

*“Today’s Real Estate Shifts Are Creating  
Future Challenges & Opportunities”*

**Burnham-Moores Center For Real Estate  
BMC Lecture Series  
University Of San Diego  
September 15, 2016**

**Presented by  
Christopher Lee  
CEL & Associates, Inc.**

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# TODAY'S PRESENTATION

- ∞ Future Headlines
- ∞ A Perfect Storm Of Emerging Trends
- ∞ Real Estate Cycles
  - Where Are We...What Is Ahead?
- ∞ Real Estate Industry's Megashifts
  - Changes That Are Impacting Every Real Estate Firm
- ∞ Generations Driving Different Kinds Of Real Estate
  - Office    — Retail    — Industrial    — Multifamily
- ∞ San Diego Outlook
- ∞ Predictions...What Is Ahead For 2025?

# FUTURE HEADLINES

# THE WALL STREET JOURNAL.

Monday, February 18, 2020

Daily \$3.50

## Today's Highlights

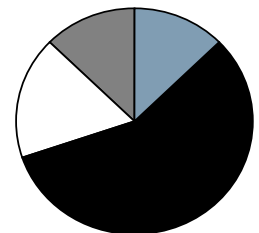
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## Apple Announces New iOffice Technology

"Our Goal is to create the first virtual office Building," states Apple CEO.

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NYC Office

# The Washington Post

Tuesday, June 17, 2025

Daily \$5.75

## Today's Highlights

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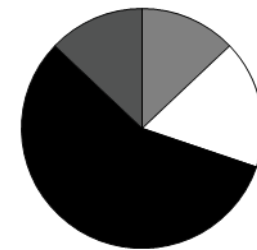
# Robots Construct First Mid-Rise Office Building

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NYC Apartments

# The New York Times

Monday, February 18, 2018

Daily \$4.75

## Today's Highlights

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## Google Becomes The #1 Source For Selling Real Estate

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# THE WALL STREET JOURNAL.

Monday, February 18, 2021

Daily \$3.50

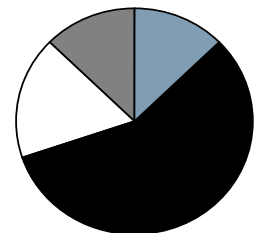
## Today's Highlights

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## Congress Passes National Building Code Standards Making It Unlawful To Sell A Building That Is Non-Compliant!

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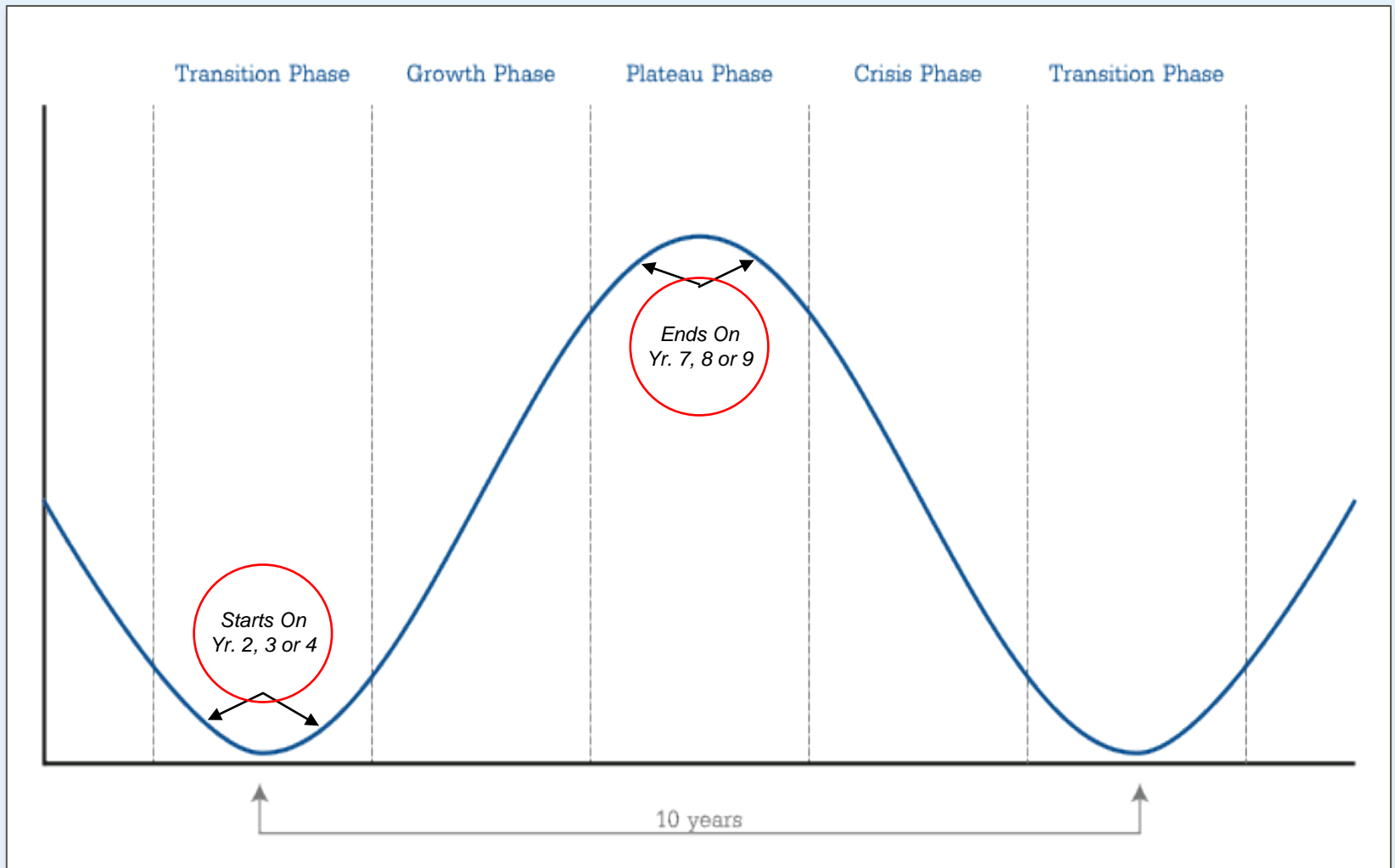
# **A PERFECT STORM OF EMERGING TRENDS**

# THE PERFECT STORM IS HAPPENING SIMULTANEOUSLY

- ❑ Abundance of Capital
- ❑ Accelerating Technological Advancements
- ❑ Changing Global Economy
- ❑ Declining Workforce Participation Rate
- ❑ Demographic Shifts
- ❑ Disappearing Middle Class
- ❑ Flattening Global Marketplace
- ❑ Geo-Centric Market Shifts
- ❑ Housing Affordability
- ❑ Increasing Government Regulations
- ❑ Increasing Role Of Big Data
- ❑ Industry Consolidation
- ❑ Information Transparency
- ❑ Legacy Exits
- ❑ Multi-Purpose Real Estate
- ❑ Product & Service Innovation
- ❑ Retrenchment Of Debt Markets
- ❑ Rise Of Experiential Retail
- ❑ Rising Operational Costs
- ❑ Robotics & Artificial Intelligence
- ❑ Sharing & Collaborative Economy
- ❑ Shifting Consumption Patterns
- ❑ Stagnant Household Income
- ❑ The Internet Of Everything
- ❑ Unprecedented Federal Debt
- ❑ Urbanization

# REAL ESTATE CYCLES

# REAL ESTATE CYCLE PHASES



# PRIMARY DRIVERS OF REAL ESTATE CYCLES

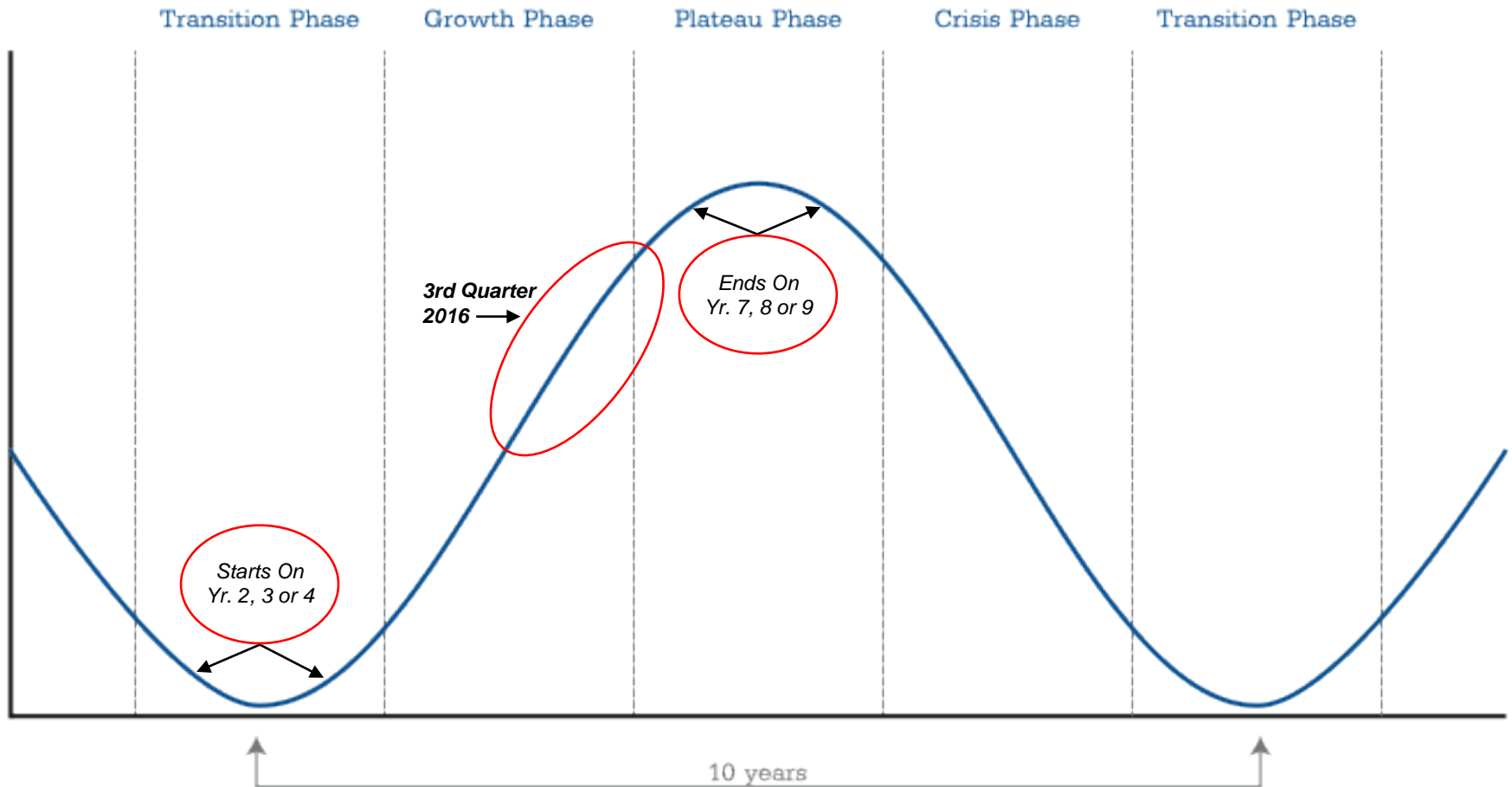
- ❑ Access To Credit
- ❑ Acts Of Terrorism
- ❑ Capital Markets
- ❑ Commodity Pricing
- ❑ Competition/Industry Factors
- ❑ Consumer Confidence
- ❑ Demographic Shifts
- ❑ Disruptive Technologies
- ❑ Economic Growth
- ❑ Global Uncertainty
- ❑ Government Policies
- ❑ Household Formation
- ❑ Household Income
- ❑ Inflation
- ❑ Interest Rate/Fed Policy
- ❑ Job Growth
- ❑ Lifestyle Choices
- ❑ Market Deregulation
- ❑ Monetary Policy
- ❑ Natural Disasters
- ❑ Regulations - State/Local
- ❑ Resource Scarcity
- ❑ Supply/Demand Factors
- ❑ Tax Policy
- ❑ Technology
- ❑ Trade Agreements

# REAL ESTATE CYCLES HAVE NAMES

Time Period	Cycle
1983 - 1988	Age of Awakening Boomers & Entrepreneurism
1993 - 1998	Age of Technology & Start-Ups
2003 - 2008	Age of Exuberance & Debt
→ 2013 - 2018	Age of Capital, Asset & Entity Rebalancing
2023 - 2028	Age of Globalization & Knowledge
2033 - 2038	Age of Technology & Non-Land-Based Environments

Source: CEL & Associates., Inc.

# REAL ESTATE CYCLE PHASES





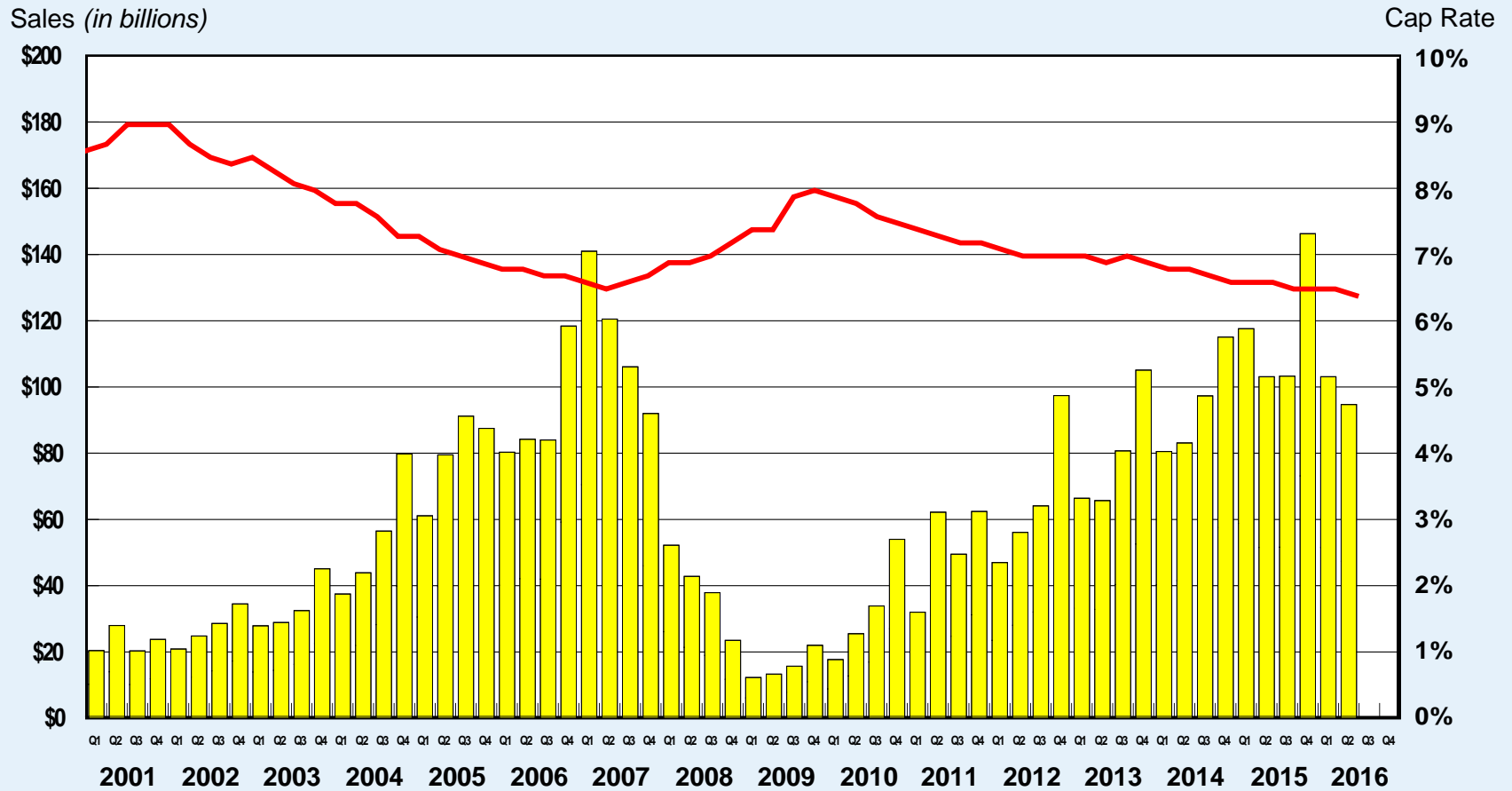
# REAL ESTATE CYCLE TRENDS TO WATCH OVER THE NEXT 18 – 24 MONTHS

2016 - 2018	
<input type="checkbox"/> Rising Occupancy Levels	<input type="checkbox"/> Generous TIs
<input type="checkbox"/> Hard-To-Find Deals	<input type="checkbox"/> Rent Concessions
<input type="checkbox"/> High Investment Sales Activity	<input type="checkbox"/> Protracted Negotiations & Entitlements
<input type="checkbox"/> Peaking Asset Values	<input type="checkbox"/> Slowly Rising Cap Rates
<input type="checkbox"/> Abundance Of Capital	<input type="checkbox"/> Limited Access To Credit
<input type="checkbox"/> Global Uncertainty / Unrest	<input type="checkbox"/> Struggling Competitors
<input type="checkbox"/> Emerging Economic Slowdown	<input type="checkbox"/> Reduced Target Returns
<input type="checkbox"/> Niche Consolidation	<input type="checkbox"/> Focus On Recurring Income

Source: CEL & Associates, Inc.

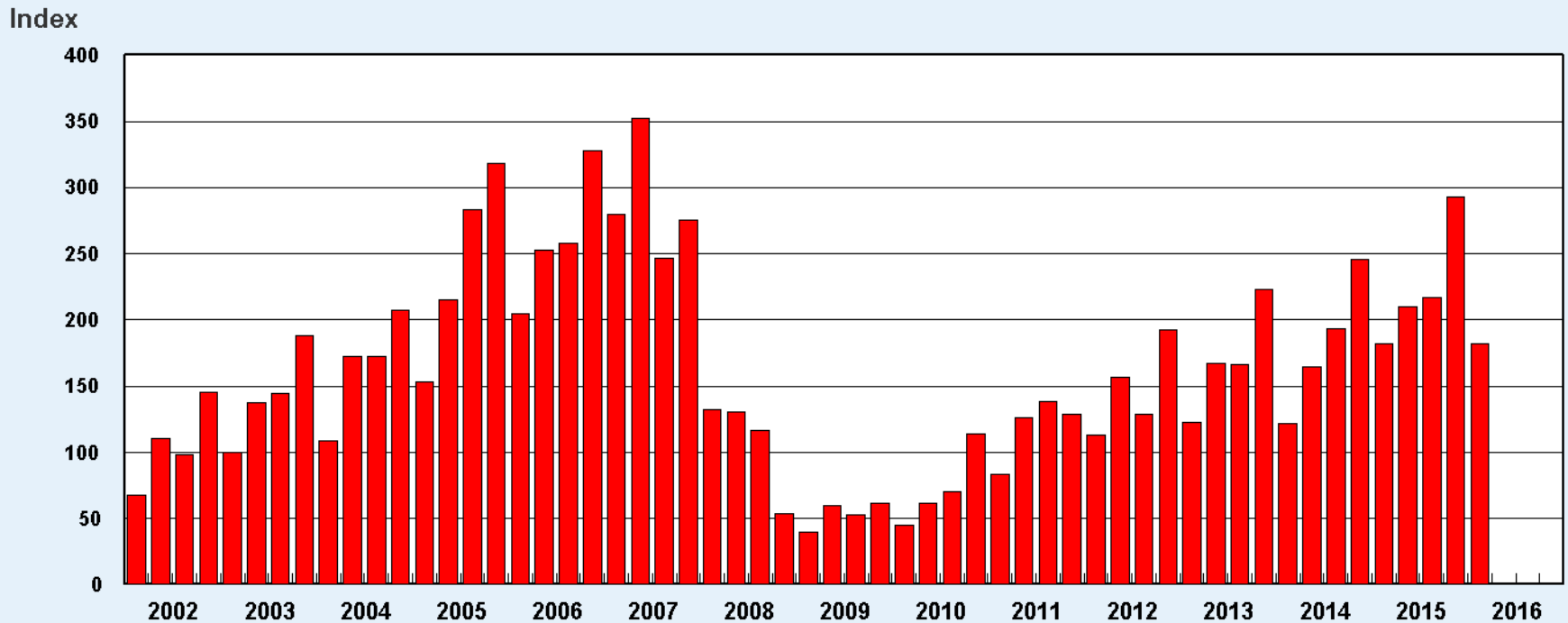
# PROOF POINTS

# SALES VOLUME & CAP RATES — COMBINED



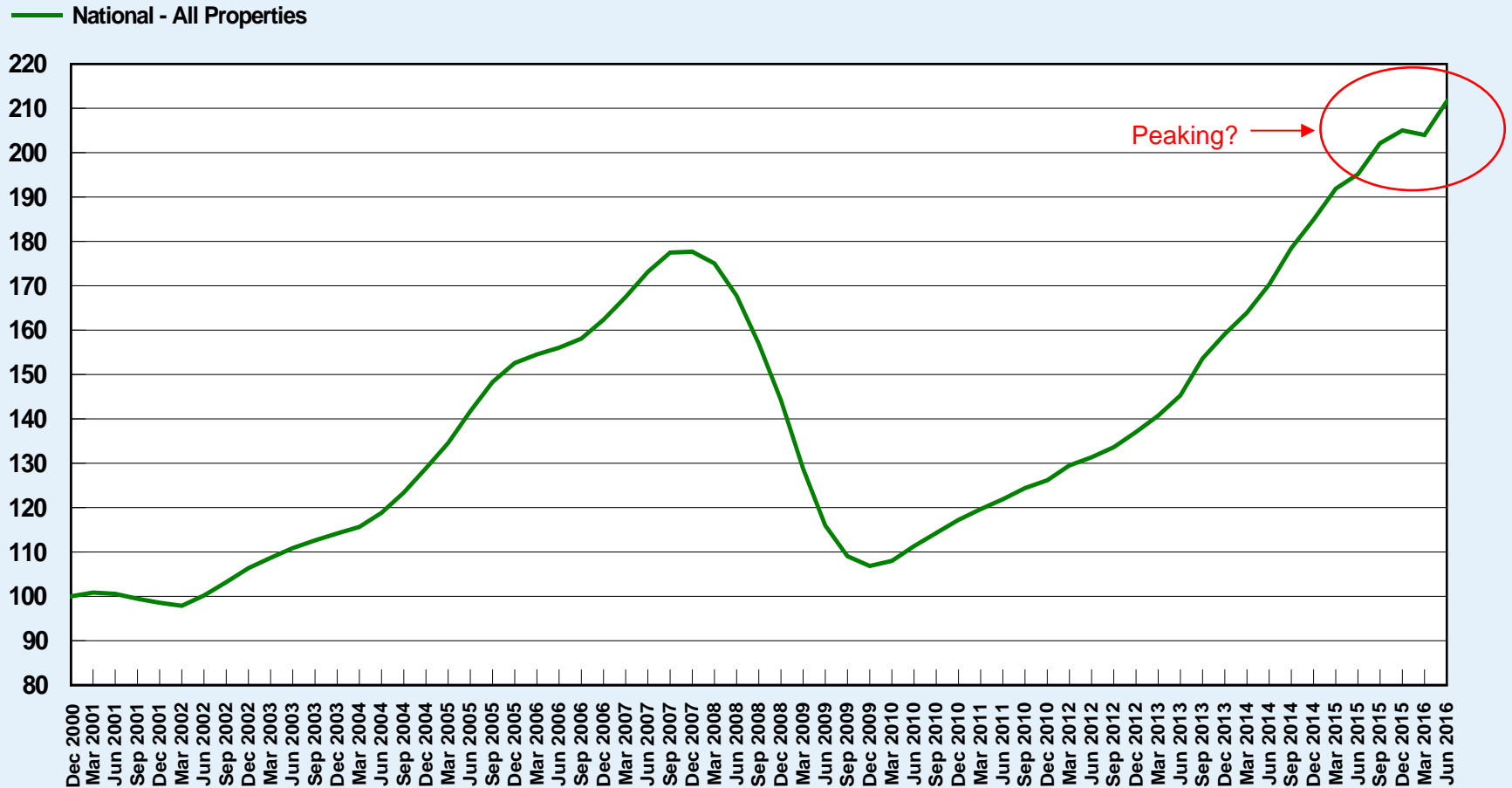
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# COMMERCIAL/MULTIFAMILY LOAN ORIGINATIONS INDEX



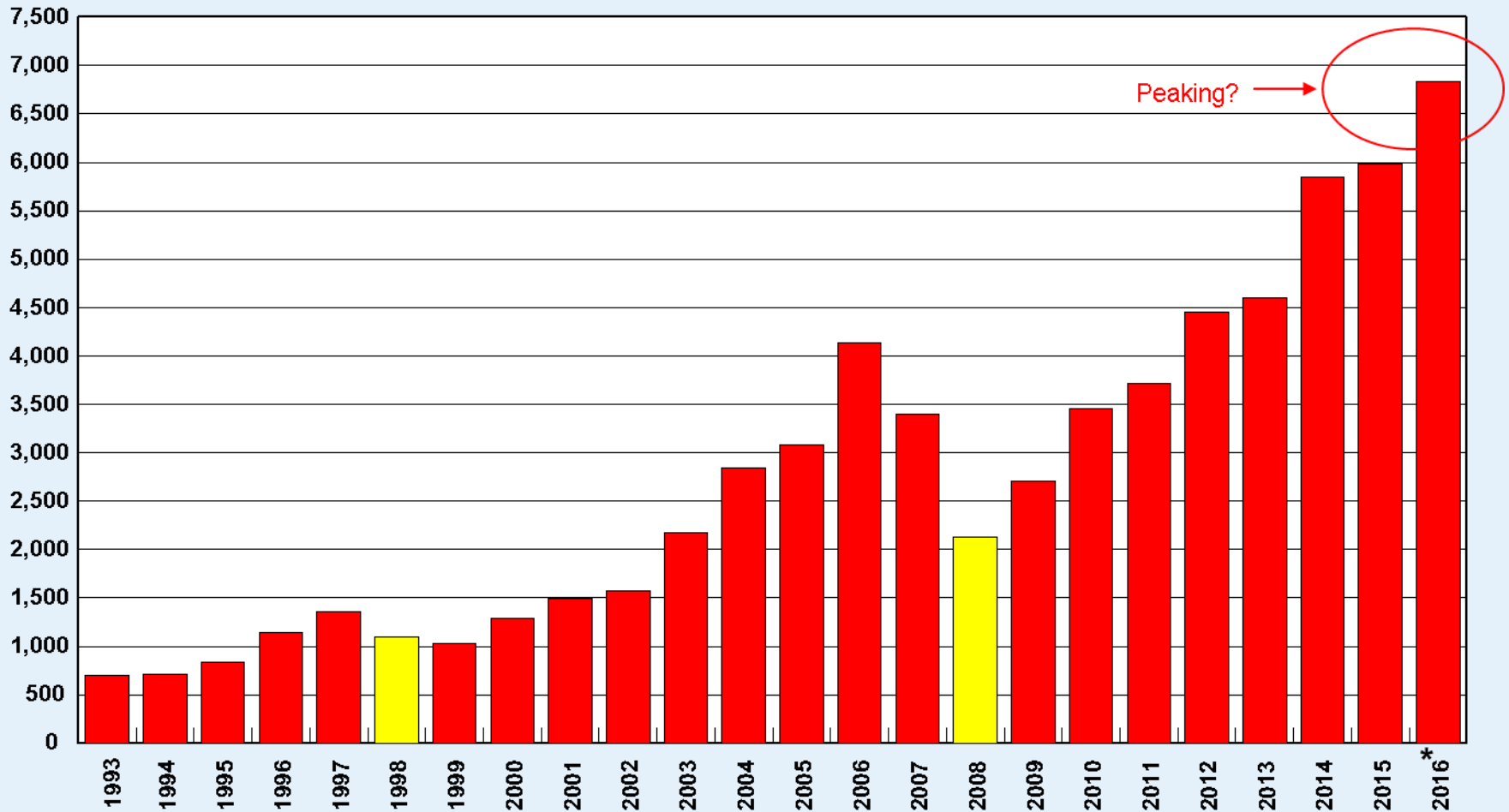
Source: Mortgage Bankers Association thru 1Q 2016. Origination Volume Index.

# MOODY'S/RCA ALL PROPERTIES NATIONAL INDEX



Source: Moodys / ©2016 Real Capital Analytics, Inc. All rights reserved.

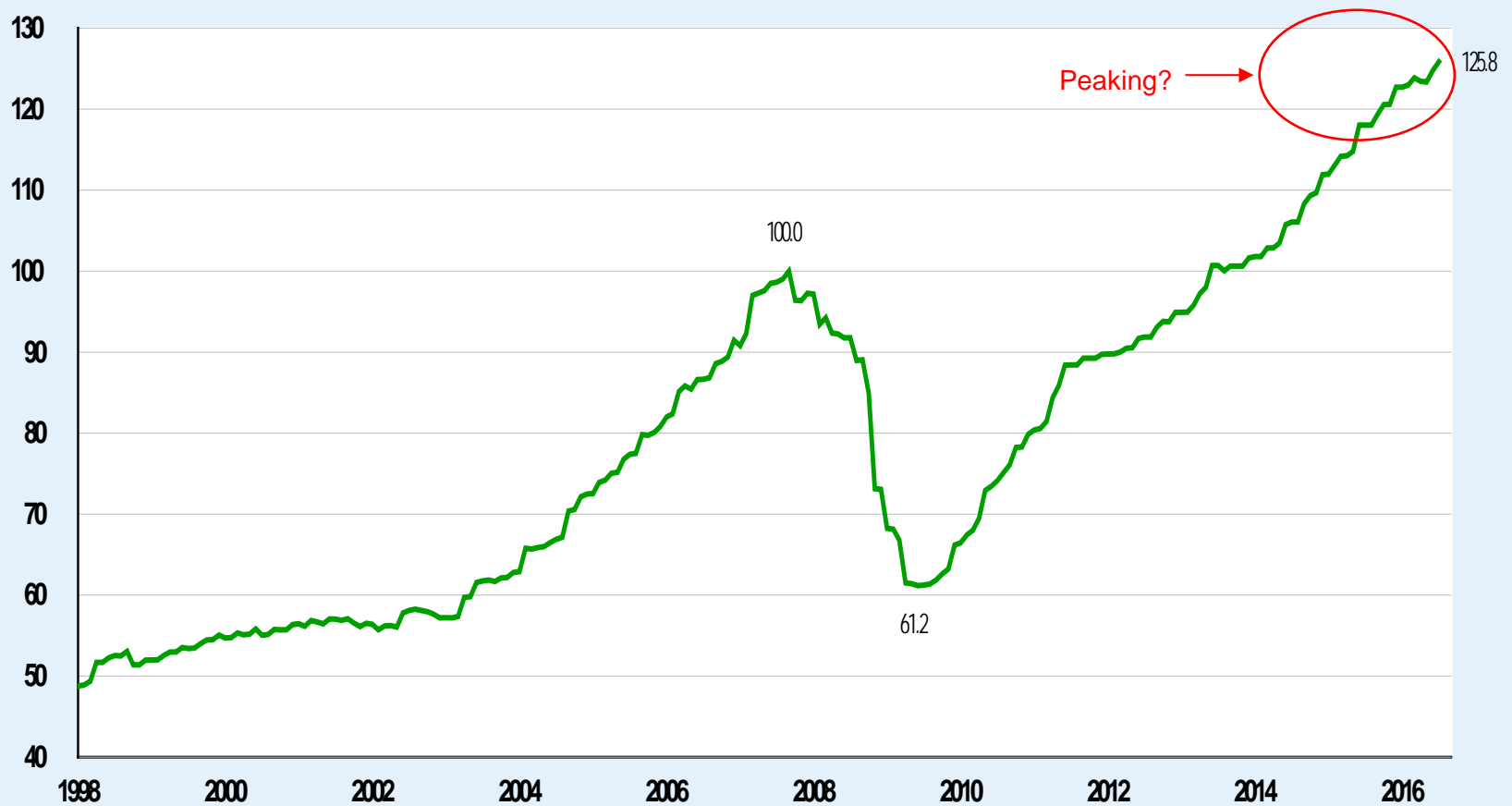
# NAREIT TOTAL RETURN INDEX



\* 2016 through August.

Source: NAREIT.

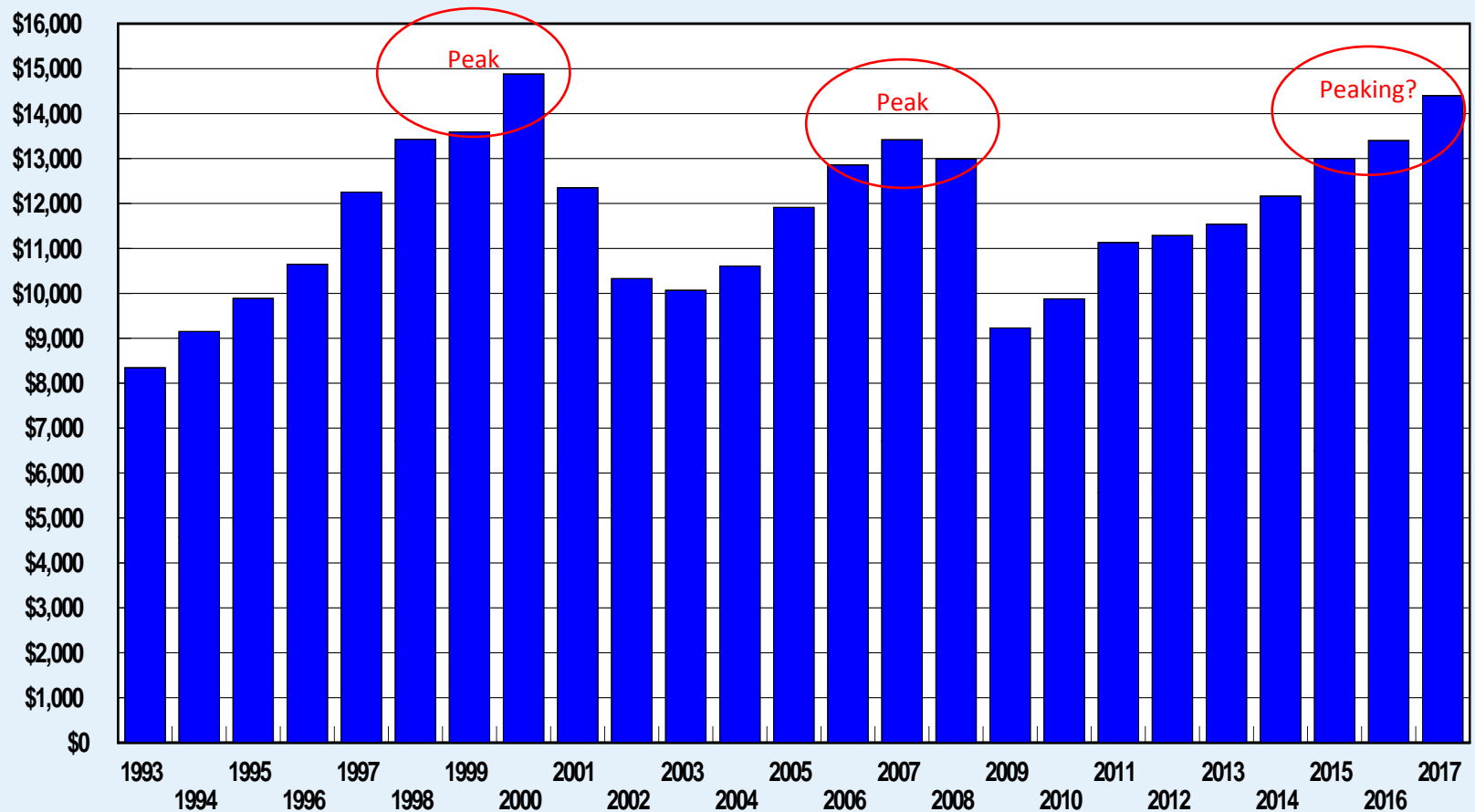
# COMMERCIAL PROPERTY PRICE INDEX



Source: Green Street Advisors.

# VALUE OF U.S. OFFICE FURNITURE MARKET

Sales (in millions)



Source: BIFMA (2016 and 2017 projected).



**WHAT HAPPENS WHEN A  
REAL ESTATE CYCLE  
IS PEAKING?**

# CONSOLIDATION OCCURS

- ❑ CBRE acquires Global Workplace Solutions (\$1.5 billion) from Johnson Controls.
- ❑ DTZ/Cassidy Turley merger (\$500 million - \$600 million).
- ❑ DTZ/Cushman & Wakefield merger (\$2.0 billion).
- ❑ Newmark acquires ARA (\$100+ million).
- ❑ Landmark Apartment Trust acquired by Starwood Capital/Milestone (\$1.9b).
- ❑ CBRE acquires Forum Analytics and Tax Credit Group.
- ❑ Cushman & Wakefield acquires Multi Housing Advisors.
- ❑ MAA (Mid-America Apt. Communities) acquires Colonial Properties Trust (\$8.6b).
- ❑ Essex Property Trust acquires BRE Properties (\$4.3b).
- ❑ Multiple regional and niche mergers/acquisitions pending.

***“Real estate company mergers and acquisitions are approaching the 2007 peak.” Ernst & Young***



# M & A ACTIVITY INCREASES

❑ Blackstone takeover of Biomed Realty Trust	\$ 8.0 billion
❑ Blackstone takeover of Excel Realty Trust	\$ 2.0 billion
❑ Blackstone takeover of Strategic Hotels & Resorts	\$ 6.0 billion
❑ Colony America Homes merged into Starwood Waypoint Residential	\$ 7.7 billion
❑ Global Logistics Properties acquired Industrial Income Trust	\$ 4.5 billion
❑ American Healthcare Investors and Griffin-America Healthcare merger	\$ 4.0 billion
❑ Gramercy Property Trust merged with Chambers Street Properties	\$ 5.7 billion
❑ Marriott takeover of Starwood Hotels & Resorts	\$14.4 billion
❑ Weyerhaeuser Co. and Plum Creek Timber merged	\$23.0 billion
❑ Ventas acquires American Realty Capital Healthcare Trust	\$ 2.6 billion

***There were 34 or \$79.3 billion of M&A transactions in 2015...  
Second highest to the peak in 2007 of \$113.6 billion.***

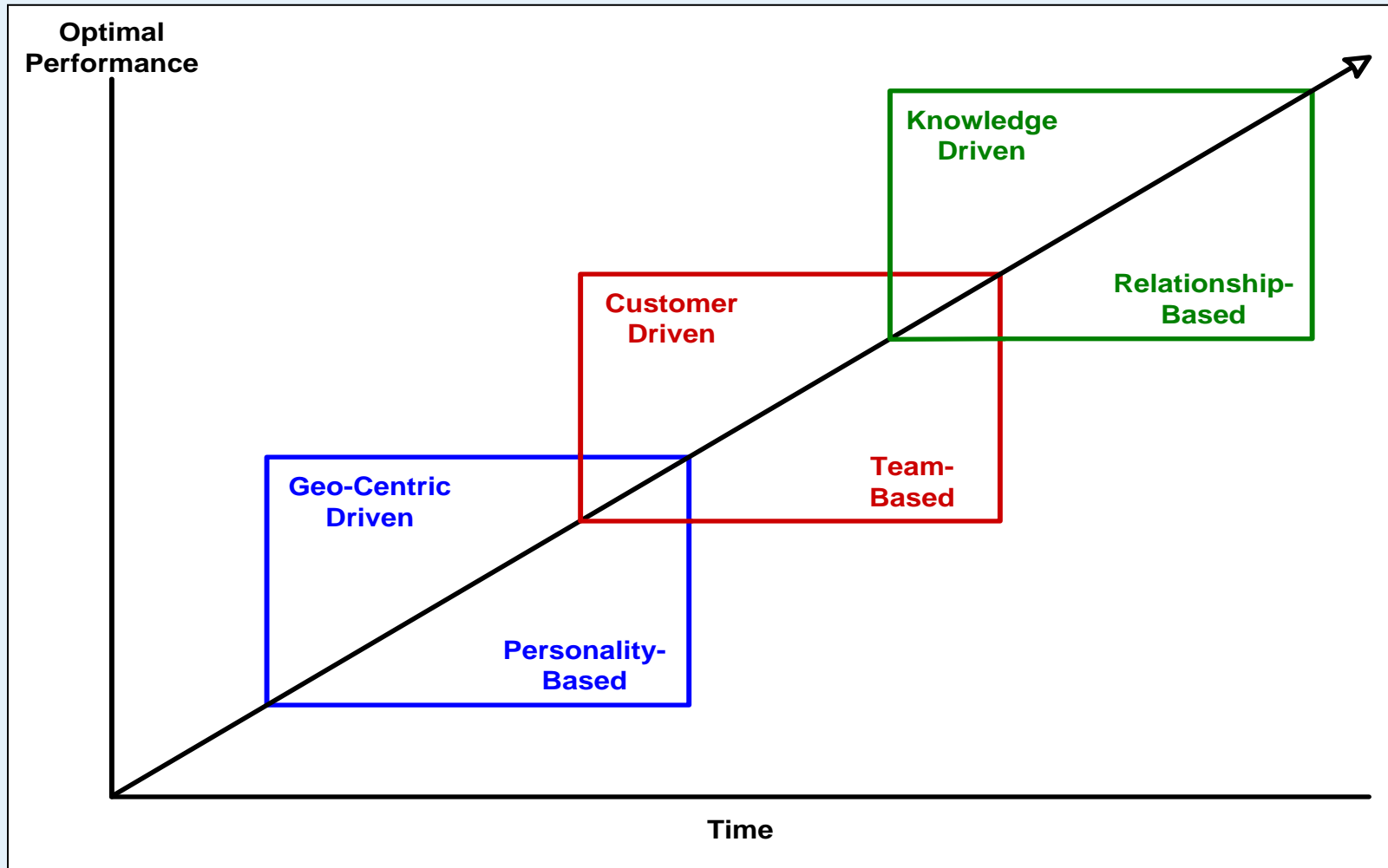


**REAL ESTATE INDUSTRY'S  
MEGASHIFTS  
ARE NOW UNDERWAY**

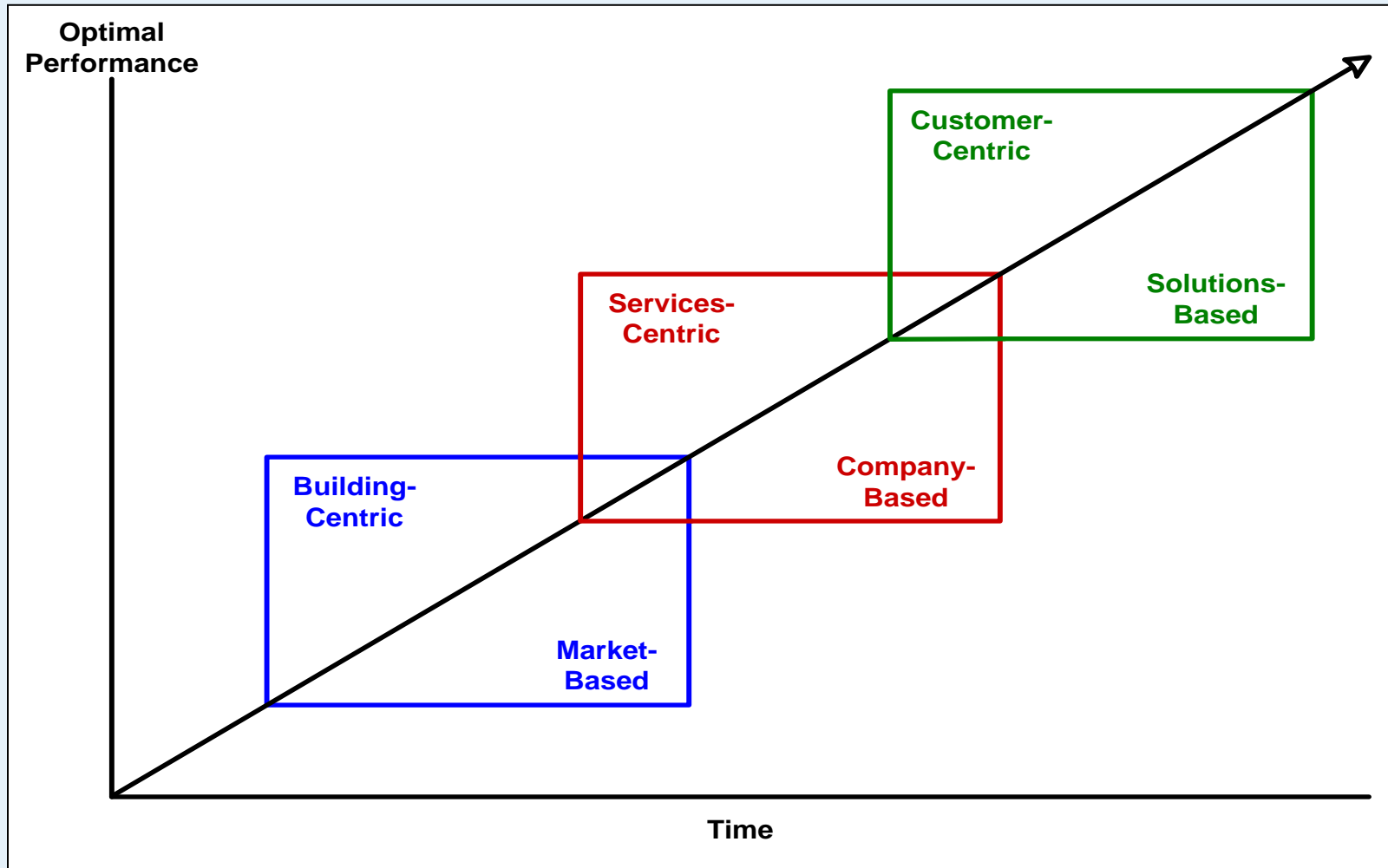
# REAL ESTATE INDUSTRY'S MEGASHIFTS

Category	Yesterday	Today	Tomorrow	Overmorrow
Business Focus	Local / Regional	Regional / National	National / Global	Cyber
Operational Focus	Collecting Assets	Collecting Fees	Collecting Relationships	Collecting Predictive Data
Market Focus	Seeking Sites	Seeking Market Share	Seeking Customer Share	Seeking Connective Share
Service Platform	Focus On Service	Focus On Solutions	Focus On Connectivity	Focus On Customization
Business Driver	Market-Driven	Capital-Driven	Knowledge-Driven	AI Driven
Brokerage	A Representative	A Broker	A Consultant	An Advisor
Property Management	Facility Manager	Property Manager	Business Leader	Enterprise Leader
Training	Manuals	Trainers	Online	Personalized
Leadership	Founder(s)	Executives	Transformational	Visionary
Organization	Organization	Flatarchies	Holacracy	Virtual

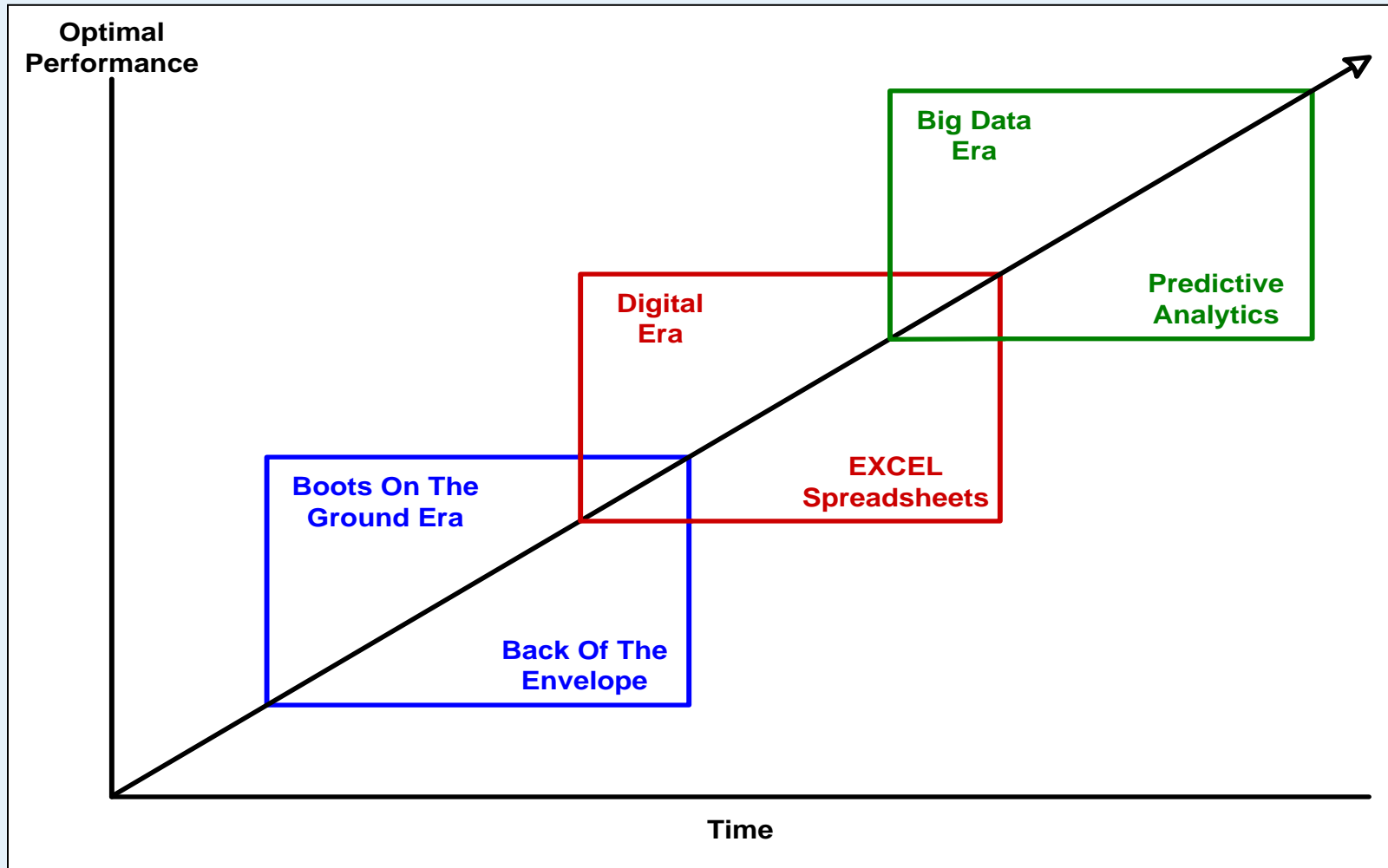
# SHIFT FROM GEOGRAPHY TO KNOWLEDGE



# SHIFT FROM BUILDINGS TO CUSTOMERS

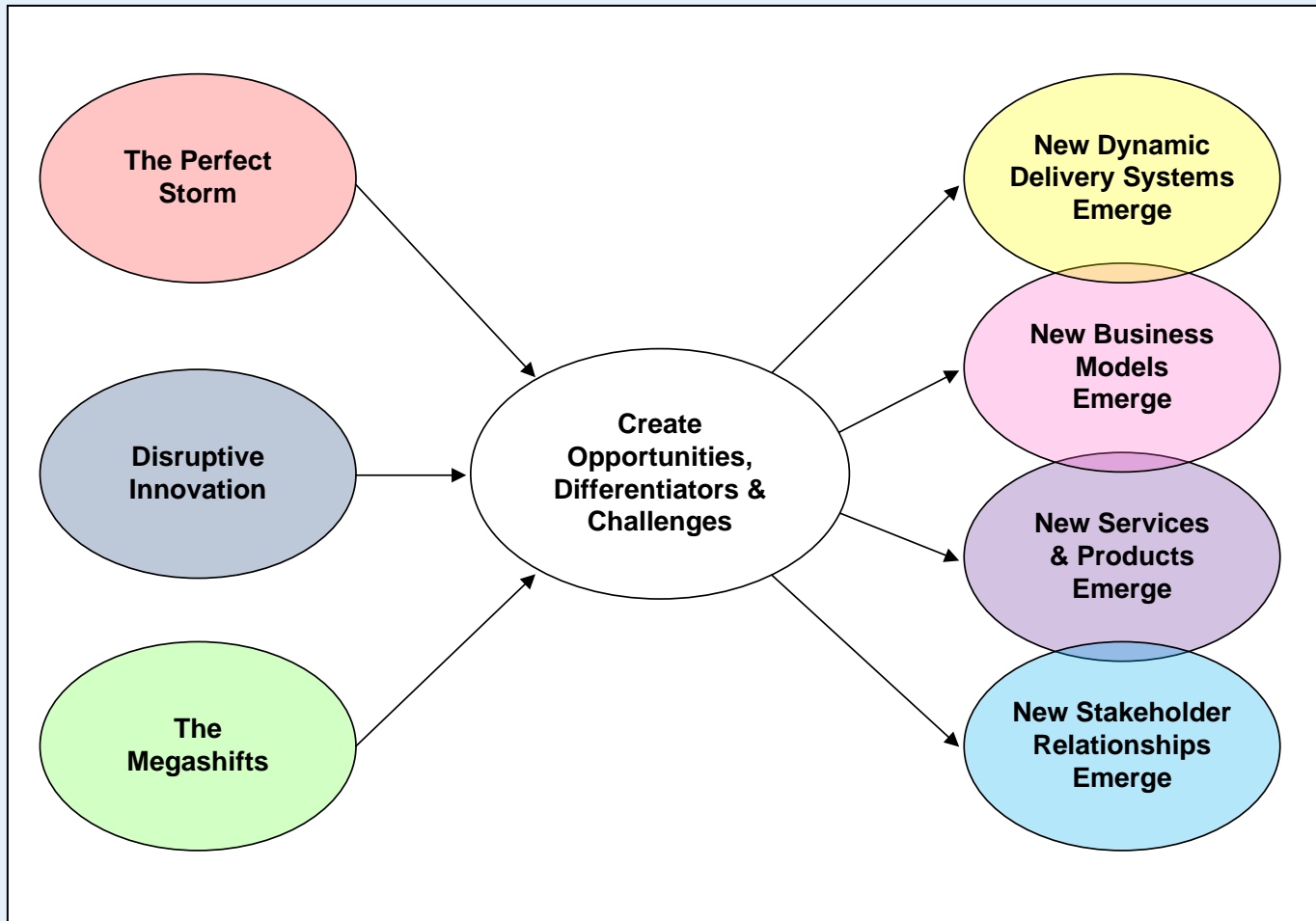


# SHIFT FROM INTUITION TO ANALYTICS



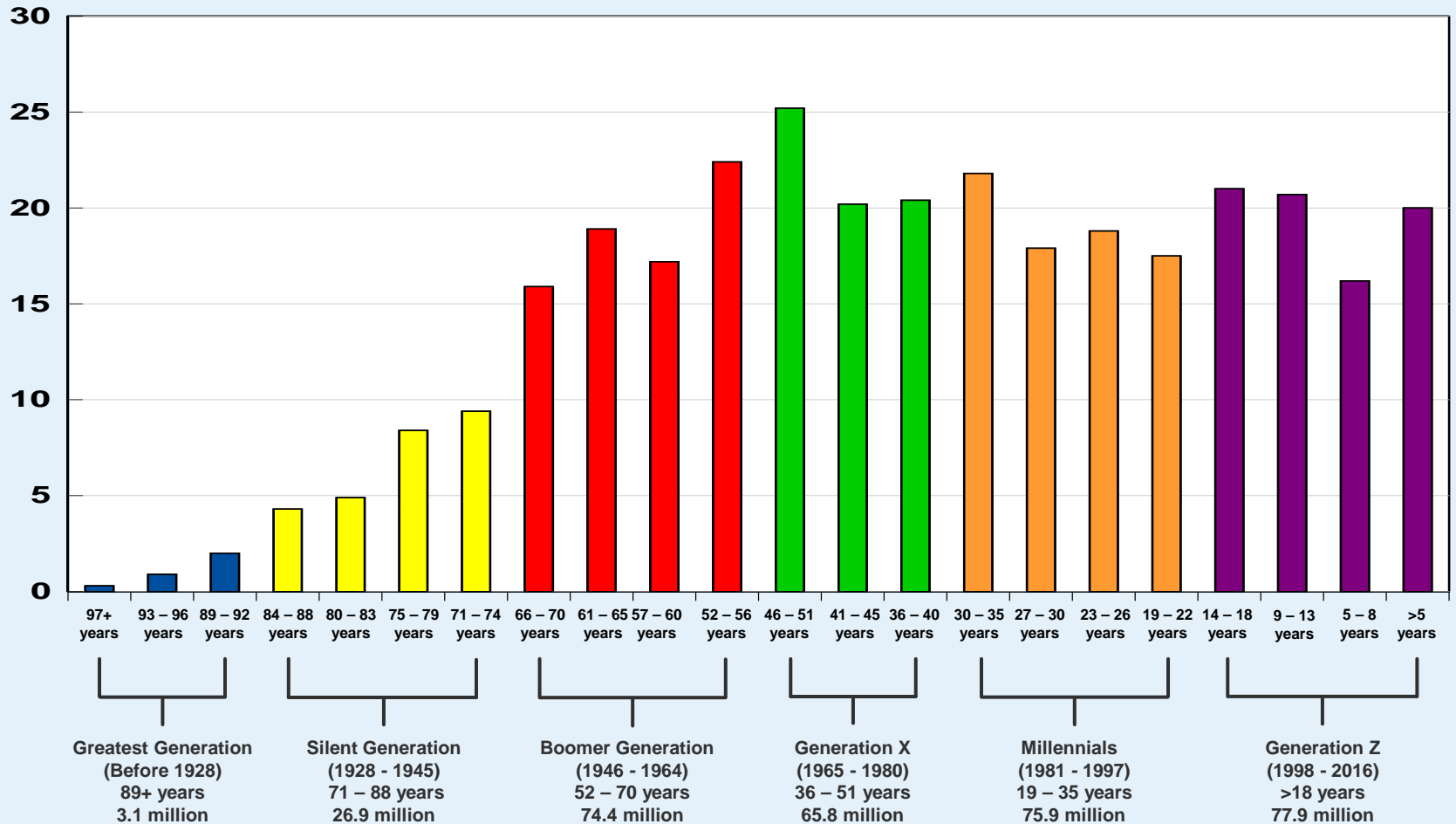


# THE CONFLUENCE RESULT



# GENERATIONAL SHIFTS ARE DRIVING CHANGE

Millions




# GENERATIONS DRIVING DIFFERENT KINDS OF REAL ESTATE

- ❑ Office
- ❑ Industrial
- ❑ Retail
- ❑ Multifamily

# OFFICE

# OFFICE SPACE TRENDS

- 
- ❑ By 2020, 46% of the U.S. workforce will be Millennials.
  - ❑ By 2016, 43% of the U.S. workforce will telecommute.
  - ❑ Only 10 of the top 50 occupations with the most job openings require office space.
  - ❑ Between 2013 – 2018, the average white-collar worker will spend only 30% of their time working out of an office.
  - ❑ The average individual workspace is occupied only 55% of the time in a normal work week.
  - ❑ The average U.S. tenant has 33% of its space as excess shadow space based on the new square footage per employee.
  - ❑ Coworking/Shared workspace now comprises 27 million square feet.

# OFFICE PORTFOLIO SALES ARE GROWING

Year	Transaction Summary (\$ Billions)			
	Individual	Portfolio	Entity	Total
2010	\$38.5	\$7.6	\$0.6	\$46.8
2011	\$57.2	\$9.1	\$0.5	\$66.9
2012	\$67.4	\$11.6	\$2.6	\$81.6
2013	\$79.9	\$19.9	\$5.6	\$105.4
2014	\$96.1	\$27.4	\$2.4	\$125.8
2015	\$105.2	\$36.2	\$4.4	\$145.8

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# INDUSTRIAL

# INDUSTRIAL TRANSFORMATION

- ❑ Workers are now producing 47% more than 20 years ago.
- ❑ Manufacturing workers now number 12.3 million [14.5 million in 2006].
- ❑ Amazon has 15,000 robots that work alongside 50,000 humans.
- ❑ By 2017, there will be 1.9 million industrial robots.
- ❑ The cost savings through technological advancements and robotics is now 25% - 33%.
- ❑ Globalization has kept wages low.



# INDUSTRIAL PORTFOLIO SALES ARE GROWING

Year	Transaction Summary (\$ Billions)			
	Individual	Portfolio	Entity	Total
2010	\$13.0	\$7.8	\$0.0	\$20.8
2011	\$20.1	\$8.4	\$7.8	\$36.3
2012	\$25.8	\$11.3	\$0.2	\$37.4
2013	\$29.2	\$10.7	\$6.4	\$46.3
2014	\$35.7	\$11.1	\$3.1	\$49.9
2015	\$38.3	\$18.1	\$20.1	\$76.5

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# RETAIL

# GENERATIONAL SHIFTS IN RETAIL SHOPPING

View Of...	Baby Boomers	Xers	Millennials
Retailers	Trust the brand.	Trust the connectivity.	Trust the experience.
Groceries	Food as a necessity.	Food as a connector.	Food as a nutrient.
Frequency Of Shopping	Structured and consistent.	Based on time availability.	As needed...24/7.
Retail Motivation	Advertisements.	Ratings.	Word-of-mouth/Twitter.
Shopping	One stop.	Digital retailing.	Unlimited stops.
Physical Plant	Mega centers.	Smaller stores.	Omni-channel.
Restaurants	Place to eat.	Place to socialize.	Place to connect.
Stores	Place to see products.	Place to interact with products.	Place to experience products.
Display Space	Floor space.	Display space.	Mental space.

***“Technology has changed the definition of retail real estate.”***

***“When online sales reach 15% – 20%, the current retail model begins to fail.”***

# RETAIL IS GOING DIGITAL

- The consumer has now taken hold of retail interactions.
- 81% of consumers go online before going to a store to make a major purchase.
- On average, consumers visit three online and two brick-and-mortar stores before making a major purchase.
- 66% of mobile shoppers comparative shop online while in a retail store.
- 66% of major-purchase shoppers do product research at home.
- 52% of online shoppers have purchased products directly from the manufacturers.
- Only 41% of Millennials shop at traditional grocery stores.
- Mobile commerce sales will reach \$108 billion by 2017.

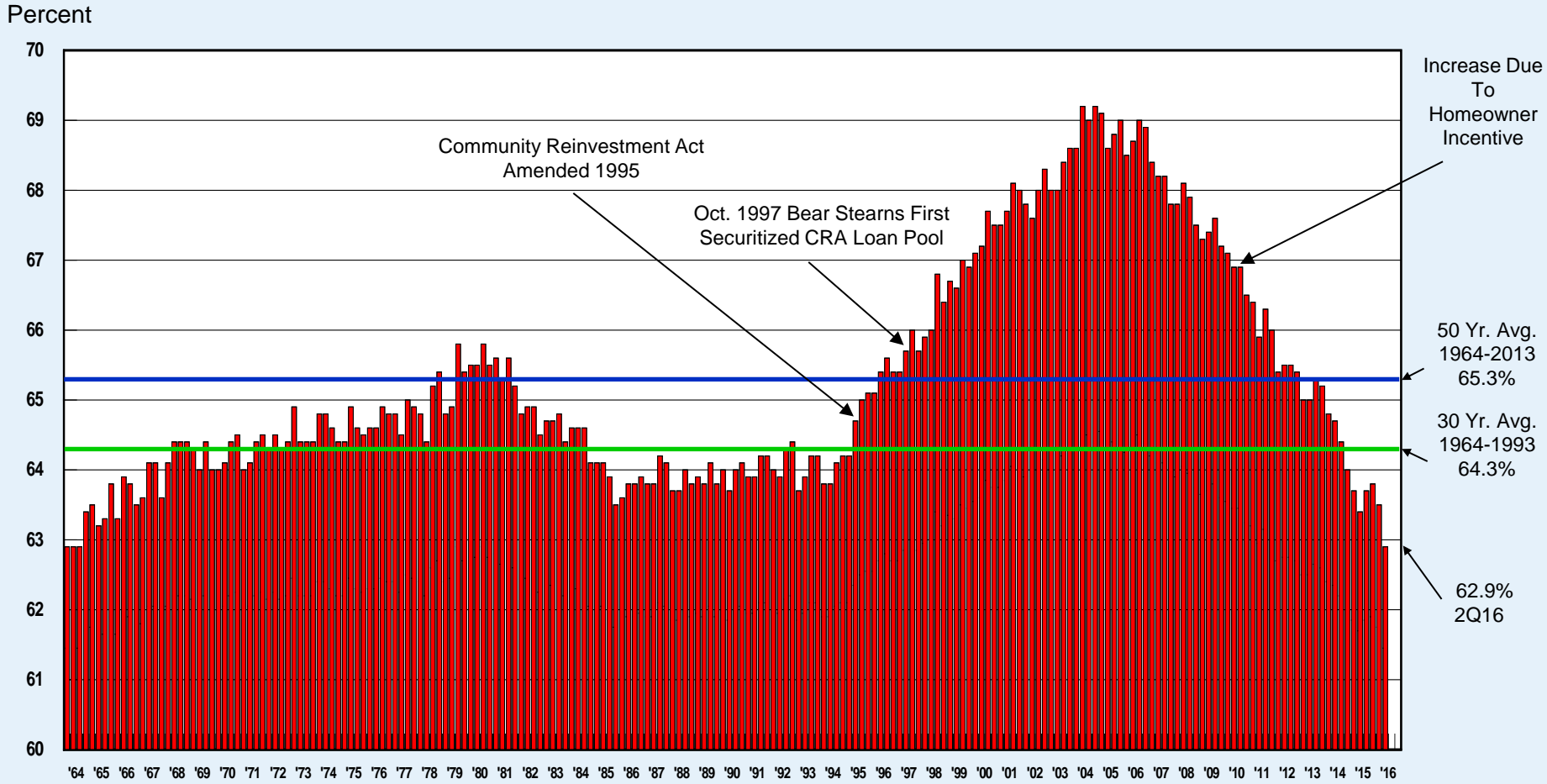
# RETAIL PORTFOLIO SALES ARE GROWING

Year	Transaction Summary (\$ Billions)			
	Individual	Portfolio	Entity	Total
2010	\$16.9	\$6.2	\$0.0	\$23.1
2011	\$26.0	\$9.1	\$9.4	\$44.6
2012	\$41.5	\$12.4	\$3.7	\$57.7
2013	\$40.4	\$15.8	\$6.1	\$62.2
2014	\$54.5	\$19.5	\$12.7	\$86.7
2015	\$59.2	\$20.9	\$7.5	\$87.6

Source: ©2016 Real Capital Analytics, Inc. All rights reserved.

# MULTIFAMILY OUTLOOK

# GENERATIONAL SHIFTS IN HOMEOWNERSHIP



Source: Current Population Survey/Housing Vacancy Survey, Series H-111 Reports, U.S. Bureau of the Census. 2Q 2016.

# MULTIFAMILY PORTFOLIO SALES ARE GROWING

Year	Transaction Summary (\$ Billions)			
	Individual	Portfolio	Entity	Total
2010	\$30.8	\$6.5	\$0.0	\$37.3
2011	\$46.9	\$11.3	\$0.3	\$58.6
2012	\$63.6	\$14.2	\$9.8	\$87.7
2013	\$64.4	\$38.1	\$1.1	\$103.6
2014	\$85.5	\$22.9	\$4.9	\$113.2
2015	\$109.2	\$27.4	\$13.4	\$150.0

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# **SAN DIEGO OUTLOOK**

# KEY MARKET STATISTICS

Category	2015	2016	2017	2018	2019	Growth 15-19
Population (000)	3,305	3,347	3,382	3,420	3,458	+ 4.6%
Total Employment (000)	1,404	1,428	1,439	1,453	1,476	+ 5.1%
Unemployment (%)	5.0%	4.8%	6.0%	6.1%	5.4%	+ 0.4 % Pts.
Household Income (\$000)	\$159.5	\$167.0	\$173.8	\$182.7	\$190.8	+19.6%
Total Households (000)	1,115.9	1,129.7	1,141.9	1,155.1	1,168.7	+ 4.7%
% Households Able To Afford Median-Priced Home	49%	44%	44%	40%	38%	- 11.0 % Pts.

Source: RCG and Bureau of Labor Statistics.  
Numbers have been rounded.

# SAN DIEGO - OFFICE MARKET OUTLOOK

Category	2015	2016	2017	2018	2019
Stock*	57,620	57,820	57,920	58,270	58,570
New Construction*	741	200	100	350	300
Net Absorption*	850	825	80	250	425
Occupied Stock*	50,324	51,149	51,229	51,479	51,904
Vacancy Rate	12.7%	11.5%	11.6%	11.7%	11.4%
Rent (\$/SF)	\$31.13	\$32.48	\$33.41	\$34.48	\$35.75
<i>Rent Growth</i>	6.9%	4.3%	2.9%	3.2%	3.7%

\* SF,000

Source: RCG.

# SAN DIEGO - INDUSTRIAL MARKET OUTLOOK

Category	2015	2016	2017	2018	2019
Stock*	239,969	242,369	243,969	245,619	248,119
New Construction*	2,100	2,400	1,600	1,650	2,500
Net Absorption*	4,000	2,200	1,400	1,800	2,400
Occupied Stock*	231,674	233,874	235,274	237,074	239,474
Vacancy Rate	3.5%	3.5%	3.6%	3.5%	3.5%
Rent (\$/SF)	\$7.43	\$7.68	\$7.86	\$8.11	\$8.39
<i>Rent Growth</i>	4.2%	3.4%	2.4%	3.2%	3.4%

\* SF,000

Source: RCG.

# SAN DIEGO - RETAIL MARKET OUTLOOK

Category	2015	2016	2017	2018	2019
Stock*	82,312	83,512	84,512	85,712	87,112
New Construction*	955	1,200	1,000	1,200	1,400
Net Absorption*	725	1,000	800	1,300	1,500
Occupied Stock*	76,685	77,685	78,485	79,785	81,285
Vacancy Rate	6.8%	7.0%	7.1%	6.9%	6.7%

\* SF,000  
Source: RCG.

# SAN DIEGO - MULTIFAMILY OUTLOOK

Category	2015	2016	2017	2018	2019
Stock*	358.4	365.2	370.4	375.2	380.3
Building Permits*	7.3	5.3	4.8	5.0	5.2
Units Delivered*	7.3	6.8	5.2	4.9	5.1
Net Absorption*	5.5	6.2	3.1	5.0	5.2
Occupied Units*	345.9	352.1	355.2	360.2	365.5
Rental Vacancy Rate	3.5%	3.6%	4.1%	4.0%	3.9%
CPI Rental Component	269.4	275.3	281.1	288.2	296.5
% Change	5.0%	2.2%	2.1%	2.5%	2.9%

\* Units,000  
Source: RCG.

**PREDICTIONS...**  
**WHAT IS AHEAD**  
**FOR 2025?**

# 2025 REAL ESTATE INDUSTRY OUTLOOK

Number	Prediction
1.	The U.S. will move ever closer to becoming a cashless society...the impact on retail real estate will be significant..
4.	Between 25% - 30% of real estate firms in existence in 2015 will be gone by 2025.
6.	Between 60% - 70% of training for real estate professionals will be online or led remotely. Training will be more “on-demand.”
8.	Online retail sales could be 19% of all retail sales (currently around 7%), rendering many retail centers irrelevant or in need of drastic transformation..
11.	Watch for the emergence of the “Certified Underwriter.” Within a decade, 50% of today’s real estate Brokers will be gone.
14.	By 2025, 10 million or more jobs will be lost to robotics. Do not be surprised to see many office buildings less than 250,000 sf in size being managed remotely.



# 2025 REAL ESTATE INDUSTRY OUTLOOK

Number	Prediction
16.	Homeownership will drop to the high 50%s (currently around 63%) as America shifts to a renter-based society.
18.	Growing food in commercial buildings will be commonplace and many of the 700,000 unused shipping containers will become urban farms.
21.	Watch for the rapid adoption of taxes and fines for all commercial and residential buildings unable to meet energy efficiency standards. The “Green” escrow could be commonplace.
33.	Do not be surprised if Amazon controls 15% - 20% of grocery sales.
35.	There will be multiple cyber attacks on real estate firms over the next decade.
40.	Women could compose nearly 40% of the C-Suite positions within real estate firms.

# 2025 REAL ESTATE INDUSTRY OUTLOOK

Number	Prediction
41.	Human Resources Directors increasingly will make or have significant impact on lease negotiations and space design.
44.	The real estate industry will be faced with a potential shortage of 15,000 – 25,000 “qualified” workers <u>per year</u> through 2025.
49.	Watch for legislation requiring <u>ALL</u> Property and Community Managers to be “licensed and certified.”
50.	Do not be surprised to see the government require monies to be set aside when a building is sold to bring that building into compliance with a minimal, government “Green” standard.

# 2025 REAL ESTATE INDUSTRY OUTLOOK

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100.	Cell phones will be replaced by . . .

*“Today’s Real Estate Shifts Are Creating  
Future Challenges & Opportunities”*

**Burnham-Moores Center For Real Estate  
BMC Lecture Series  
University Of San Diego  
September 15, 2016**

**Presented by  
Christopher Lee  
CEL & Associates, Inc.**