistretta, "Rating Subprime RMBS Backed by Interest-Only ARMs," *Fitch Ratings Structured Finance,* March 9, 2006.
[20] Christopher Cagan, "Mortgage Payment Reset: The Rumor and the Reality," *First American Real Estate Solutions,* February 8, 2006.

## Regulatory Guidance for HELOCs and Nontraditional Products

To address potential concerns associated with risk layering and changes in mortgage lending practices, federal bank regulators issued guidance in May 2005 on home equity lending and proposed guidance in December 2005 on nontraditional mortgages.[21] While acknowledging that nontraditional IOs and pay-option ARMs may benefit some borrowers, the proposed guidance targets lending to borrowers who qualify for loans according to initial minimum payments but who may have difficulty making future payments as a result of delayed or negative amortization. Furthermore, the proposed guidance addresses a number of specific issues—including product development, underwriting compliance, and risk-management functions—to help lenders and customers address the uncertainty raised by nontraditional mortgage products.

Some lenders contend that the loans discussed in the proposed guidance are made only to borrowers with high credit scores and larger down payments. Comments also suggest that the guidance, as proposed, could penalize legitimate lenders and limit market competition.[22] However, investors at a recent housing finance symposium did not share this view—MBS investors voiced concern about easing underwriting standards, calling them "lax" and "too lenient," particularly in subprime markets where the weakest borrowers are choosing ARMs.[23] These varied opinions aside, the challenges of today's complex mortgage market call for an approach that encourages sound underwriting without inhibiting innovation, which regulators recognize has created opportunities for millions of homeowners.

[21] The federal bank regulatory agencies include the Office of the Comptroller of the Currency, Federal Reserve Board, FDIC, Office of Thrift Supervision, and National Credit Union Administration. For the home equity lending guidance, see "Credit Risk Management Guidance for Home Equity Lending," May 2005, http://www.fdic.gov/news/news/press/2005/pr4405a.html. For the proposed guidance on nontraditional mortgage loans, see "Interagency Guidance on Nontraditional Mortgage Products," December 2005, http://www.fdic.gov/news/news/press/2005/Guidance_on_non_traditional_mortgages.pdf.
[22] Kenneth R. Harney, "Should Risks Beget Rules?" *Washington Post*, April 8, 2006.
[23] Bancroft, *Inside MBS & ABS*, April 7, 2006.

## Conclusion

The mortgage credit cycle has changed dramatically during the past several decades. More than other lending types, mortgage lending practices have been shaped by government influence and product innovation. More recently, rapid home price escalation has constrained housing affordability in many regions of the country, contributing to rising demand for nontraditional mortgages as borrowers try to maximize purchasing power. Mortgage originators have found ways to accommodate borrower demand, offering new mortgage products and extending loans further along the credit spectrum.

These developments in the mortgage cycle have led to increased credit risk held by both homeowners, as they have sought to stretch affordability during an unprecedented housing boom, and by investors seeking yield. The benign credit landscape of recent years may have encouraged increased risk taking.

Based on historical experience, and despite recent strong performance, a gradual rise in delinquency and foreclosure rates could occur over the next few years. Mortgage delinquencies are likely to increase over time as rising interest rates and the expiration of below-market teaser rates result in higher monthly payments for many borrowers. Some households with limited financial assets, lower incomes, or an inability to refinance due to poor credit, lack of appreciation, or high leverage may not be able to accommodate these higher payments. Finally, if a recession or other severe economic shock were to send local home prices and incomes sharply lower, or interest rates sharply higher, this additional stress could contribute to higher mortgage losses.

However, banks and thrifts will head into the next phase of the mortgage credit cycle from a position of strength. In recent years, the industry has generated record earnings and reached near-record capital levels. Given a gradual transition to higher delinquency and foreclosure rates and assuming only modest potential declines in collateral values, it does not appear at this time that deteriorating mortgage credit performance would present unmanageable risks to most FDIC-insured institutions.

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# *Appendix*

## *Overview of Nonprime Mortgage Lending and Nontraditional Mortgage Product Terms*

***Subprime Lending***

Subprime lending refers to higher-interest loans that involve elevated credit risk. For example, borrowers with Fair Isaac and Company (FICO) credit scores below 620 are generally viewed as higher risk and thus ineligible for prime loans unless they make significant down payments. While many subprime borrowers score above this threshold, they are still considered high risk because of other issues regarding down payment, income documentation, or credit standing. Conventional and subprime loan interest rates have a typical spread of less than 2 percent.

***Alternative-A Mortgage***

An Alternative-A, or Alt-A, mortgage can be made to borrowers who have marginal to very good credit where traditional underwriting guidelines for standard complying loans have been expanded. Alt-A mortgages may include those with (1) no credit score or credit scores higher than subprime, (2) nonowner-occupied homes, (3) a loan-to-value ratio greater than 80 percent and no mortgage insurance, or (4) high debt-to-income ratios that are not considered subprime.

***Interest-Only Mortgage***

In a nontraditional, interest-only (IO) mortgage, the borrower is required to pay only the interest due on the loan for the first few years, during which time the rate may be fixed or fluctuate. After the IO period, the rate may be fixed or fluctuate based on the prescribed index; payments consist of both principal and interest.

***Payment-Option Adjustable-Rate Mortgage***

A payment-option adjustable-rate mortgage (ARM)—also known as a flexible-payment ARM, pay-option ARM, option ARM, or PO—is considered nontraditional in that it allows the borrower to choose from a number of payment options. For example, the borrower may choose either a minimum payment option each month based on an introductory interest rate, an IO payment option based on the fully indexed interest rate, or a fully amortizing principal-and-interest payment option based on a 15- or 30-year loan term plus any required escrow payments. The minimum payment option can be less than the interest accruing on the loan, resulting in negative amortization. The IO option avoids negative amortization but does not allow principal amortization. After a certain number of years, or if the loan reaches a certain negative amortization cap, the required monthly payment amount is refigured to require payments that will fully amortize the outstanding balance over the remaining loan term.

***Reduced Documentation***

A reduced-documentation loan feature is commonly referred to as a "low doc/no doc," "no income/no asset," "stated income," or "stated assets" feature. When applied to mortgages, a lender sets reduced or minimal documentation standards to corroborate a borrower's income and assets.

***Simultaneous Second-Lien Loan***

A simultaneous second-lien loan, also referred to as a "piggyback loan," is a lending arrangement where either a closed-end second lien or a home equity line of credit is originated at the same time as the first-lien mortgage loan, usually taking the place of a larger down payment.

*Sources:* FDIC; Edward M. Gramlich (speech, Financial Services Roundtable Annual Housing Policy Meeting, Federal Reserve, Chicago, Illinois, May 21, 2004); and Office of the Comptroller of the Currency, Federal Reserve Board, FDIC, Office of Thrift Supervision, and National Credit Union Administration, proposed "Interagency Guidance on Nontraditional Mortgage Products," December 2005.