The Linneman Letter

This is an excerpt from the Summer 2016 issue of *The Linneman Letter*.

Volume 16 Issue 2

Real Estate Capital Markets

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The Linneman Real Estate Index (LREI) monitors the supply of real estate capital, as proxied by the aggregate flow of commercial real estate debt (the numerator), with the fundamental demand for space, as measured by nominal GDP (the denominator). Excluding the net real estate equity flows from the numerator modestly understates capital oversupply situations and overstates an undersupplied market. The LREI captures whether debt for commercial real estate is growing more quickly or slowly than the economy. When the index is rising, it means that mortgage debt available for commercial real estate is rising more rapidly than the economy, and vice versa. The index is set to 100 with a base year of 1982, when the supply of real estate capital was roughly in balance with demand.

The index rises when mortgage debt rises more rapidly than the economy grows ("easy money"), and declines when money is tight relative to economic growth. The LREI peaked at 171 in 2009, but steadily declined before hovering between 136-139 from 2012 through 2014 as the Financial Crisis reverberated. The index increased to 143 in the first quarter of 2016, a clear indication that a new capital cycle is underway. As banks expand their mortgage lending, the era of massive real estate deleveraging has come to an end. Our research shows that, historically, the best investment periods for real estate have occurred while the LREI is declining or in the first 2 years of rising.

The LREI tends to run in long cycles, and we believe we are still in the early phases of another capital boom. We expect lending to outstrip the growth of the economy, resulting in huge capital flows to real estate for the next three years. This bodes well for prices over the next couple of years. The risk is that if you are looking to sell 3-4 years from now, you could hit the side of the mountain. When capital is being taken out of a capital intensive business, values go down far more than NOI goes down. If you are a long-term holder (10-30) years and can see your way through the valleys, you will do quite well, but if you are a 2-3 year holder, note that we are actually entering a dangerous window. That is, yes, there is a lot of capital

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flowing, but investors could find themselves having a difficult time exiting if the capital cycle reverses in 3-4 years.

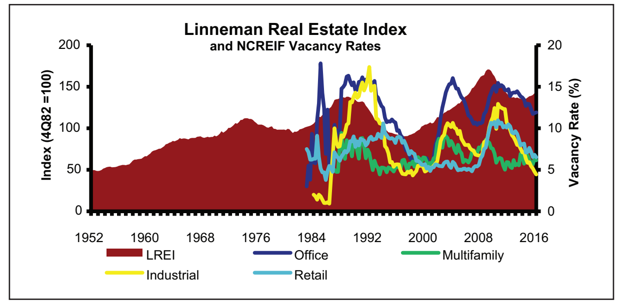
Lending commensurate with the Fed's massive monetary injections over the past 6 years has not occurred, as Fed stress tests have discouraged the very lending that QE was intended to spur. But banks are substantially increasing their C&I lending. Real C&I loans (2014 dollars) held by commercial banks have risen by 54.7% since their 2010 low, and stood at nearly $2 trillion in the first quarter of 2016, up 10% year-over-year. Commercial and industrial loans are at an all-time high in real terms, and are only slightly above their historical norm as a percentage of GDP. The long-term historical average (1947-present) ratio of C&I loans to GDP is 10.2%. In comparison, the ratio stood at 10.9% in the first quarter of 2016.

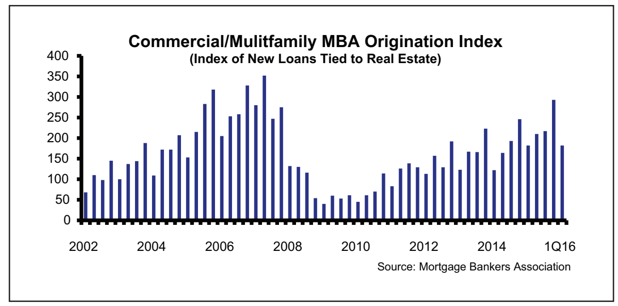
During the first quarter of 2016, real estate loans held by commercial banks have increased by a whopping 9.1%, to $3.8 trillion, from their 2011 low of $3.5 trillion, suggesting that the boom in commercial mortgages has begun. Similarly, annualized real estate lending by insurance companies spiked to $293 million in the first quarter of 2016.

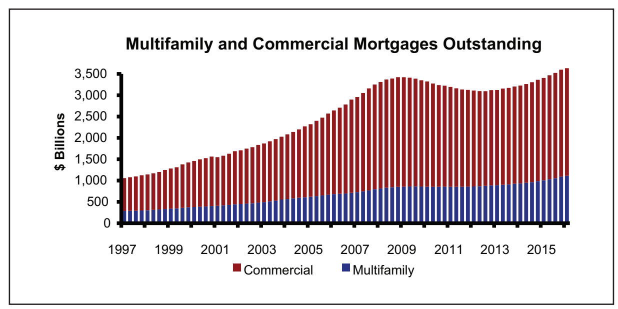
Though loosening, construction lending is restrained, even in the strong multifamily sector. Monthly commercial and industrial (C&I) construction contracts stood at about 60 million square feet in March 2016, versus the February 2010 low of 19.5 million square feet and the long-term average (1963-2001) of 66 million square feet per month. Similarly, C&I construction contracts relative to the size of the economy are on the rise, but remain near the floor.

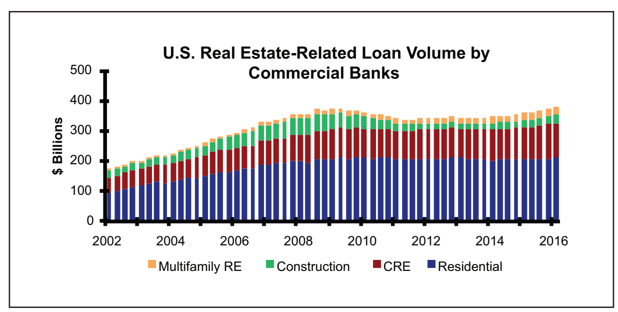
According to Bank of America/Merrill Lynch data, the average REIT implied cap rate peaked at 9.8% in February 2009 and has since fallen to 5.3% in June 2016, in line with the 2007 low of 5.2%. By sector, REIT implied cap rates hit recessionary highs of 9.9% for office properties, 9.1% for multifamily properties, 10.3% for shopping centers, 9.9% for regional malls, and 11.2% for industrial properties. From those respective highs through June 2016, rates have fallen to 5.8% (410 bps) for office properties, 5.1% (400 bps) for multifamily properties, 5.7% (460 bps) for shopping centers, 5.3% (460 bps) for regional malls, and 5.6% (560 bps) for industrial properties.

REIT implied cap rate spreads over the 10-year Treasury peaked in February 2009 at 695 bps for overall REITs, 626 bps for multifamily, 745 bps for shopping centers, 703 bps for regional malls, 702 bps for office, and 835 bps for industrial. At that time, spreads were anywhere from 360-480 bps above long-term averages. By comparison, current cap rate spreads over the 10-year Treasury have significantly narrowed, and stood at 361 bps for overall REITs, 341 bps for multifamily, 401 bps for shopping centers, 361 bps for regional malls, 411 bps for office, and 391 bps for industrial in June 2016. In June 2016, implied cap rate spreads for most









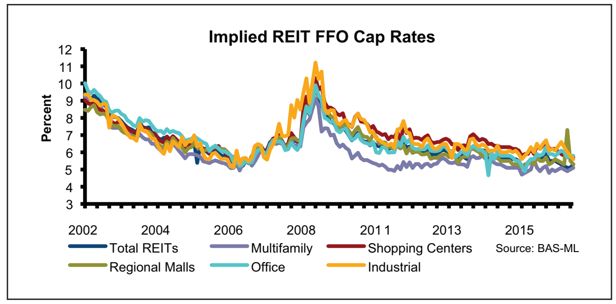
sectors are above their respective historical averages by just 40 to 80 bps, with the exception of industrial spreads, which are only 30 bps below average.

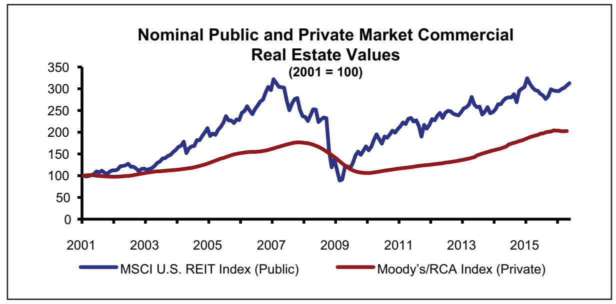
In 2007, real (2014 dollars) average transaction pricing peaked at $332 per square foot for office properties and $84 per square foot for industrial properties. Real multifamily values reached $134,210 per unit, while hotels traded at an average of $179,786 per room. The average transaction pricing for retail properties is unique, because while it peaked at $216 per square foot in 2007, it rose to $245 per square foot in early 2015, reflecting that only the highest quality centers sold at that time. During the recession, real values dropped to 10-year lows for office ($143 per square foot), retail ($139 per square foot), industrial ($49 per square foot), multifamily ($81,000 per unit), and hotels ($64,000 per key). In April 2016, office properties averaged $237 per square foot, implying a recovery rate of 49.7% of the real value lost during the recession. Industrial and retail pricing stood at about $80 and $215 per square foot in April 2016, implying respective price recovery rates versus the pre-recession highs of 91% and 75%. Real multifamily pricing was $136,205 per unit, while hotels traded at an average of $165,666 per key in April. These levels reflect 66.6% and 81.7% price recovery rates, respectively. On a year-over-year basis, unit pricing growth was led by industrial (11.2%), followed by multifamily (1.8%), while the office, retail, and hotel sectors saw year-over-year declines (-1.8%, -8.3%, and -12.2% respectively).

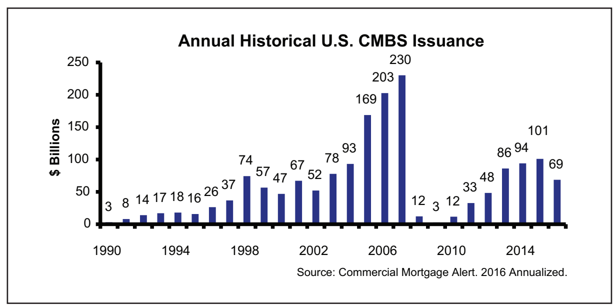
The Morgan Stanley U.S. REIT Index bottomed at 326.9 in February 2009 and stood at 1,172 in June 2016, meaning that nominal values remain just 1% below the pre-recession peak of 1,183 in 2007. In real terms, market prices are about 17% below the previous peak for REITs, but 1.3% above the peak for private properties.

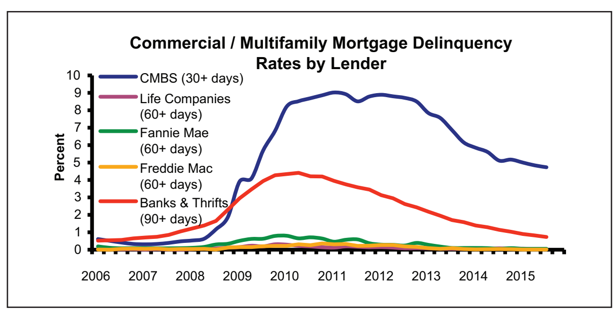
Research indicates that movements in REIT cap rates lead private cap rates by 12-18 months. In contrast, REIT prices reflect contemporaneous market conditions. The leading indicator aspect of REIT pricing means that private real estate owners should keep an eye on REIT pricing, in order to ascertain whether they are overpaying for real estate on Main Street. Over the past 18 months (December 2014 to June 2016), REIT implied cap rates declined by 20 bps for the overall REIT universe, 40 bps for shopping centers, and 30 bps for industrial, while increasing for the office sector by 30 bps. Multifamily and regional mall implied cap rates were flat over the last 18 months. These changes in REIT implied cap rates represent corresponding changes in asset values for shopping centers (+6.6%) and industrial (5.1%), and office (-5.1%).

REIT price-to-net asset value (NAV) peaked at 110% in June 2011, with the highest ratio reflected in apartment sector pricing (120%). As of March 2016, price-to-NAV ratios were significantly below their respective long-term averages for all REIT sectors, standing at 94%









for total (vs. long-term average of 99%), 94% for apartments (vs. 97%), 97% for shopping centers (vs. 100%), 89% for regional malls (vs. 97%), 87% for office (vs. 98%), 88% for industrial (vs. 99%), and 101% for self-storage (vs. 103%). Since REIT pricing is a leading indicator of private real estate pricing, price-to-NAV ratios below 100% are a signal that investors are jittery about current property market pricing.

U.S. CMBS originations remain in limbo. After closing $99.8 billion in 2014 and $96.1 billion in 2015, only $69 billion closed on an annualized basis year-to-date through May 2016.

Net income of U.S. banks has rebounded to record highs, with loan write-offs falling to levels similar to 2006. Similarly, the share of banks reporting year-over-year profit increases is back to its pre-Crisis high, while banks registering losses are at pre-Crisis lows.

In the first quarter of 2016, commercial bank charge-off rates for all real estate loans dropped to 0.08%, from a high of 2.85% in 2009. Mortgage delinquency rates continue to decline as well. The Mortgage Bankers Association reported that fourth quarter 2015 (latest available) delinquency rates for commercial and multifamily loans declined for CMBS issuers (11 bps to 4.73%) and banks and thrifts (9 bps to 0.73%), while delinquency rates of multifamily loans held by life companies, Fannie Mae, and Freddie Mac held steady over the quarter at 0.04%, 0.05%, and 0.01%, respectively. According to Moody's Delinquency Tracker, CMBS delinquency rates peaked at 10.1% in July 2012 and stood to 4.9% in April 2016, a 20-bp increase from the previous month and still above the long-term average (2001-present) of 3.8%.

Overall commercial mortgage delinquency rates peaked at 8.8% in the second quarter of 2010, but dropped precipitously to 0.97% as of the first quarter of 2016, including a 44-bp decline over the last year. In comparison, at 4.8%, residential mortgage delinquency rates are also on a steep decline from the 2010 peak of 11.3%.

During the trailing 12 months through May 2016, REITs raised $32.1 billion in unsecured bonds. This is about $1 billion (3.3%) more than issuance during the previous 12-month period. REIT equity offerings totaled $20.8 billion during the trailing 4 quarters through the first quarter of 2016, or 50% below the $40.6 billion raised during the prior 4-quarters.