Demographics ARE DESTINY

BY
JAMIE
WOODWELL

The bulge of commercial/multifamily loans made during the boom years of 2006 and 2007 will have major market effects for many years to come.

For the past half-century, many of the key social and economic trends that have affected the United States have had demographics at their roots. The baby boom, baby bust and Generation Y have all led to fundamental shifts in demand for schools, apartments, single-family and vacation homes and driven shifting demand for pharmaceuticals, cars, clothes, electronics and myriad other consumer goods. ■ The most extraordinary of these trends have resulted from the remarkable size of the baby-boom generation and its passage through various life stages. And it's not over yet. ■ The commercial real estate market is beginning to feel impacts from a parallel phenomenon—the massive volume (or boom) of loans originated in 2006 and 2007, and the subsequent bust of loan volume in 2008 and now 2009. ■ The demographics of these loans—their numbers, age and their cohort-specific characteristics—are likely to affect commercial real estate finance markets in years to come, in ways just as dramatic as how the aging of the baby boom has been shaping social and economic trends in the United States.

Production cycles

2006 AND 2007: THE BOOM YEARS

The years 2006 and 2007 represent the "boom" for commercial and multifamily mortgages. Improving property markets, strong property value growth, low interest rates and capital-markets innovations combined to push property sales and mortgage originations to record highs. Data from New York–based Real Capital Analytics Inc. show property sales volume increased from $192 billion in 2004 to $276 billion in 2005, to $318 billion in 2006 and to $425 billion in 2007.

The boom was also evident in mortgage originations. The Mortgage Bankers Association's (MBA's) 2008 Annual Origination Volume Summation shows commercial and multifamily originations in these years swelled from $263 billion in 2004 to $394 billion in 2005, to $434 billion in 2006 and finally to $516 billion in 2007 (see Figure 1).

Given the importance of the mortgage life cycle, the lack of newer, younger loans will greatly magnify the impact of the boom-time loans in the years ahead.

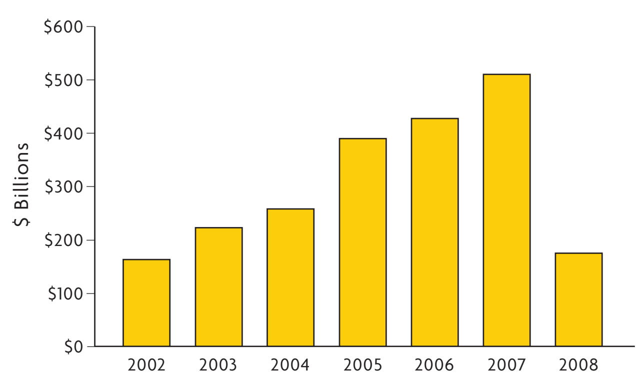
2008 AND 2009: THE BUST IN ORIGINATION VOLUME

The baby-boom generation wasn't defined by its absolute size. It was defined by its size relative to what preceded and followed it. Similarly, the boom in commercial real estate volumes in 2006 and 2007 is set apart in large part by the bust in volumes since the boom—in 2008 and thus far in 2009.

The volume of commercial properties sold in 2008 was 69 percent less than 2007's volume, and commercial mortgage originations were down 64 percent between 2007 and 2008—from $516 billion to $181 billion. First-quarter 2009 numbers show these trends continuing, with property sales down 51 percent from the fourth quarter of 2008 and mortgage originations down 26 percent.

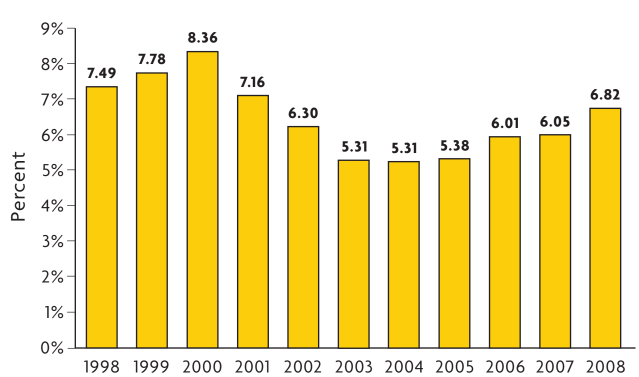
The bust in volumes is important to future trends. With relatively fewer loans from the years before and after the 2006 and 2007 period, the boom-year cohort accounts for a disproportionately large share of the total universe of commercial and multifamily mortgages. Given the importance of the mortgage life cycle, the lack of newer, younger loans will greatly magnify the impact of the boom-time loans in the years ahead.

Figure **1** **Estimated Commercial and Multifamily Mortgage Origination Volumes**



SOURCE: MORTGAGE BANKERS ASSOCIATION (MBA)

Figure **2** **Loan Coupon of 10-Year Amortizing CMBS Mortgages, by Origination Year**



SOURCE: JPMORGAN CHASE

Mortgage life cycle

In their 1999 study of commercial mortgage defaults, *Commercial Mortgage Defaults: An Update,* real estate researchers Howard Esaki, Steven L'Heureux and Mark Snyderman demonstrated the effects of aging on mortgage performance.

Esaki and Masumi Goldman updated that analysis in their 2005 study, *Commercial Mortgage Defaults: 30 Years of History,* and found that loan defaults are relatively low in the first year after origination, and then increase slowly but steadily through the first six or seven years of a mortgage's life, before beginning to tail downward again.

In typical markets, as mortgage volumes increase, the waves of new loans—with age-driven lower delinquency and default rates—push the overall delinquency and default rates down. In periods such as 2006 and 2007—with such large volumes of new, young loans going on the books—industrywide delinquency trends can be significantly altered by the uneven distribution of loan ages. This is one factor explaining why commercial mortgage delinquencies hit record lows during these years.

Now, as those loans age and few new, younger loans are taken on, the natural aging of the mortgage population begins to work the other way—with expected increases in delinquencies from the aging of the cohort disproportionately driving up the overall delinquency/default rates.

Given the current stress on the economy and credit markets, this is just one of many factors at play. Esaki and Goldman noted that "the timing and total defaults of a cohort are highly dependent on its position in the real estate cycle."

The timing and place within the real estate cycle affect loan performance in two ways. The market environment at the time the loan was made affects its terms and underwriting. The real estate cycle also dictates the market conditions in which that loan will be expected to perform. Both of these factors will play key roles in differentiating boom-year loans from other cohorts.

Characteristics of cohorts

Commercial and multifamily mortgages made in different periods have different characteristics. And given the dramatic circumstances of the last few years, many of those differences within the current pool of outstanding mortgages are significant.

RATES

Over the period from 1960 to the early 1980s, long-term interest rates endured a slow and steady run-up, with the 10-year Treasury bond rising from 3.8 percent in December 1960 to peak at more than 15 percent in September 1981. In the years since, rates have reversed course and now stand in the 3 percent to 4 percent range.

During 2006 and 2007, when investors were flocking to commercial mortgages and commercial mortgage-backed securities (CMBS), the credit-spread investors demanded above the 10-year Treasury or other base rate was also compressed, pushing mortgage rates to historically low levels. As a result of the downward trend in both of these rates, successive generations of commercial and multifamily mortgages have seen lower incremental base interest rates as well as all-in mortgage rates.

The combination of lower base rates and lower credit spreads pushed mortgage rates down considerably. According to data from New York–based JPMorgan Chase, amortizing 10-year CMBS loans that were made in 2000 and are currently outstanding have an average coupon of 8.36 percent (see Figure 2). The average mortgage rate drops to 7.16 percent for loans made in 2001; 6.30 percent for loans made in 2002; and 5.31 percent for loans made in 2003 and 2004.

Rates rose slightly to 5.38 percent in 2005, then went up to 6.01 percent in 2006 and 6.05 percent in 2007. Even though Treasury rates dropped in 2008, significantly increased credit spreads meant loans saw the average coupon jump to 6.82 percent.

From the demographics perspective, this variability in rates means these different loan cohorts will behave differently in different interest-rate environments.

Properties with loans made during the late 1990s and early 2000s have been covering payments based on higher mortgage interest rates. This provides a greater cushion in terms of potential debt-service coverage constraints on any new loan. In addition, it offers the potential that a new loan could be at a lower interest rate, providing additional income to the owner and/or supporting a higher loan amount.

Loans made during the pre-boom years of 2003, 2004 and 2005, on the other hand, currently have extremely low mortgage interest rates. When these loans refinance, the rate environment could have a significant impact on the size of new loan the properties could support. While not as low as the loans made during 2003, 2004 and 2005, commercial mortgages originated during the boom years of 2006 and 2007 also carry relatively low mortgage rates.

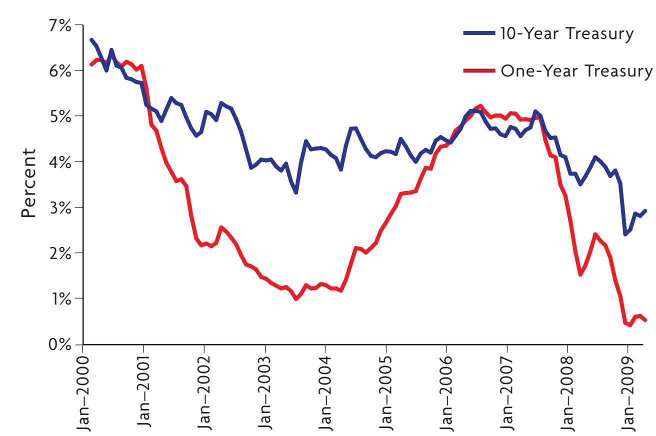
The sheer size of the "boom" cohort, coupled with its low rates, will have a significant impact on both the property sales and mortgage origination markets.

The sheer size of the "boom" cohort, coupled with its low rates, will have a significant impact on both the property sales and mortgage origination markets. To the degree that market rates are higher than the existing coupons, there will be increased incentive for owners to hold onto their properties and existing mortgages. This will likely put downward pressure on transactions of all sorts.

In addition, to the degree that the interest-rate environment—both in terms of base rates as well as credit spreads—is markedly different at loan maturity than it was at origination, the ability of loans to refinance, as well as the loan amounts supported by the new debt service, would be affected.

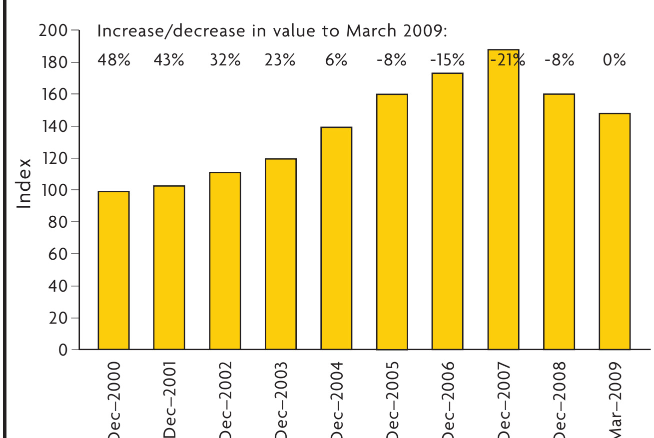
It should be noted that the numbers and discussion earlier are focused on longer-term mortgages. A large volume

Figure **3** **10-Year and One-Year Treasury Rates**



SOURCE: FEDERAL RESERVE BOARD

Figure **4** **Commercial Real Estate Prices (Dec. 2000 = 100)**

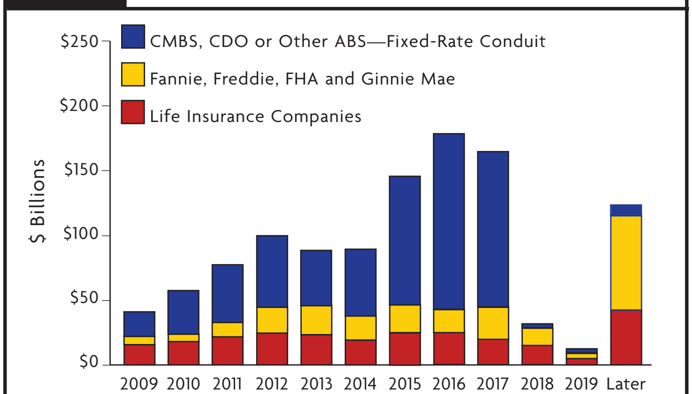


SOURCE: MOODY'S/REAL COMMERCIAL PROPERTY INDEX of shorter-term loans were also made during the boom years. These loans relied on shorter-term base rates. During the boom years, with an inverted yield curve, these shorter-term base rates were relatively high, particularly when compared with today's historically low short-term rates (see Figure 3). As a result, shorter-term loans originated during the boom years and coming due today are likely to face considerably higher credit spreads but significantly lower base rates.

Property values

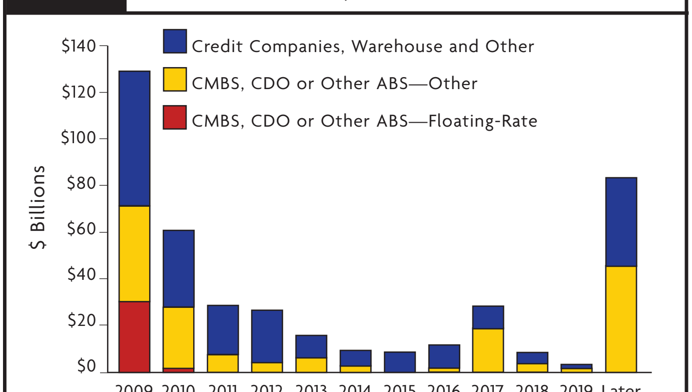
Real estate values are another significant differentiator of loans from different eras. In general, commercial properties will appreciate over time. With the ups and downs of the real estate cycle, however, a property valued or financed at the peak of the market may face some number of years of declining values before the cycle reverses. (This is a major reason why commercial real estate tends to be a longer-term, rather than shorter-term, investment).

Figure 5 Selected Investor Groups' Holdings of Commercial/Multifamily Mortgages, by Year of Maturity, as of Dec. 31, 2008



Sources: MBA and RBS Greenwich Capital

Figure 6 Selected Investor Groups' Holdings of Commercial/Multifamily Mortgages, by Year of Maturity, as of Dec. 31, 2008



Sources: MBA and RBS Greenwich Capital

> **Loans from the boom years will likely see a greater variance between their performance and their underwriting than will loans from other cohorts.**

Given the current place in the real estate cycle, as well as the severity of this cycle's impact on prices, properties sold or valued during the boom years of 2006 and 2007 have, on average, lost value.

According to the Moody's/REAL Commercial Property Index, between December 2005 and March 2009, average property values dropped 8 percent (see Figure 4). Between December 2006 and March 2009, average values dropped 15 percent, and between December 2007 and March 2009, average values dropped 21 percent. As a result, many of the loans made during the boom have seen a decrease in the value of the property.

Pre-boom properties and loans face a different set of circumstances. Even with the recent price declines, properties sold or valued in years prior to 2005 have, on average, seen increases in their value.

As with rates, differences in the relative values of properties with respect to their values at loan origination will mean differences in the way they track through their life cycles. Owners of properties from earlier cohorts, which have seen price appreciation, may have incentives to sell or refinance even in today's stressed environment. Owners of properties from the boom years, however—some of whom see current market prices lower than their mortgage amounts—will likely find few incentives to sell or refinance their properties. This is likely to have a significant effect on origination volumes in coming years.

It is important to note that even with declines in values, owners of commercial properties continue to see income and, to the degree net operating income exceeds mortgage payments, will continue to see positive income yields.

Underwriting

Loan underwriting also will vary considerably by cohort. In times of wide capital availability, underwriting—and pricing—tends to be loosened as a consequence of increased competition. As credit tightens, underwriting follows suit.

The wide availability of capital during the boom years of 2006 and 2007 led to a loosening of loan terms and underwriting. This includes a greater use of interest-only loans, greater reliance on expected rather than historical property performance, and other factors.

As a result, loans from the boom years will likely see a greater variance between their performance and their underwriting than will loans from other cohorts. With the mortgage bust came a reversion to far tighter underwriting—a fact that will further differentiate the two cohorts.

Investor groups

Just as different racial and ethnic groups differ in their basic demographics, so do loans held by different investor groups. Individual investor groups have been more and less active during different periods, which can affect their portfolios based on all the aforementioned considerations.

According to the American Council of Life Insurers

(ACLI), Washington, D.C., life insurance companies committed $44 billion to commercial mortgages in 2006—equal to 19 percent of their total commercial/multifamily mortgage portfolios at the end of that year. In 2007, they committed an additional $43 billion, representing 17 percent of their portfolio balances at the end of 2007.

This implies that roughly one-third of life insurance company loans were originated in 2006 and 2007.

Likewise, in its *2009 First Quarter Credit Supplement*, Fannie Mae reported that 25 percent of its multifamily guarantee book of business was acquired in 2007 and 11 percent in 2006, meaning 36 percent of its multifamily book of business came from the boom years—similar to that of the life companies.

The CMBS market, which clearly drove much of the mortgage boom in 2006 and 2007, is also now the most driven by it.

(The Fannie Mae numbers include the purchase of seasoned pools as well as new originations, so the overall share originated during the boom years is likely lower than 36 percent, but still significant.)

While larger than other cohorts as a percentage of their portfolios, the life companies' and Fannie Mae's exposure to boom-year mortgages is not as great as that of the CMBS market.

The CMBS market, which clearly drove much of the mortgage boom in 2006 and 2007, is also now the most driven by it. According to data from JPMorgan, among loans currently outstanding in fixed-rate CMBS, more than half (51 percent) of the dollar volume was originated during 2006 and 2007. Among large-loan, floating-rate CMBS, the share is even higher.

As a result, the cohort difference described here will have more pronounced effects on the CMBS market than on many other investor groups.

Maturities

In early 2009, MBA conducted a study of commercial mortgage maturity volumes. The survey found that the volume varies considerably by investor type, but the impact of the mortgage-boom cohort is seen throughout the findings.

Longer-term loans

The majority of commercial and multifamily mortgages are longer-term, fixed-rate loans. This is particularly true for loans held by life insurance companies, Fannie Mae and Freddie Mac, and loans held in fixed-rate conduit CMBS. These groups account for approximately three-quarters of the commercial mortgage debt outstanding held by nonbank institutions.

Because of the longer-term nature of these loans, and the ebbs and flows of production volumes, a relatively small volume of these loans will be maturing in each of the coming years. Only 4 percent of the outstanding balance of loans held by these groups matures in 2009, 5 percent in 2010, 7 percent in 2011 and 9 percent in 2012.

Some of the increase in 2011 and 2012 is driven by five-year loans made during the boom years, but the bulk of what will be maturing will likely be 10-year loans made in the early 2000s.

Looking further out, only 8 percent of mortgages held by these investor groups are set to mature in each of the years 2013 and 2014, but a full 45 percent have maturity dates in the years 2015, 2016 and 2017—10 years after the boom years of 2005, 2006 and 2007 (see Figure 5).

Shorter-term loans

But the commercial mortgage market also has a significant group of loans that are structured with shorter-term maturities. In general, the borrowers of these loans have shorter investment horizons for the properties they own, and the lenders have a shorter-term liability mix they are working to match. Floating-rate and other non-fixed-rate conduit CMBS and credit companies hold approximately $425 billion in commercial mortgages, or one-quarter of non-bank totals.

A full 30 percent of these loans are set to mature in 2009 and another 14 percent in 2010 (see Figure 6). The shorter terms mean that most of these loans—which will mature in the face of the current economic, credit and real estate stress—were originated during the boom years and with many of the characteristics of that cohort described earlier.

Bank and thrift loans

The numbers given here purposefully exclude loans held in the portfolios of banks and thrifts, which have a set of demographics all their own. Because of the liability structure banks face, many of these loans will be shorter-term. They will also tend to include a large number of small commercial loans made by local and regional commercial banks and thrifts.

For this reason, they will also be more likely to be tied to the borrower through recourse, personal loan guarantees or other features. Because of the large number of institutions, there is relatively little information on the demographics of these loans.

What this all means

The extraordinary volume of property sales and mortgage originations that took place in the years 2005, 2006 and 2007 established a cohort of mortgages whose size and period-specific characteristics will shape the market over the next decade.

Not only are these loans likely to perform and act in ways that will differ from loans made during other periods, but the fact that such a large share of the outstanding mortgages will be passing through certain mortgage "life stages" together will also influence nearly every part of the market. That goes from property sales to mortgage originations to loan and bond servicing and investing. Demographics is, to quote self-described social ecologist Peter Drucker, "The future that has already happened." **MB**

Jamie Woodwell is vice president of commercial real estate research for the Mortgage Bankers Association (MBA) in Washington, D.C. He can be reached at jwoodwell@mortgagebankers.org.