



REIT
INVESTMENT

**NAREIT's Law, Accounting
& Finance Conference**

JW Marriott Desert Ridge Resort & Spa
Phoenix, AZ

®

**Discussion of the Current and Future
Real Estate Markets**

March 31-April 2, 2015

Addressing the Hot Button Questions: What Is keeping REIT Professionals up at Night?

- ◆ Economic Keynote address: REITWise – 2015
- ◆ Kerry Vandell
- ◆ University of California - Irvine

The burning questions: survey results

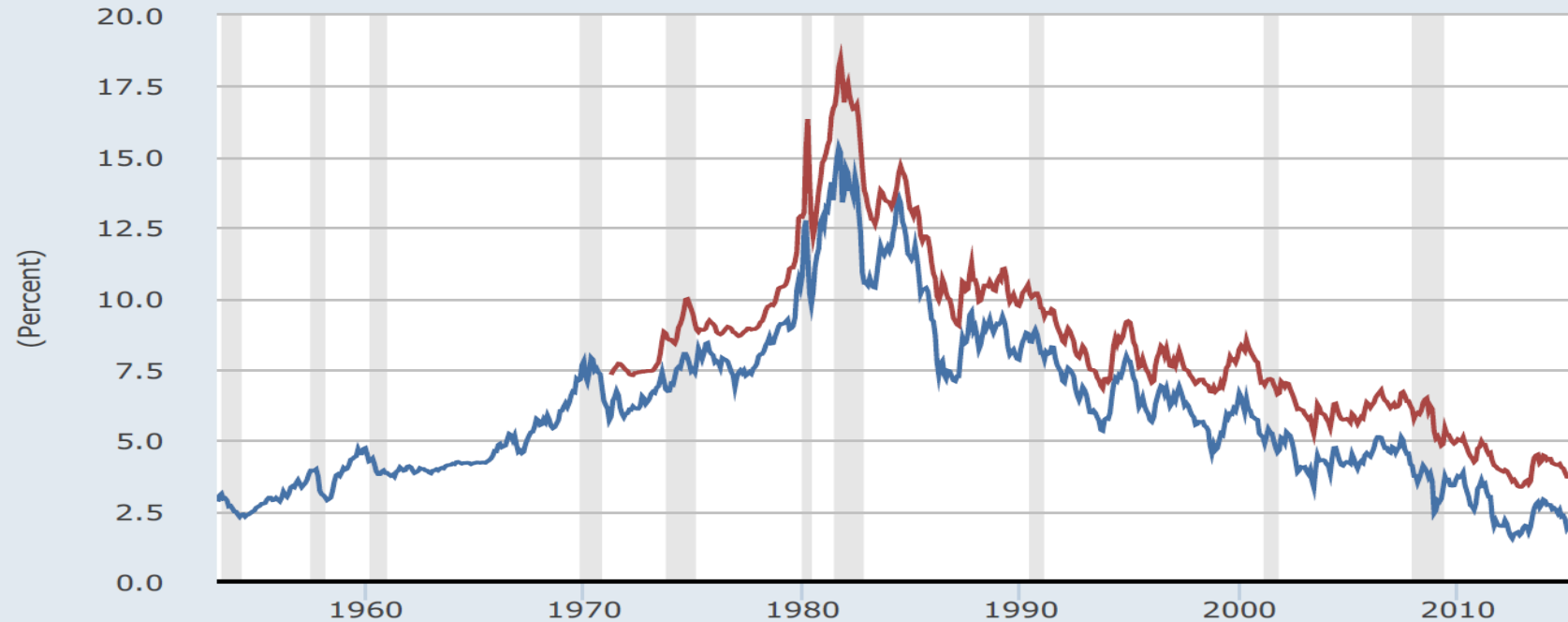
1. What will happen to interest rates, and how will they affect my business?
2. Where are we in "The Cycle"?
3. How will the price of oil affect REIT share prices?
4. How will global economic forces affect my business?
5. Will US REITs be able to increase market share? How can we grow? The life cycle of REITs
6. Will e-commerce cause the demise of retail REITs?
7. The multifamily sector: Fortune or fade?

1. What will happen to interest rates, and how will they affect my business?

Treasury and mortgage rate trends

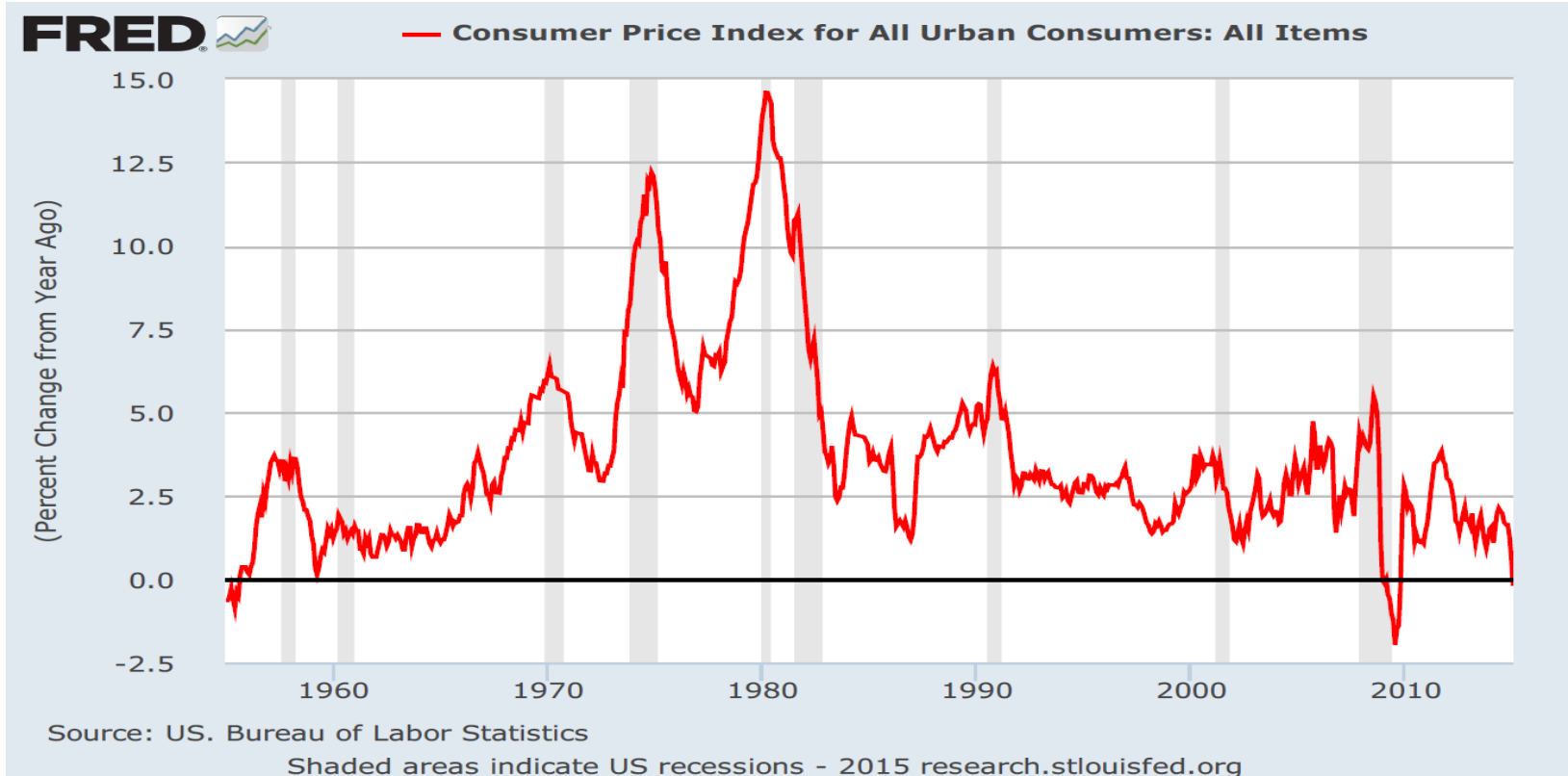
FRED 

— 10-Year Treasury Constant Maturity Rate
— 30-Year Conventional Mortgage Rate©



Shaded areas indicate US recessions - 2015 research.stlouisfed.org

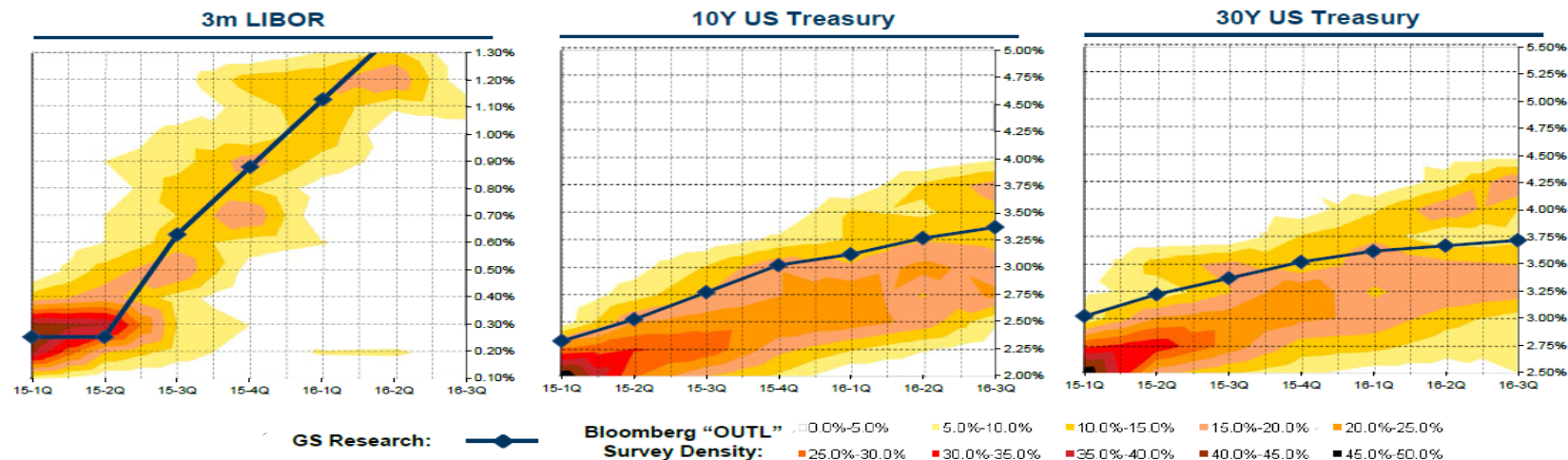
...closely correlated with inflation



GS Research vs. Bloomberg Rate Forecasts

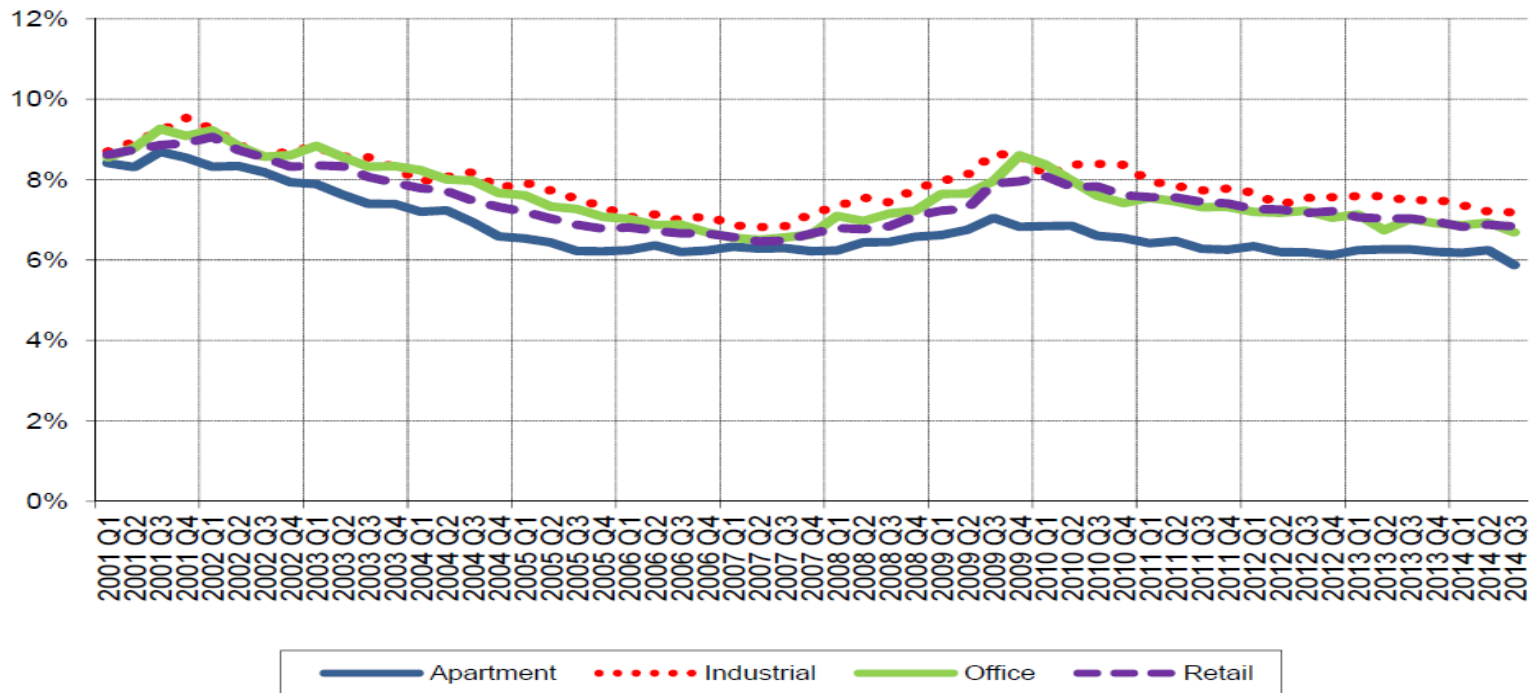
GS Long-Term Forecasts Above Consensus

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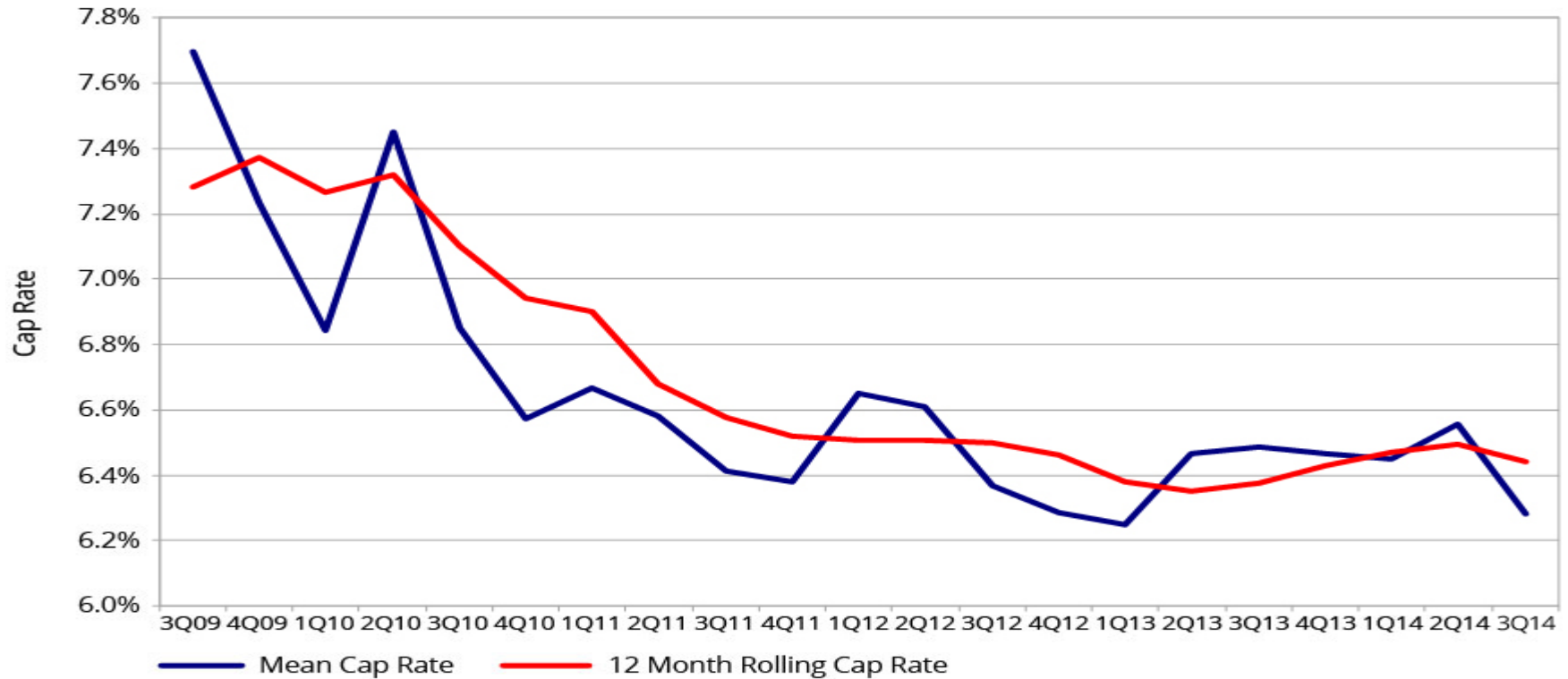
Cap rate trends

Capitalization rate

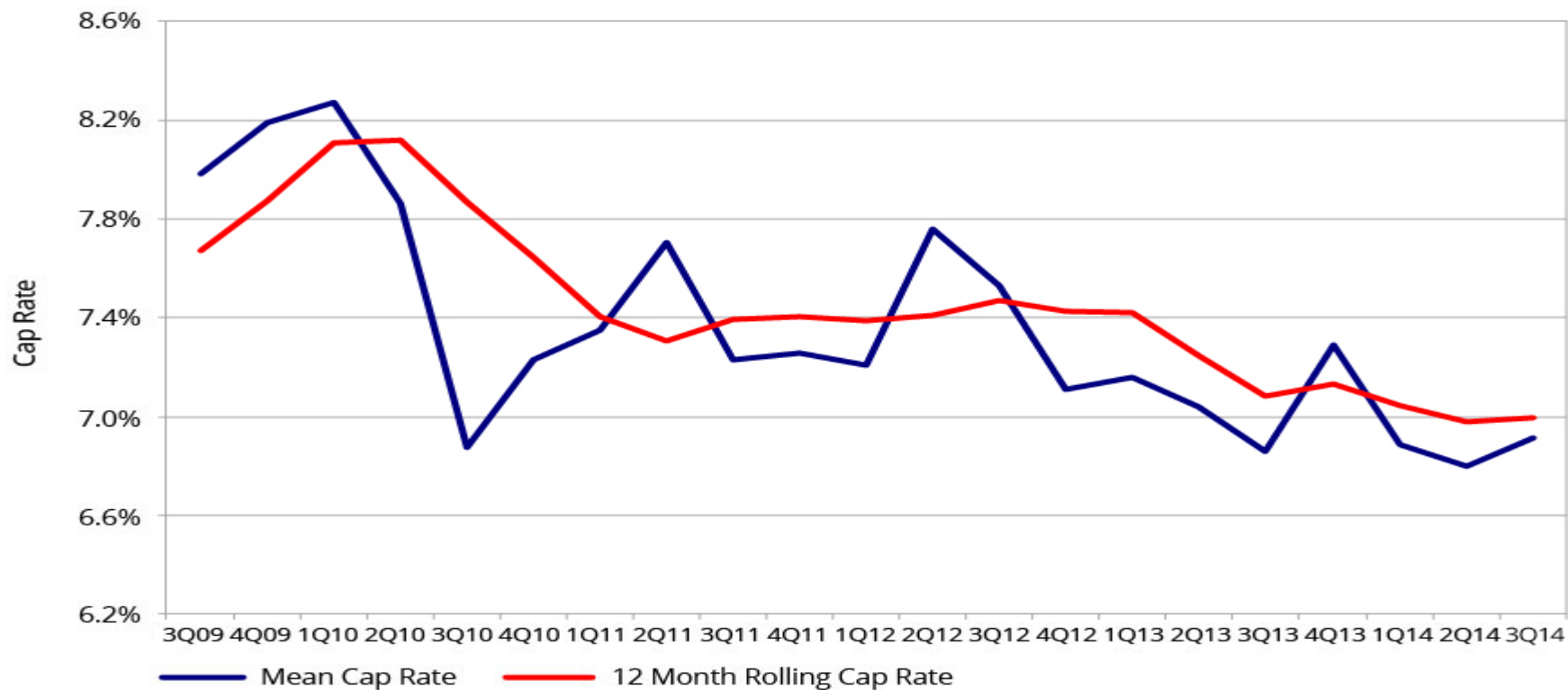


Source: Real Capital Analytics.

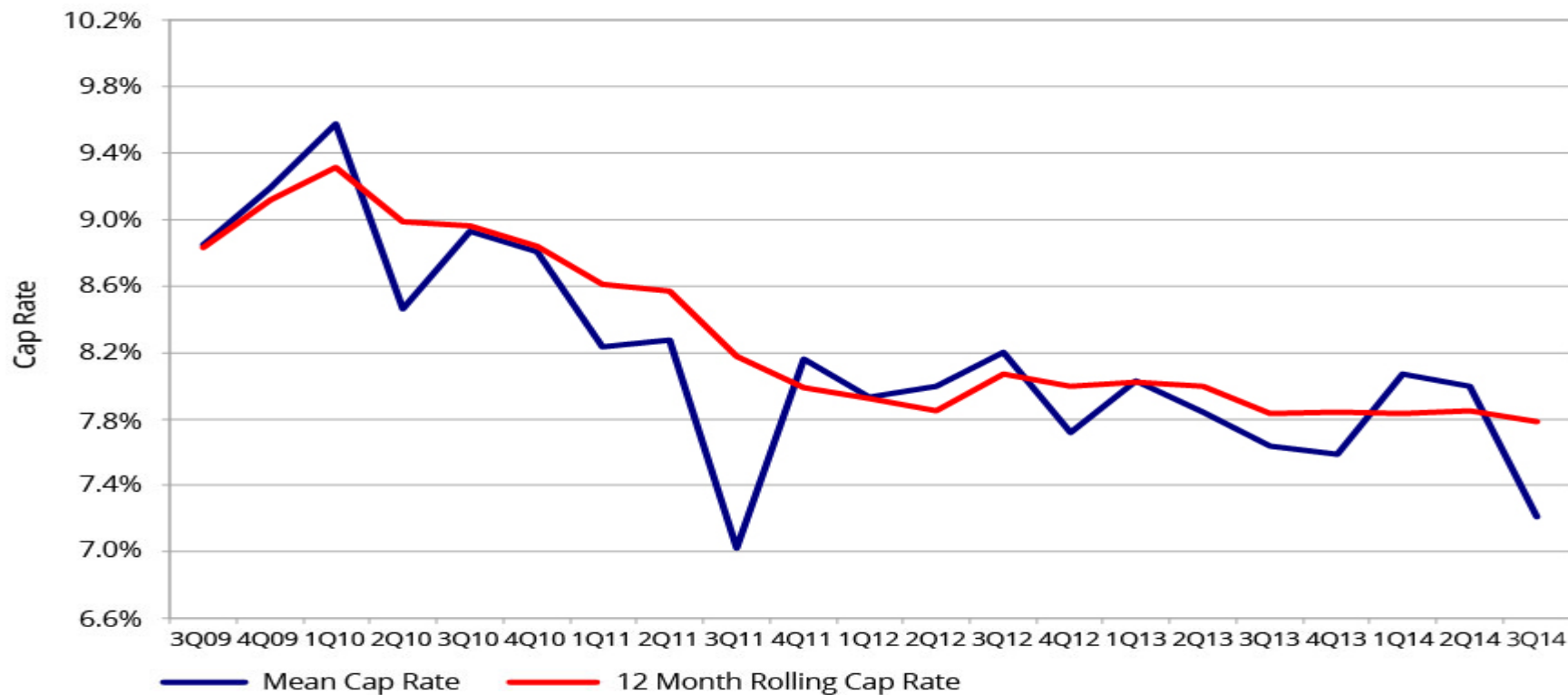
Multifamily cap rates



Office cap rates



Retail cap rates



Leverage by property type: Equity REITs

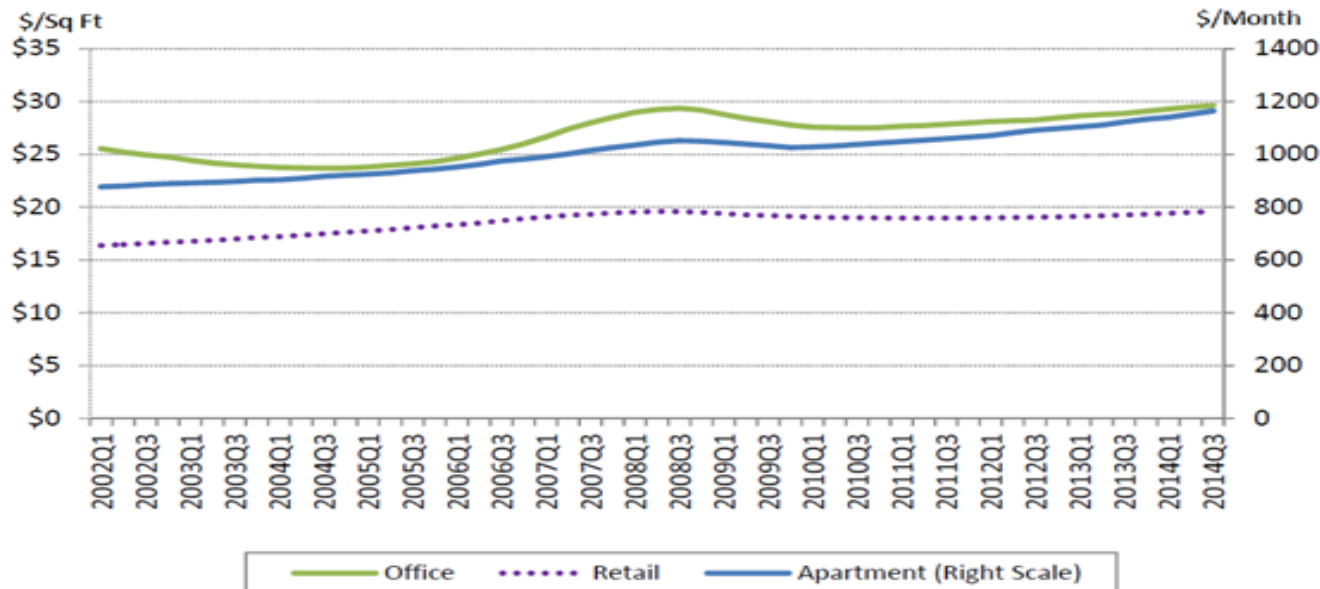
This table presents main summary statistics for leverage and coverage ratio variables separated by the main property types of REITs in the sample. The first column contains the total number of observations in each property type. We report means, standard deviations, minimum, and maximum values. *Leverage* is the ratio of total debt to total REIT value, *Coverage Ratio* is the value of EBITDA divided by total interest expenses for the REIT.

Property Type	Obs.	Leverage				Coverage Ratio			
		Mean	Std	Min	Max	Mean	Std	Min	Max
Diversified	253	0.47	0.21	0.01	0.96	7.45	17.47	-4.75	111.10
Health Care	193	0.38	0.19	0.01	0.89	4.64	4.25	-1.98	26.69
Hotel	219	0.51	0.21	0.03	0.97	5.71	12.75	-3.68	111.10
Industrial	177	0.52	0.18	0.23	0.97	2.86	1.54	-1.27	11.25
Manufactured Homes	62	0.44	0.14	0.19	0.75	3.66	2.90	0.77	24.45
Multi-Family	392	0.52	0.16	0.07	0.92	3.30	3.27	-3.55	60.05
Office	346	0.49	0.14	0.10	0.99	3.35	1.74	-4.75	12.36
Regional Mall	151	0.60	0.14	0.05	0.99	2.86	1.81	-1.76	14.12
Retail: Other	131	0.44	0.22	0.00	0.99	8.26	17.91	-0.03	111.1
Self-Storage	81	0.33	0.26	0.02	0.99	20.30	34.14	-4.75	111.1
Shopping Center	337	0.48	0.17	0.02	0.97	3.59	3.85	-4.75	37.65
Specialty	67	0.49	0.16	0.02	0.90	4.91	6.83	-4.75	36.23
Total	2,409	0.48	0.19	0.00	0.99	4.95	11.01	-4.75	111.10

Commercial/multifamily rent fluctuations over the cycle

AVERAGE RENTS COMMERCIAL/MULTIFAMILY PROPERTIES

Average Rents



The takeaway:

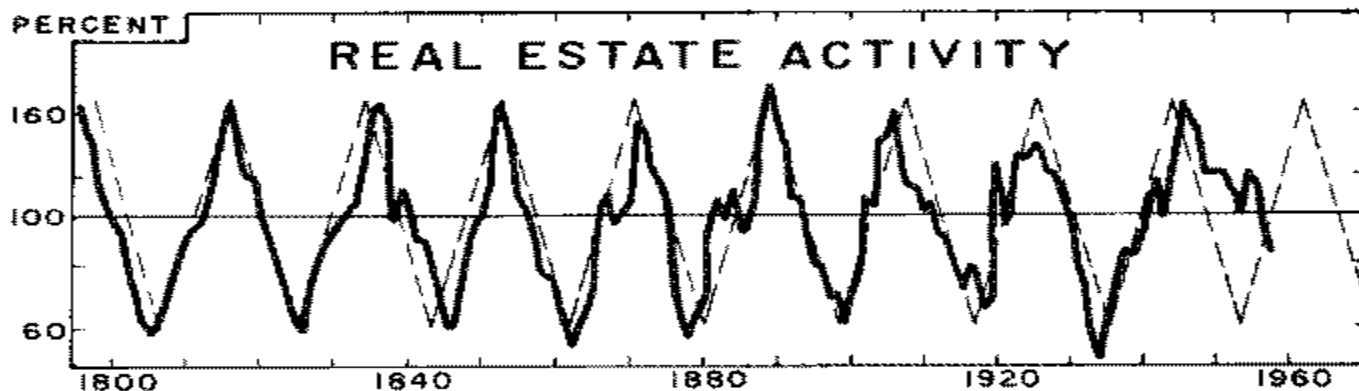
- ◆ Impact on values depends upon complex relationships among changes in:
 - ◆ Interest rates (mortgage rates)
 - ◆ Rents
 - ◆ Inflation
 - ◆ Leverage
- ◆ If interest rates driven primarily by inflation, rent increases will offset (more than offset?) mortgage rate increases, hence keeping cap rates low and values high

Where are we in "The Cycle"?



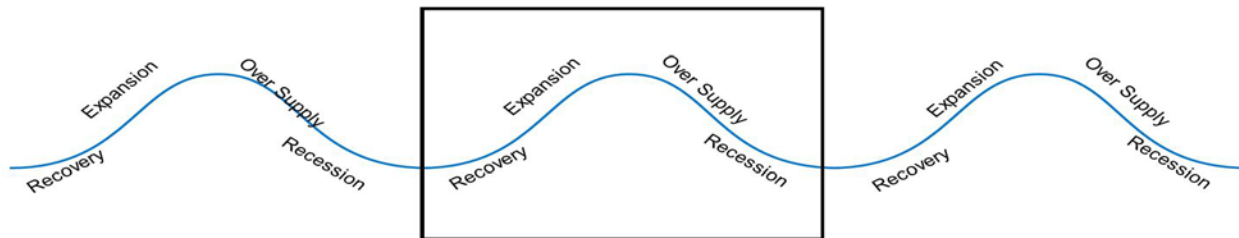
“In the beginning”...there emerged the Father of cycle theory

Dewey and Cycles Edward R Dewey (1895-1978) formed the Foundation for the Study of Cycles in 1940.

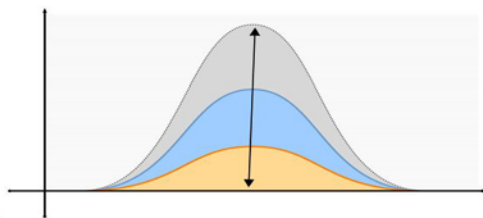


Evolving into “conventional wisdom”

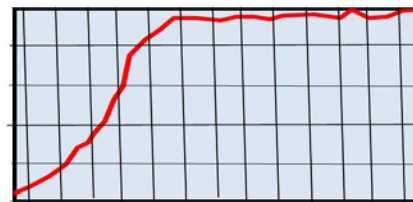
THE REAL ESTATE CYCLE



Over time real estate values move in a continuous cycle. In practice, the cycle is never a perfect sine curve. Each phase of the cycle will have a different amplitude and period. A complete cycle may take 10-15 years.



Amplitude



Period

...then into “rules for action”

The Home Price Hype Cycle: New York Times Headlines to Watch For

(Copyright © 2008 by Michael A. Kupritz)



Where are we in the cycle?

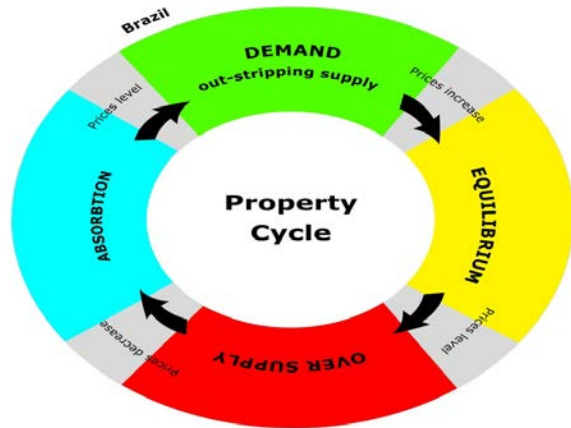
Want to know where home prices are headed? Baltimore real estate broker Michael A. Kupritz suggests reading headlines in the New York Times for guidance. (Hint: The headlines are always wrong.)

...then into psychological “stages of grief” and the “double-dip”

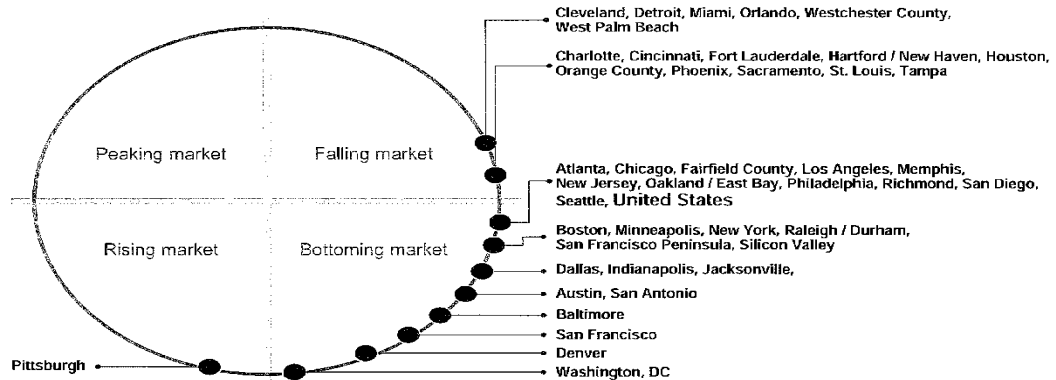
The most important aspect of real estate investing is knowing where you are in the cycle –



...and finally the “Property Clock”

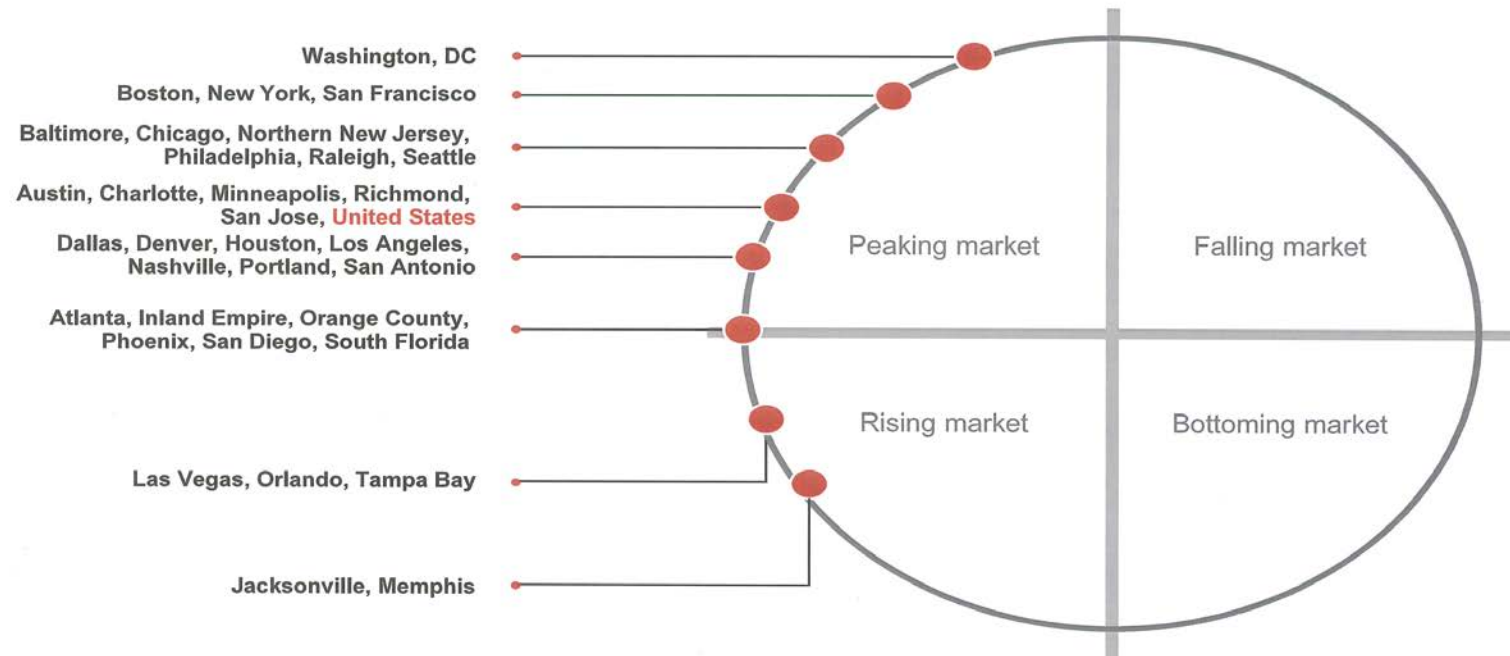


United States office clock

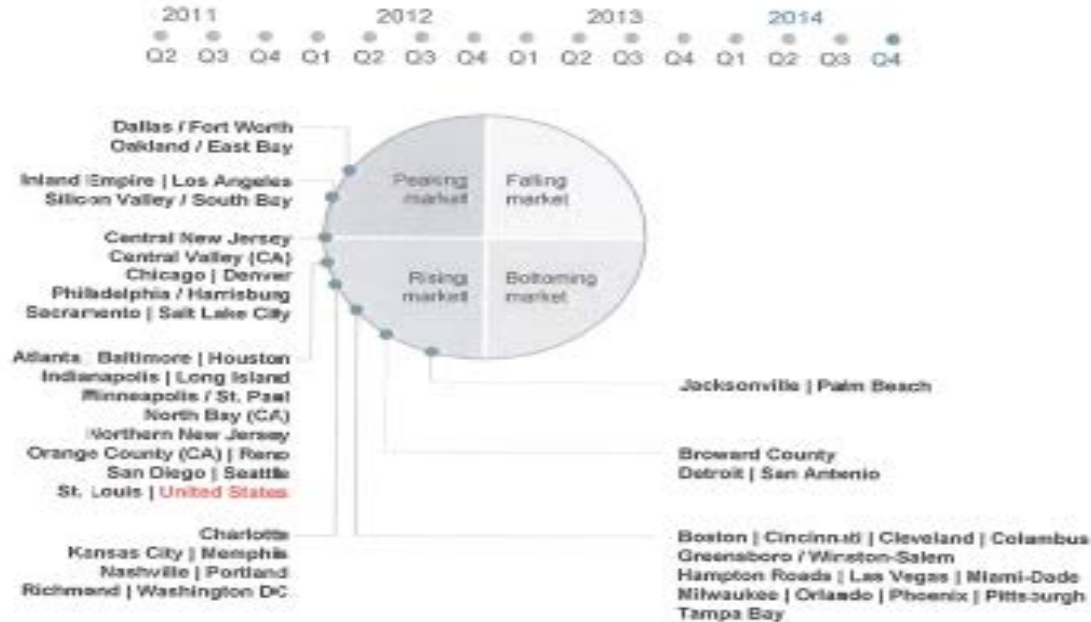


United States – Multifamily clock

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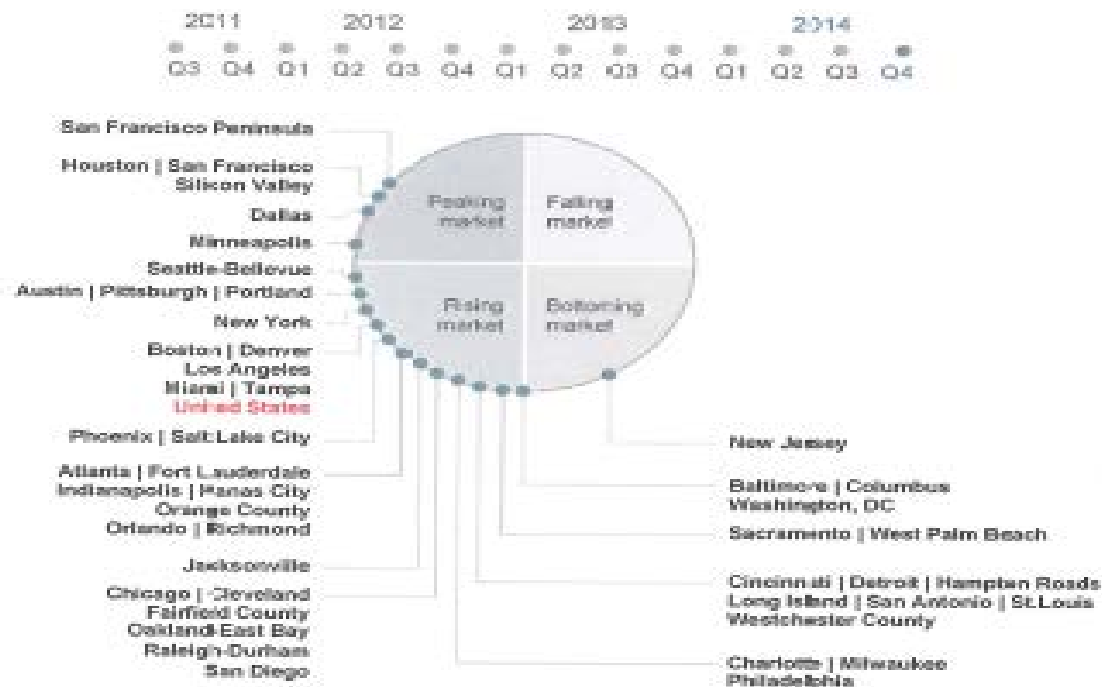


The industrial property clock



Q4 2014

The office property clock



The retail property clock

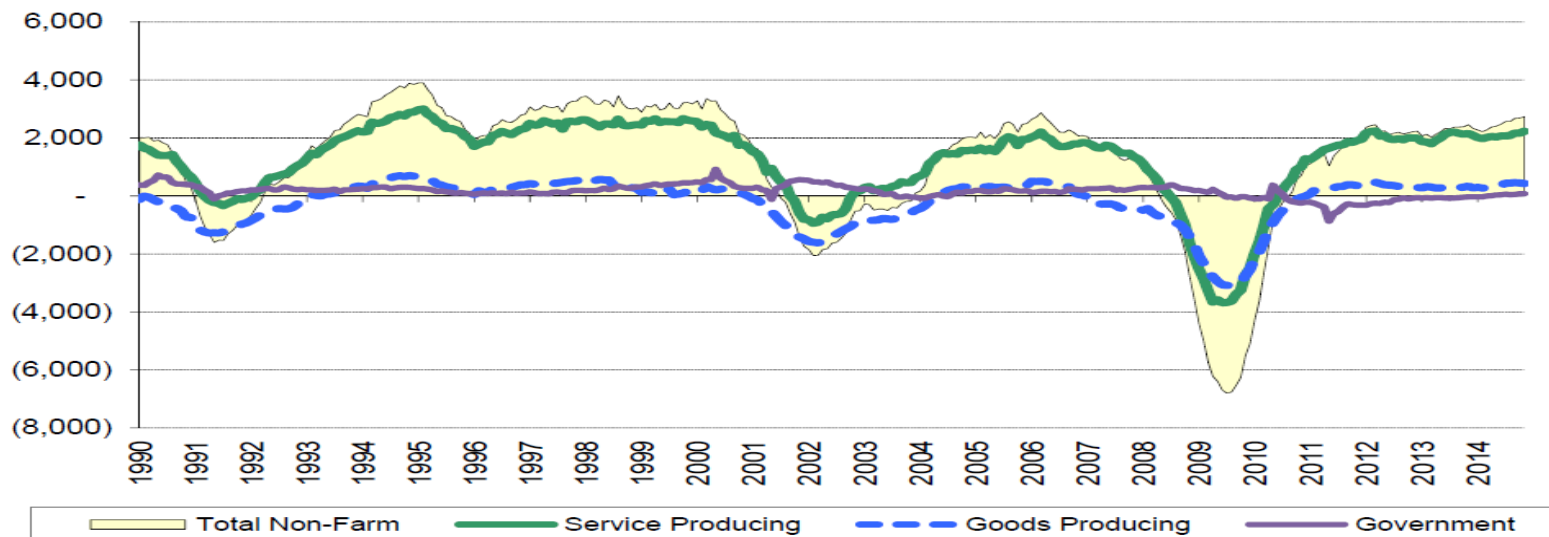


What about fundamentals? Employment growth has resumed

EMPLOYEES ON NONFARM PAYROLLS

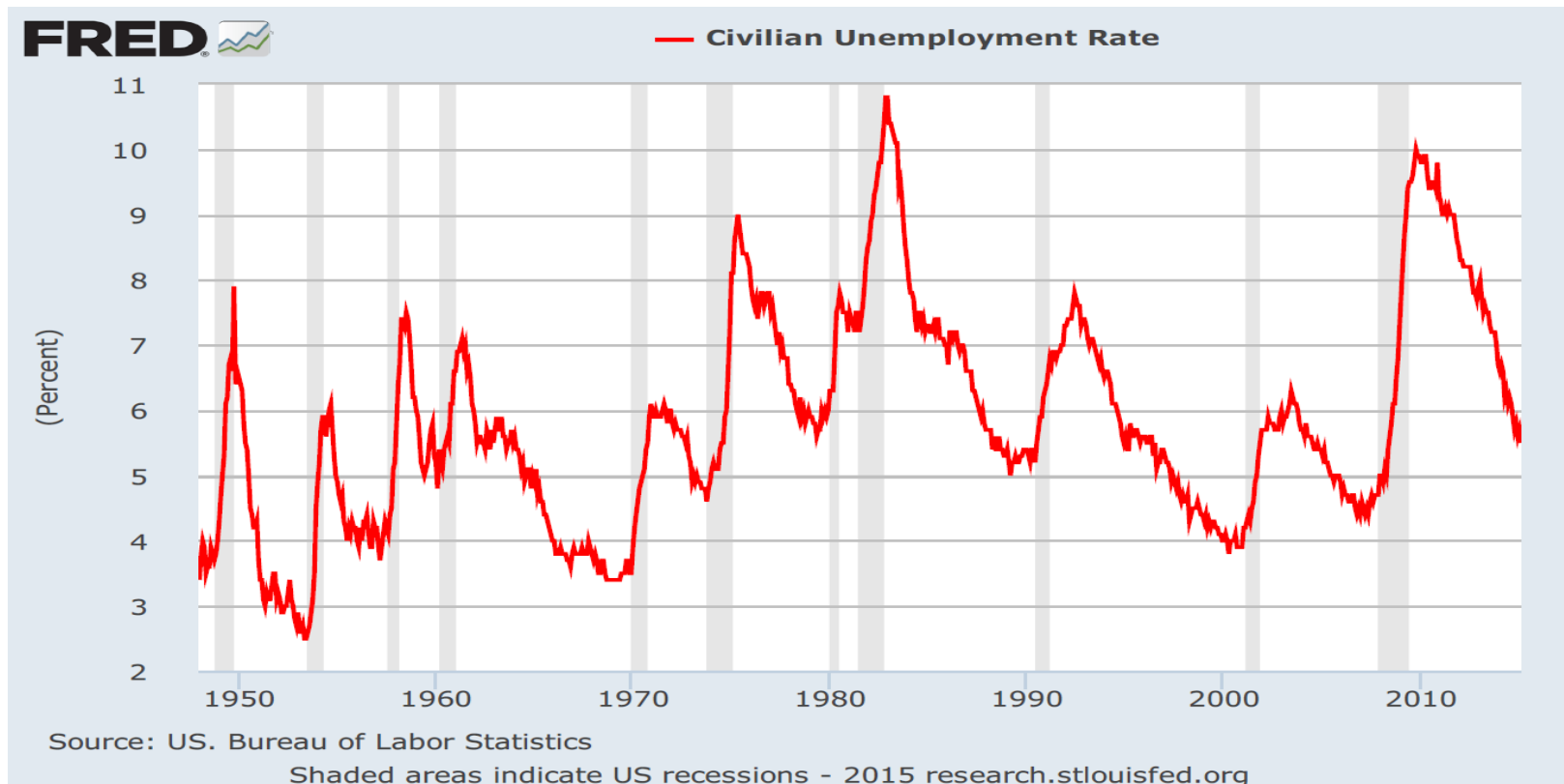
Number of Employees on Nonfarm Payrolls
Seasonally Adjusted, Thousands of Employees

Year-over-year Change



Source: Bureau of Labor Statistics

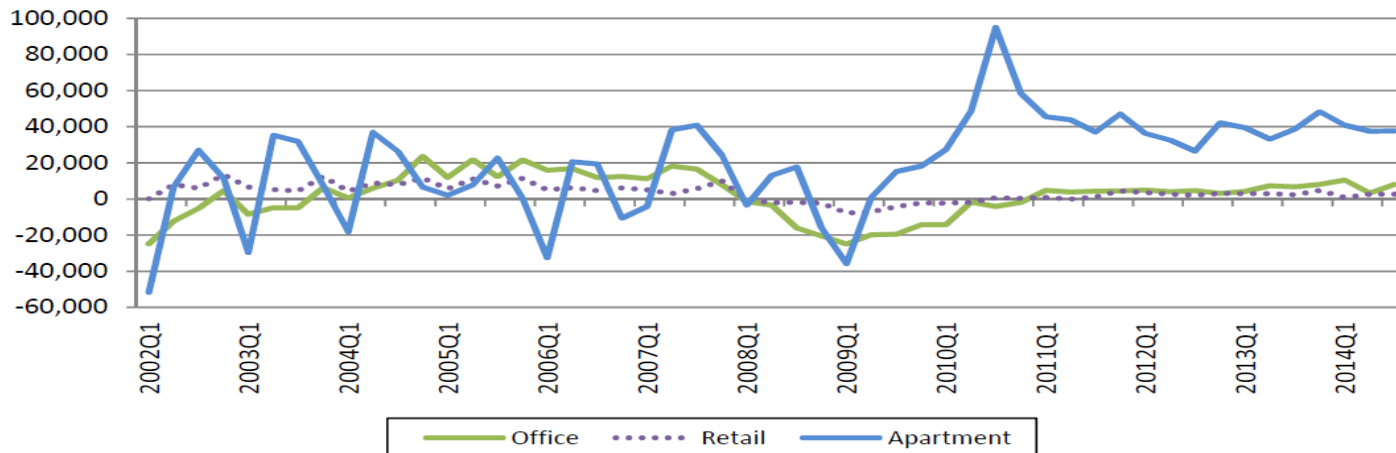
...and unemployment is continuing its decline



The supply side (except multifamily) has remained muted

NET INVENTORY CHANGE/NET ABSORPTION COMMERCIAL/MULTIFAMILY PROPERTIES

Net Absorption (Thousands of Square Feet)



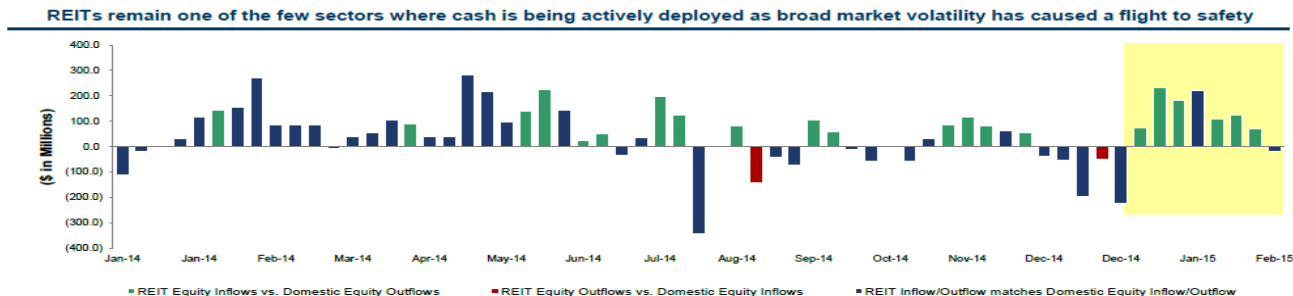
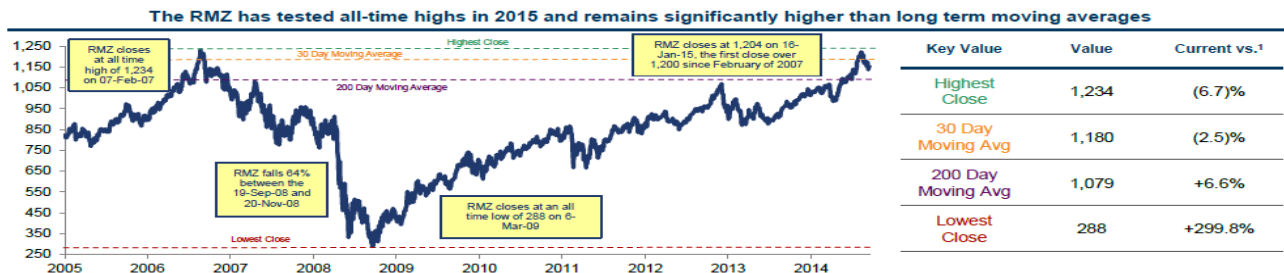
Source: REIS

REIT capital flows and indices have been buoyant (till now?)

Goldman Sachs

Real Estate Index Performance & Fund Flows

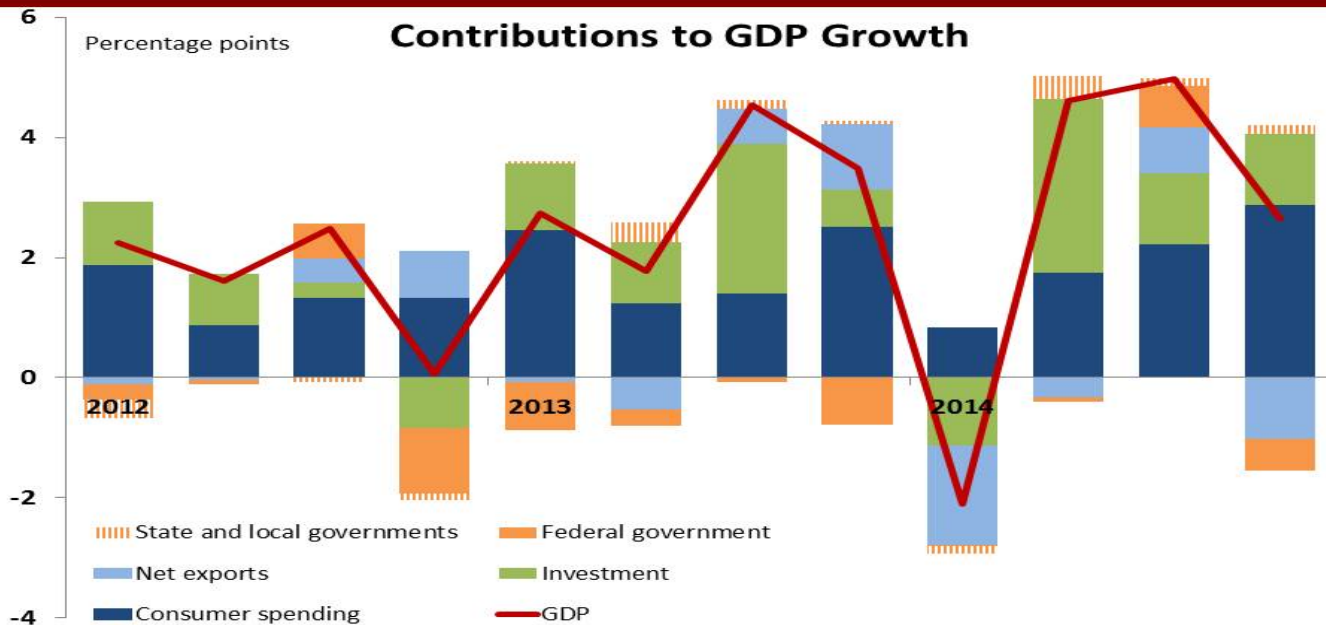
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Source: Bloomberg, AMG Data Services
¹RMZ value as of 3-Mar-2015 is 1,150.88

Consumer spending is driving growth, but investment is moderate and the strong dollar is driving down exports

GDP growth slowed to a 2.6% annual rate in Q4, from 5.0% in Q3. Consumer spending surged, but net exports and government subtracted from GDP growth



Source: U.S. Bureau of Economic Analysis, Haver Analytics, NAREIT. February 4, 2015.

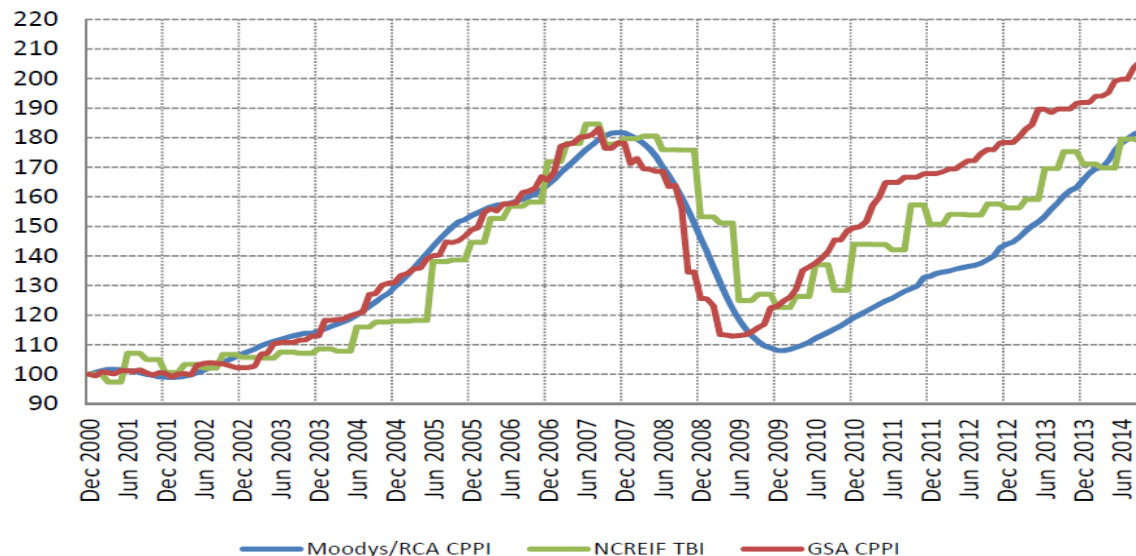
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But property prices continue to head higher

COMMERCIAL/MULTIFAMILY PROPERTY PRICES AS REFLECTED IN SELECTED INDICES

Re-Indexed Values of the Moody's/RCA CPPI,
NCREIF Transaction Based Index, and Green Street Advisors CPPI

December 2000 = 100

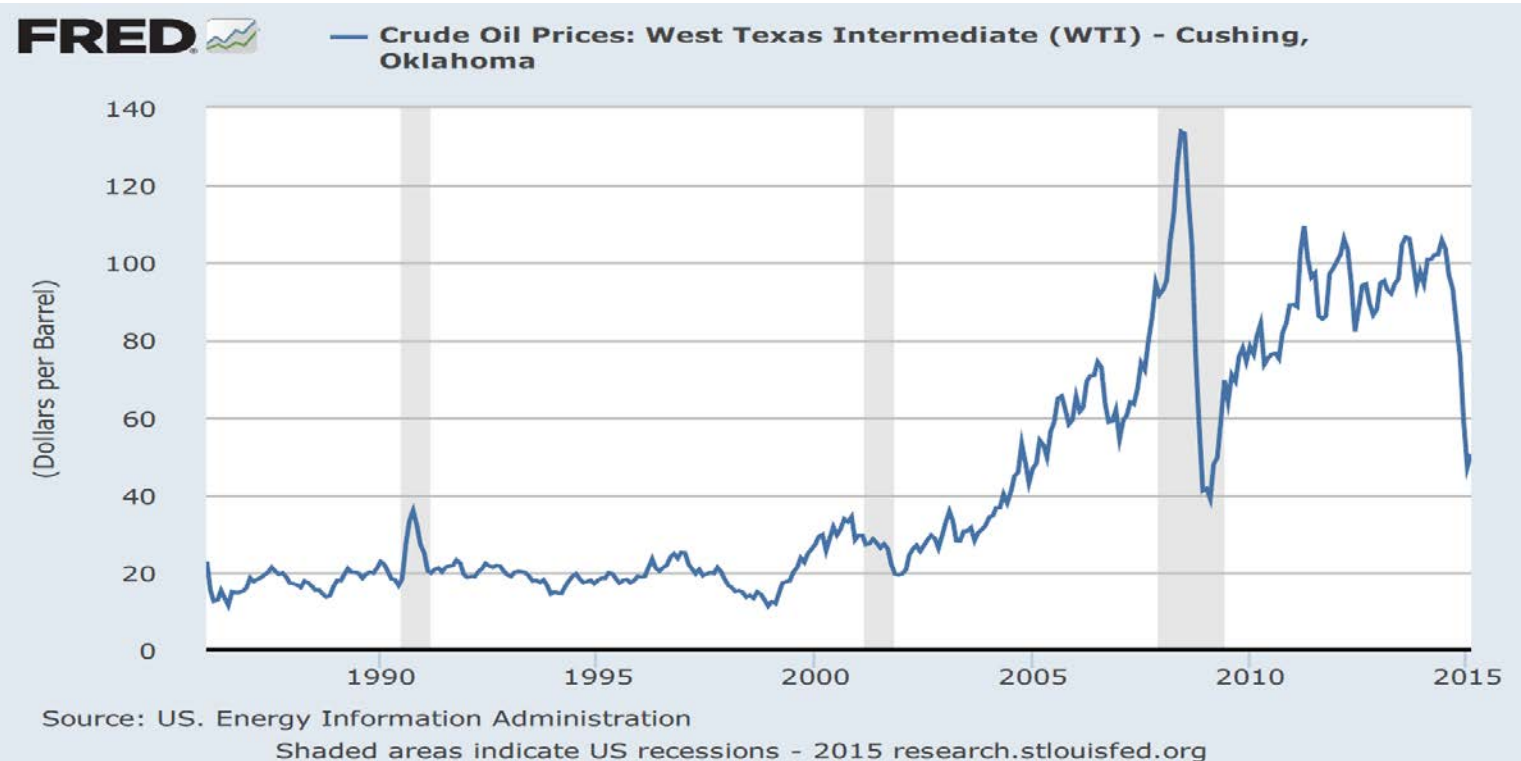


The takeaway:

- ◆ If we believe the property clocks and the permanency of “The Cycle”, we still have room to run, from 6:00 to 11:00, depending on the market
- ◆ If we look at the economic fundamentals, there are signs of re-establishment of equilibrium in several sectors
- ◆ There are more questions on the supply side than on the demand side in the short run

3. How will the price of oil affect REIT share prices?

Oil prices clearly are in a funk...but for how long?



Some opinions from the street

"Multifamily and office sectors ... would suffer first from a sharp uptick in unemployment or corporate downsizing in an oil price collapse. Multifamily, moreover, would presumably feel pressure for lower rents sooner, because of its shorter lease durations. But ***of all oil-sensitive states to be exposed to, Texas may be among the safest, in part because of its relatively well-diversified economy.*** Moreover, while the Dallas and Houston markets are tied directly to oil production, the exposure in Austin is indirect, with the impact of an oil crash likely to come by way of state government cutbacks."

Standard & Poor's, January 7, 2015

"It is best to assume oil prices stay range bound for some time and work from there. ***This assumption likely translates into a positive impact on the U.S. economy in the short run, an unknown impact in the long run, and negative short- and long-run impacts to energy-driven MSAs such as Houston.***"

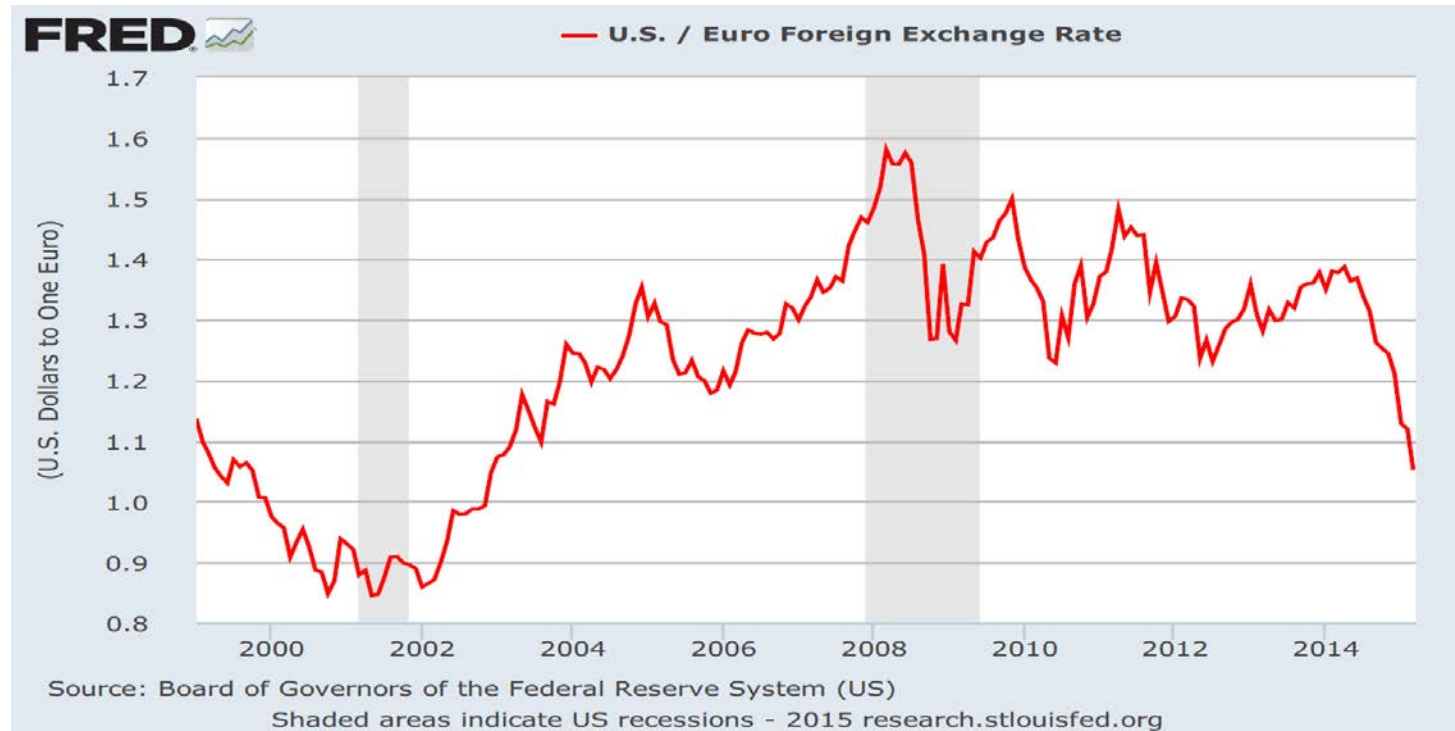
Green Street Advisors, January 6, 2015

The takeaway:

- ◆ Don't count cheap oil as the “new normal”
- ◆ Prices reflect geopolitical factors at least as much as they reflect underlying economic fundamentals, especially in the short run
- ◆ Technology (e.g., fracking and alternative energy) are also wild cards

4. How will global economic forces affect my business?

The sinking of the Euro (and other foreign currencies) against the Dollar is having a major effect on trade balances and international capital flows



Nonetheless, REITs continue to expand globally

As of June 30, 2012. Source: UBS and Cohen & Steers.

Countries with Listed REITs (Year Adopted)				REIT Legislation in Progress		REITs Under Consideration
United States (1960)		Malaysia (2005)				
Netherlands (1969)		Israel (2006)				
Australia (1971)		Germany (2007)				
Canada (1994)		United Kingdom (2007)		Chile		
Ghana (1994)				Costa Rica		
Belgium (1995)		Italy (2007)		Hungary		
Brazil (1995)		New Zealand (2007)		Indonesia		China
Greece (1999)		Nigeria (2010)		Lithuania		India
Turkey (1999)		Mexico (2011)		Luxembourg		
Japan (2000)		Thailand (2012)		Philippines		
South Korea (2001)		Finland (2013)		Puerto Rico		
Singapore (2002)		Ireland (2013)				
France (2003)		Pakistan (2013)				
Hong Kong (2003)		South Africa (2013)				
Taiwan (2003)		Dubai (2014)				
Bulgaria (2005)		Spain (2014)				

...and more of them have become very large

FTSE EPRA/NAREIT Developed Index Series - Top 20 Constituents

Company	Country	Symbol/Code
Simon Property Group	U.S.	SPG
Mitsubishi Estate	Japan	8802
Public Storage	U.S.	PSA
Mitsui Fudosan	Japan	8801
Equity Residential	U.S.	EQR
Unibail-Rodamco	Netherlands	UL
Health Care REIT	U.S.	HCN
Sun Hung Kai Properties	Hong Kong	16
Prologis	U.S.	PLD
AvalonBay Communities	U.S.	AVB
Ventas	U.S.	VTR
HCP	U.S.	HCP
Vornado Realty Trust	U.S.	VNO
Boston Properties	U.S.	BXP
Host Hotels & Resorts	U.S.	HST
Sumitomo Realty & Development	Japan	8830
Scentre Group	Australia	SCG
Link REIT	Hong Kong	823
Westfield Group	Australia	WDC
Land Securities	U.K.	LAND

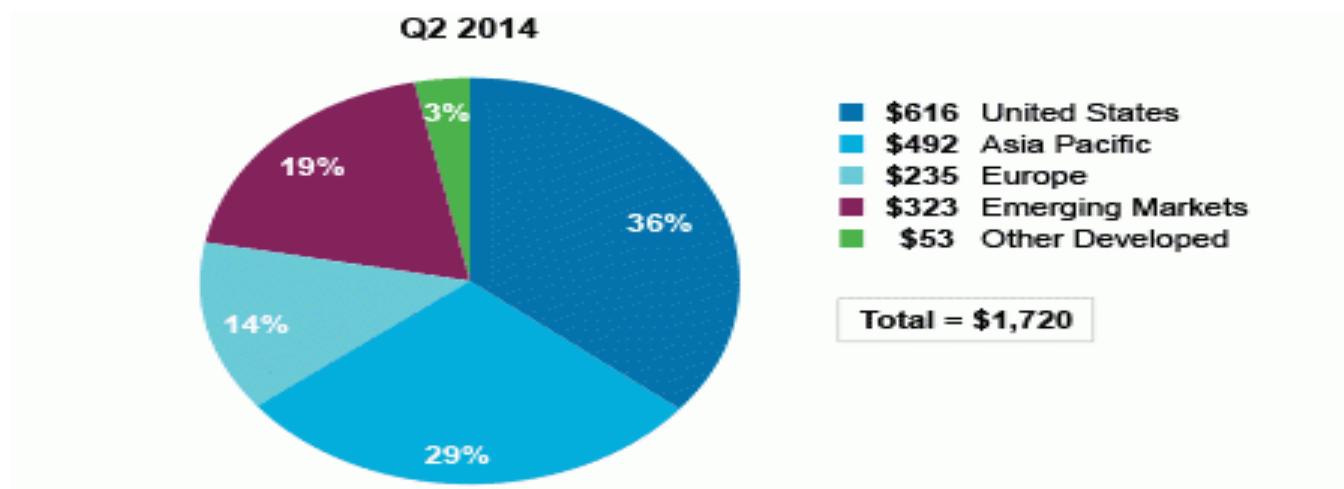
Source: FTSE EPRA/NAREIT

Version: December 2014

What is the size of the global real estate securities market?

- ◆ The global real estate securities market has a total market capitalization of approximately \$1.7 trillion, spread across 456 companies (as of 6/30/2014).
- ◆ The U.S. accounts for 35% of the current market, with 28% represented by Asia Pacific and a **relatively smaller portion from Europe** and other regions.
- ◆ Emerging markets saw the largest growth in listed real estate, now comprising 19% of the global market, up from 2% in 2000.
- ◆ More than three quarters of companies in the global real estate securities universe are REITs or REIT-like structures, with the rest consisting of real estate development companies and non-REIT owner/operators.
- ◆ Is this big?

Distribution of market cap of real estate securities globally



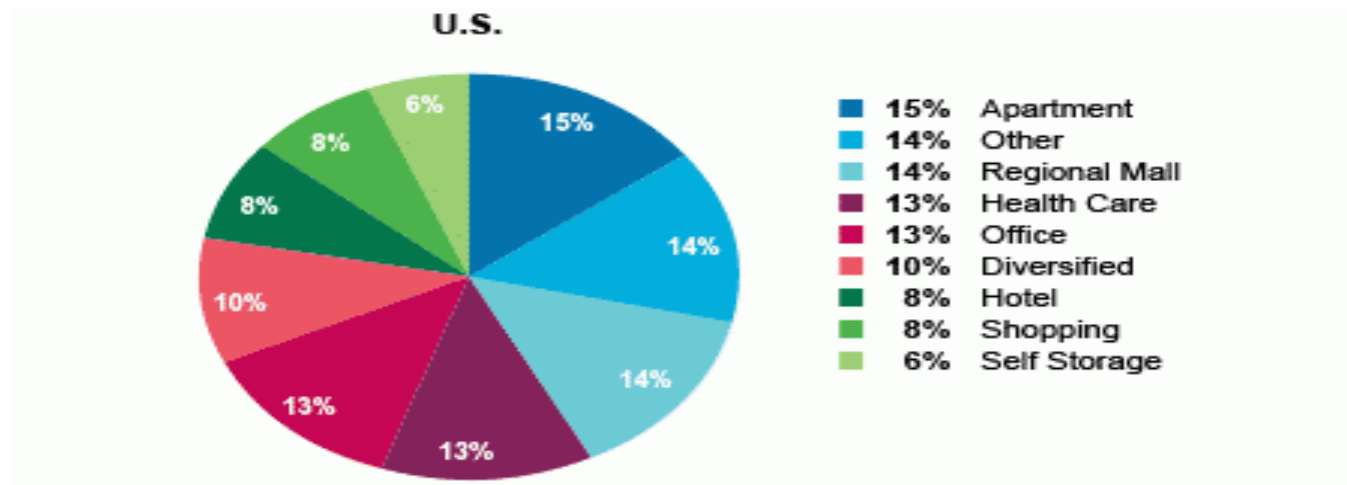
At June 30, 2014. Source: FTSE, FactSet and Standard & Poor's. Real estate securities represented by the FTSE EPRA/NAREIT Global Real Estate Index. Percentages may not sum to 100% due to rounding error. See important disclosures and index definitions related to this chart below.

The takeaway:

- ◆ Globally, REITs have plenty of “room to grow”
- ◆ The entrance of India and China will be BIG!!
- ◆ REITs in the U.S. have not grown as rapidly as offshore REITs as a percent of total commercial property value
- ◆ Currency valuations and politics are having great impact on cross-border investments and the balance of trade – Thus far, has had major positive impact on US real estate and capital available for investment (but drop in exports could slow growth, especially in goods producing sector)
- ◆ Share of this cross-border capital flow that is going into the US REIT sector is not that great

5. Will US REITs be able to increase market share?
How can we grow? The life cycle of REITs

What is the current composition of the US REIT market by sector?



At June 30, 2014. Source: Cohen & Steers and FTSE. U.S. REITs represented by the FTSE NAREIT Equity REIT Index (property sector breakdown provided by the index). Percentages may not add to 100% due to rounding error. See important disclosures and index definitions related to this chart below.

REIT Industry Fact Sheet

Industry Size

- ◆ FTSE NAREIT All REITs equity market capitalization = \$907 billion
- ◆ FTSE NAREIT All Equity REITs equity market capitalization = \$833 billion
- ◆ REITs own approximately \$1 trillion of commercial real estate assets, including stock exchange-listed and public, non-listed REITs
- ◆ 216 REITs are in the FTSE NAREIT All REITs Index
- ◆ 188 REITs trade on the New York Stock Exchange
- ◆ NYSE listed REITs equity market capitalization = \$875 billion

Dividends

Yield Comparison

- ◆ FTSE NAREIT All REITs: 4.00%
- ◆ FTSE NAREIT All Equity REITs: 3.56%
- ◆ S&P 500: 2.00%
- ◆ REITs paid out approximately \$34 billion in dividends in 2013.
- ◆ On average, 68 percent of the annual dividends paid by REITs qualify as ordinary taxable income, 13 percent qualify as return of capital and 19 percent qualify as long-term capital gains.

Leverage and Coverage Ratios

(Balance sheet data as of Q3 2014)

- ◆ Equity REITs
 - ◆ Debt Ratio: 31.6%
 - ◆ Coverage Ratio: 4.0x
 - ◆ Fixed Charge Ratio: 3.6x
 - ◆ 46 Equity REITs are rated investment grade, 68 percent by equity market capitalization.
- ◆ All REITs
 - ◆ Debt Ratio: 42.7%
 - ◆ Coverage Ratio: 3.4x
 - ◆ Fixed Charge Ratio: 3.1x
 - ◆ 46 REITs are rated investment grade, 62 percent by equity market capitalization.

Coverage ratio equals EBITDA divided by interest expense.

Fixed charge ratio equals EBITDA divided by interest expense plus preferred dividends.

Average Daily Dollar Trading Volume

- ◆ December 2014: \$6.1 billion
- ◆ December 2009: \$3.1 billion
- ◆ December 2004: \$1.4 billion

Growth in absolute nominal terms is not an issue: Equity market capitalization outstanding (\$MM at year end)

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End of Year	All REITs		Equity		Mortgage		Hybrid	
	# of REITs	Market Capitalization	# of REITs	Market Capitalization	# of REITs	Market Capitalization	# of REITs	Market Capitalization
1971	34	1,494.3	12	332.0	12	570.8	10	591.6
1972	46	1,880.9	17	377.3	18	774.7	11	728.9
1973	53	1,393.5	20	336.0	22	517.3	11	540.2
1974	53	712.4	19	241.9	22	238.8	12	231.7
1975	46	899.7	12	275.7	22	312.0	12	312.0
1976	62	1,308.0	27	409.6	22	415.6	13	482.8
1977	69	1,528.1	32	538.1	19	398.3	18	591.6
1978	71	1,412.4	33	575.7	19	340.3	19	496.4
1979	71	1,754.0	32	743.6	19	377.1	20	633.3
1980	75	2,298.6	35	942.2	21	509.5	19	846.8
1981	76	2,438.9	36	977.5	21	541.3	19	920.1
1982	66	3,298.6	30	1,071.4	20	1,133.4	16	1,093.8
1983	59	4,257.2	26	1,468.6	19	1,460.0	14	1,328.7
1984	59	5,085.3	25	1,794.5	20	1,801.3	14	1,489.4
1985	82	7,674.0	37	3,270.3	32	3,162.4	13	1,241.2
1986	96	9,923.6	45	4,336.1	35	3,625.8	16	1,961.7
1987	110	9,702.4	53	4,758.5	38	3,161.4	19	1,782.4
1988	117	11,435.2	56	6,141.7	40	3,620.8	21	1,672.6
1989	120	11,662.2	56	6,769.6	43	3,536.3	21	1,356.3
1990	119	8,737.1	58	5,551.6	43	2,549.2	18	636.3
1991	138	12,968.2	86	8,785.5	28	2,586.3	24	1,596.4
1992	142	15,912.0	89	11,171.1	30	2,772.8	23	1,968.1
1993	189	32,158.7	135	26,081.9	32	3,398.5	22	2,678.2
1994	226	44,306.0	175	38,812.0	29	2,502.7	22	2,991.3
1995	219	57,541.3	178	49,913.0	24	3,395.4	17	4,232.9
1996	199	88,776.3	166	78,302.0	20	4,778.6	13	5,695.8
1997	211	140,533.8	176	127,825.3	26	7,370.3	9	5,338.2
1998	210	138,301.4	173	126,904.5	28	6,480.7	9	4,916.2
1999	203	124,261.9	167	118,232.7	26	4,441.7	10	1,587.5
2000	189	138,715.4	158	134,431.0	22	1,632.0	9	2,652.4
2001	182	154,898.6	151	147,092.1	22	3,990.5	9	3,816.0
2002	176	161,937.3	149	151,271.5	20	7,146.4	7	3,519.4
2003	171	224,211.9	144	204,800.4	20	14,186.5	7	5,225.0
2004	193	307,894.7	153	275,291.0	33	25,964.3	7	6,639.4
2005	197	330,691.3	152	301,491.0	37	23,393.7	8	5,806.6
2006	183	438,071.1	138	400,741.4	38	29,185.3	7	8,134.3
2007	152	312,009.0	118	288,694.6	29	19,054.1	5	4,260.3
2008	136	191,651.0	113	176,237.7	20	14,280.6	3	1,132.9
2009	142	271,199.2	115	248,355.2	23	22,103.2	4	740.8
2010	153	389,295.4	126	358,908.2	27	30,387.2	--	--
2011	160	450,500.6	130	407,528.9	30	42,971.7	--	--
2012	172	603,415.3	139	544,414.9	33	59,000.3	--	--
2013	202	670,334.1	161	608,276.6	41	62,057.4	--	--
2014	216	907,425.5	177	846,410.3	39	61,017.2	--	--

The top ten US REITs by market cap:

Diversity is the name of the game

1. Simon Property Group (NYSE: [SPG](#))
2. Public Storage (NYSE: [PSA](#))
3. HCP Inc. (NYSE: [HCP](#))
4. Ventas Inc. (NYSE: [VTR](#))
5. Equity Residential (NYSE: [EQR](#))
6. Boston Properties, Inc. (NYSE: [BXP](#))
7. ProLogis, Inc. (NYSE: [PLD](#))
8. Vornado Realty Trust (NYSE: [VNO](#))
9. AvalonBay Communities, Inc. (NYSE: [AVB](#))
10. Health Care REIT, Inc. ([NYSE: HCN](#))

...and REITs, now a distinct market sector, are joining the “big boys” with index funds and ETFs

Symbol	Name	Price	Change	Assets * ▼	Avg Vol	YTD
VNQ	Vanguard REIT ETF	\$82.43	+1.74%	\$27,393,949	4,855,023	+1.77%
IYR	iShares Dow Jones US Real Estate Index Fund	\$78.10	+1.65%	\$5,155,964	10,872,014	+1.64%
ICF	iShares Cohen & Steers Realty Majors Index Fund	\$98.96	+1.69%	\$3,512,891	379,653	+2.19%
RWR	SPDR Dow Jones REIT ETF	\$92.22	+1.77%	\$3,175,264	339,335	+1.45%
SCHH	Schwab U.S. REIT ETF	\$39.57	+1.75%	\$1,245,784	334,560	+1.59%
REM	iShares FTSE NAREIT Mortgage REITs Index Fund	\$11.66	+0.78%	\$1,177,248	1,037,026	-0.43%
FRI	First Trust S&P REIT Index Fund	\$22.60	+1.71%	\$338,855	260,129	+1.48%
REZ	iShares FTSE NAREIT Residential Index Fund	\$60.65	+1.83%	\$315,668	50,318	+2.95%
KBWY	PowerShares KBW Premium Yield Equity REIT Portfolio	\$34.97	+1.95%	\$128,588	28,135	-0.03%
MORT	Market Vectors Mortgage REIT Income ETF	\$23.54	+0.90%	\$114,268	39,466	-0.68%
ROOF	IQ US Real Estate Small Cap ETF	\$27.34	+1.71%	\$90,082	27,605	-0.55%
FTY	iShares FTSE NAREIT Real Estate 50 Index Fund	\$47.56	+1.23%	\$86,932	8,078	+0.61%
PSR	PowerShares Active U.S. Real Estate Fund	\$73.77	+1.72%	\$50,652	3,726	-0.89%
IFNA	iShares FTSE EPRA/NAREIT North America Index Fund	\$57.51	+0.09%	\$24,832	2,730	-1.69%
FREL	MSCI Real Estate Index ETF	\$23.50	+1.47%	\$21,964	25,336	n/a
WREI	Wilshire US REIT ETF	\$46.09	+1.41%	\$20,417	2,300	-0.50%

* Assets in thousands of U.S. Dollars. Assets and Average Volume as of 2015-03-11 20:22:03 UTC

Zell expects REIT consolidation in next 20 years



Billionaire investor Sam Zell says REITs with less than a “couple of billion” dollars of value aren’t relevant because they lack scale and don’t provide capital to the property market. (Bloomberg News file photo)

Billionaire investor Sam Zell, who helped to expand the industry of U.S. real estate investment trusts in the 1990s, said there are too many of the publicly traded property companies in the market.

REITs will consolidate over the next 20 years, Zell said in an interview Monday on Bloomberg Television’s “In the Loop” with Betty Liu. Those companies with less than a “couple of billion” dollars of value aren’t relevant because they lack scale and don’t provide capital to the property market, he said.

“If you don’t have that size you don’t have liquidity,” Zell said, adding that only about 30 REITs have the “size and scale” to have an impact on the market. Those larger REITs will lead real estate growth in the future, he said.

There are more than 200 publicly traded REITs in the U.S., according to data compiled by Bloomberg. Zell, 72, created companies including Equity Residential, now the largest publicly traded apartment landlord, and Equity Office Properties Trust, an office owner that was sold to Blackstone Group LP near the peak of the buyout boom in 2007 for about \$39 billion.

Zell, who remains chairman of Chicago-based Equity Residential and Equity LifeStyle Properties Inc., another REIT he created, said he isn’t concerned that rising interest rates would hurt commercial or residential real estate.

“Interest rates going up will have a slight negative effect, not a catastrophic effect,” he said.

Zell said that stock markets are rebalancing after a 30 percent gain in the Standard & Poor’s 500 Index last year. The benchmark gauge has fallen 5 percent this year through Wednesday and about \$3 trillion has been erased from the value of equities worldwide as China’s growth slows, the Federal Reserve scales back debt purchases and anti-government protests spread in emerging markets from Thailand to Ukraine.

“I don’t think declines are ever healthy, but balance is what keeps us in place and when we get out of balance, with subprime loans or whatever, it’s pretty disastrous,” Zell said.

But what is the US REIT market share?

Is it increasing?

- ◆ US Equity REIT market cap = \$833 billion
- ◆ At 48% average leverage, this implies asset values of \approx \$1.6 trillion
- ◆ Total value of all commercial real estate in the US as of beginning of 2010 \approx \$ 11.5 trillion
- ◆ Thus, REITs control approximately $1.6/11.5$ or 14% of total US commercial real estate
- ◆ This has grown from approximately 5% 20 years ago

The takeaway:

- ◆ Although small relative to many other sectors and to the commercial real estate market today, REITs are growing at a more rapid rate than the market overall and are exploring new vehicles for growth
- ◆ Consolidation will continue to occur, but there are also new entrants. I have always disputed the notion of a purely “Big REIT World”

6. Will e-commerce cause the demise of retail REITs?

How much is e-retailing cutting into traditional space-based retailing? The view from Forrester Research

Forrester expects online retail sales in the US to reach \$294 billion in 2014, or approximately **9% of all sales in the US**. We're forecasting a strong compound annual growth rate (CAGR) of 9.5% between 2013 and 2018 for US eCommerce, yielding approximately \$414 billion in online sales by 2018. **By 2018, Forrester expects that online sales will account for 11% of total US retail sales.** The key drivers of growth in the online channel? The increased penetration of mobile devices, including tablets, and greater wallet share shift to the web channel from online buyers, all driven by rich web offers from online merchants.

Online retailing globally and by product sector

Online retail sales category breakdown for select countries

Region	Country	Consumer electronics and appliances	Apparel	Media, toys, and games	Food and drink	Furniture and homeware	Beauty and personal care	Home improvement and home care	Other ¹
World	World	25%	19%	12%	5%	4%	3%	2%	30%
North America	United States	21%	18%	13%	3%	4%	2%	1%	39%
Asia	China	52%	27%	3%	1%	1%	6%	0%	10%
	Japan	21%	18%	13%	12%	6%	6%	2%	22%
	South Korea	13%	12%	6%	3%	2%	3%	1%	59%
Western Europe	France	22%	16%	13%	11%	2%	4%	1%	31%
	Germany	27%	32%	16%	2%	7%	2%	2%	11%
	United Kingdom	10%	18%	20%	14%	4%	2%	2%	30%
Latin America	Argentina	31%	3%	4%	15%	2%	2%	1%	42%
	Brazil	50%	6%	10%	3%	2%	4%	1%	23%
	Chile	28%	1%	1%	9%	1%	2%	3%	54%
Eastern Europe	Russia	31%	21%	10%	3%	7%	3%	9%	16%
	Slovakia	35%	13%	3%	3%	1%	1%	0%	43%
	Turkey	22%	2%	9%	1%	3%	2%	2%	60%
Middle East	United Arab Emirates	83%	2%	3%	0%	0%	0%	0%	12%

¹ Other includes consumer healthcare products, tobacco products, pet food and pet care products, tissue and hygiene products, prescription drugs, sports equipment, watches, sunglasses, handbags, jewelry, antiques, antiques, souvenirs, collectibles, bicycles, candles, vases, picture frames, and pictures. Sales of services, subscriptions, travel and tourism, and tickets are excluded.

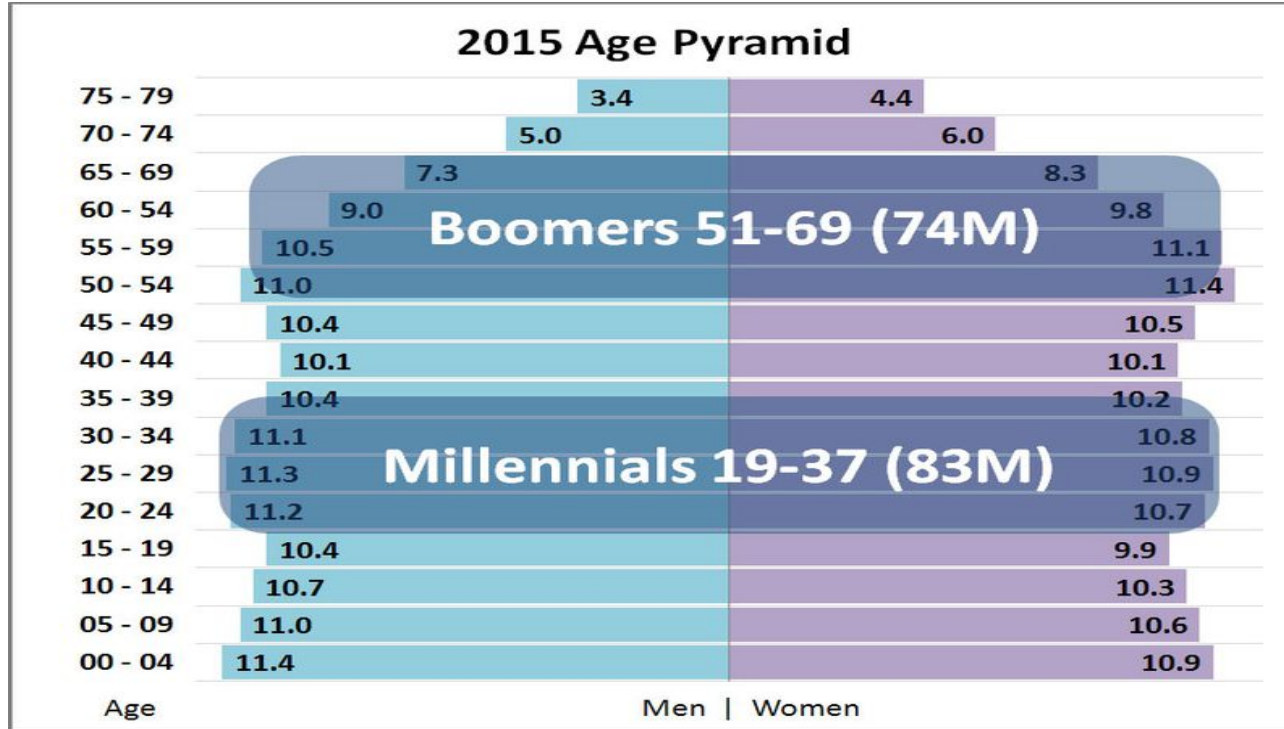
Source: Euromonitor

The takeaway:

- ◆ E-commerce will continue to penetrate an increased share of retail sales, but this depends upon the product category
- ◆ Certain categories (e.g. music) will eventually reach 100% but others, like groceries, may have topped out
- ◆ My rough guest is eventual penetration of about 15-20%
- ◆ Incremental economic growth created by e-commerce will more than make up for lost space-based sales

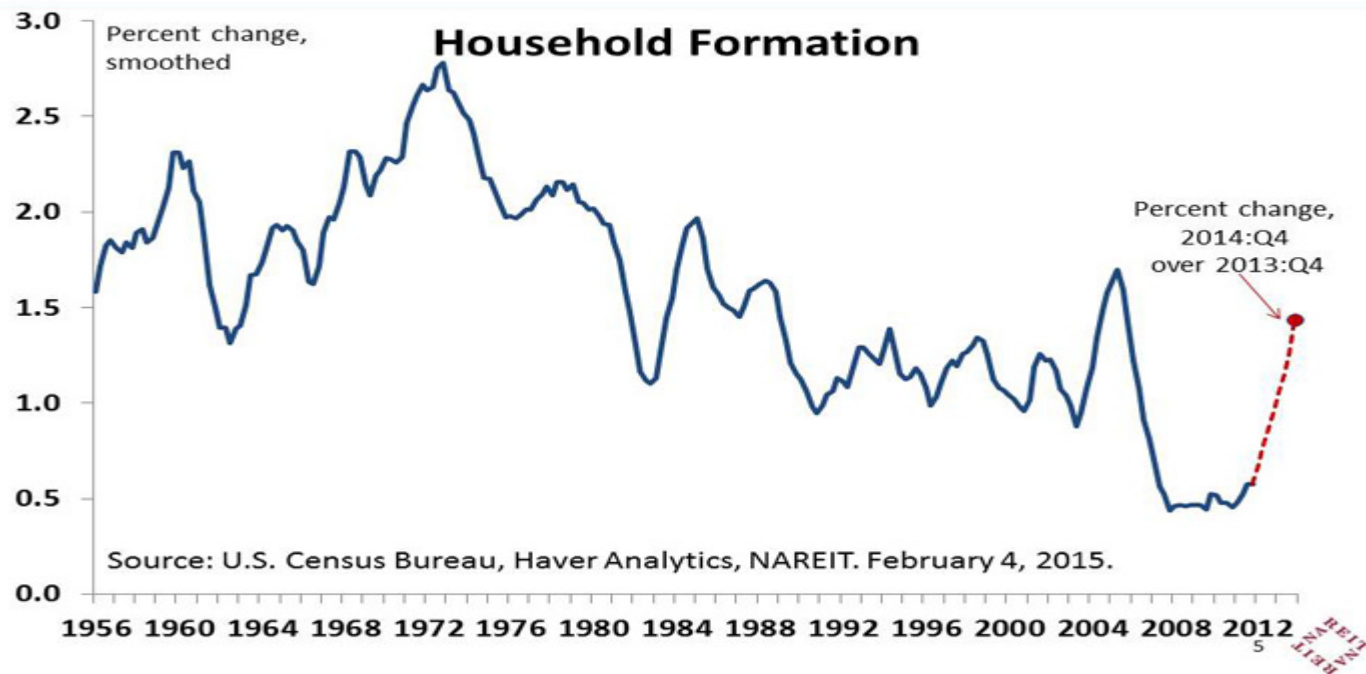
7. The multifamily sector: Fortune or fade?

The demographics are certainly with multifamily



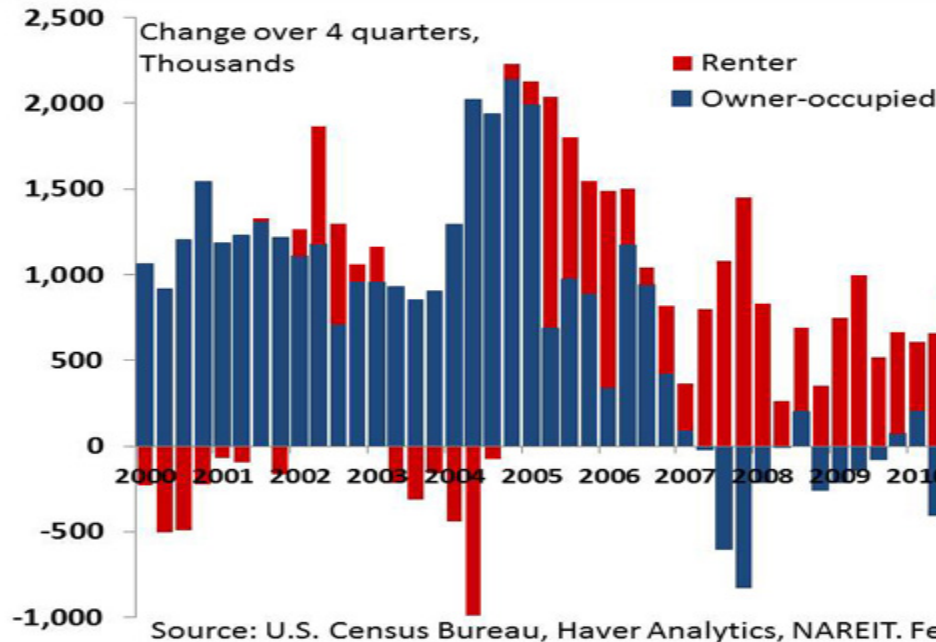
New household formation has suddenly taken off

The rate of overall household formation has rebounded to the fastest growth in over a decade.



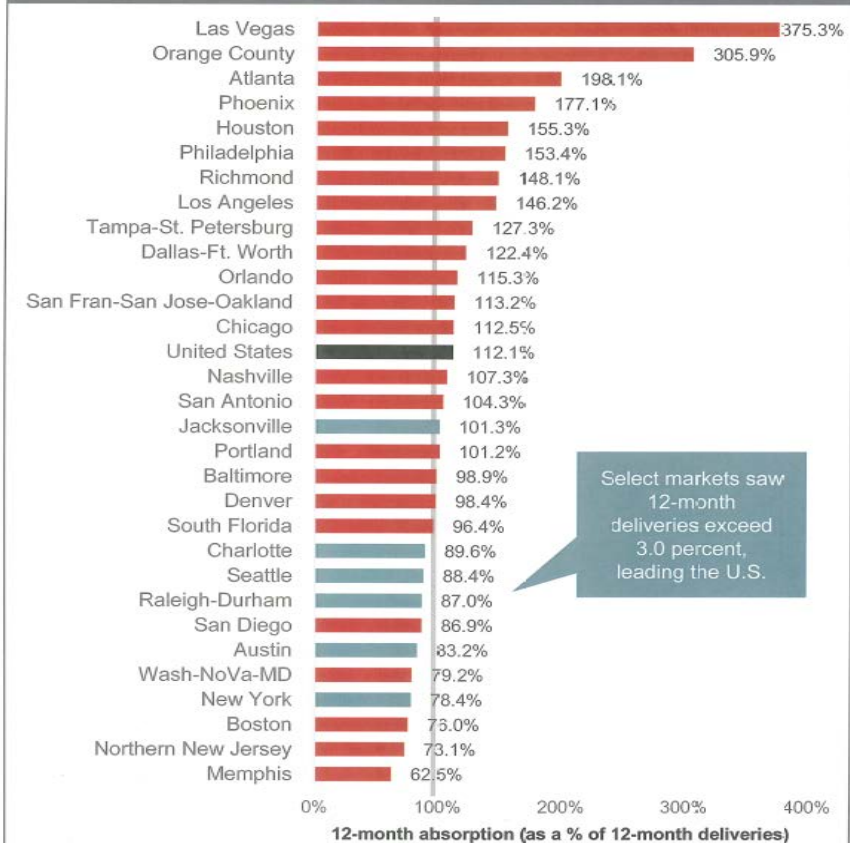
Rental occupancy is continuing to surge (while the number of homeowners declines)

Rental occupancy surged in the fourth quarter. The increase in rental occupancy over the past four quarters is the largest on record.



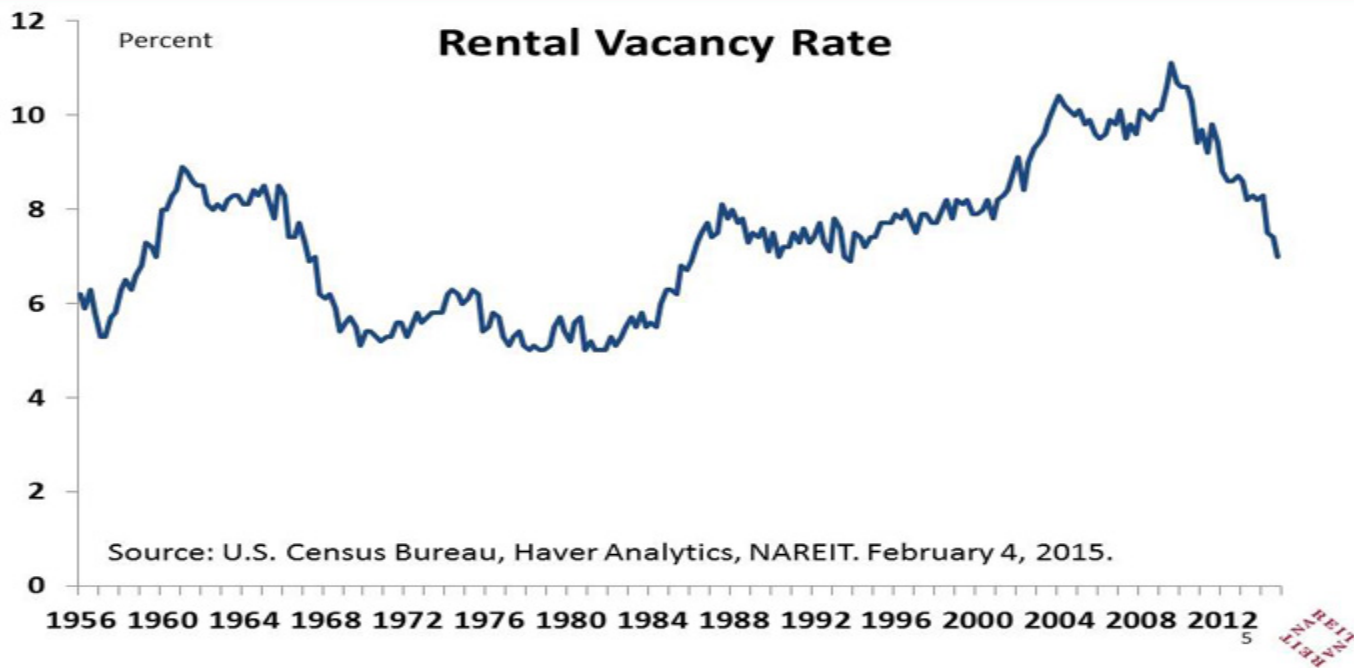
Demand remains greater than new supply in most markets

Majority of U.S. markets seeing current absorption levels exceed new deliveries



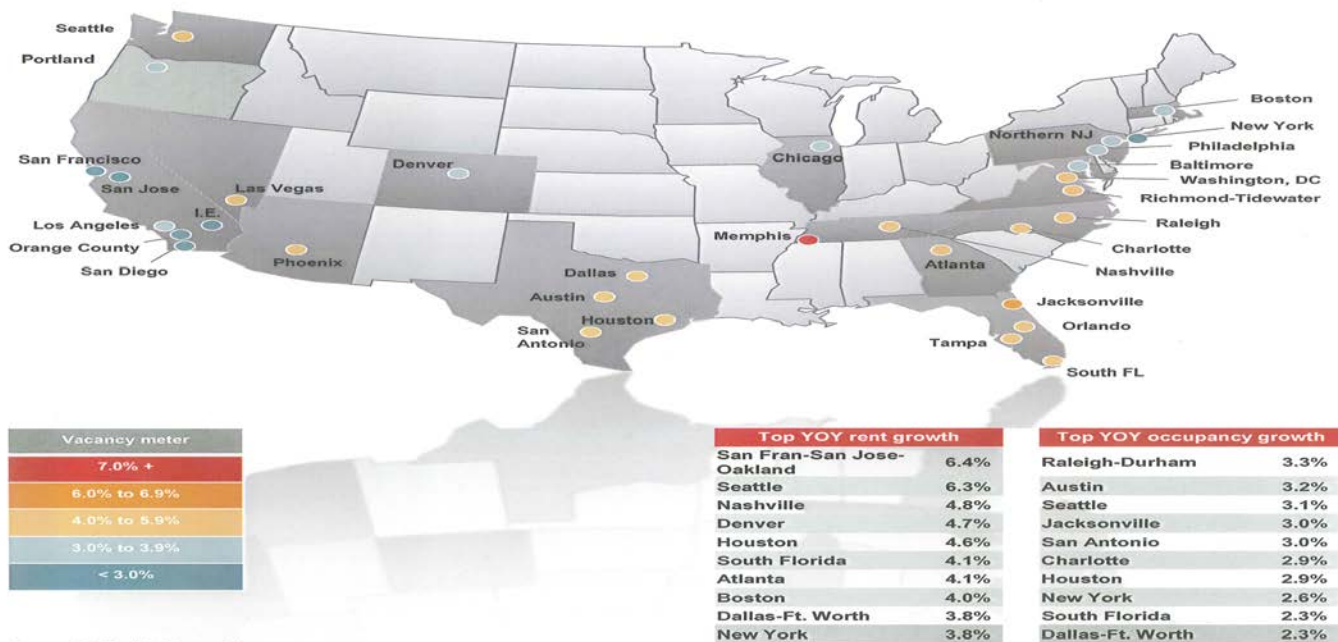
...and vacancy rates continue to fall

Rental vacancy rates plunged to 7.0 percent in the fourth quarter, the lowest since 1993.



...and are tightest in the bi-coastal markets
(and Chicago and Denver)

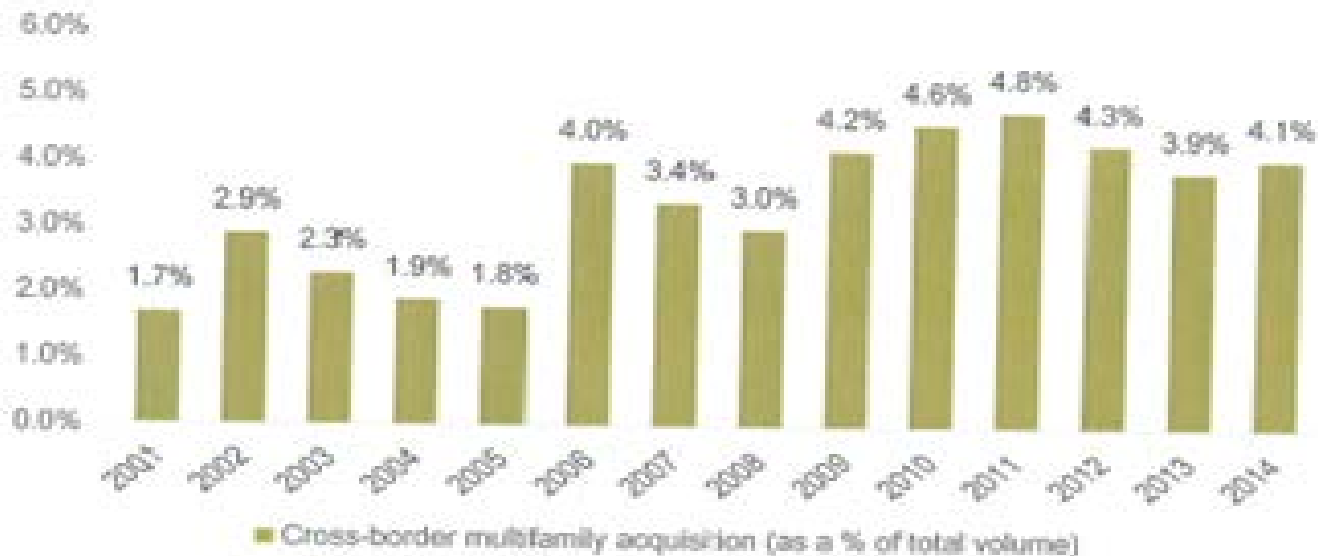
Multifamily vacancy across the U.S.



Source: REIS, JLL Research

Even foreign investors are getting into the act

Foreign investors continue to invest into the multifamily sector at levels higher than prior peaks



Source: JLL Research, Real Capital Analytics

The property clock says “things are looking good”...BUT

United States – Multifamily clock

