



Commercial/Multifamily Real Estate Finance (CREF) Markets — 2018

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Introduction

2017 was the strongest year on record for commercial and multifamily real estate finance. Mortgage bankers closed a record-high \$530 billion in loans backed by commercial and multifamily properties; the total amount of mortgage debt outstanding grew to \$3.1 trillion; and for most capital sources, mortgage delinquency rates were at or near all-time lows.

2018 carries forward much of that momentum but a series of headwinds and tailwinds are matching up to raise the level of uncertainty about how the year as a whole will play out.



Headwinds & Tailwinds

There are always some forces pushing commercial real estate finance (CREF) markets forward at the same time other forces are holding them back. Supply and demand of space are the most obvious examples — and the key drivers of the traditional ups-and-downs of the real estate cycle.

In 2018, CREF markets are ending a decade dominated by tailwinds, during which the recovery from Global Financial Crisis helped propel property fundamentals and values, and the supply and performance of commercial mortgages, to historic levels. Now, as the market enters a new phase, headwinds and tailwinds are gaining more balance. Among today's key headwinds are rising interest rates, slowing NOI growth, upward pressure on capitalization rates and slowing property sales. Key tailwinds include the growing economy, ample investment capital and near-term impacts of tax reform.

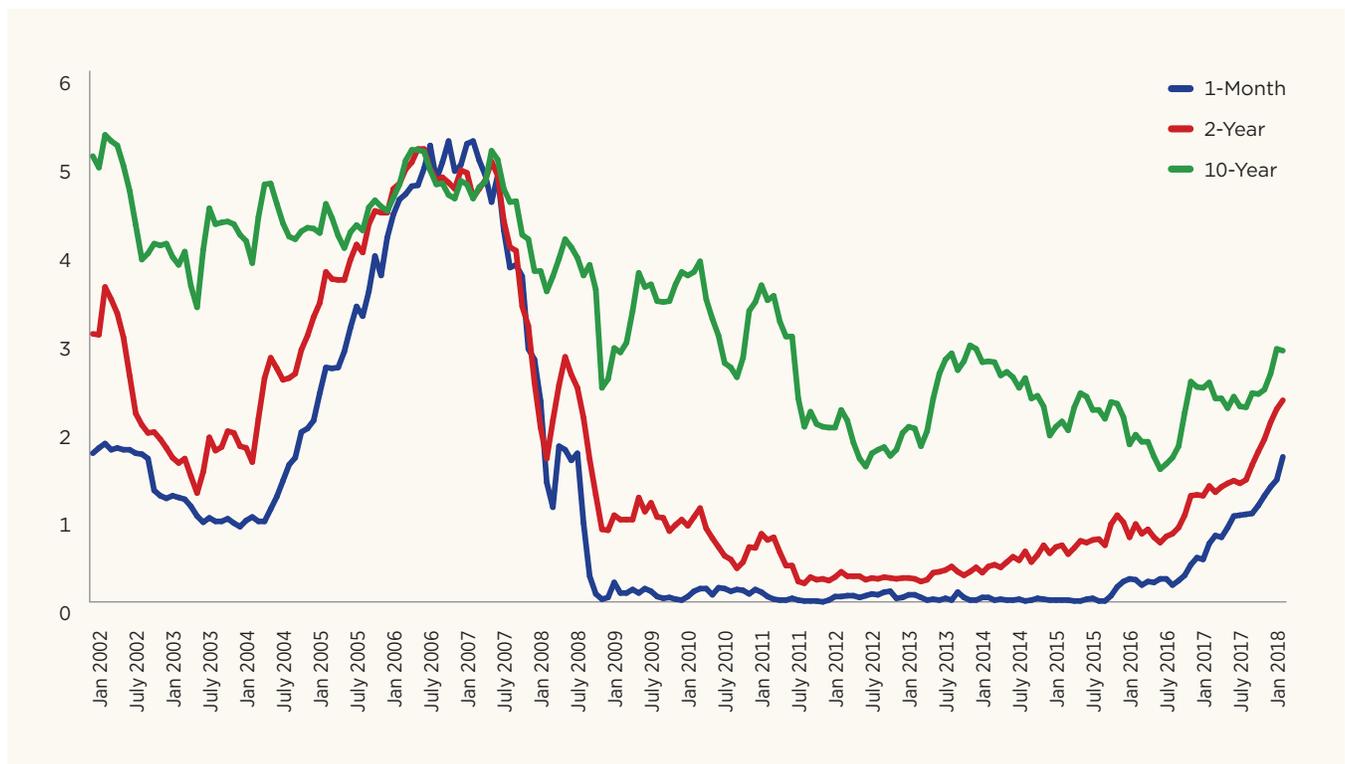
How all these balance out will dictate the tone of the next act for commercial real estate finance markets.

HEADWINDS

Rising Interest Rates

Following the 2016 election, long-term Treasury yields jumped 90 basis points — with the yield on the ten-year Treasury rising from an average of 1.6 percent in October 2016 to an average of 2.5 percent in December 2016. Rates were range-bound for much of 2017 — with monthly averages of rates generally holding between 2.2 percent and

FIGURE 1. YIELDS ON SELECTED TREASURY SECURITIES



Source: Federal Reserve Board.

2.4 percent. In January of 2018, however, the cumulative effects of Federal Reserve policies, tax cuts, deficit concerns and what appears to have been the first signs of meaningful wage growth all led to a second leg up — with rates rising to an average of 2.9 percent during February 2018 from the 2.4 they averaged in December 2017. Interest rates remain low on an historical basis, but the recent trend has been decidedly upward.

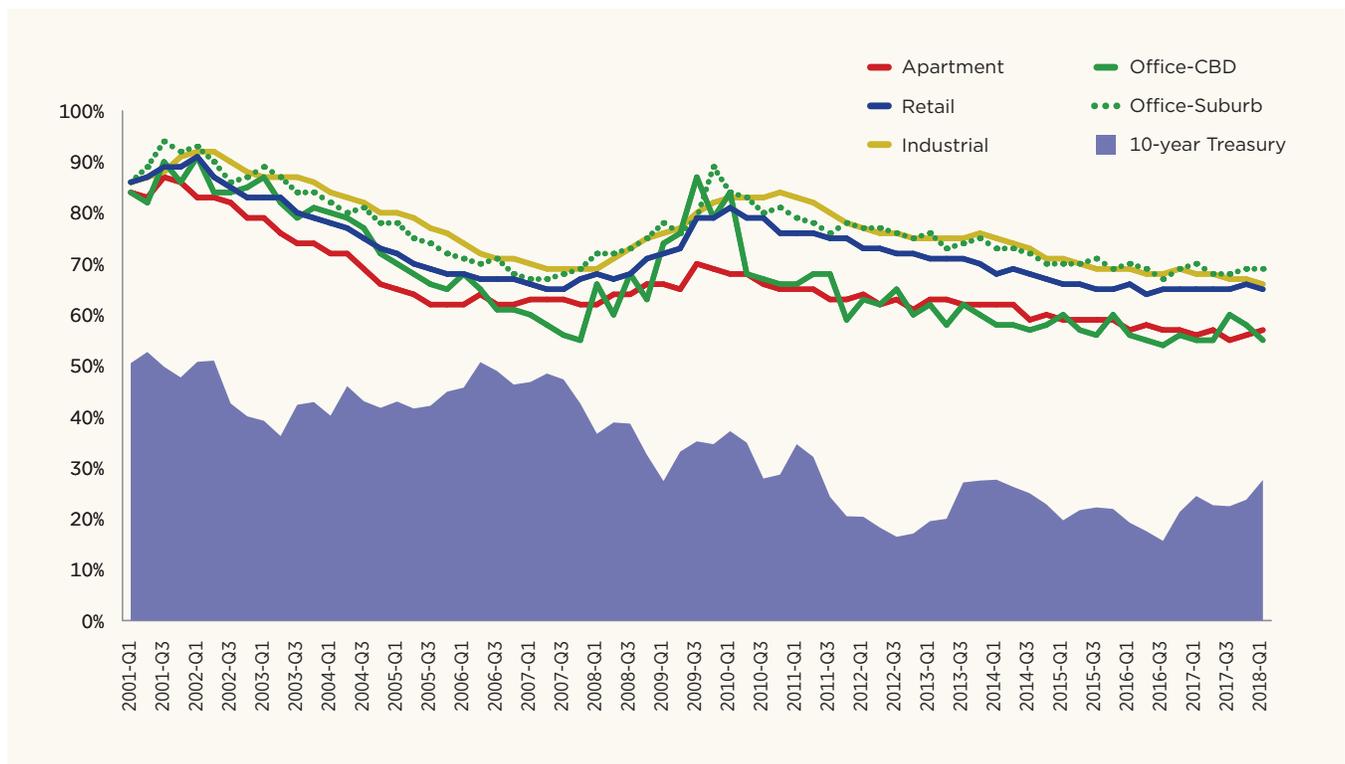
The rise in Treasury yields has not translated directly into higher rates for other borrowers. Strong investor demand across investment classes has pushed credit spreads lower, meaning all-in rates have risen more slowly than Treasuries. Spreads on commercial mortgage backed securities (CMBS) have tightened as Treasuries gapped out — with the spread-to-swaps for ten-year AAA last cash flow bonds falling from 115 basis points at the end of September 2015 to 62 basis points at the beginning of March 2018. CMBS wasn't alone. Over the same period, spreads on corporate 7- to 10-year cash bonds fell from 159 basis points to 111 basis points; Fannie Mae DUS 10/9.5 spreads fell from 80 basis points to 50 basis points; and Freddie Mac K-series A2 bond spreads fell from 70 to 43 basis points. MBA benchmarking data shows that commercial and multifamily lending

spreads followed suit, with a median spread for a ten-year fixed rate loan falling from 224 basis points in January 2016 to 176 basis points in December 2017.

Even so, interest rates in 2018 are higher than they were in 2017, which affects the commercial mortgage market in two key ways. First, higher mortgage rates increase borrowing costs for property owners. All else being equal, higher mortgage rates increase monthly interest payments and reduce the return for property owners. They also pressure loan underwriting and sizing — lowering the debt service coverage ratio (DSCR) and potentially limiting the amount a property owner can borrow.

A second key way higher rates impact mortgage markets is through their (tenuous) relationship with capitalization rates. A number of studies have looked at the relationship between long-term interest rates and cap rates, and — as happens with most interesting topics — have come to contrary conclusions. The general perception of real estate professionals is that higher base yields cannot help but put upward pressure on cap rates. Looking over a multi-decades-long period, however, cap rates have ranged both higher and lower than the 10-year Treasury.

FIGURE 2. COMMERCIAL/MULTIFAMILY CAPITALIZATION RATES



Source: Real Capital Analytics and Federal Reserve Board.

Regardless, cap rates are currently at or near record lows for many property types, and expectations are that those rates are likely headed higher in sympathy with base interest rates. Like other rates, the spread to Treasuries is likely to tighten, but is unlikely to absorb the full increase. The resulting rise in cap rates would put downward pressure on property values, which can affect transaction volumes as well as the other key underwriting/sizing criteria, loan-to-value (LTV) ratios.

The expected rise in interest rates is one of the larger headwinds facing commercial real estate finance markets.

Slowing Net Operating Income Growth

The Global Financial Crisis (GFC) hit property fundamentals hard and led to increases in vacancy rates, decreases in asking rents and declines in net operating incomes (NOIs). Among office properties, vacancies rose from 12.6 percent at the end of 2007 to 17.6 percent at the end of 2010, leading to a 3.4 percent drop in asking rents and a 2.4 percent drop in net operating incomes (NOIs). For retail properties, vacancies rose from 7.5 percent to 11.0 percent, rents fell by 2.4 percent and NOIs fell by 5.5 percent. Among apartment properties, vacancies rose from 5.7 to 6.6 (but were already a year into rebounding). With the rental market benefitting from the housing bust, apartment rents actually rose by 1.9 percent and NOIs rose by 9.7 percent.

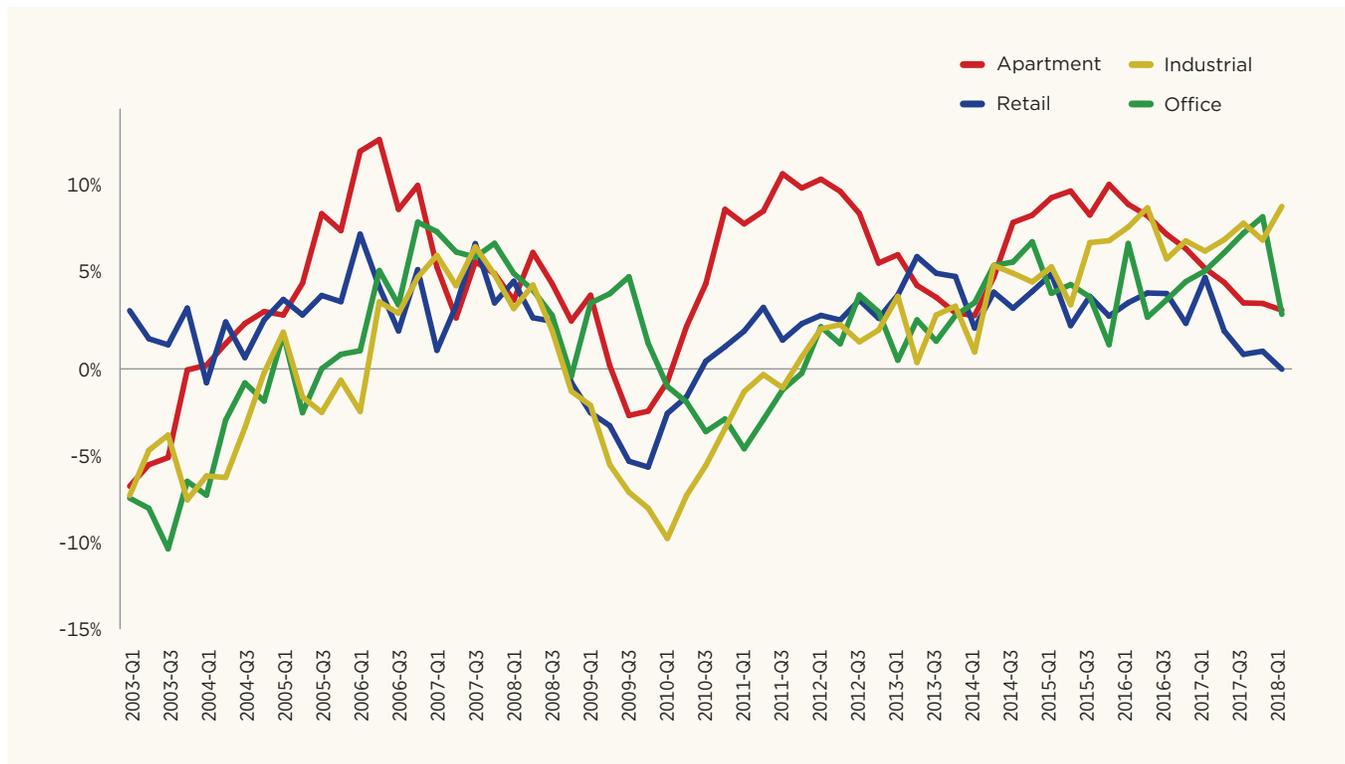
In the years since, the rising economic tide has lifted all property types. Office vacancy rates ended 2017 at 16.4 percent, retail at 10.0 percent and multifamily at 4.5 percent. Until the first quarter of 2018, year-over-year NOI growth had been positive for every major property type every quarter since the end of 2011.

Economic growth is expected to continue to drive NOI increases. A recent survey of members of the Pension Real Estate Association (PREA), a group of investors in higher-quality commercial real estate properties, anticipates solid income returns to continue over coming years. But the pace of growth is unlikely to match the last few years when strong demand was met with little new supply. The downshift in the pace of NOI growth isn't so much a headwind for the market as it is the reduction of a tailwind. The strong steady growth in property cash flows has buoyed borrowers' abilities to payback mortgages and increased the debt service a property could bear. Slower increases in NOIs will curtail that growth.

Slowing Property Value Growth

Another key takeaway from the PREA survey is that while income growth is expected to remain strong, the appreciation return from commercial real estate is expected to decline. Property values have grown significantly in recent years — by 10.1 percent in 2015, 8.7 percent in 2016 and 7.6

FIGURE 3. YEAR-OVER-YEAR NOI GROWTH AMONG NCREIF PROPERTIES

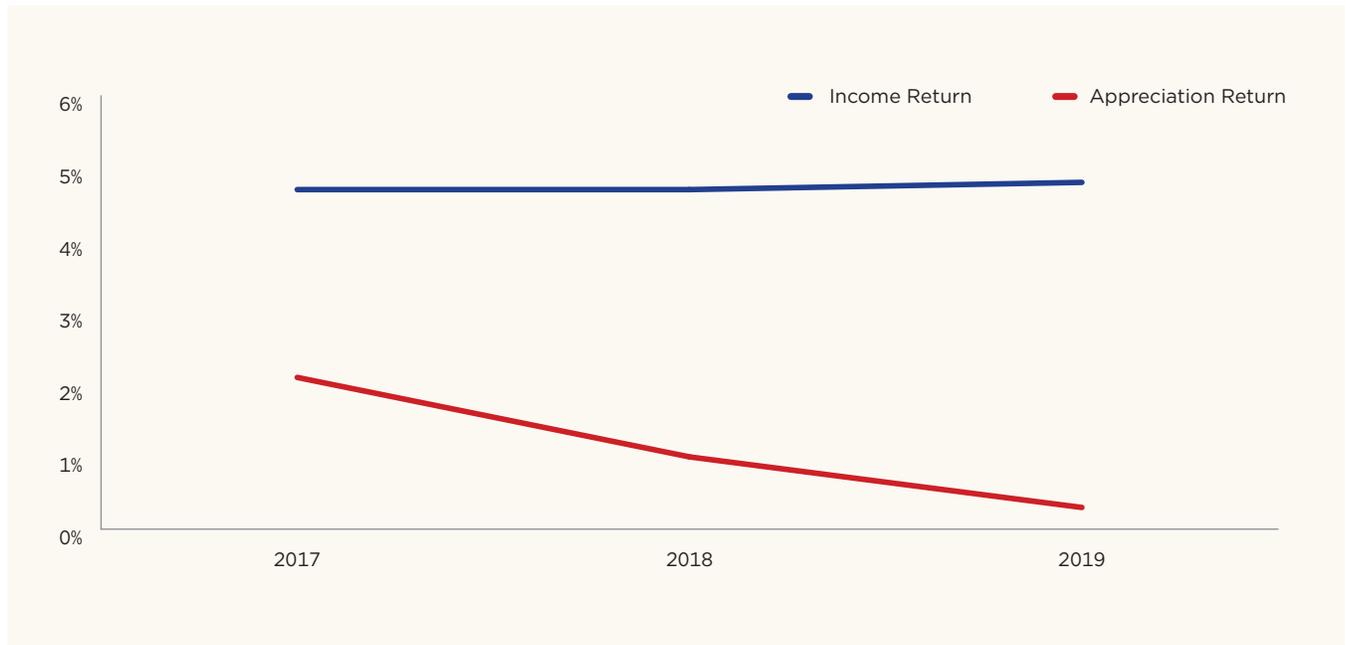


Source: NCREIF.

percent in 2017. In 2017 alone, property values increased by 11.1 percent for apartment properties, 9.3 percent for industrial, 3.5 percent for office and 3.0 percent for retail. But the slowdown in NOI growth, coupled with pressure on cap rates, is putting pressure on that growth.

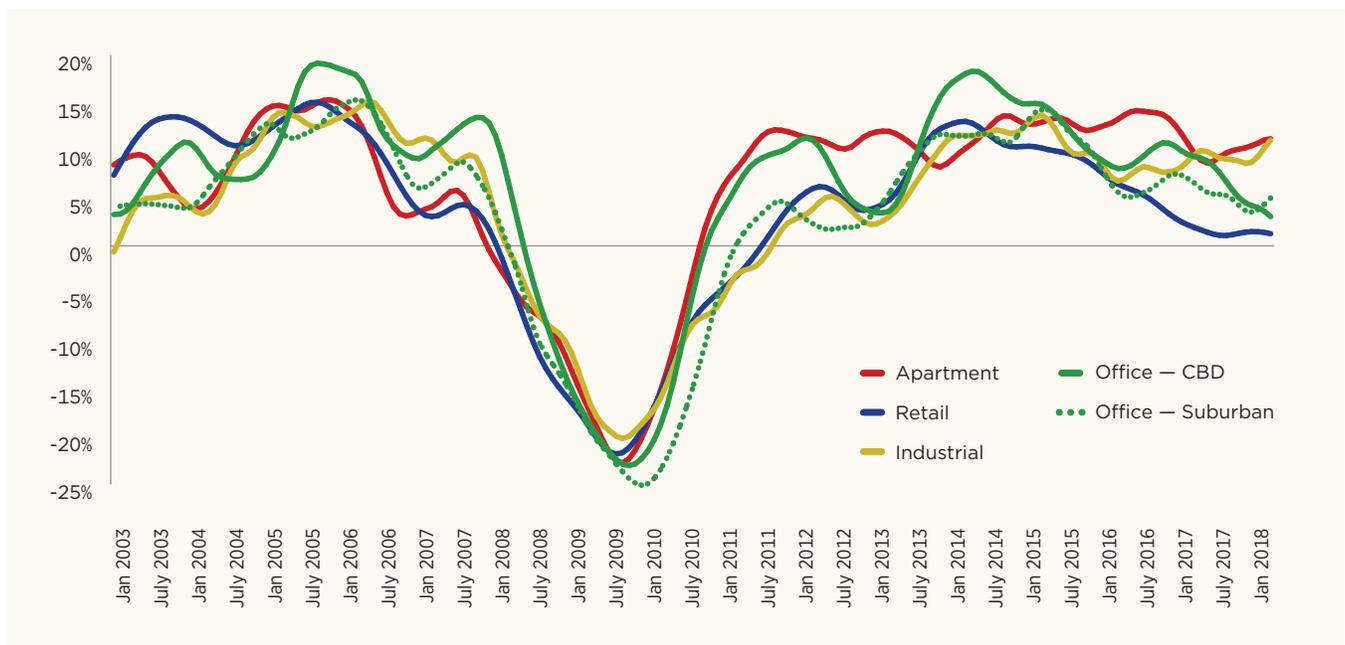
Based on data from the National Council of Real Estate Investment Fiduciaries (NCREIF), one can dig into the contributions that changes in cap rates and changes in NOIs have on property values. For three years before the last recession and seven after, year-over-year growth in

FIGURE 4: PREA FORECAST OF NCREIF RETURNS



Source: PREA and NCREIF.

FIGURE 5. YEAR-OVER-YEAR CHANGE IN PROPERTY PRICES



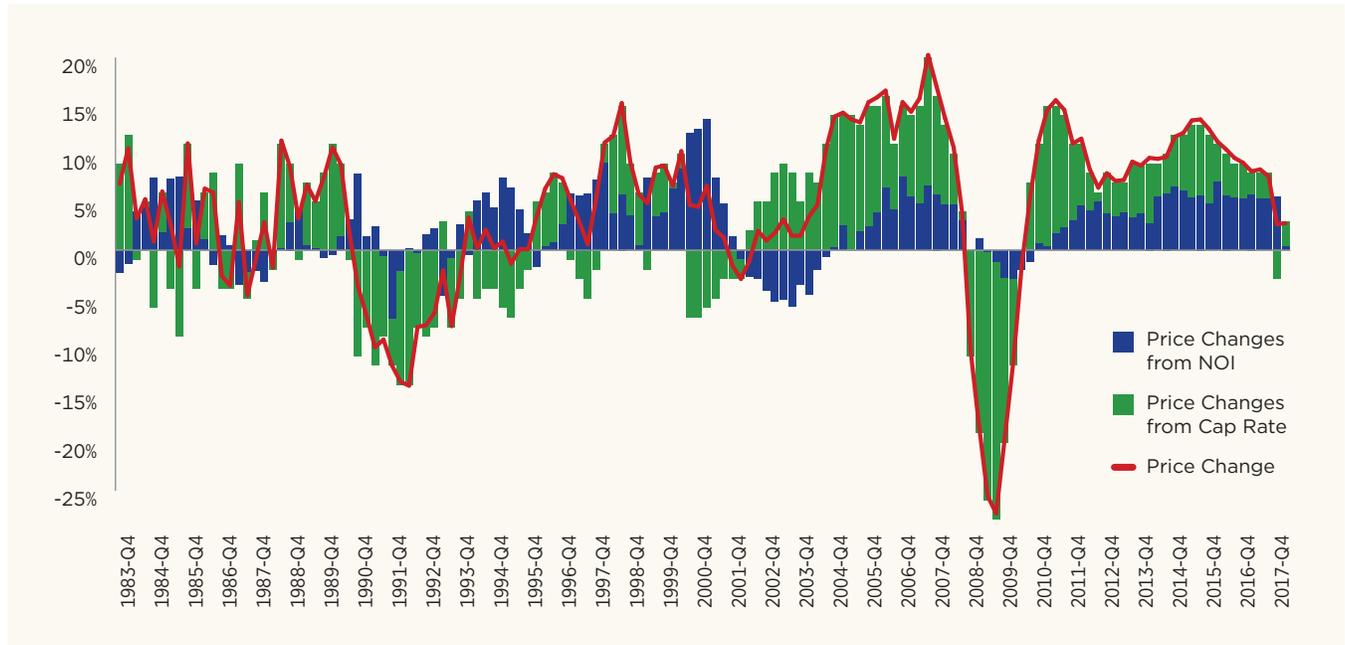
Source: Real Capital Analytics.

NOIs and declines in cap rates both contributed positively to property values. The fourth quarter of 2017, however, saw cap rates decline from a year earlier, placing a drag that brought year-over-year property value growth from 8 percent in Q3 to 3 percent in Q4. And during the first

quarter of 2018, a decline in income among office properties brought aggregate NOI growth to a stand-still.

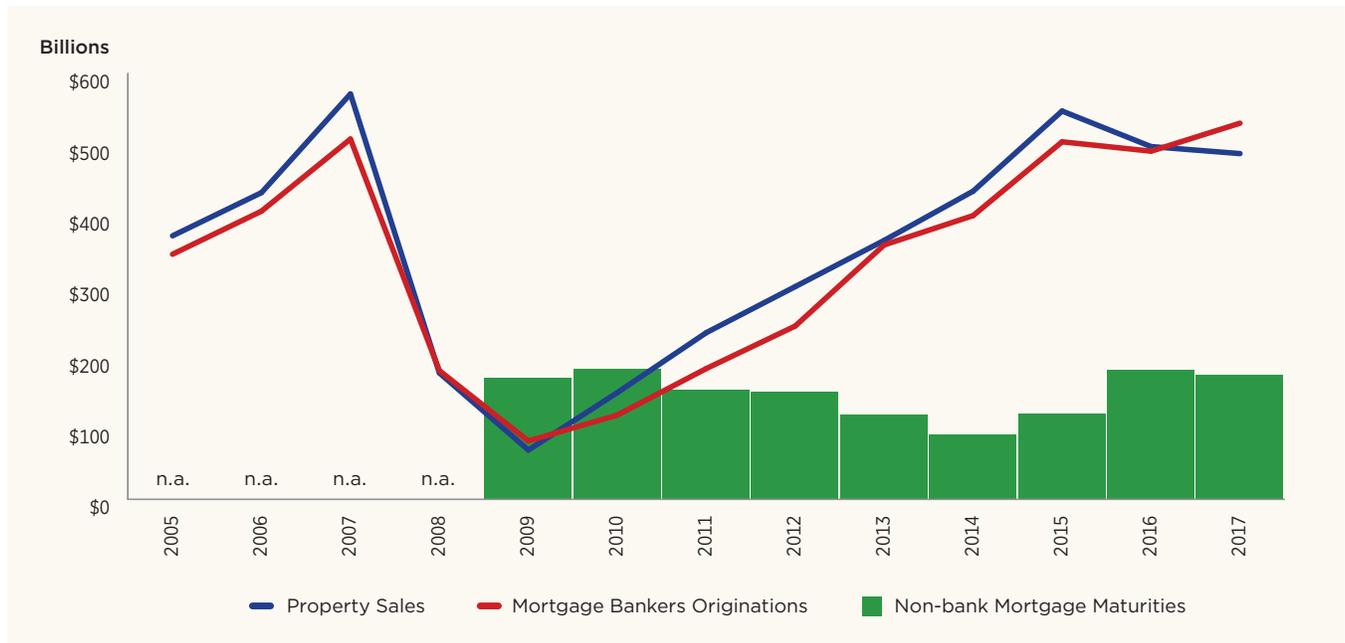
Between a downshift in the growth in property NOIs and upward pressure on cap rates, it is unlikely property values

FIGURE 6. CONTRIBUTIONS TO COMMERCIAL PROPERTY PRICE CHANGES



Source: NCREIF.

FIGURE 7. COMMERCIAL/MULTIFAMILY PROPERTY SALES, MORTGAGE BANKERS ORIGINATIONS AND NON-BANK MATURITIES



Source: MBA CREF Database and Real Capital Analytics
NOTE: Maturities not available prior to 2009.

will continue to increase the way they have in recent years. As a thought experiment, if over the next ten years, ten-year Treasury yields revert to the median of their monthly values since 1990 (4.56 percent), cap rate spreads revert to their quarterly median over the same period (2.95 percentage points) and NOIs grow at the median annual rate seen since 1990 (3.5 percent), property prices would decline by 7 percent. It's important to remember that a lot has changed since 1990 and that reversion to the mean isn't always the best hand to play.

Slowing Property Sales

Another headwind for mortgage finance markets in 2018 is the slow but steady decline in property sales transactions. Over the last decade, sales transaction activity and mortgage origination volumes have been tightly correlated. Numbers from MBA's annual origination volume summation and from Real Capital Analytics (RCA) of commercial property sales of \$2.5 million or more have tracked each other closely. That relationship "broke" in 2017, as RCA reported a 5 percent decline in sales volume and MBA reported an 8 percent increase in originations.

2018 is continuing the trend of relatively slower sales transactions volumes, with sales in the first quarter of 2018 up 5 percent from 2017's first quarter, but down 24 percent from 2016 levels. Potential buyers' may be put-off by expecta-

tions of slower property price appreciation, at the same time that potential sellers anticipate property cash flows will continue to be strong and that they can tap mortgage and other finance markets to extract accrued value.

TAILWINDS

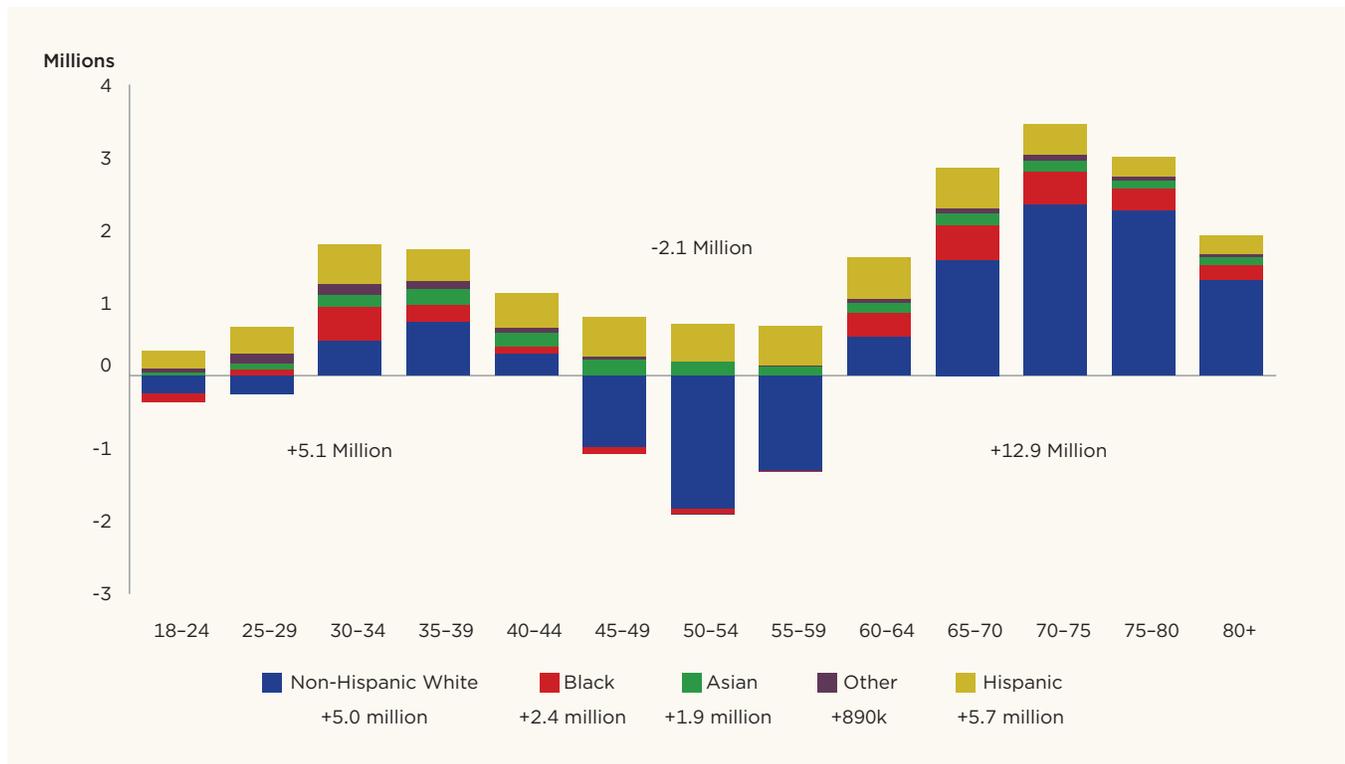
At the same time the market is facing the headwinds described above, there are significant tailwinds that will be pushing the markets forward.

Growing Economy

Much has been made of the slower pace of growth the United States has experienced in the past decade. Annual real GDP growth averaged 4.53 percent during the 1960s, 3.24 percent during the 1970s, 3.15 percent during the 1980s, 3.23 percent during the 1990s, 1.82 percent during the 2000s (2.66 percent excluding 2008 and 2009), and 2.16 percent for the period 2010-2017.

But since the end of the recession in 2009, 32 of the 34 quarters have seen positive real growth in the U.S. economy. Since 1991, on an annual basis, real gross domestic product has increased in every year except 2008 and 2009. Between Q4 2016 and Q4 2017, consumer expenditures grew by 2.8 percent, fixed residential investment grew by 2.6 percent, fixed nonresidential investment by 6.3 percent and government expenditures by 0.7 percent.

FIGURE 8. PROJECTED CHANGES IN NUMBERS OF HOUSEHOLDS, BY AGE, 2014-2024



Source: *Housing Demand: Demographics and the Numbers Behind the Coming Multi-million Increase in Households*, Mortgage Bankers Association.

The economic growth is fundamentally supported by demographic growth. Between 2014 and 2024, the U.S. is expected to see some of the strongest growth in housing demand on record. As the Baby Boomer and Millennial generations age, they replace smaller cohorts, and in doing so, greatly expand — and change — demand across a range of categories.

That economic and demographic growth translates into increased demand for commercial real estate. The translation isn't direct (more on that in the discussion of property types below), but — at least until the next recession — should support continued occupancy and rent growth, providing further fuel for commercial property fundamentals.

Tax Reform

Tax reform was a net near-term positive for the economy and for the commercial real estate market. Provisions that might have had negative impacts on commercial real estate were blunted in the final legislation. The deductibility of business interest was eliminated for many enterprises, but was retained for commercial real estate investments (in exchange for the exclusion of immediate expensing). The 1031 like-kind exchange was eliminated for most types of transactions, but was retained for commercial real estate (again, tied to the exclusion of immediate expensing). And after initial concerns that they might

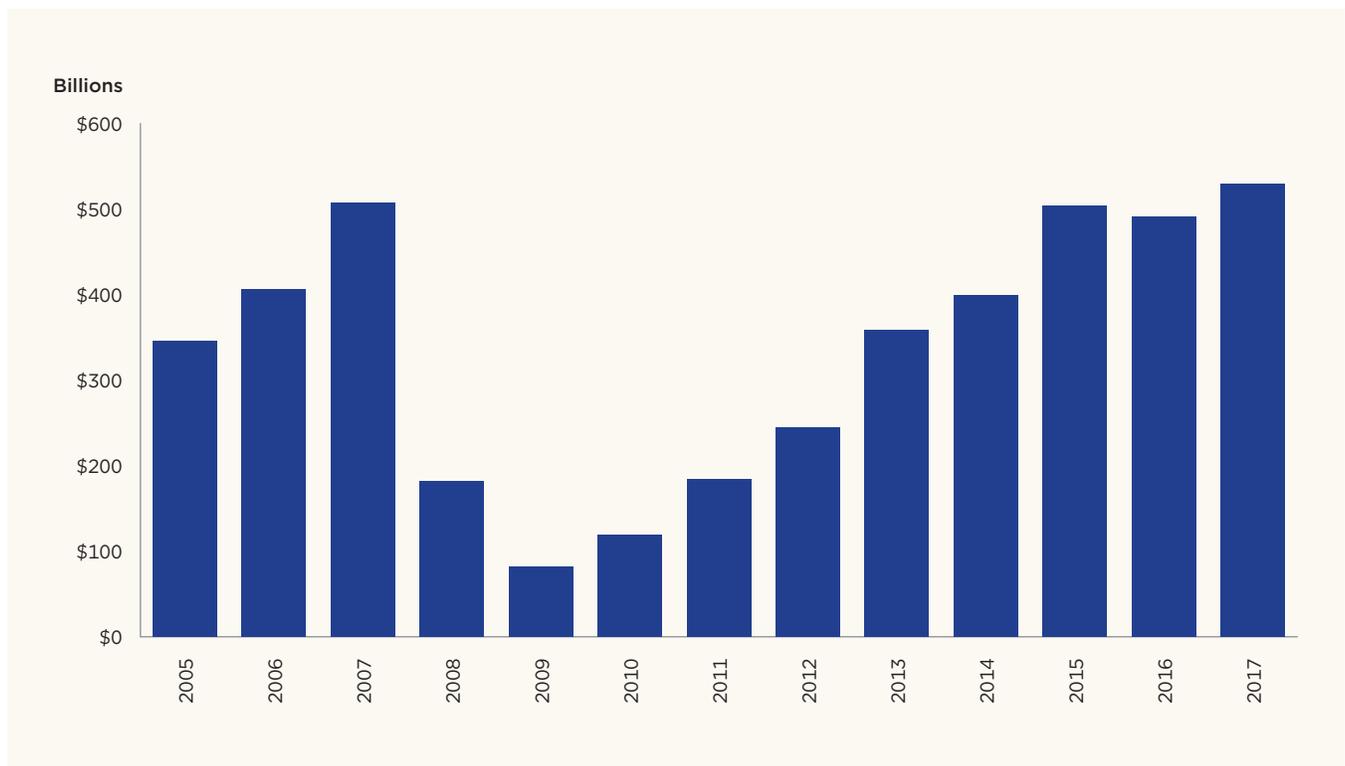
be targeted for elimination, both the Low Income Housing Tax Credit and Private Activity Bonds retained their pre-reform structures.

At the same time, the reductions in tax rates will accrue to commercial real estate owners just as they will to other business owners. There is a host of taxpayer-specific conditions to consider, but in general the effective tax rate for pass through entities that own commercial real estate will drop, as will the effective tax rate on dividends for owners of REIT stocks. The result will be a significant boost in after-tax yields on many commercial real estate investments.

A parallel after-tax boost will be felt by owners of many other businesses. A fundamental question is whether the tax changes will attract more investment to commercial real estate, or, given the benefits to other investments as well, perhaps drive a more universal lowering of the pre-tax yield investors demand (in order to get to the same after-tax yield).

The final effects are difficult to fully flesh out and will depend on a variety of factors, including the final implementation of the new rules. In any case, the net effect is likely to be downward pressure on cap rates, perhaps matching and counteracting the increase in base interest rates that was seen at the beginning of this year.

FIGURE 9. COMMERCIAL/MULTIFAMILY MORTGAGE BANKERS ORIGINATIONS



Source: MBA CREF Database.

Ample Investment Capital

The recent declines in sales transaction volume aren't necessarily a sign of decreased interest in commercial real estate as an investment. Rather, they appear to be a sign of a mismatch between the price at which owners are currently willing to sell a property and what potential buyers are willing to pay, a widening bid-ask spread. The data from the investor sentiment survey from PREA that was discussed earlier shows that income returns are expected to hold steady but appreciation returns are expected to fall. Such an outlook could dis-incent potential buyers — who don't see appreciation — while mollifying potential sellers — who expect continued strong cash flow.

According to a February 6, 2018 article in Bisnow, "As of December, global real estate funds had a whopping \$249 billion available in dry powder, up from 2016's \$237 billion available in cash reserves, Prequin reports. Much of this dry powder is concentrated on investment opportunities in North America and Europe."

The numbers above reflect a portion of the overall supply of equity capital. A similar story holds for debt capital, with MBA's 2018 CREFF Outlook survey reporting that 59

percent of the top origination firms anticipate a "very strong" appetite from lenders and another 33 percent anticipate a "strong" appetite. Similarly, 78 percent expect total mortgage origination volumes in 2018 to be higher than those of 2017.

Low capitalization rates are another sign of this appetite on the equity side, as are tight spreads on mortgage-related products on the debt side. While buyers and sellers are not always on the same page about the value at which a transaction should take place, the presence of a large cache of investment dollars remains a considerable tailwind for the commercial real estate finance markets.

Evenly Matched

Looking across all the factors listed above, the headwinds and tailwinds appear relatively well matched at present, likely leading to a strong year in 2018, but perhaps not quite as strong as 2017. Digging below the surface, it becomes clear that the common market trends that we saw coming out the recession are transforming into increasingly different flavors for different property types and capital sources (as we move into the next phase of this particular cycle).

Commercial Property Markets

MULTIFAMILY

The multifamily property market has been the Energizer Bunny of the current real estate cycle, in that it keeps going, and going, and going. Vacancy rates have risen from their recent multi-decades lows, but they remain below long-term averages, and rents and incomes continue to show solid growth. The story going forward will be defined by the tug-of-war between strong demand for and strong new supply of multifamily apartments.

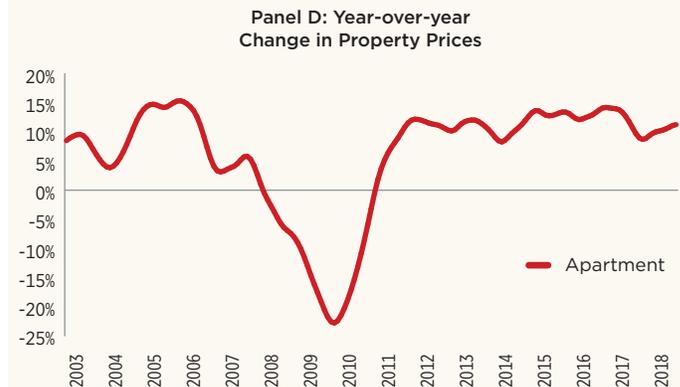
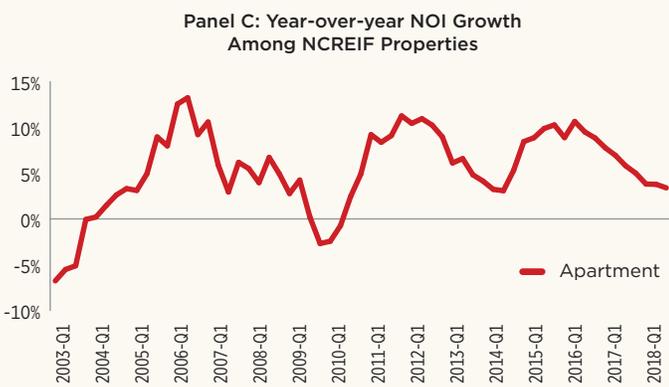
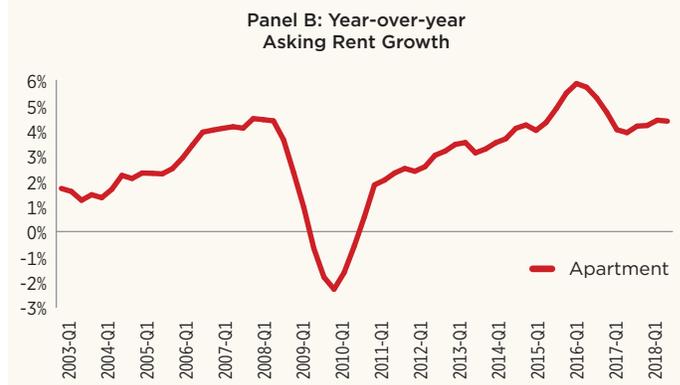
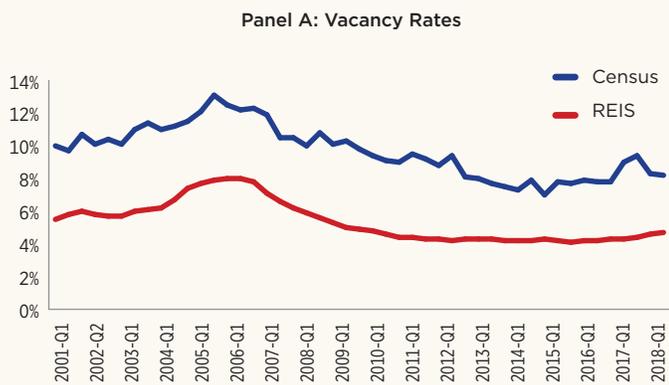
According to REIS, vacancy rates at professionally managed multifamily properties ended 2017 at 4.5 percent, up from 4.2 percent a year earlier and the highest rate since 2012.

The vacancy rate of the broader multifamily market tracked by the Census Bureau came in at 8.3 percent at the end of 2017, up from 7.8 percent a year earlier.

It should be noted that the vacancy rates seen the last few years are the lowest since the mid-1980s, signaling just how tight the multifamily market has been.

It's also important to note that developers have responded to the tight markets, to the point that we now have more multifamily units under construction than at any time since the mid-1970s.

FIGURE 10. MULTIFAMILY PROPERTY FUNDAMENTALS



Source: REIS, NCREIF, Real Capital Analytics.

The new supply has cooled some of the recent growth in rents and incomes, but both continue to climb, with rents increasing 4.2 percent during 2017 and net operating incomes increasing 3.8 percent.

Like most other property types, apartment sales volume slowed during 2017 — falling from \$159 billion in 2016 to \$153 billion in 2017. But prices continued to grow, increasing by 10.3 percent during the year.

Multifamily was the dominant property type for mortgage lending in 2017, at or near record levels, depending how one chooses to count. Multifamily originations made by mortgage banking firms (which includes loans for Fannie Mae, Freddie Mac, FHA, life insurance companies, CMBS and other lenders, including the largest banks but excluding the many small- and medium-sized banks) increased to \$234 billion in 2017, a new record. Adding in the small and mid-size banks to get a total multifamily lending number, which will be finalized in the fall when the home mortgage disclosure act data is released, leads to a number that was

likely slightly smaller than 2016, but still far larger than anything seen in previous years.

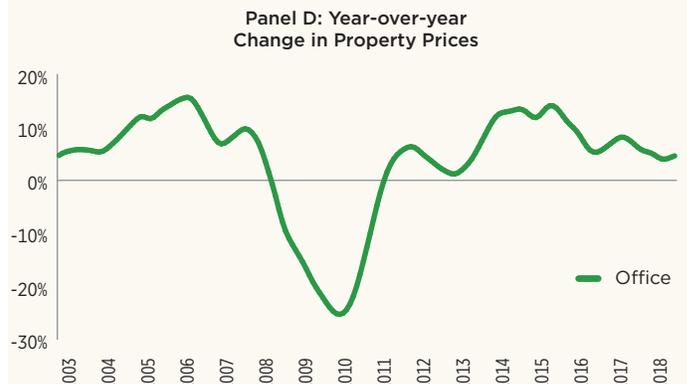
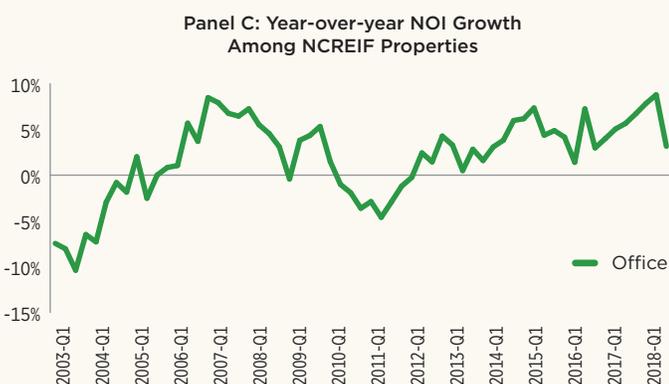
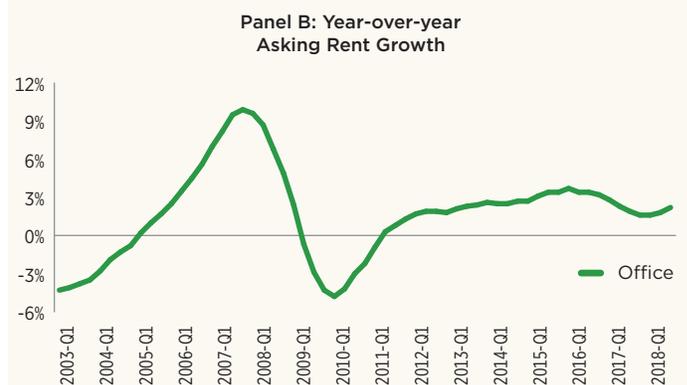
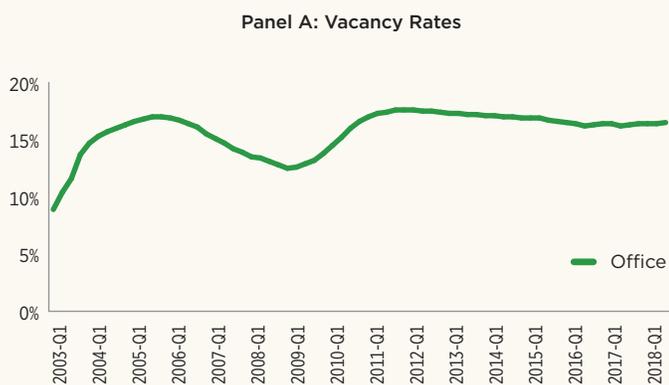
Even with the healthy tension between supply of and demand for new space and the record originations volumes, the multifamily market has kept going, and going, and going...

OFFICE

Where the dominant story in multifamily markets is supply and demand, the key theme in office markets is demand. Yes, new supply has grown post-recession. But more significant is the continuing trend toward lower space usage per employee. Despite the ongoing growth in the number of jobs in the U.S., the downsizing of space requirements has taken a fair amount of wind out of the sails of the office market. It has also changed the types of space for which many employers are looking.

Despite the addition of millions of new workers, office vacancy rates have seen little movement over the last two years — ending 2015 at 16.5 percent, 2016 at 16.2 percent

FIGURE 11. OFFICE PROPERTY FUNDAMENTALS



Source: REIS, NCREIF, Real Capital Analytics.

and 2017 at 16.4 percent. Asking rents rose by 3.4 percent in 2015, 2.3 percent in 2016 and 1.8 percent in 2017. Even so, net operating incomes for office properties rose 1.4 percent in 2015, 5.0 percent in 2016 and 8.8 percent in 2017. Numbers for the first quarter of 2018 show a dramatic decline in NOI for office properties. It is too early to determine whether those numbers represent an aberration or something more significant.

The downshift in property fundamentals has (slightly) cooled investor interest as well. Office property sales volumes fell from \$143 billion in 2016 to \$133 billion in 2017. And price appreciation has slowed from 8 percent in 2016 to 4 percent in 2017.

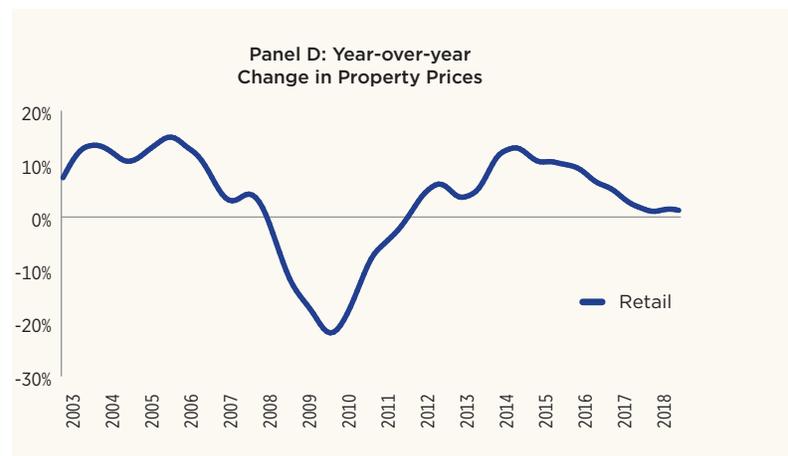
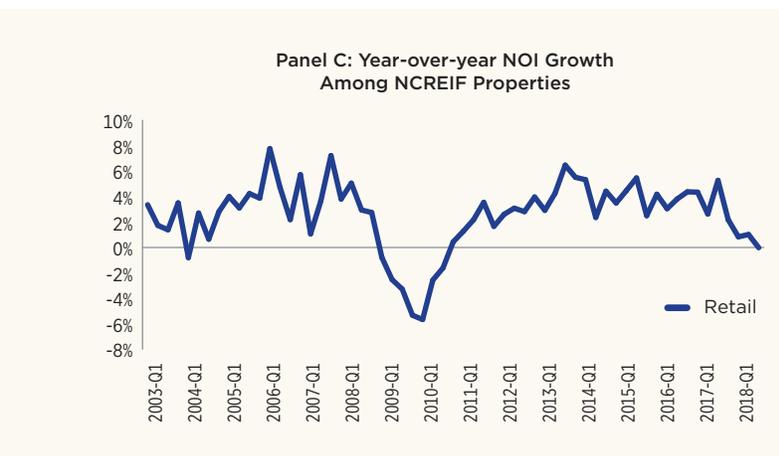
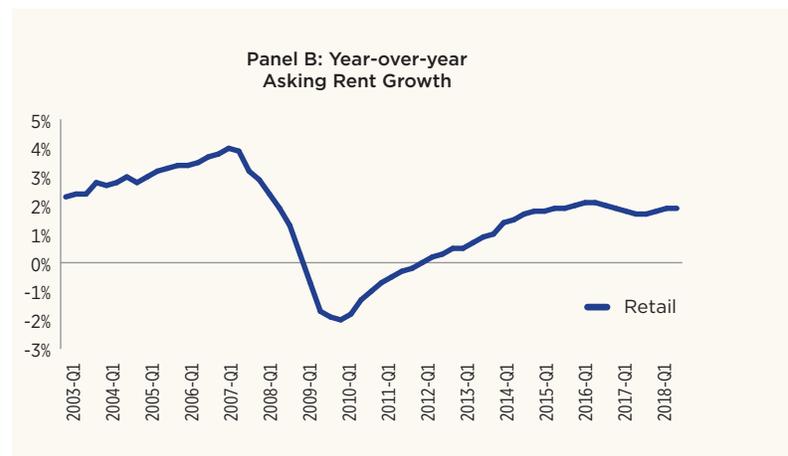
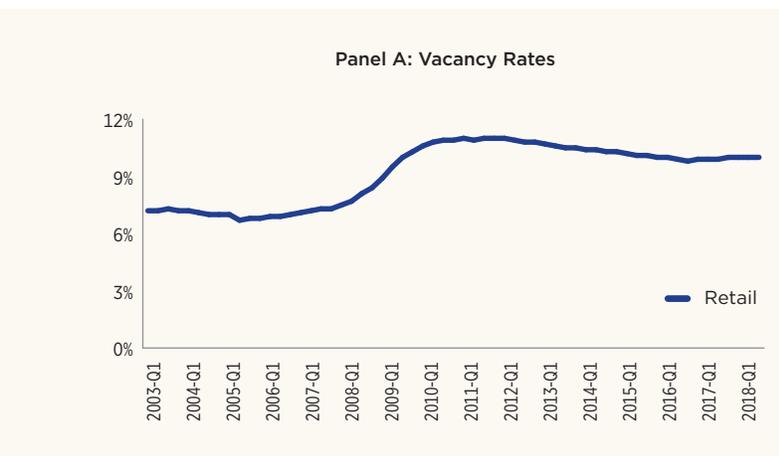
Mortgage debt remains plentiful for office properties, with \$104 billion of mortgage bankers' originations in 2017, the second most ever. With an average loan size of \$33.6 million, office property loans are second only to hotel/motel loans in terms of average size.

RETAIL

It is hard to imagine any real estate professionals who have not seen the headlines about the troubles facing retail properties. Toys-R-Us, Nine West and Bon-ton are just some of the chains making (negative) headlines already in 2018. And while the news clearly reflects challenges facing many retailers, there are far more that are continuing to see sales climb.

Monthly retail sales grew by 6 percent between December 2016 and December 2017, with ecommerce accounting for 9.1 percent of retail sales by the end of 2017, up from 8.2 the prior year. But 91 percent of retail sales still come through non-ecommerce paths. Furniture and furnishing stores saw sales increase 7 percent during the 2017, building materials and supply dealers by 9 percent, food and beverage store by 4 percent, clothing and accessory stores by 1 percent and general merchandise stores by 5 percent.

FIGURE 12. RETAIL PROPERTY FUNDAMENTALS



Source: REIS, NCREIF, Real Capital Analytics.

The structural changes that are reshaping retail shopping — and space usage — won't affect all retail properties evenly, and are issues that investors and lenders are working overtime to understand and react to.

Retail property fundamentals have been little changed in recent years, with vacancy rates ending 2015 at 10.0 percent, 2016 at 9.9 percent and 2017 at 10.0 percent. Rents grew by 2.1 percent in 2015, 1.8 percent in 2016 and 1.8 percent in 2017.

But the headlines have had an impact on investors. Sales of retail properties have been hard hit by the negative perceptions of the sector. Sales of retail properties fell from \$56 billion in 2015 to \$52 billion in 2016 to \$42 billion in 2017. Property values have also been affected. While prices for all commercial property types grew by 7.6 percent in 2017, values for retail properties increased by just 2.3 percent.

Borrowing and lending backed by retail properties has followed the malaise. Originations of retail mortgages fell by

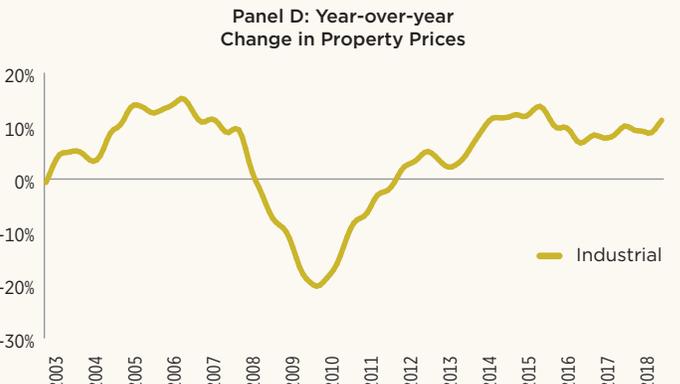
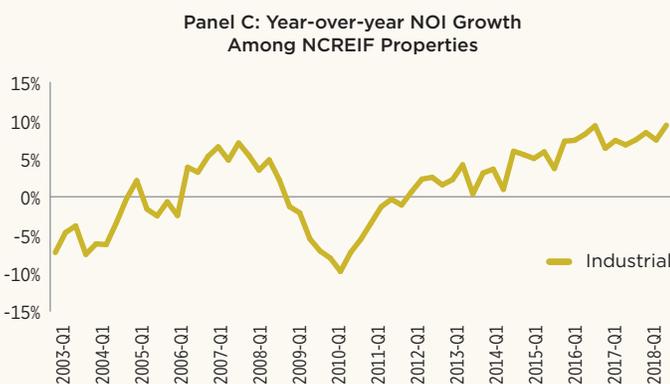
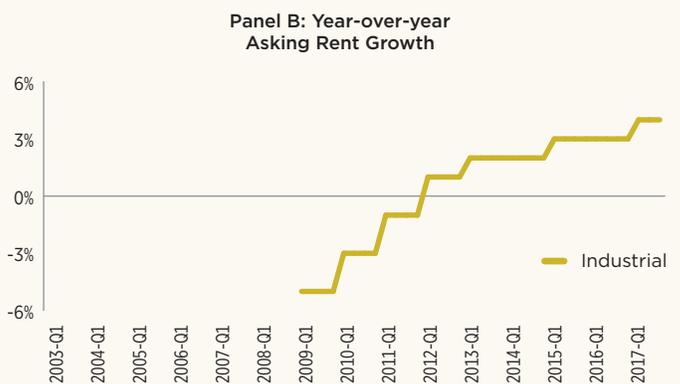
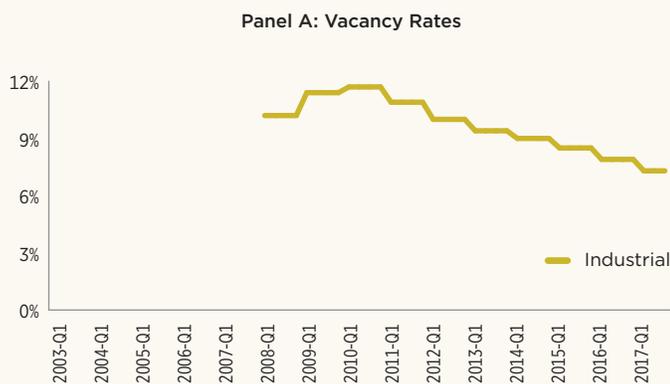
5 percent in 2016, and by another 15 percent in 2017. The \$48.6 billion in mortgages on retail properties that were originated during 2017 accounted for only 9 percent of all mortgage bankers' originations — the lowest share since the series began in 2005.

INDUSTRIAL

The luster ecommerce has taken away from retail properties, it has firmly laid at the feet of industrial properties. In the face of what was tightening supply and changing space requirements, investors have flocked to industrial.

In every year since 2010, industrial vacancy rates have declined — from 11.7 percent in 2010 to 10.9 percent in 2011, 10.0 percent in 2012, 9.4 percent in 2013, 9.0 percent in 2014, 8.5 percent in 2015, 7.9 percent in 2016 and 7.3 percent in 2017. And asking rents — and their rates of growth — have increased steadily since 2012, rising by 4.1 percent in 2017. All of this is despite the fact that new supply coming on line in 2017 is almost seven times larger than it was in 2010.

FIGURE 13. INDUSTRIAL PROPERTY FUNDAMENTALS



Source: REIS, NCREIF, Real Capital Analytics.

Investor demand has followed industrial property improvements. Sales of industrial properties increased by 25 percent between 2016 and 2017 — the only major property type for which sales volume increased. And industrial property values increased by 8.6 percent. Capitalization rates, which ended 2016 at 6.9 percent, fell to 6.7 percent at the end of 2017.

Borrowing and lending backed by industrial properties also grew considerably during 2017 — increasing by 20 percent during the year from \$28.4 billion in 2016 to \$34.0 billion in 2017. Industrial property loans have the second lowest average loan size at \$12.7 million.

Sources of Commercial/ Multifamily Mortgage Capital

Commercial real estate finance markets are currently operating in rarified air. Borrowing and lending are at record levels, and it is hard to imagine the record \$3 trillion of outstanding debt performing better than it is at present.

The wide availability of mortgage debt for commercial real estate has come from a variety of sources. Banks; Fannie Mae, Freddie Mac and FHA; life insurance companies; the commercial mortgage-backed securities (CMBS) market; debt funds and others have all seen strong flows into commercial mortgage debt. Each approaches commercial mortgage lending from a slightly different perspective, and each is being swayed by a slightly different set of influences.

BANK BALANCE SHEETS

At the end of 2017, 5,373 FDIC-insured institutions held a total of \$1.3 trillion in mortgages backed by income-producing commercial real estate, making banks and other depository institutions the largest source of commercial and multifamily mortgage financing and accounting for 40 percent of the \$3.1 trillion total of commercial and multifamily mortgage debt outstanding.¹ Commercial and multifamily mortgages have long been a staple of banks portfolios and account for 13 percent of all loans and leases they currently have extended.

Banks recent experience with commercial and multifamily mortgages has been extremely positive. During the Global Financial Crisis, commercial and multifamily mortgages were the best performing loans on banks' balance sheets, with the lowest charge-off rates of any major loan type. More recently, the performance of these loans has been extraordinary — with 90+ day delinquency rates ending 2017 at the lowest level on record — 0.51 percent.

The wide variety of banks begets a wide variety of different types of loans made by banks. A special study MBA conducts on the characteristics of commercial and multifamily mortgages shows that banks tend to have the lowest median loan size of the major lending sources. Part of that comes from the vast number of institutions making just a handful of very small loans. In our review of 2016 multifamily lending, we found that 61 percent of active lenders made five or fewer multifamily loans and that nearly a quarter of the loans (11,164 out of 46,575) were for \$500,000 or less.

But just as one might think of bank loans as tending to be shorter-term and floating rate, the reality is that banks offer a wide range of products — including very large loans (sometimes participated between multiple institutions), long-term and fixed rate products.

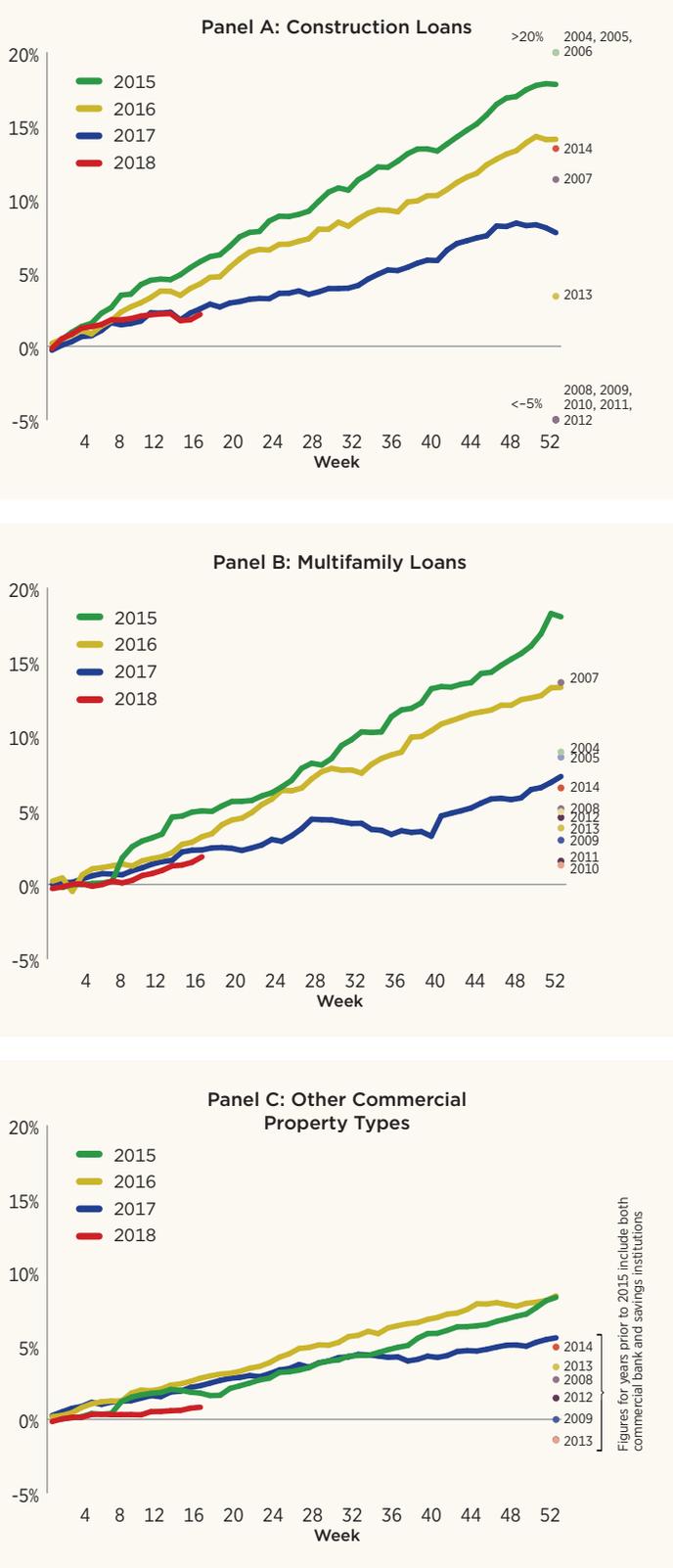
In 2017, MBA's Mortgage Bankers Originations survey tracked \$151 billion of lending by the major banks, a 4 percent decrease from 2016, but still the second strongest year on record. Banks' holdings of commercial and multifamily mortgages grew by 6.0 percent, the slowest increase since 2012. Banks holdings of multifamily mortgages grew by 5.5 percent during the year, after four years of steady double-digit growth.

The slowdown in banks' portfolio growth comes at a time when many are working to predict the next act for commercial and multifamily real estate markets. These internal questions are coupled with a continued regulatory focus on commercial real estate risk. In an "exit interview" with CNBC, Janet Yellen was asked about current stock valuations. She said,

"Well, I don't want to say too high. But I do want to say high. Price-earnings ratios are near the high end of their historical ranges. If you look at commercial real estate prices, they

¹ The numbers cited here generally refer to banks' mortgages backed by multifamily and non-owner-occupied commercial properties. Many sources also include loans backed by owner-occupied commercial properties, as well as construction loans. We exclude the former because they are dependent on the ongoing operations of the owner enterprise, not on the commercial real estate space markets, for their repayment. We exclude the latter because, particularly during the most recent recession, banks' construction books were dominated by single-family construction loans and had little connection to commercial real estate markets.

FIGURE 14. BANKS: YEAR-TO-DATE PERCENTAGE CHANGE IN THE BALANCE OF CONSTRUCTION, MULTIFAMILY AND OTHER COMMERCIAL MORTGAGES



Source: REIS, NCREIF, Real Capital Analytics.

are quite high relative to rents. Now, is that a bubble or is too high? And there it's very hard to tell. But it is a source of some concern that asset valuations are so high."²

Similar statements have come from Eric Rosengren, President & CEO of the Boston Fed, and others.

The result — of both the regulatory oversight and a cautious view among bankers of where we are in the cycle — has been a moderation in the growth of commercial and multifamily mortgage holdings of banks.

FANNIE MAE, FREDDIE MAC AND FHA

Despite the fact that they are legally permitted to only purchase and guarantee residential/multifamily mortgages, Fannie Mae, Freddie Mac, FHA and other federally related agencies are the second largest source of mortgage capital for the commercial and multifamily real estate markets. At the end of 2017, they held or guaranteed more than \$606 billion in multifamily loans — 19 percent of all commercial/multifamily mortgage debt outstanding (MDO) and 48 percent of multifamily MDO. This market share represents new ground for the GSEs, and has attracted an increasing amount of attention from policymakers focused on the size of the government footprint in the space.

Fannie Mae and Freddie Mac (the government sponsored enterprises, or GSEs) each have robust programs in which they purchase multifamily mortgages from lenders and create securities backed by those loans to sell in the secondary market. Fannie Mae's DUS program generally includes risk-sharing with the originating lender, who also services the loan on an ongoing basis. Freddie Mac's securitization process generally involves Freddie Mac pooling loans in a security structure in which they guarantee and sell lower risk bonds, and sell unguaranteed higher risk bonds to the market. Since 2008, both GSEs have been held in conservatorship by the government, with their activities overseen by the Federal Housing Finance Agency (FHFA).

The Federal Housing Administration (FHA) is also a key source of financing for multifamily and health care loans. Working with their MAP and other lenders, FHA guarantees certain loans, which can then be packaged in securities that are further guaranteed by Ginnie Mae.

Both the GSE and FHA programs bring a federally guaranteed (low) interest rate to the multifamily markets.

GSE loan performance has been remarkable of late, with delinquency rates below ten basis points for almost the entirety of the last 4 years — and falling to one basis point for Freddie Mac and three basis points for Fannie Mae during

² Janet Yellen: *The Exit Interview*, CBS News, February 4, 2018, <https://www.cbsnews.com/news/janet-yellen-the-exit-interview/>

2017. It is hard to imagine delinquency rates remaining that low for long, and Fannie Mae's rate jumped in the fourth quarter of 2017. Even so, the performance of these loans remains extremely strong.

GSE loans tend to be relatively long-term in nature, with the typical term being 10 years. In 2017, a large number of seven year and other length loans were made as well. Many FHA loans are fully-amortizing, may have a term of 40 years and can include construction financing as well.

Origination volumes for the GSEs have grown significantly in recent years, from \$48 billion in 2013 to \$61 billion in 2014, \$94 billion in 2015, \$106 billion in 2016 and \$130 billion in 2017. In 2017, loans for Fannie Mae and Freddie Mac accounted for roughly half of all multifamily lending. Lending for FHA has been more varied, peaking at \$19 billion in 2012, as borrowers took advantage of low rates and FHA refinance programs. FHA volumes fell to \$12 billion in 2014 before rebounding to \$18 billion in 2017. The result has been that agency and GSE portfolios and MBS accounted for 47 percent of multifamily mortgage debt outstanding at the end of 2017, up from 32 percent a decade earlier.

GSE activity is overseen by their conservator, the Federal Housing Finance Agency (FHFA), which has a number of governors of GSE activity, including multifamily lending caps, housing goals, duty to serve and more. For 2018, FHFA made adjustments to the lending caps. They lowered the overall

cap on annual multifamily lending for each GSE from \$36.5 billion to \$35.0 billion. FHFA also adjusted what is and is not exempt from the loan caps, changing what counts as a "green" loan and creating a new exemption for affordability in very high cost markets.

There are a number of types of loans Fannie Mae and Freddie Mac are able to make that do not count toward their caps — certain loans that finance affordable units, small units and properties that are improving their environmental impacts, among others. In 2017, with caps of \$36.5 billion each, Fannie Mae purchased \$67 billion of multifamily mortgages and Freddie Mac purchased \$73 billion. FHFA reviews the lending caps on a quarterly basis in case there is a need to expand them.

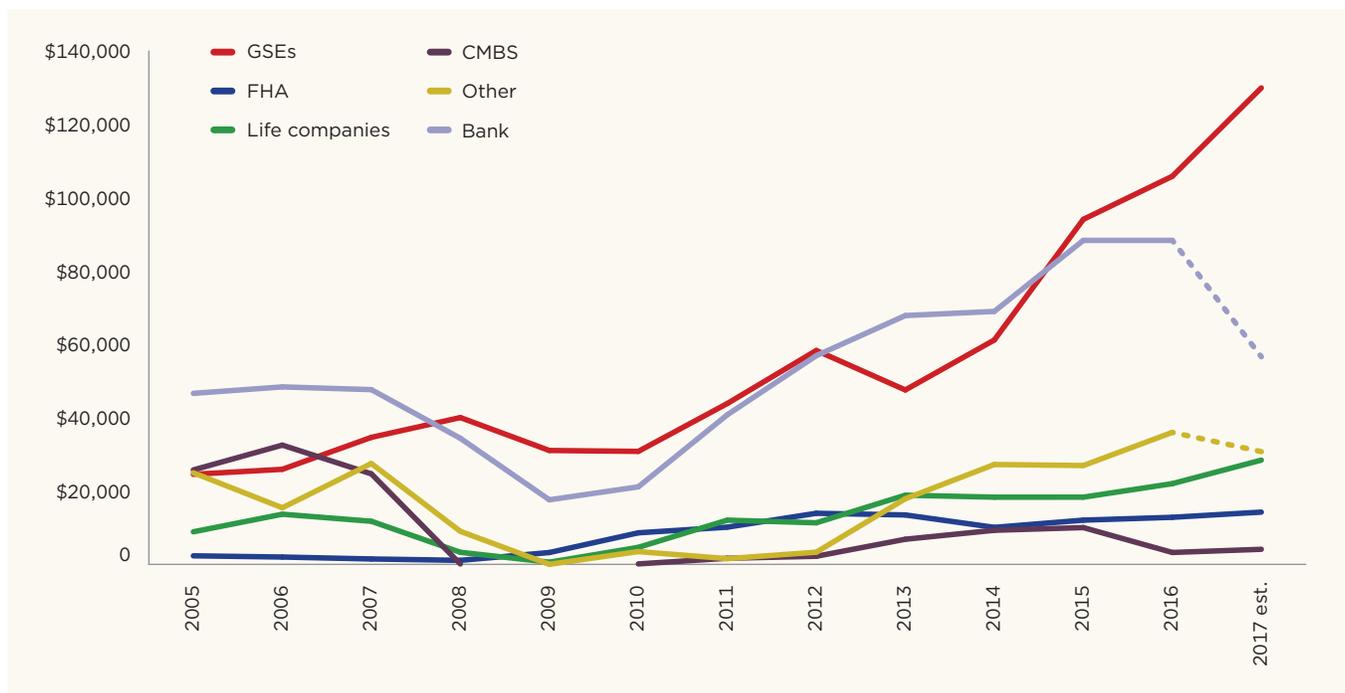
LIFE COMPANIES

Life insurance companies and pension funds, as part of their overall investment portfolios, hold \$475 billion in commercial and multifamily mortgage debt,³ accounting for 15 percent of the total outstanding.

In 2017, life companies lent \$80 billion in commercial and multifamily mortgages — a new record and four percent above 2016 levels — growing their portfolios by \$40 billion or 9 percent.

³ Life insurance companies, banks and others also hold commercial mortgage-backed securities, described below.

FIGURE 15. MBA ESTIMATE OF TOTAL MULTIFAMILY MORTGAGE LENDING BY INVESTOR GROUP (\$MILLIONS)



Source: MBA.

The long-term nature of commercial and multifamily loans matches well with the long-term nature of many of the liabilities of these companies. And like other capital sources, commercial and multifamily mortgages have performed extremely well for life companies. For most of the past decade-and-a-half, 60+ day delinquency rates have been below 10 basis points. At the end of 2017, just 0.03 percent of the balance of loans held by life companies were delinquent — 17 out of 33,236 loans. The delinquency rates among retail, hotel/motel and mixed use properties were all 0.00 percent.

The archetypal life company loan is larger and more conservative than loans from other capital sources — with an average new loan amount of \$22 million and loan-to-value ratio of 59 percent — but that characterization clouds the fact that some life companies specialize in small loans, and many have programs that are able to take on targeted risks in return for higher yields. Given the success of their mortgage portfolios, many life companies have increased the range of their lending and/or partnered with outside capital sources — domestic and foreign — to originate loans.

As a group, life companies also retain the closest connections to independent mortgage banking firms. MBA's Annual Origination Volume Summation records life companies closing \$80.5 billion of loans, of which intermediaries reported originating \$60.2 billion.

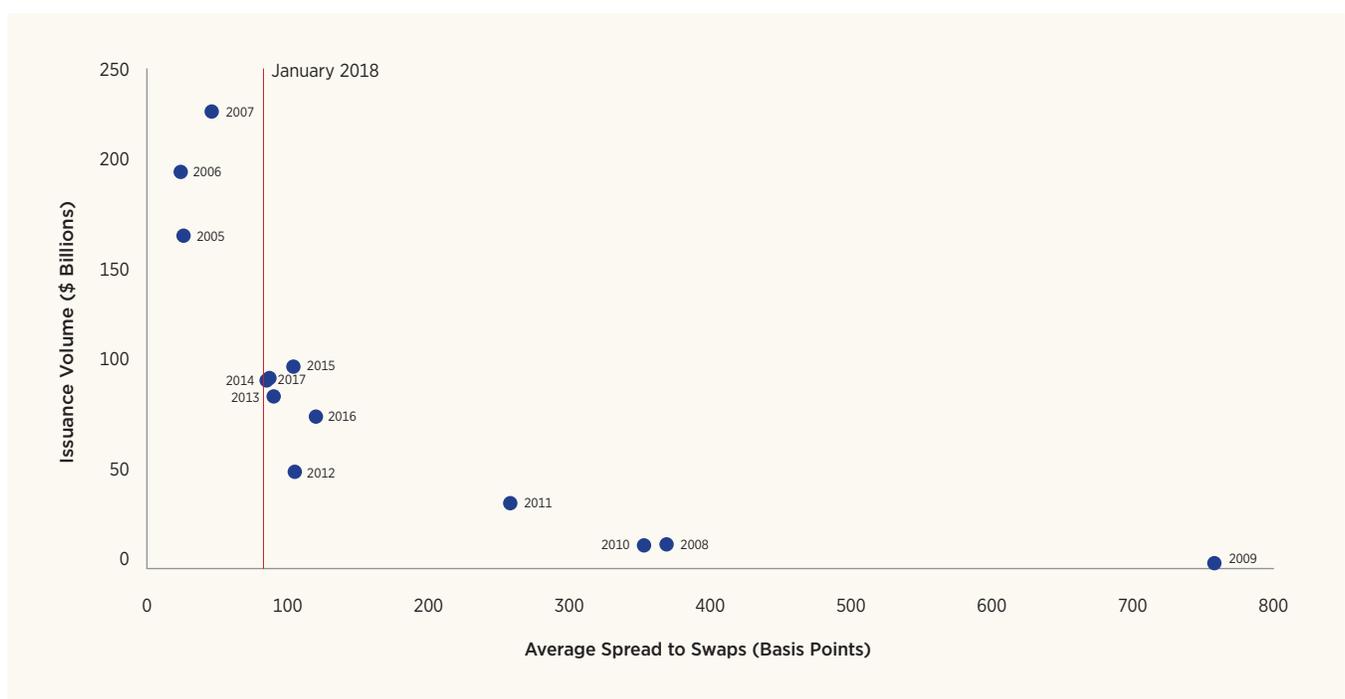
COMMERCIAL MORTGAGE BACKED SECURITIES (CMBS)

The commercial mortgage-backed securities (CMBS) market connects fixed-income and other investors to commercial real estate. Through CMBS, mortgages backed by income-producing properties are pooled together and securities are created based on their cash flows. Most structures include a “waterfall” by which payments are prioritized to some securities over others, creating safer bonds (which pay lower yields) and riskier bonds (which pay higher yields).

2017 marked an important turning point for the CMBS market. Between the fourth quarter of 2007 and the second quarter of 2017, the balance of loans held in CMBS fell from \$750 billion to just \$428 billion, as more loans paid off and paid down each year than new loans were originated. With the wave of ten-year loans that were made in 2006 and 2007 having matured, beginning in the second quarter of 2017 new originations once again outpaced pay-offs and pay-downs, and the outstanding balance of CMBS loans began to grow again, ending the year at \$441 billion.

CMBS is often viewed as the most transparent capital source within the commercial real estate finance market, with regular reporting on individual loans, and an entire ecosystem of Wall Street analysts and others publishing detailed research on the sector. It is also a market driven by different economics than whole loan investors. The tranching of the credit risk

FIGURE 16. CMBS ANNUAL ISSUANCE VOLUME AND AVERAGE 10-YEAR AAA SPREAD TO SWAPS



Source: J.P. Morgan Securities and CMAAlert.

into distinct bonds means that an investor in a super-safe AAA security has a different view of the risk and reward of their investment than does an investor in either a less-safe but higher yield CMBS B-note or a whole loan such as those held by banks or life insurance companies.

One result of these differences is that not only to CMBS loans perform differently than do other loans, their performance is even measured differently. For most other capital sources, if a loan's repayment becomes suspect, the loan may be charged-off, with the investor writing that loan down on their balance sheet in anticipation of an eventual loss. Once written down, that loan is generally removed from both the numerator and denominator of the delinquency rate. Because CMBS loans live in a trust, and the market value of CMBS incorporates expectations about individual loans' repayments, there is no mechanism to write-down individual loans, meaning delinquent loans, and even those in foreclosure, remain in both the numerator and denominator of the delinquency rate. The result is that the CMBS delinquency rate tends to appear higher than do the rates of other groups.

This "all-in" CMBS delinquency rate ended 2017 at 4.08 percent, less than half the 8.67 percent it hit at the end of 2010. Pulling out the loans that are in foreclosure or REO, the 30+ day delinquency rate falls to 0.87 percent, the lowest level since CMBS delinquency rates started to climb in earnest in September 2008.

The CMBS market has seen many twists and turns in recent years. CMBS was the dominant source of financing for commercial and multifamily properties in 2006 and 2007, but CMBS activity fell to near zero during the Global Financial Crisis. Originations and issuance (which differ given timing and the fact that security balances may not equal the balance of all the underlying loans originated) slowly climbed back, hitting \$100 billion and \$95 billion respectively in 2015. Originations and issuance have fluctuated in recent years — as capital markets in general have seen volatility and as CMBS has faced stiff competition from other mortgage providers. In 2017 — driven heavily by strong issuance of single-asset single-borrower deals (as opposed to conduit deals which traditionally include pools of varied properties from a large number of different

borrowers) — originations grew to \$109 billion (a post-recession high) and issuance hit \$86 billion.

DEBT FUNDS & OTHERS

A capital source that has received a great deal of attention lately, but about which little data is available, is debt funds. One of the only avenues besides CMBS for investors to direct money to the commercial real estate debt markets, debt funds have grown in both presence and impact in recent years.

Loosely defined, debt funds are vehicles through which investor dollars are pooled and used to make mortgage (and other) investments. Some funds have broad mandates and will direct their funds to equity, securities, whole loans and other investments. Some funds have more targeted investment objectives. Debt funds can be stand-alone ventures, a fund within a family or group of funds, or an account within the portfolio of a life insurance company or other entity with a broad set of investments.

There is little formal data on the debt fund market, and some of it paints contradicting pictures. MBA's Annual Origination Summation, for example, tracks mortgage originations for various capital sources, including for credit and specialty finance companies; REITs, mortgage REITs and investment funds; and for other investors. For each of these groups, the amount that firms in the survey reported closing in their own names dropped — by 43 percent, 21 percent and 27 percent respectively — between 2016 and 2017. At the same time, the amount that firms reported intermediating (but not closing in their own name) for these groups grew — by 69 percent, 27 percent and 85 percent, respectively.

These latter figures imply strong growth of debt funds as a source of commercial and multifamily mortgage debt.

Initially focused on gaps between other, more traditional capital sources — particularly for mezzanine, construction, and other higher-yielding products — debt funds have been finding increased opportunities to lend. And with the collateralized loan obligation (CLO) market and other secondary outlets warming to them, debt funds have found ways to lower their cost of funds and become even more competitive.

Outlook

Commercial and multifamily real estate finance is at the end of the latest act in a long-running play. The various forces propelling markets out of the Global Financial Crisis are waning, and a new set of forces are beginning to assert themselves. Conditions couldn't be much stronger to meet these changes — with property fundamentals stable, property values strong, commercial and multifamily mortgage debt plentiful and mortgage performance at or near record levels. These forces will play out differently for different property types and capital sources in the coming years, but — universally — it is clear that the next five years will be quite distinct from the last five.

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