

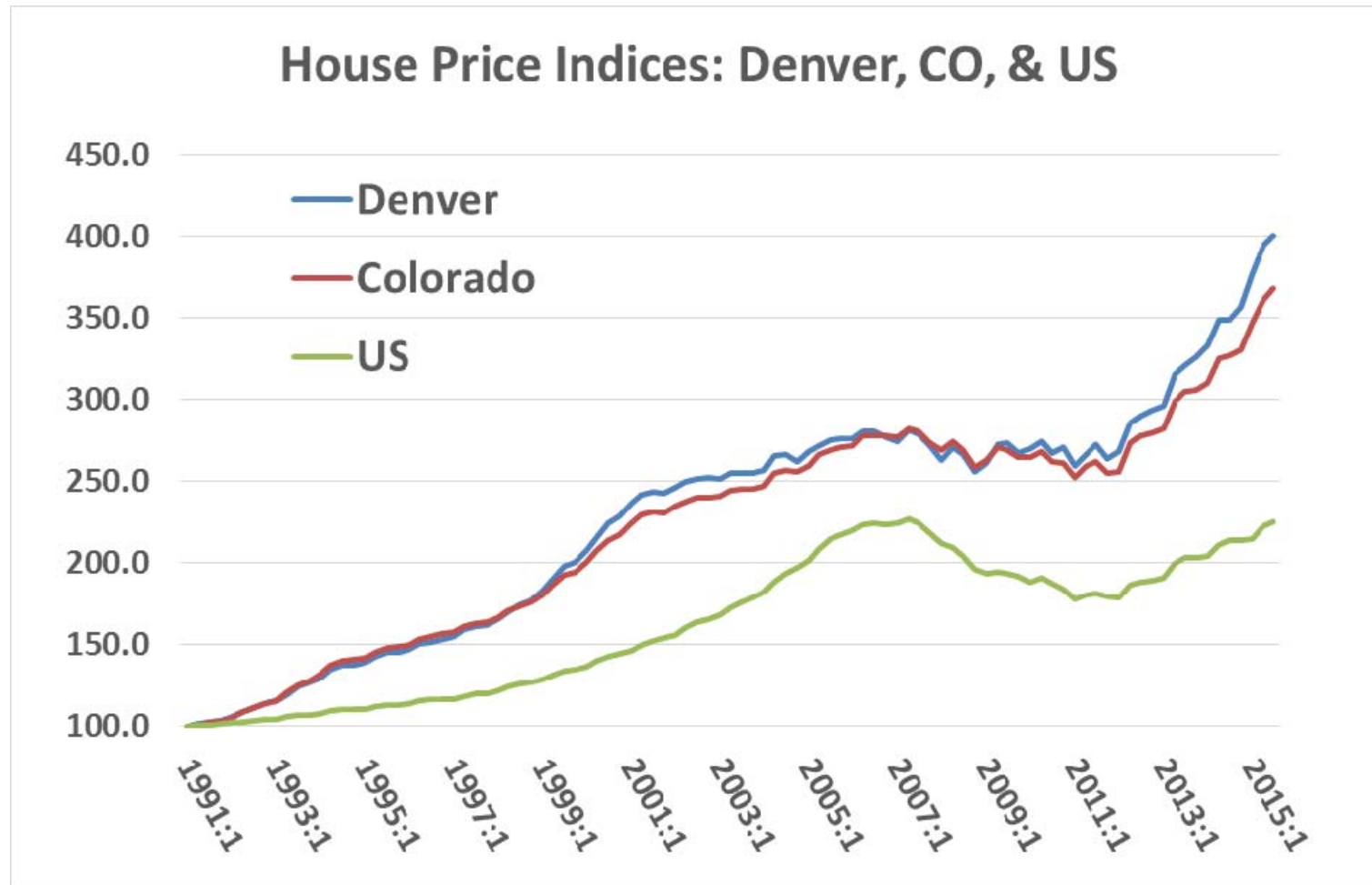
# Real Estate Markets



**Tom Thibodeau**

December 7, 2015

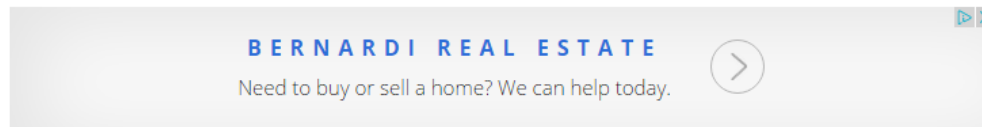
# Nominal House Price Indices: 1991:1-2015:3



Source: Federal Housing Finance Agency (FHFA). [www.fhfa.gov](http://www.fhfa.gov). Purchase Only

University of Colorado Real Estate Center

# What is Driving the Rapid Increase in CO House Prices?



Real Estate Special Report

## The pot effect on Denver's housing market

One factor driving the demand: pot. The budding industry has impacted home prices since the state legalized marijuana in 2012.

"There has been a huge bump in real estate prices due to the legalization of marijuana," according to James Paine, managing partner at West Realty Advisors. "It's massively pushed up raw land and industry prices."

In March, Denver experienced the second-largest jump in annual home prices at 10%, just behind San Francisco, according to the S&P/Case-Shiller Home Price Index.

University of Colorado Real Estate Center

# What is Really Driving the Rapid Increase in House Prices (in the Denver and Boulder MSAs)?

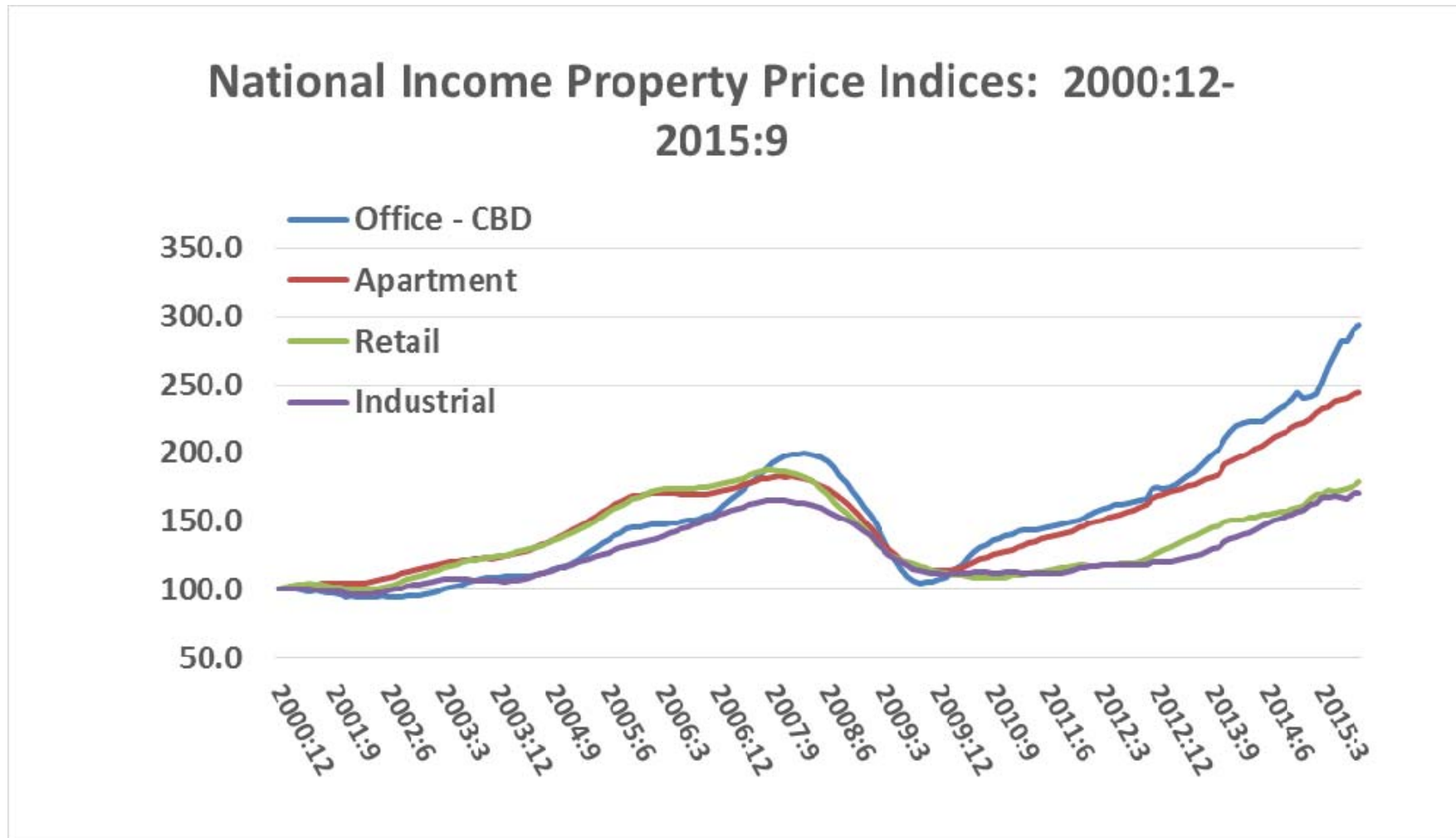
Year	Housing Units (Supply)	Households (Demand)	Vacant	Vacancy Rate
1990	829,264	748,419	80,845	9.75%
1991	835,179	768,469	66,710	7.99%
1992	843,212	793,835	49,377	5.86%
1993	856,421	810,361	46,060	5.38%
1994	872,796	823,745	49,051	5.62%
1995	892,867	840,503	52,364	5.86%
1996	913,381	859,762	53,619	5.87%
1997	934,369	884,727	49,642	5.31%
1998	957,366	904,691	52,675	5.50%
1999	987,475	934,558	52,917	5.36%
2000	1,012,790	967,728	45,062	4.45%
2001	1,040,318	990,639	49,679	4.78%
2002	1,069,432	1,002,617	66,815	6.25%
2003	1,095,171	1,013,111	82,060	7.49%
2004	1,115,552	1,025,541	90,011	8.07%
2005	1,138,664	1,036,025	102,639	9.01%
2006	1,159,745	1,053,923	105,822	9.12%
2007	1,178,007	1,072,800	105,207	8.93%
2008	1,188,874	1,093,383	95,491	8.03%
2009	1,199,607	1,112,824	86,783	7.23%
2010	1,207,768	1,129,396	78,372	6.49%
2011	1,213,024	1,149,124	63,900	5.27%
2012	1,218,333	1,169,780	48,553	3.99%
2013	1,228,935	1,192,069	36,866	3.00%
2014	1,237,746	1,213,827	23,919	1.93%
Average				6.26%

# What is Driving the Rapid Increase in House Prices (in Denver and Boulder MSAs)?

Year	Change in Stock	Change in Households	Demand @ 6.25% Vacant	Change in Supply - Demand	Cumulative
1990					
1991	5,915	20,050	21,389	-15,474	-15,474
1992	8,033	25,366	27,060	-19,027	-34,501
1993	13,209	16,526	17,630	-4,421	-38,922
1994	16,375	13,384	14,278	2,097	-36,824
1995	20,071	16,758	17,877	2,194	-34,630
1996	20,514	19,259	20,545	-31	-34,662
1997	20,988	24,965	26,632	-5,644	-40,306
1998	22,997	19,964	21,297	1,700	-38,606
1999	30,109	29,867	31,862	-1,753	-40,358
2000	25,315	33,170	35,385	-10,070	-50,429
2001	27,528	22,911	24,441	3,087	-47,342
2002	29,114	11,978	12,778	16,336	-31,005
2003	25,739	10,494	11,195	14,544	-16,461
2004	20,381	12,430	13,260	7,121	-9,340
2005	23,112	10,484	11,184	11,928	2,588
2006	21,081	17,898	19,093	1,988	4,575
2007	18,262	18,877	20,138	-1,876	2,700
2008	10,867	20,583	21,958	-11,091	-8,391
2009	10,733	19,441	20,739	-10,006	-18,397
2010	8,161	16,572	17,679	-9,518	-27,915
2011	5,256	19,728	21,045	-15,789	-43,704
2012	5,309	20,656	22,035	-16,726	-60,431
2013	10,602	22,289	23,777	-13,175	-73,606
2014	8,811	21,758	23,211	-14,400	-88,006

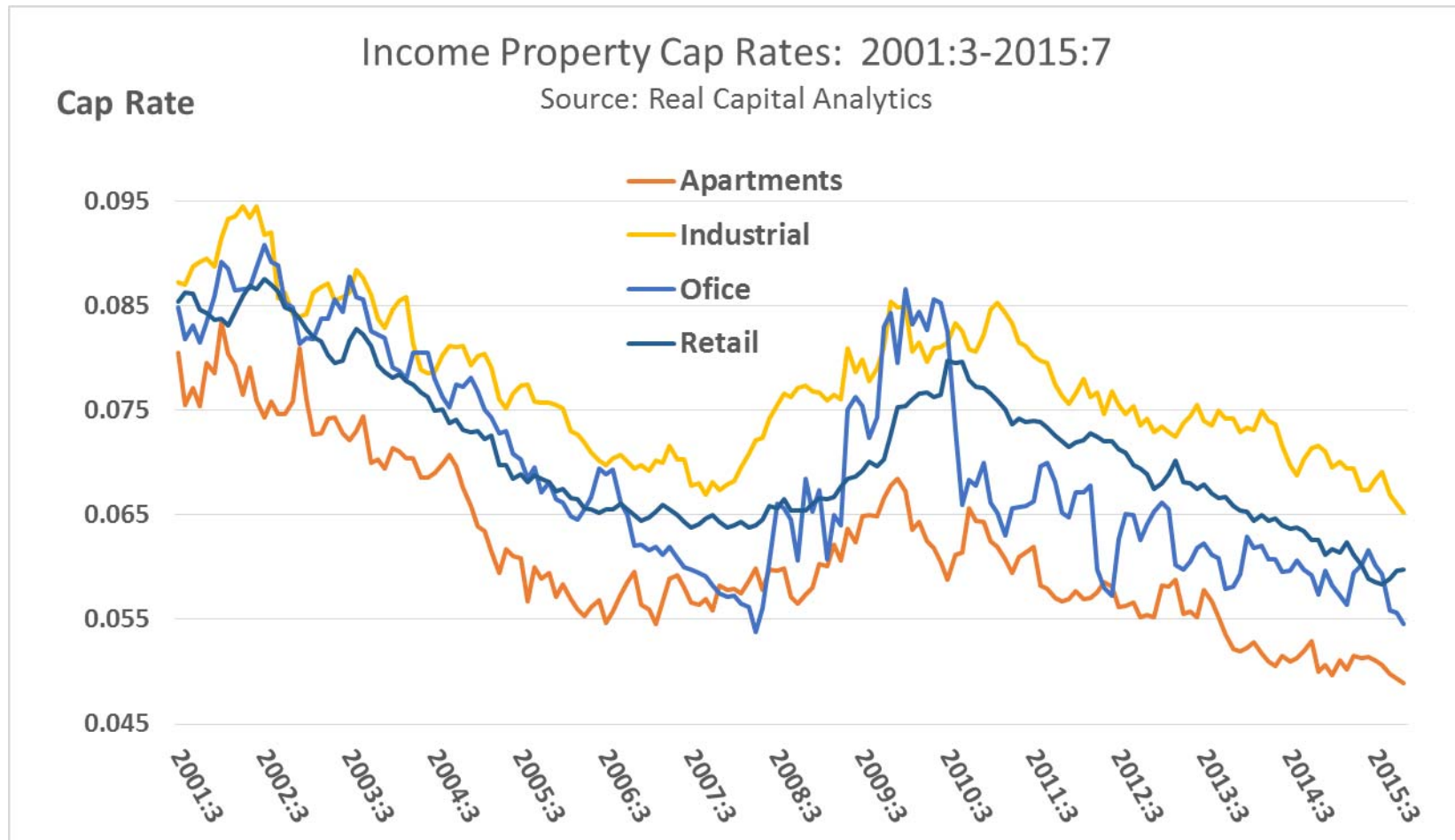
# Commercial Property Prices

Source: Real Capital Analytics



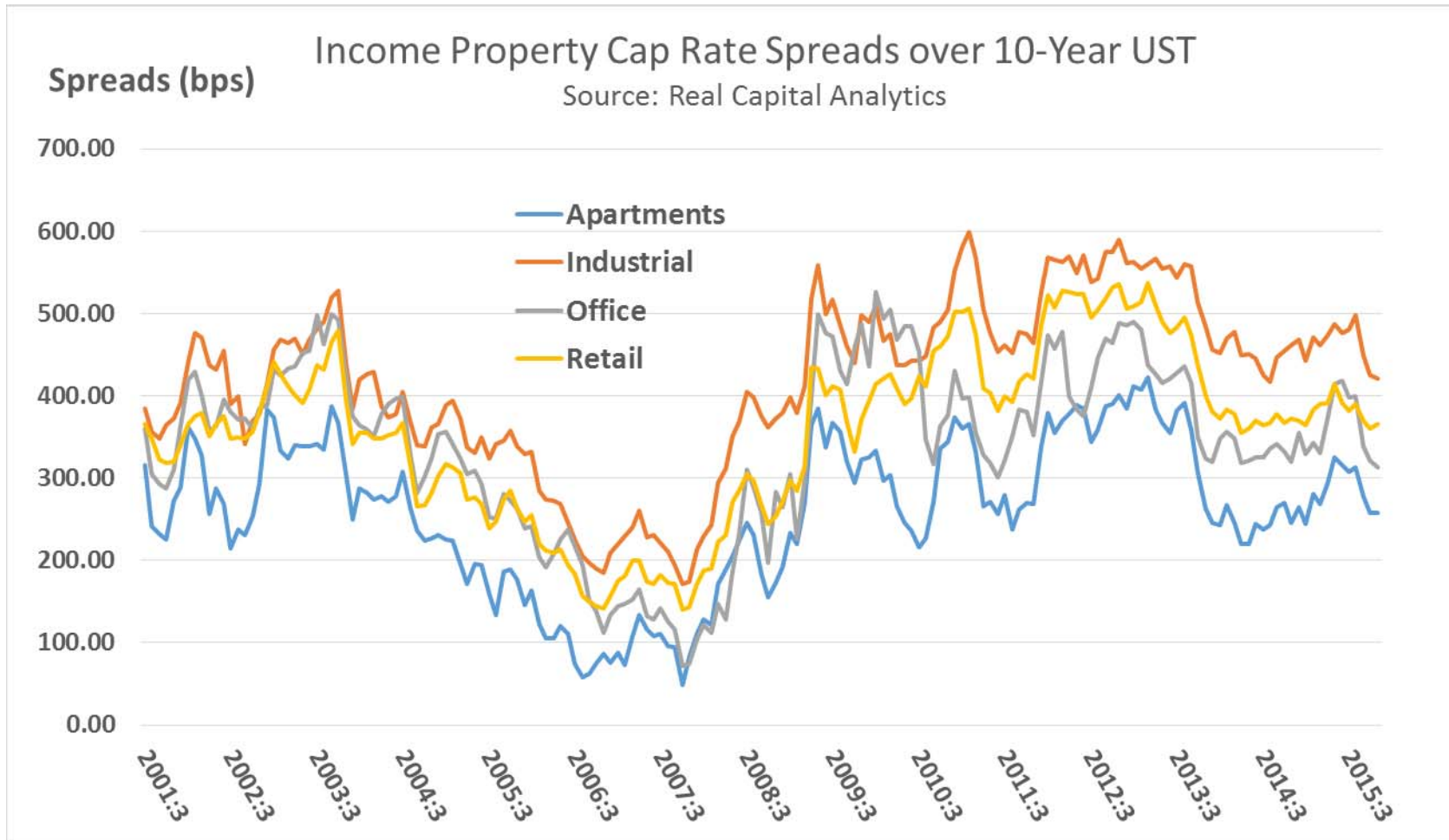
# Commercial Property Prices

Source: Real Capital Analytics



# Commercial Property Prices

Source: Real Capital Analytics





# Commercial Property Prices

Source: Real Capital Analytics

Cap Rates and Spreads over 10-Year UST									
2001:3-2015:7									
Property Type:	Apartment		Industrial		Office		Retail		
	<i>Garden</i>	<i>Mid/High_Rise</i>	<i>Flex</i>	<i>Warehouse</i>	<i>CBD</i>	<i>Suburban</i>	<i>Mall</i>	<i>Strip</i>	
<b>Cap Rates</b>									
mean	6.87%	6.16%	8.02%	7.76%	6.97%	7.76%	7.13%	7.65%	
standard deviation	0.72%	0.82%	0.80%	0.68%	1.02%	0.71%	0.74%	0.69%	
<b>Spreads over 10-Year UST</b>									
mean	3.28%	2.58%	4.43%	4.18%	3.39%	4.18%	3.55%	4.07%	
standard deviation	0.93%	0.91%	1.14%	1.05%	1.07%	1.09%	1.03%	1.18%	

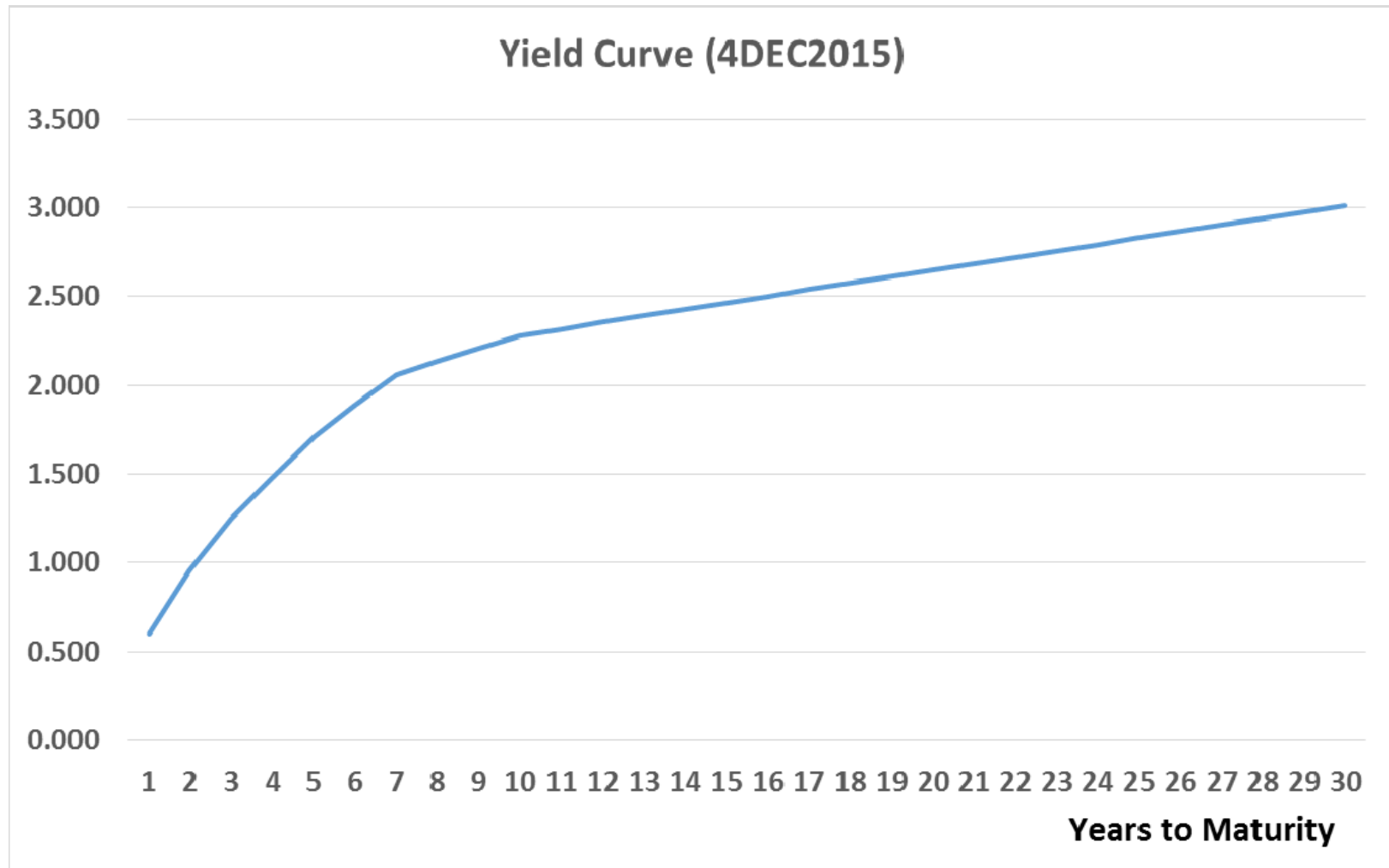
# Current Yields on UST (December 4, 2015)

Date	1 Mo	3 Mo	6 Mo	1 Yr	2 Yr	3 Yr	5 Yr	7 Yr	10 Yr	20 Yr	30 Yr
12/4/2015	0.17	0.23	0.49	0.6	0.96	1.25	1.71	2.06	2.28	2.65	3.01

Source: [www.treasury.gov](http://www.treasury.gov)

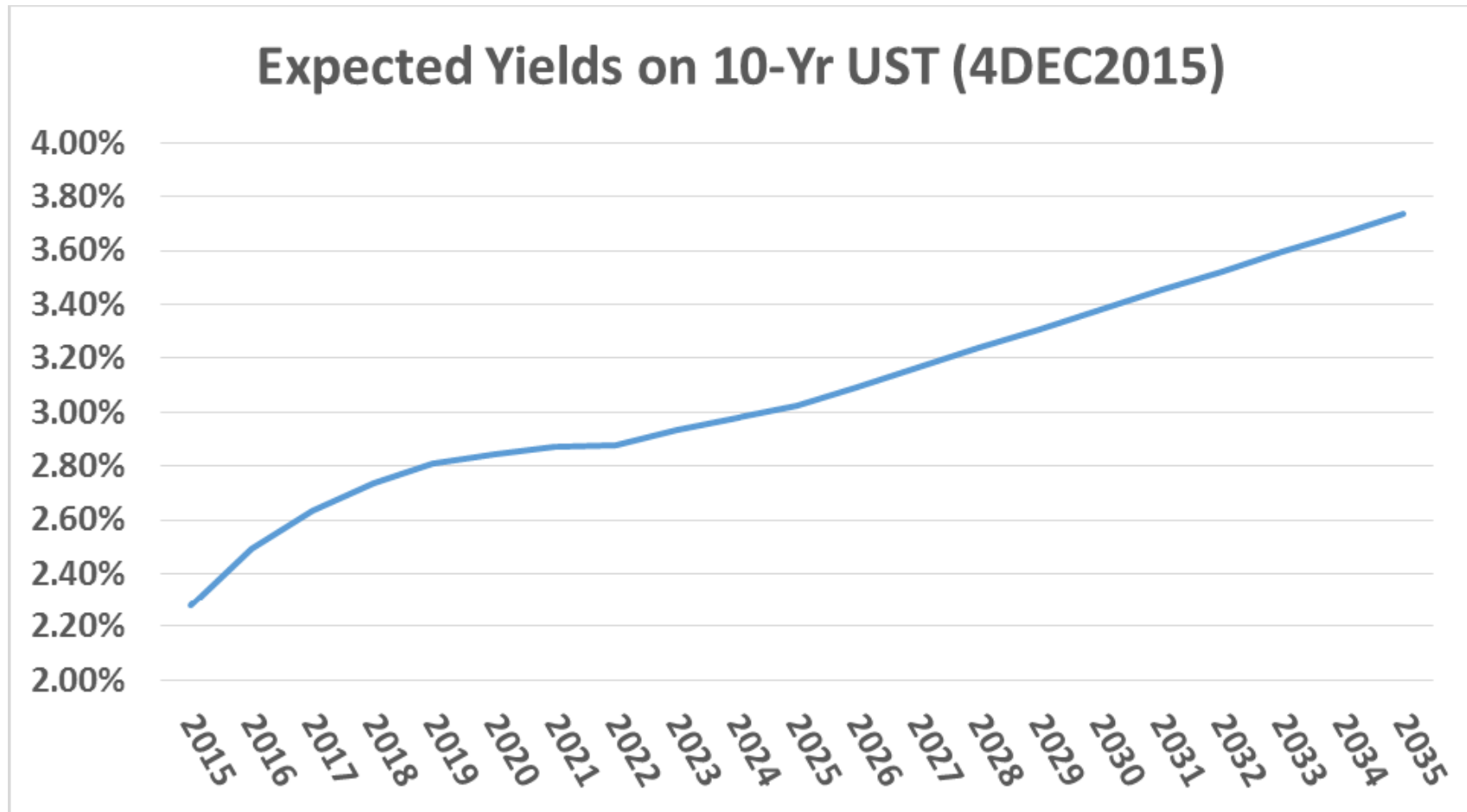
University of Colorado Real Estate Center

# UST Yield Curve (December 4, 2015)



Source: [www.treasury.gov](http://www.treasury.gov)

# Long-Term Interest Rate Forecast: Expected Yields on 10-Year UST



Source: [www.treasury.gov](http://www.treasury.gov) and author's calculations

University of Colorado Real Estate Center



The Koelbel Building - Leeds School of Business