U.S. Capital Markets, Q1 2016

Q1 2016 investment remains strong, but moderates due to volatile quarter

Direct Investment Volume	Cross-Border Investment	NCREIF Return Year Ending Q1 2016	Lender Momentum Index Q1 2016
$111 b	$10.2 b	11.8%	182

*Arrows indicate change from previous year.

- Direct investment in U.S. commercial real estate reached $111 billion in Q1 2016, down 19.8% year-over-year. Individual asset sales—the best benchmark for investment momentum—experienced a more moderate decline of 10.9%.[1]
- Cross-border investment subsided in Q1 2016 to $10.2 billion. Limited entity-level, portfolio and very large asset acquisitions partly explain the decline from last year's volume, in Q1 15, of $27 billion in cross-border investment. Canada remains the lead capital source followed by China, Qatar and Germany.
- Pricing data continue to reflect mostly stable cap rates.
- The NCREIF Property Index for institutional real estate registered a total annual return of 11.8%. The level is favorable, but lower than 2015's 13.3% return.
- Lending momentum subsided in Q1 2016 based on both CBRE Research's Lender Momentum Index and a similar index produced by the Mortgage Bankers Association.
- CMBS issuance for Q1 2016 declined 29.6% year-over-year. However, agency mortgage lending rose 47.5% due in part to the high level of production carried over from 2015.
- In Q1 2016, commercial mortgage delinquency rates were practically non-existent for the GSEs and life companies, declined for banks, and held fairly steady for CMBS. They are likely to edge higher in 2016 for the latter.

1. All references to deal volume cited in this report are based on Real Capital Analytics transactional database.

The opening months of 2016 were bumpy and added a degree of uncertainty to the commercial real estate capital markets in the U.S. Stock market volatility, a revised (and slightly less favorable) outlook on the U.S. economy and lower interest rates, to name a few, created a less robust investment climate.

Still, with healthy property fundamentals, a solid U.S. economy and most debt providers lending at full capacity, the quarter's debt and equity investment continued to reflect active conditions. The capital markets arena remains solid, and should continue to create a successful environment for the commercial real estate industry.

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Specifically, four themes characterize current U.S. real estate capital markets. First, the pace of acquisitions has moderated from 2015's peak, but remains active. Second, the investment performance (returns) of real estate holdings remain solid; however, performance is less stellar than in 2015.

Third, trends are mixed in terms of property values and sales pricing. While cap rates and sales pricing for most assets are holding firm, there is evidence that cap rates have widened slightly for some transactions.

Fourth, debt capital markets are active and mostly healthy, and the cost of borrowing remains quite low. That said, a few gray clouds have emerged, including the struggling CMBS market's ability to provide capital and new regulations that are expected to modestly dampen bank lending.

Figure 1: U.S. Commercial Real Estate Acquisitions Volume

	Total ($ billions)		
	Q1 2015	Q1 2016	Change (%)
Individual Assets	85.4	76.2	-10.9%
Portfolios	29.6	22.5	-24.2%
Subtotal	115.1	98.6	-14.3%
Entity-Level	23.0	12.1	-47.6%
Grand Total	138.1	110.7	-19.8%

Source: CBRE Research, Real Capital Analytics, Q1 2016.
*Some percentages may not total due to rounding.

INVESTMENT (EQUITY) TRENDS

Q1 2016 INVESTMENT MODERATES TO 2013-2014 LEVELS

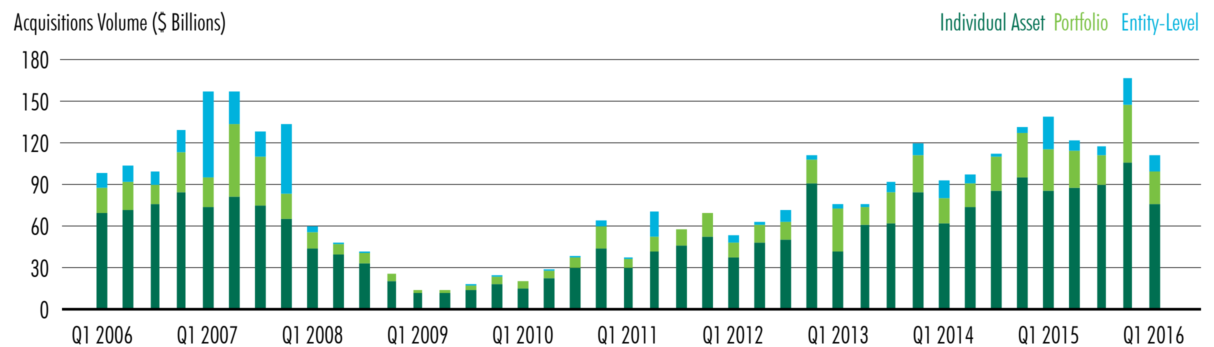
Commercial real estate investment moderated slightly in Q1 2016. The total dollar volume of U.S. acquisitions reached $111 billion in the quarter, down 19.8% from Q1 2015.

While the quarterly volume clearly reflects cooling investment activity, the slowdown is not as significant as the figures initially suggest. In fact, investment can still be considered very active, similar to what we saw in 2013 and 2014. The year-over-year comparisons are magnified by the fact that the Q1 2015 acquisitions volume was the second-highest quarterly total since the mid 2000s. It is possible that 2016 will follow a more traditional pattern of having slower sales in the first quarter of the year, followed by increased sales over the remaining quarters.

Also, for single-asset purchases, the best indicator of investment momentum—as opposed to the more volatile portfolio and entity-level sales—Q1 2016 volume totaled $76 billion, reflecting a more moderate 10.9% decline year-over-year. CBRE investment professionals report that bidding activity remains brisk, despite shallower bidder pools for some assets compared to last year.

There are two key factors that support an active acquisition climate through the balance of 2016.

Figure 2: Historical U.S. Commercial Real Estate Acquisitions Volume



Source: CBRE Research, Real Capital Analytics, Q1 2016.

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First, CBRE Research's Americas Investor Intentions Survey 2016, conducted from January to early February 2016, found that investors expect to make more acquisitions in 2016 than in 2015. Second, the U.S. economy remains on solid footing and property market fundamentals are still quite healthy.

Additionally, a vast quantity of capital is still sitting on the sidelines looking for investment opportunities. Preqin, a company which tracks fund capital, reports that as of March 2016, closed-end private real estate funds had $133 billion of "dry powder" available for investment in North American assets. This "dry powder" is up 11.8% from December 2015's total of $119 billion.

International capital also seems very eager to invest in the U.S. despite tepid investment in Q1 2016. The factors include stronger economic and market performance in the U.S. relative to most countries, higher yields (even if low by U.S. historical standards), global diversification and capital preservation (safety from uncertain conditions in the home country). The relaxation of FIRPTA will also benefit many foreign pension funds with intentions to buy U.S. assets.

Furthermore, there is a strong possibility that more portfolios and assets may come to the marketplace over the balance of the year. Property owners who believe that the market is peaking may be more motivated to list assets now, while the rising volume of maturing loans from the previous cyclical peak (2006-2007) will bring new product to the market, albeit not necessarily top quality.

Conversely, there are also several factors which could limit investment activity in 2016. First, the high pricing of core assets—with core possibly more popular now than during the same time last year—still discourages some investment. Second is the real, or perceived, risk of inadequate credit availability. While debt is still widely available and is relatively cheap by historical standards, new regulations and a struggling CMBS market negatively impacts investor sentiment.

Figure 3: Factors Influencing 2016 Investment

Positive Factors
Healthy property market fundamentals, favorable 2016 outlook
High levels of capital looking for investment opportunity
Low cost of debt capital
Most global capital sources see U.S. as favorable investment environment
FIRPTA changes benefit U.S. investment by qualified foreign pension funds
Mixed
Capital availability still relatively ample, but some contraction of supply
Availability of supply (product for sale)
U.S. economy - expanding at decent pace, but some concern that expansion will wind down in near term
Negative Factors
For some cross-border investors, domestic economic issues reducing outflow of capital
Pricing on core product is considered too high for many investors
Economic volatility and geopolitical uncertainty hesitancy in business and investment decisions

Source: CBRE Research, Q1 2016.

Figure 4: Acquisitions Volume by Property Sector, Q1 2016

	Total ($ billions)			Market Share
	Q1 2015	Q1 2016	Change (%)	Q1 2016 (%)
Totals for All Types of Acquisitions (including entity-level)				
Office	37	31	-14.8	28.2
Industrial	20	13	-38.0	11.4
Retail	26	18	-31.4	16.1
Multifamily	34	39	12.3	34.9
Hotel	15	6	-60.5	5.5
Other	5	4	-18.9	3.9
Total	138	111	-19.8	100.0
Totals for Individual Asset Acquisitions Only				
Office	24	23	-6.0	29.9
Industrial	8	8	-6.9	10.4
Retail	14	13	-10.5	16.8
Multifamily	25	24	-4.0	31.4
Hotel	9	5	-42.1	6.6
Other	5	4	-22.1	5.0
Total	85	76	-10.9	100.0

Source: CBRE Research, Real Capital Analytics, Q1 2016.

Third, there is no certainty that product availability will increase; owners may decide to hold rather than sell. Given the magnitude of sales activity over the past few years, there could still be limited

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product availability, especially of higher quality assets, which are in greater demand.

Fourth, global economic weakness and stock market volatility, in particular, exemplify a macroeconomic environment that some investors find unsettling, leading to more cautious investment decisions.

MULTIFAMILY ACHIEVES LARGEST YEAR-OVER-YEAR GAIN

In Q1 2016, multifamily attracted the most capital among the major property types. Almost 35% of all investment went into apartment properties, exceeding the office sector, which has nearly always been the frontrunner. Moreover, multifamily acquisitions rose 12.3% compared to the prior year—the only sector to achieve a year-over-year increase.

Analysis of individual asset sales (the better measure for understanding investment momentum) revealed that investment in multifamily experienced a slight drop in Q1 2016 compared to the prior year (4.0%). Investment in the office sector slipped 6.0% and industrial 6.9%. The hotel sector, hampered by its more prevalent use of CMBS debt capital, continued to reflect much lower investment activity, with a 42% drop year-over-year.

NEW YORK CITY MAINTAINS TOP POSITION AMONG U.S. METROS WITH $16 BILLION INVESTMENT TOTAL

Real estate investment exceeded $67 billion in the leading U.S. metropolitan areas in Q1 2016. New York City remained the top market by a large margin, with $16 billion invested during the quarter. Not included in New York's total is the $1 billion of development site acquisitions. The majority of investment in New York (59.0%) was concentrated in Manhattan, but the remaining four boroughs also attracted $2.9 billion (18.0% of the New York total, up from 13.7% for full-year 2015).

Three metros moved up several places in the ranking: Miami (three-county metropolitan area) rose to fourth highest for investment activity, up from eighth in 2015; Boston climbed from ninth to sixth and Denver moved from 13th to seventh.

"PRIVATE BUYERS" CATEGORY REMAINS LARGEST INVESTOR GROUP

The largest category of investors was "private buyers," a group which includes non-traded REITs. Purchases made by private buyers represented 42.5% of the Q1 2016 investment total, as shown in Figure 6. Private companies were also active sellers, disposing of slightly more assets than they acquired during the quarter.

Institutional capital—primarily investment managers representing pension funds, endowments and related capital sources—represented the second largest category of investors, with 34.9% market share. This capital source was a net seller in both 2014 and 2015, but a net buyer in Q1 2016.

Acquisitions by public REITs and other public real estate companies were particularly low in Q1 2016,

Figure 5: Leading Metros for Acquisitions, Q1 2016

Rank	Metro	Invested ($ billions)	Market Share (%) Metro	Market Share (%) Cumulative
1	New York City Metro	15.9	15.0	15.0
2	Los Angeles/Southern California	9.0	8.5	23.5
3	San Francisco Bay Area	6.2	5.9	29.3
4	Miami/South Florida	5.5	5.2	34.5
5	Washington, D.C.	5.2	4.9	39.4
6	Boston	4.9	4.6	44.0
7	Denver	4.5	4.2	48.2
8	Chicago	4.0	3.8	52.0
9	Seattle	3.7	3.5	55.5
10	Dallas/Ft. Worth	3.4	3.2	58.6
11	Atlanta	2.9	2.7	61.3
12	San Diego	2.7	2.5	63.9
	Others	38.4	36.1	100.0
	Total U.S.	106.4		

Source: CBRE Research, Real Capital Analytics, Q1 2016. Totals include entity-level (company) purchases; exclude development sites (hence the slight difference from the $111 billion reported above.)

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however, disposition activity totaled at a notable $26 billion. Contributing to dispositions were the $8.0 billion acquisition and privatization of BioMed Realty Trust by Blackstone in January, the $2.3 billion acquisition and privatization of Inland Real Estate Corporation by DRA Advisors in a joint venture with Prudential Real Estate Investors in March; and the acquisition of Campus Crest, a student housing REIT, by Harrison Street Real Estate Capital for a reported $1.9 billion, also in March.

CROSS-BORDER INVESTMENT TAKES A BREATHER IN Q1 2016

Cross-border investment volume in U.S. real estate subsided during Q1 2016 to levels more characteristic of the opening quarters of 2013 and 2014, as shown in Figure 7. In Q1 2016, acquisitions by non-U.S. groups reached $10.2 billion, compared to the $27.3 billion achieved a year ago.

In Q1 2016, there were few large portfolios or real estate companies acquired by global capital in contrast to Q1 2015. Additionally, large single-asset purchases (such as New York City office buildings) were at a minimum. Some foreign buyers are facing headwinds to their cross-border investment strategies from sharply reduced oil revenues, political or economic pressures to keep investment in their home country, the strong U.S. dollar, and/or general weakness in their domestic economy.

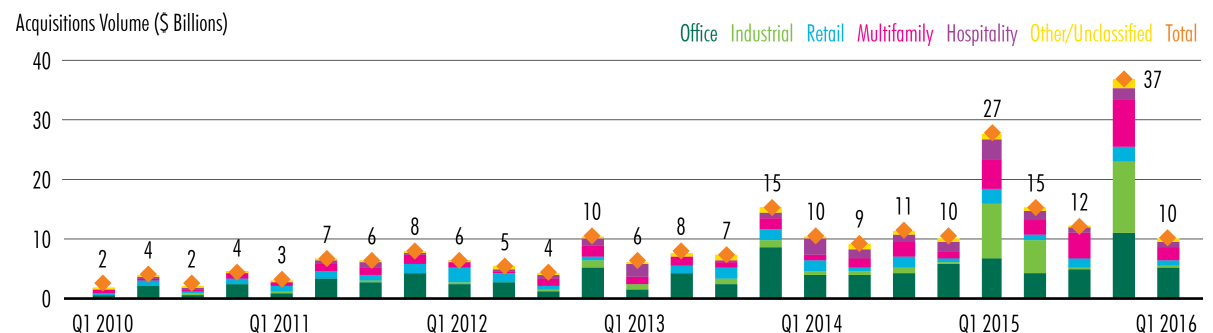
That said, most of the attractions of U.S. investment—including the U.S.'s relatively favorable economy, healthy property fundamentals, higher asset yields, lower long-term return volatility and opportunity for scale—still firmly characterize the domestic investment environment and many of the reasons why global capital is attracted to the U.S. Added to this are

Figure 6: Acquisition Volume by Buyer Type, Q1 2016

	Volume ($ billions)			Market Share (%)			Ratio of**	
	Q1 2015	Q1 2016	Change (%)	Q1 2015	Q1 2016	Net Buyer or Seller Q1 2016	Acquisitions to Dispositions	Dispositions to Acquisitions
Private	53	47	-10.9	38.2	42.5	Net Seller	-	1.1
Institutional	24	39	63.1	17.1	34.9	Net Buyer	1.6	-
Cross-Border	27	10	-62.6	19.7	9.2	Net Buyer	1.8	-
REITs/Public Companies	27	6	-79.3	19.5	5.0	Net Seller	-	4.7
Other*	7	9	25.0	5.4	8.4	Net Buyer	1.6	-
Total	138	111	-19.8	100.0	100.0			

Source: CBRE Research, Real Capital Analytics, Q1 2016. Totals include acquisitions through entity (company) purchases. *Other = user, unknown, other types of investors. **For example, for every $1 disposition, cross-border capital is acquiring $1.81.

Figure 7: Historical Cross-Border Investment in U.S. Real Estate by Property Type



Source: CBRE Research, Real Capital Analytics, Q1 2016. Totals include acquisitions through entity (company) purchases.

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changes in FIRPTA regulations that removed the tax penalties for qualified foreign pension fund investment in the U.S.

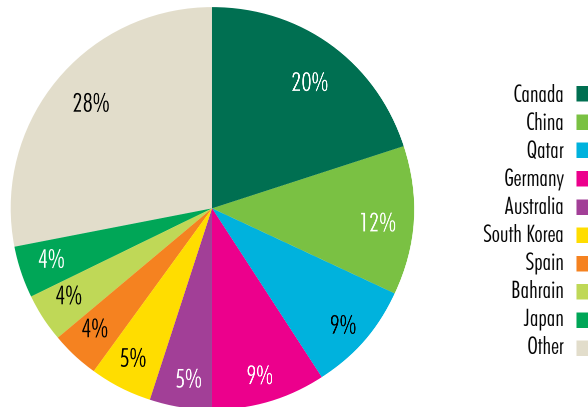
Therefore, despite the slow start, CBRE Research expects a return to strong investment in the U.S. by international capital over the balance of 2016.

In Q1 2016, office properties attracted $5.2 billion of cross-border investment, by far the largest share (50.8%). Multifamily was second at $2.2 billion or 21.6% of the total.

Canada remained the most active source of cross-border investment in Q1 2016, as shown by Figure 8. Asia is also well represented among the top sources of capital, with China, South Korea and Japan among in the top nine countries.

The New York City metropolitan area remained the undisputed leader in attracting international capital, with 27.1% of total cross-border volume in Q1 2016. Other leading metros for global capital investment were Los Angeles (13.6%), Philadelphia (7.2%), San Francisco (7.0%), Miami (5.6%), Washington, D.C. (5.6%) and Chicago (3.1%). Philadelphia is a newcomer to the list of metros of interest to global capital.

Figure 8: Country Origins of Cross-Border Investment, Q1 2016



Source: CBRE Research, Real Capital Analytics, Q1 2016. Based on CBRE adjusted RCA data; includes acquisitions through entity (company) purchases.

"Outbound capital" also plays a significant role in the U.S. capital markets story. U.S. investors are active internationally and in Q1 2016 acquired $11.4 billion of real estate assets in other parts of the world (including entity-level acquisitions). Western Europe was the primary target for the outbound investment. That said, the Q1 2016 total was down 43% from Q1 2015's $20.0 billion.

INVESTMENT PRICING

PRICING TRENDS – CAP RATES REMAIN FAIRLY STABLE

Cap rates and sales prices per square foot are two key measures of real estate acquisition pricing, although it is worth noting that large changes in asset mix can skew averages, especially for the sales per square foot statistics.

The price per square foot, or per unit, averages reflected mixed trends for commercial real estate. Average sales pricing rose for multifamily and industrial assets year-over-year, but office pricing was down 4.3%. The decline in the retail and hotel

Figure 9: Acquisition Pricing - Average Sales Prices

	$ per	Q1 2015	Q1 2016	Change (%)
Office	sq. ft.	278	266	-4.3
Industrial	sq. ft.	76	81	6.6
Retail	sq. ft.	244	188	-22.8
Multifamily	unit	137,000	145,000	5.8
Hotel	unit	184,000	138,000	-25.0

Source: CBRE Research, Real Capital Analytics, Q1 2016. Based on data including acquisitions through entity (company) purchases.

Figure 10: Acquisition Pricing - Average Cap Rates

				Change (pt)	
	Q1 2015	Q4 2015	Q1 2016	Q-o-Q	Y-o-Y
Office	6.74	6.70	6.63	-0.08	-0.11
Industrial	6.98	6.61	6.93	0.32	-0.05
Retail	6.59	6.48	6.56	0.08	-0.03
Multifamily	5.98	5.91	5.67	-0.24	-0.32
Hotel	8.13	8.38	8.42	0.04	0.29

Source: CBRE Research, Real Capital Analytics, Q1 2016. Based on data including acquisitions through entity (company) purchases.

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averages are too large to reflect “same-store” like sales, so clear trend lines are not available from the data.

Looking ahead, over the course of 2016 we expect four major investment trends to shape pricing. First, with property rents expected to continue to increase for all property sectors in 2016, NOIs should also increase, suggesting rising values and pricing. Second, some investors will continue to shift focus away from the most expensive assets in search of higher yields. The “price per pound” for these types of assets is lower and could bring down the market averages.

Third, at the same time, many investors are more focused on core asset purchases this year and are willing to pay the higher prices for them. A higher ratio of these high-value core assets would bring up the market averages for sales prices.

Fourth, while we expect investment volumes to remain high, late-2015 and early-2016 trends have introduced a somewhat less competitive buying environment than we have seen over the past few years. This is likely to prevail throughout 2016, which could negatively impact pricing and result in an increase on cap rates.

Q1 2016 CAP RATES REMAIN FAIRLY STABLE

Average cap rates for Q1 2016 transactions reflected fairly stable pricing overall. However, to the extent that the data can be interpreted for broad trends (vs. changes in asset mix), the statistics revealed slight compression in the office sector from the prior quarter (due to lower CBD cap rates) and downward movement of 24 basis points (bps) among multifamily properties.

Hotel and retail cap rates inched up slightly, while industrial cap rates reflected a 32 bps rise. The latter is due to a higher percentage of “flex” property acquisitions during the quarter. Real Capital Analytics revealed that 43.1% of industrial investment volume in Q1 2016 came from acquisitions of flex assets—a category of typically smaller and higher-finish space—up from 22.4% for full-year 2015.

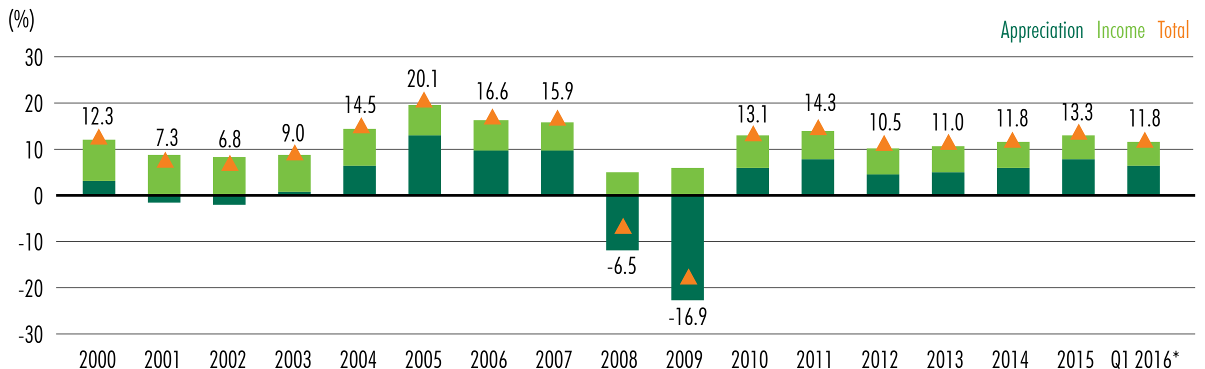
Additionally, anecdotal evidence from CBRE investment professionals and other sources suggest that cap rates are holding steady for most core markets and product, but that rates have increased slightly for many non-core assets. CBRE Research anticipates predominantly stable cap rates over the next few quarters.

INVESTMENT PERFORMANCE - NCREIF

INVESTMENT RETURNS SLIP IN Q1 2016

For the past six years, the NCREIF returns for institutional commercial real estate holdings have been strong, with annual returns substantially outpacing the 20-year historical average of 9.9%. The trend continues, but at a less impressive level. For the year ending Q1 2016, the NPI produced a

Figure 11: NCREIF Property Index Returns



Source: CBRE Research, NCREIF, Q1 2016. *For year ending Q1 2016. All returns are reported on an unlevered basis.

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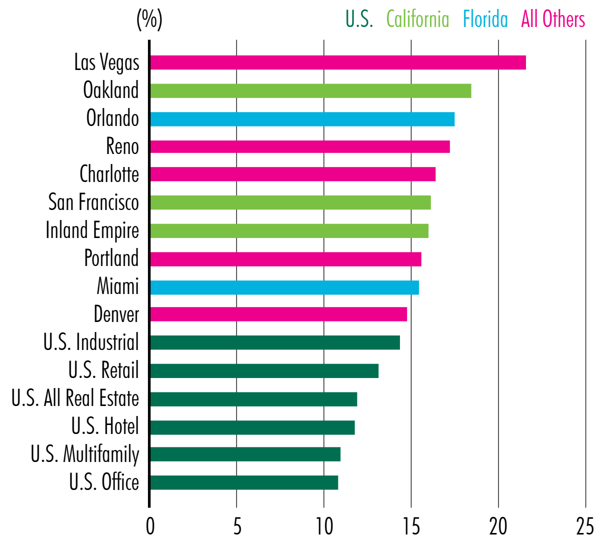
return of 11.8% (value appreciation +6.7%, income +4.9%). The current 12-month return is down 1.5 percentage points from the year ending Q4 2015, primarily due to lower value appreciation.

For Q1 alone, the index reflected a 2.2% return (+1.0% value appreciation, +1.2% income), a level which is considerably lower than 2015's (last year's quarterly returns averaged 3.2%). Nearly the entire decrease on the Q1 2016 return was due to a change in value appreciation. The decline raises some questions about market performance—returns need to be closely monitored.

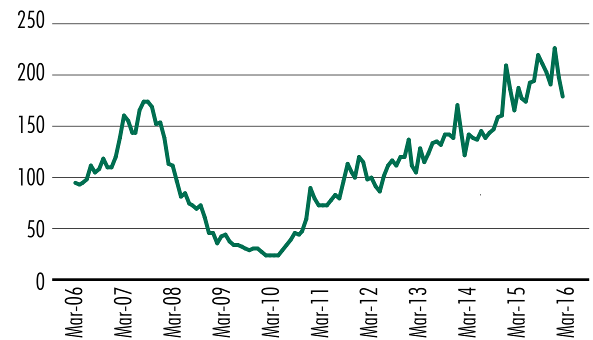
For the year ending Q1 2016, Las Vegas led the nation with a 21.5% return. Las Vegas was followed closely by Oakland (18.3%), Orlando (17.4%) and Reno (17.1%). All of the California metros tracked had annual returns greater than the U.S. average, except Sacramento which was 10.2%. Similarly, among the Florida metros in the index—Miami, Fort Lauderdale, West Palm Beach, Orlando, Tampa and Jacksonville—Jacksonville was the only metro below the national average.

Figure 12: NCREIF Property Index Total Returns for U.S. Property Sectors and 10 Leading Metros



Source: CBRE Research, NCREIF, Q1 2016. All returns are reported on an unlevered basis. For year ending Q1 2016.

Figure 13: CBRE Lending Momentum Index



Source. CBRE Research, Q1 2016. Index is based on CBRE mortgage origination activity and is seasonally adjusted, 2005 average = 100.

DEBT CAPITAL MARKETS

POSITIVE MOMENTUM IN MOST, BUT NOT ALL, CORNERS OF DEBT CAPITAL MARKETS

Overall, the debt capital markets environment—mortgage capital for financing acquisitions and development—is still active and healthy for most lenders and borrowers alike. The past two quarters, however, experienced a number of changes that moderated these trends and revealed some concerns for 2016. Debt capital remained ample in Q1 2016, as lending continued at a brisk pace and borrowing costs remained relatively low. The one exception to these general trends was in CMBS: new issuance fell significantly.

ROBUST AGENCY LENDING, BUT TEPID CMBS ISSUANCE

CBRE Research's "Lending Momentum Index," based on CBRE mortgage originations activity, reflects a more moderate pace of mortgage production than experienced through most of 2015. This is not surprising given the moderation in investment in Q1 2016. The March 2016 index value of 182 reflected a 6.2% drop from the prior quarter (December 2015) but an 8.9% gain year-over-year.

The Q1 2016 Mortgage Bankers Association's Commercial/Multifamily Mortgage Bankers Originations Index also reflected a drop from the

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previous quarter. The origination volume index fell 38% to 182 in Q1 2016. However, the index was flat on a year-over-year basis (2001 = 100). Of the four major sources of debt capital tracked—CMBS, commercial banks, life insurance companies and agencies—banks were the only source to experience a year-over-year gain (44%); the Q1 2016 index was down only slightly for life companies from the prior year (1%).

A closer look at mortgage lending volumes is available for some of these major categories. For the GSEs, new multifamily mortgage production totaled $30 billion in Q1 2016—$12.6 billion for Fannie Mae and $17.5 billion for Freddie Mac. The agencies financed approximately 415,000 units, equivalent to the entire apartment stock of Atlanta. The high volume in Q1 2016 represented a 47.5% gain over the prior year; however, the large volumes partly resulted from shifting 2015 activity to 2016 to avoid exceeding production caps. In March, Fannie Mae's total fell below the prior year, while Freddie Mac's total exceeded 2015.

The 2016 production caps for both Fannie Mae and Freddie Mac were raised to $35 billion from $30 billion in 2015. The agencies also expect to increase affordable housing mortgage activity, which is not capped, thereby raising anticipated 2016 production from 2015's $90 billion to at least $95 billion.

The securitized mortgage world is not entirely "on the sidelines," but CMBS issuance totaled only $19 billion in Q1 2016, the lowest quarterly total since Q3 2013 and 29.6% below Q1 2015. The reasons for the tepid activity include volatility in the bond market, uncertain and/or higher pricing for the borrower, and a more restrictive regulatory environment, is particularly impacting the key B-piece buyers. Opinions vary considerably as to how quickly CMBS will get back on its feet, but the current outlook is for a 2016 issuance total far below 2015's, quite possibly around the $60 billion level, compared to $101 billion in 2015.

Life insurance company lending volumes for Q1 2016 are not yet available, however, CBRE investment professionals indicate that life company lending through the first three months of 2016 have been robust, with life companies maintaining their target allocations.

Banks remained very active in mortgage lending in Q1 2016, based on anecdotal evidence (hard statistics are not available other than the momentum indices), but current and upcoming regulatory changes may begin to impact the pace. For example, banks may scale back lending volumes in 2016 due to Basel III regulations that include tighter risk retention regulations and "high volatility commercial real estate" (HVCRE) requirements. The latter impacts construction lending by limiting the value of the land to the original value at purchase, not the current value, which developers use as all, or part, of their equity contribution. The HVCRE rules are expected to modestly curtail construction lending; however, for mortgage lending in general, the industry is mixed on whether banks will cut back on activity. Some expect bank lending to remain at current levels, or even play a larger role in the industry, especially as conduit lending remains subdued.

INTEREST AND MORTGAGE RATES REMAIN LOW

Interest rates play a seminal role in real estate capital markets as they are the primary basis of mortgage pricing and, hence, indirectly influence nearly every other aspect of capital markets. The first quarter ended with the benchmark 10-year Treasury Rate at 1.78%, reflecting a 49 bps drop from the end of Q4 2015. Since the end of Q1 2016, the 10-year Treasury Rate has inched up to 1.87 (as of April 27).

Another benchmark interest rate—one used primarily for pricing floating rate transactions—is the one-month LIBOR. This rate traditionally tracks the Federal Funds Rate fairly closely and rose from 0.19% at the end of Q3 2015, to 0.43% at the end of Q4 2015. Through Q1 2016, the one-month LIBOR remained stable and ended the quarter at 0.44%.

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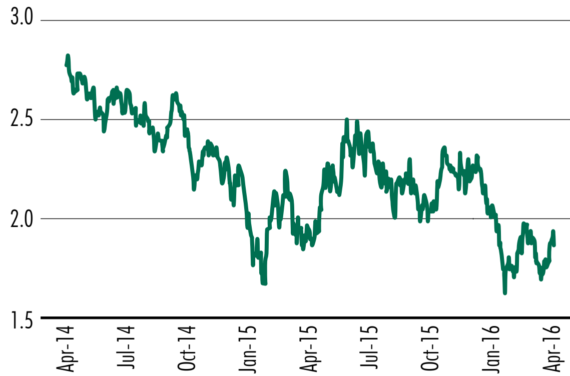
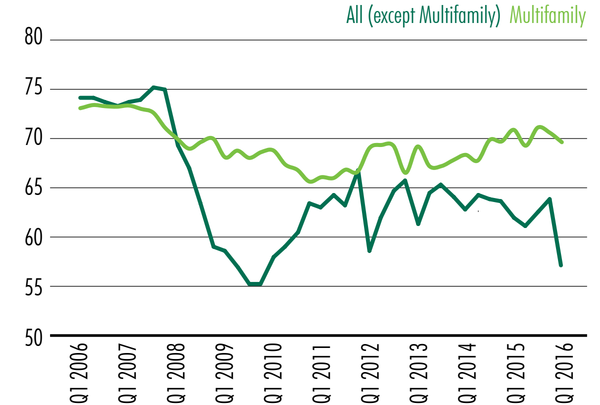
Figure 14: 10-Year Treasuries



Source. U.S. Department of the Treasury, through 04.27.16 (1.87%). Daily rates graphed.

Figure 15: Historical Loan-to-Value Ratios



Source: CBRE Research, Q1 2016.

Interest rates fell in Q1 2016 primarily due to three factors: stock market volatility in early Q1 leading to a slightly less favorable outlook on the U.S. economy, revised expectations on Federal Reserve rate adjustments in 2016 (one or two rather than the late 2015 expectation of four), and added uncertainty about the global economy, especially China.

The latter part of the quarter and early Q2 2016 have brought more economic stability and a stronger outlook on the U.S. economy which may serve to push rates up slightly over the course of 2016. However, whatever rate increases will happen, they will very likely occur at a moderate pace and start in the second half of 2016.

In Q1 2016, spreads over LIBOR and Treasuries (for pricing mortgages) were wider than in recent years, but have come down somewhat over the final weeks of Q1 and the start of Q2. Mortgage rates are still very low and borrowing costs remain relatively favorable for borrowers (by historical standards). Data from CBRE's Q1 2016 Lender Forum analysis revealed an average mortgage rate of only 4.27%, essentially unchanged from the prior quarter.

More *recent data* from CBRE's Multifamily team indicates that multifamily mortgages (which tend to price at the low end for commercial real estate) are averaging around the high 3%'s for life company mortgages (10-year fixed rate, 65% leverage), high 3%'s for Freddie Mac (10-year fixed rate, 65% leverage), high 3%'s/low 4%'s for Fannie Mae, and in the mid 3%'s for bank loans (seven-year, 65% leverage).

MORTGAGE UNDERWRITING ANALYSIS REVEAL LOWER LTV RATIOS IN Q1 2016

Over the past few years, mortgage underwriting standards have loosened moderately. However, they are far less aggressive than experienced during the 2006-2007 period.

CBRE Research's Lender Forum analysis includes the loan-to-value ratio (LTV)—the higher the ratio, the greater the risk. The most recent figures indicate that LTVs declined in Q1 2016.

The 57.0% average LTV for non-multifamily commercial property loans in Q1 2016 reflects a substantial drop from Q4 2015 due both to more conservative lender requirements and to the lower percentage of CMBS loans in the loan pool (conduit loans typically carry higher LTVs). For reference, the previous non-multifamily commercial LTV peak was 75.3% reached in late 2007.

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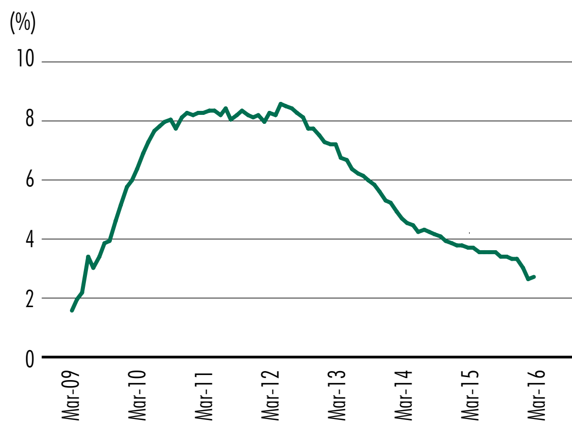
Figure 16: Mortgage Delinquency Rates by Lender or Lender Type

Lender/Lender Type	Delinquency Definition*	Property Types	As of	Prior Year	Delinquency Rate (%) Prior Quarter	Current
CMBS	30+	All	March 2016	3.77	3.43	2.83
Life Companies	60+	All	Q4 2015	0.08	0.04	0.04
Banks - Non-Residential	30+	All	Q4 2015	1.67	1.25	1.16
Banks - Multifamily	30+	Multifamily	Q4 2015	0.63	0.46	0.41
Banks - Construction & Development	30+	All	Q4 2015	2.57	1.68	1.53
Fannie Mae	60+	Multifamily	March 2016	0.09	0.07	0.06
Freddie Mac	60+	Multifamily	March 2016	0.03	0.02	0.04

Source. CBRE Research, Morningstar Credit Ratings LLC, Fannie Mae, Freddie Mac, Mortgage Bankers Association, American Council of Life Insurers, Federal Deposit Insurance Corporation. Delinquency rates are based on % of delinquent loan balance to the total outstanding loan balance. *30+ means loans which are 30+ days delinquent are included in the count.

Figure 17: Historical CMBS Mortgage Delinquency Rates



Source: CBRE Research, Morningstar Credit Ratings LLC, March 2016.

CMBS DELINQUENCY RATES EDGE UP SLIGHTLY IN MARCH

Delinquency rates provide a measure of both mortgage risk and performance. As shown in Figure 17, among life companies and GSEs, delinquency levels remain at extraordinarily low levels—essentially nonexistent. Delinquencies of bank-held multifamily mortgages are also low at 0.4% and continue to edge downward. Non-multifamily commercial real estate loans, as well as construction and development loans held by banks, have higher delinquency rates, but also continued to trend downward in Q4 2015 (Q1 2016 data are not yet available).

Albeit limited to one lender type, CMBS delinquency rates provide a useful historical view of mortgage performance. The delinquency rate dropped significantly in early 2016 largely due to the Stuyvesant Town and Peter Cooper Village $3 billion loan payoff. In March, the rate edged up slightly and the quarter ended with a 2.83% rate, down 60 bps from the end of Q4 2015 and 94 bps from March 2015.

Among CMBS loans, multifamily loans have the lowest delinquency rate of 0.63% (based on unpaid balance), followed by hotels at 2.67%. Through 2016, CBRE Research expects a modest rise in delinquency rates due to the maturing loans overall.

WALL OF MATURITIES - $14 BILLION IN CMBS LOANS AT RISK IN 2016

The mostly favorable CMBS delinquency and default statistics have mitigated earlier fears that 10-year loans from 2005-2007 that are now maturing would create a large number of defaults

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and high loan losses. Certainly, the vast majority of 2015 and early-2016 maturing loans have been paid off without issue.

Loan defaults are likely to rise in 2016; however, CBRE Research's analysis on the "wall of maturities" indicates that 2016 loan maturities will be far less challenged than originally thought. An estimated 18%, or close to $14 billion, in 2016 maturing CMBS loans may face some refinancing difficulty at maturity due to relatively low current debt yields.

Office and retail properties will likely have a higher percentage of loans facing difficulty, while multifamily and industrial properties are expected to be least affected. Office and retail loans comprise the largest share of CMBS and together represent 71.1% of the unpaid loan balance of delinquent CMBS mortgages—a total of $15.3 billion—as of March 2016, according to Morningstar.

CBRE Research concludes that 2017's generally lower quality and more aggressively underwritten maturing loans will face more challenges with refinancing. The current estimate is that some 29.6%, or $29 billion, of maturing 2017 loans are likely to face refinance challenges.

The recent success of loan maturities has been due to plentiful liquidity across lenders, low interest rates, and investors' keen appetite for real estate. One concern for 2016 is that recent market volatility in the CMBS market, which has included wider loan spreads and indications that some conduit lenders may retreat from financing, may cause additional stress and short-term disruptions to 2016 CMBS refinances.

Figure 18: CMBS "Wall of Maturity" Risk

	2016	2017	Total
Expected Loan Volume Maturing ($b)	78	98	176
Loans At Risk*	17.9%	29.6%	24.4%
Loan Volume At Risk ($b)	14	29	43

Source. CBRE Research, Q1 2015. *Loans which could face some difficulty in refinancing, based on maturing CMBS loan debt yields; debt yields <8% representing "at risk" loans. Analysis based on loan data from Morningstar Credit Ratings, LLC, as of October 2015.

CAPITAL MARKETS OUTLOOK

U.S. CAPITAL MARKETS TO HOLD UP WELL IN 2016, EVEN WITH SOME HEADWINDS

The 2016 capital markets climate should continue to be active and healthy, even with a few more headwinds than faced in previous years. Current and near-term future conditions are mostly positive for all types of commercial real estate players—buyers, sellers, borrowers, owners, lenders, etc. The headwinds are creating a somewhat more cautious investment and lending climate, but the moderations in investment and lending volumes plus more stable pricing than experienced in recent years may help secure a longer period of sustained health in the capital markets.

Headwinds—which include concerns on the global economies, the pace and duration of the U.S. economic expansion, tighter lending regulations and the ability of CMBS to function at full capacity—are balanced by many capital markets positives. These include still-low borrowing costs, property returns above historical averages, solid market fundamentals and high levels of capital looking for opportunities to invest.

While 2016 is not likely to set records in most areas of capital markets performance, CBRE Research expects the year to reflect generally healthy capital markets conditions.

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