

Keynote:

# Economic Expansion, Commercial Real Estate- What's Next?



# Economic Expansion & Real Estate What's Next – Near Term & Long Term?

Business Cycles, Technological Change, the Policy Environment,  
and the Future of Multifamily & Commercial Real Estate

April 30, 2019

Victor Calanog PhD | Chief Economist

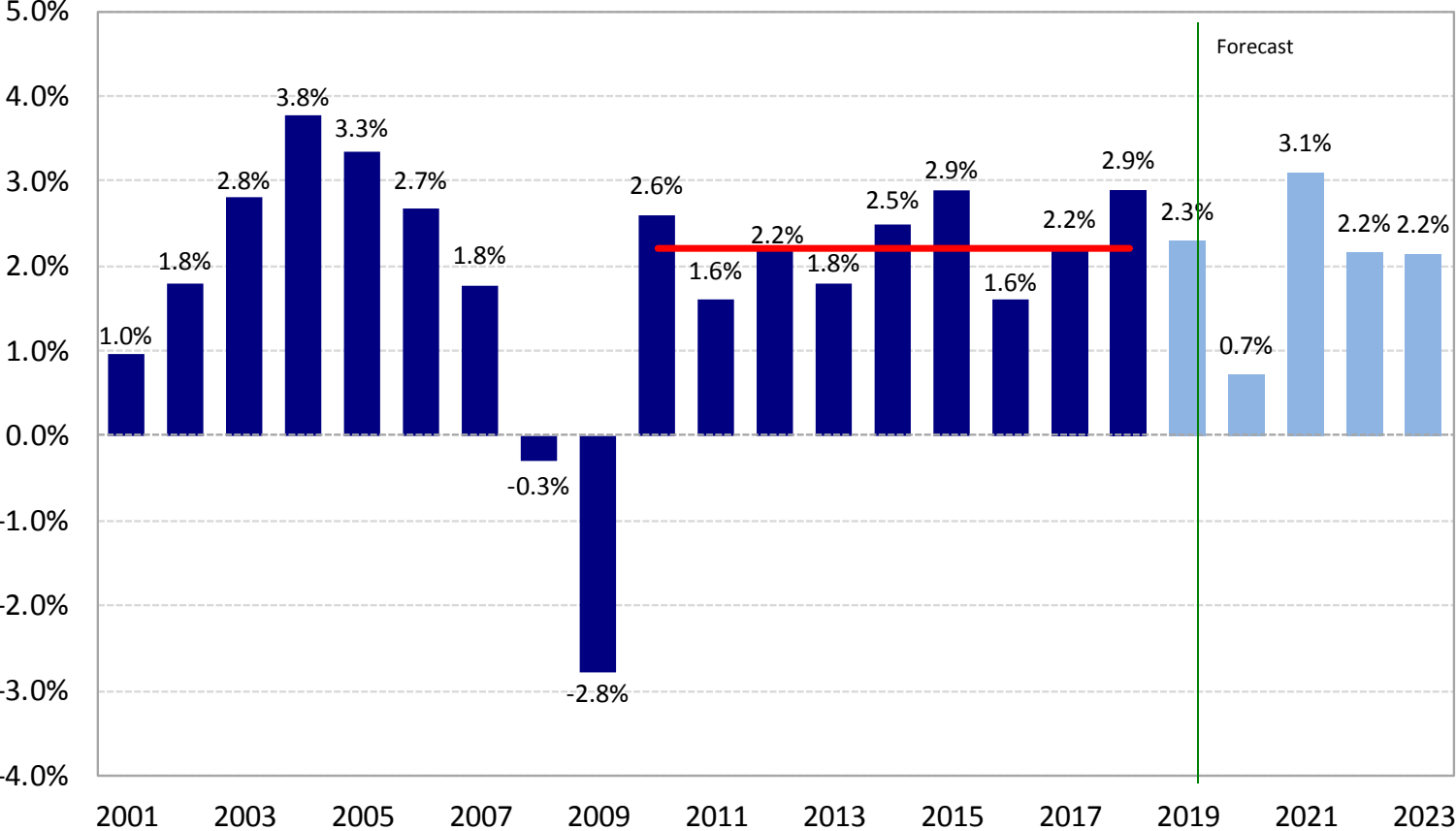
Moody's Analytics | REIS

# Agenda

1. ECONOMIC OVERVIEW AND OUR OUTLOOK FOR THE NEAR TERM.
2. THE LATEST TRENDS FOR MULTIFAMILY, OFFICE, RETAIL, AND INDUSTRIAL. CHANGES IN DEMOGRAPHICS, USE OF SPACE, TECHNOLOGY, AND THE POLICY ENVIRONMENT THAT AFFECTS THE FUTURE OF SPECIFIC PROPERTY TYPES.
3. A DISCUSSION OF INTEREST RATES, THE YIELD CURVE, AND VARIOUS RECESSIONARY RISK FACTORS.
4. Q & A

# Annual GDP Growth

2001 - 2023



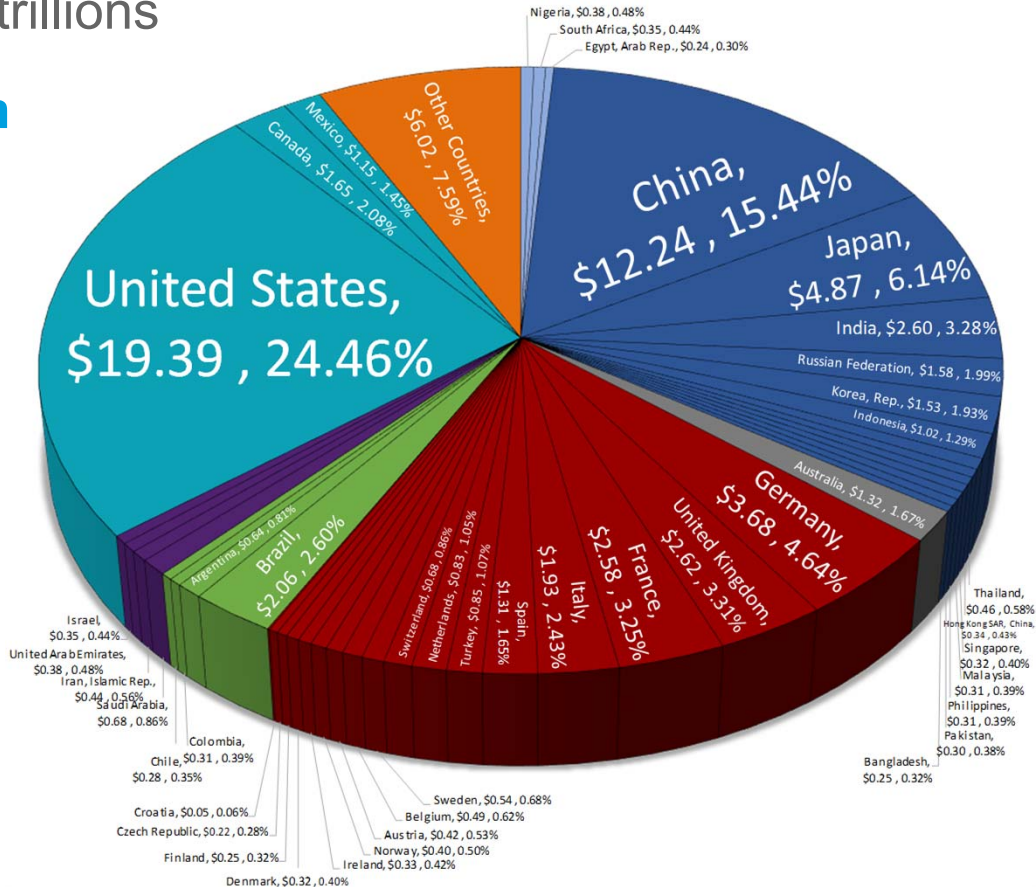
Source: Bureau of Economic Analysis; Economy.com

# The World Economy

2017 GDP, \$ in trillions

## World's Region

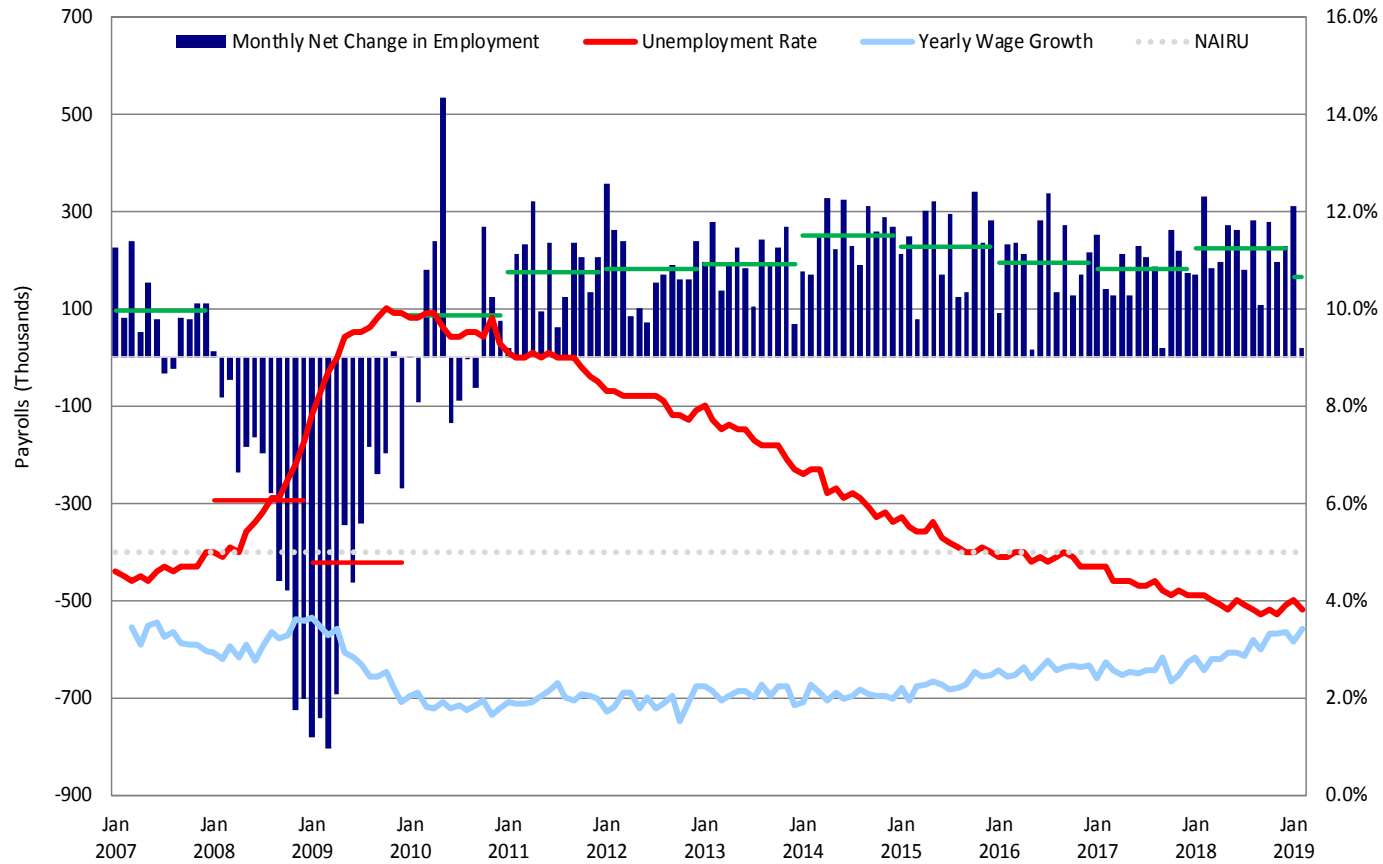
- North America
- Other Countries
- Africa
- Asia
- Australia
- Europe
- South America
- Middle East



Source: Worldbank

# Labor Market Dynamics

## Monthly, 2007 - 2019



Source: Bureau of Labor Statistics

# DJIA vs. 10-Year Treasury Rate

Daily, 04/2010 – 04/2019



Source: FRED; Federal Reserve Bank of Philadelphia

# The Economic Outlook

## Key Takeaways for 2018 and 2019



- » US GDP growth for 2018 likely to have been as strong as in 2014 (the strongest growth year since the end of the last recession); consensus forecasts suggest that 2019 will drop back down to the low 2s, which has been CAGR since the end of the recession in mid-2009.
- » Moderation does not mean contraction, although this does render growth vulnerable to shocks or shifts in sentiment.
- » How does all this translate to how different property types performed in late 2018 and early 2019?
- » We will, however, discuss some thoughts on what *will* cause the next recession, towards the end of this presentation. Hang on!



# National Apartment Market

## Quarterly and Annual Market Conditions



Year	Qtr	Asking Rent	Percent Change	Effective Rent	Percent Change	Vacancy Rate
2011	4	\$1,070	0.5%	\$1,019	0.6%	5.3%
2012	1	\$1,077	0.6%	\$1,028	0.9%	5.0%
2012	2	\$1,089	1.2%	\$1,043	1.4%	4.9%
2012	3	\$1,100	1.0%	\$1,053	1.0%	4.8%
2012	4	\$1,107	0.7%	\$1,061	0.7%	4.7%
2013	1	\$1,114	0.6%	\$1,068	0.7%	4.4%
2013	2	\$1,123	0.9%	\$1,078	0.9%	4.4%
2013	3	\$1,135	1.1%	\$1,090	1.1%	4.4%
2013	4	\$1,146	0.9%	\$1,100	1.0%	4.4%
2014	1	\$1,155	0.8%	\$1,110	0.8%	4.2%
2014	2	\$1,168	1.1%	\$1,123	1.2%	4.3%
2014	3	\$1,183	1.3%	\$1,137	1.3%	4.3%
2014	4	\$1,192	0.8%	\$1,146	0.8%	4.3%
2015	1	\$1,205	1.0%	\$1,158	1.1%	4.2%
2015	2	\$1,226	1.8%	\$1,179	1.7%	4.2%
2015	3	\$1,248	1.8%	\$1,199	1.8%	4.2%
2015	4	\$1,262	1.1%	\$1,212	1.1%	4.3%
2016	1	\$1,273	0.9%	\$1,223	0.9%	4.3%
2016	2	\$1,291	1.4%	\$1,239	1.3%	4.2%
2016	3	\$1,307	1.3%	\$1,254	1.2%	4.1%
2016	4	\$1,313	0.5%	\$1,260	0.4%	4.2%
2017	1	\$1,324	0.9%	\$1,268	0.6%	4.3%
2017	2	\$1,345	1.6%	\$1,285	1.4%	4.3%
2017	3	\$1,364	1.4%	\$1,301	1.3%	4.4%
2017	4	\$1,373	0.7%	\$1,309	0.6%	4.6%
2018	1	\$1,389	1.1%	\$1,324	1.1%	4.7%
2018	2	\$1,409	1.5%	\$1,342	1.4%	4.7%
2018	3	\$1,429	1.4%	\$1,360	1.3%	4.8%
2018	4	\$1,441	0.8%	\$1,371	0.8%	4.9%

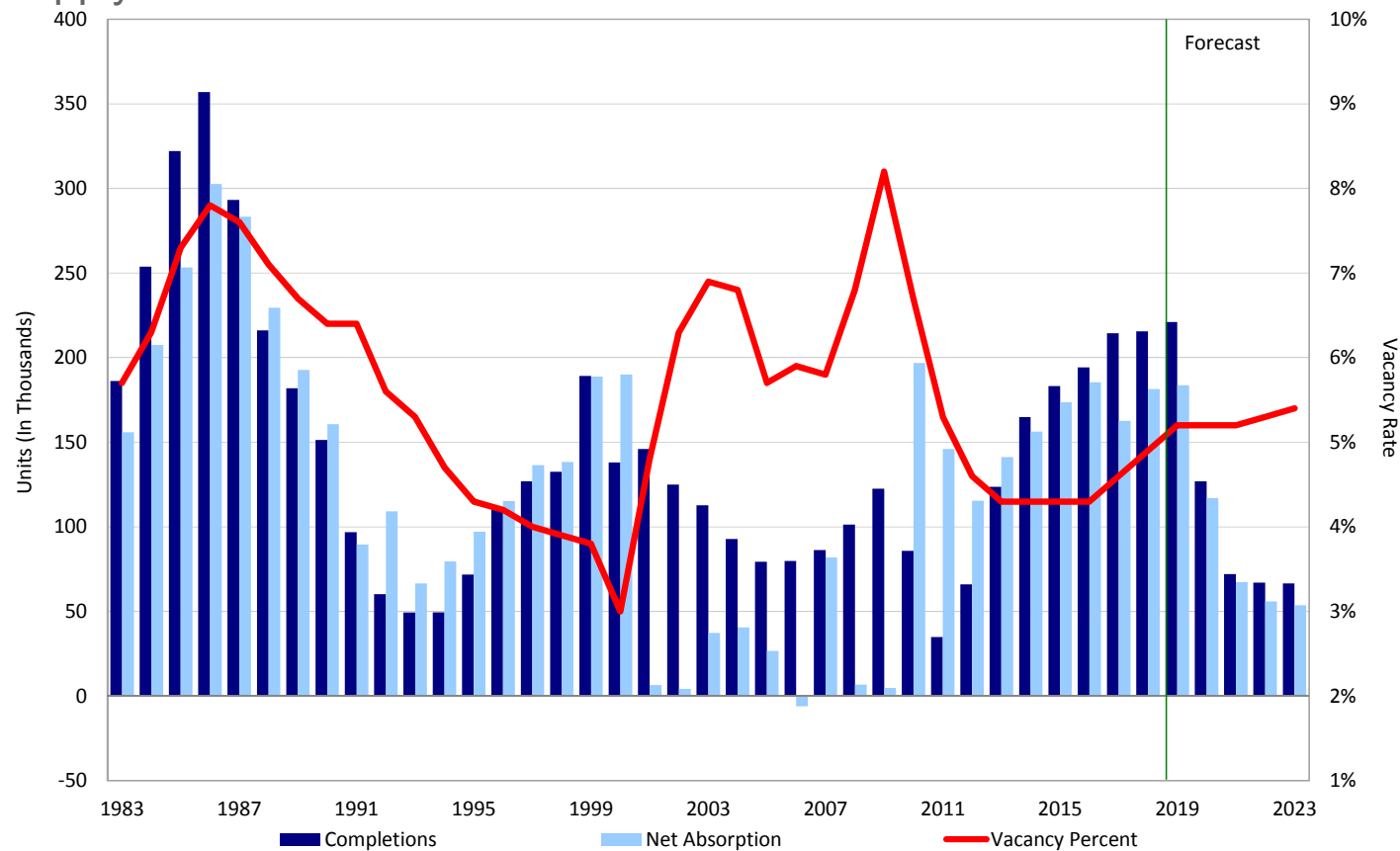
Year	Asking Rent	Percent Change	Effective Rent	Percent Change	Vacancy Rate
2009	\$1,026	-2.3%	\$969	-2.5%	8.0%
2010	\$1,045	1.8%	\$992	2.4%	6.6%
2011	\$1,070	2.4%	\$1,019	2.7%	5.3%
2012	\$1,107	3.5%	\$1,061	4.1%	4.7%
2013	\$1,146	3.5%	\$1,100	3.7%	4.4%
2014	\$1,192	4.0%	\$1,146	4.2%	4.3%
2015	\$1,262	5.8%	\$1,212	5.8%	4.3%
2016	\$1,313	4.0%	\$1,260	3.9%	4.2%
2017	\$1,373	4.6%	\$1,309	4.0%	4.6%
2018	\$1,441	4.9%	\$1,371	4.7%	4.9%
2019	\$1,500	4.2%	\$1,425	4.0%	5.1%
2020	\$1,546	3.0%	\$1,466	2.9%	5.2%
2021	\$1,582	2.4%	\$1,499	2.2%	5.2%
2022	\$1,617	2.2%	\$1,530	2.1%	5.3%
2023	\$1,651	2.1%	\$1,561	2.0%	5.4%

- » Vacancies continuing to rise – as expected – ending the fourth quarter at 4.9%.
- » Asking and effective rents still relatively healthy at 0.8% in the fourth quarter.
- » Delays have moved relief from supply glut issues to next year, as 2019 promises to be the sector's 'cyclical high.' Measures of demand remain strong, however.

Source: Reis, Real Estate Solutions by Moody's Analytics; 79 of 275 Apartment Markets

# National Apartment Market

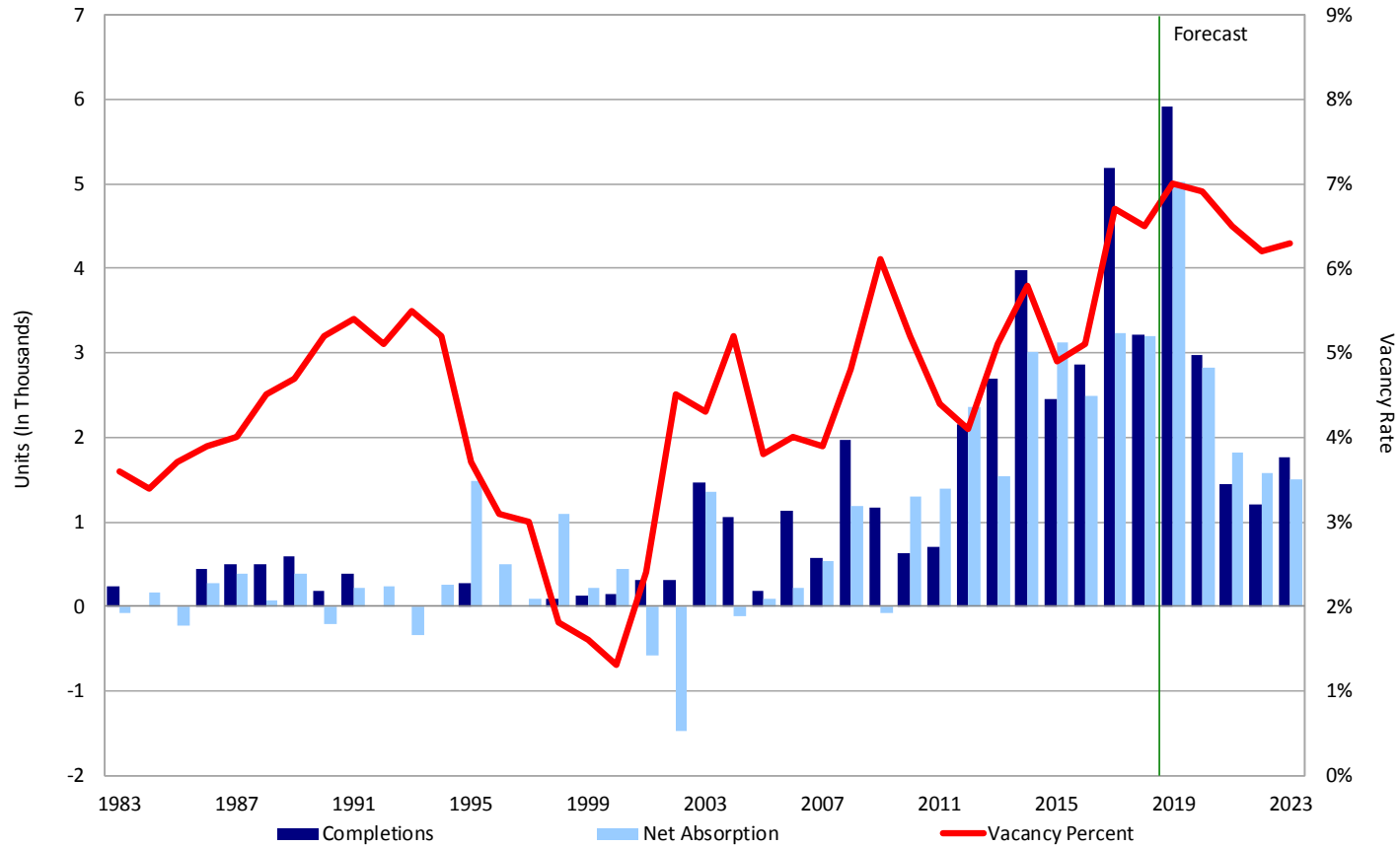
## Supply & Demand Trends



Source: Reis, Real Estate Solutions by Moody's Analytics; Top 50 Primary Apartment Markets

# DC Apartment Market

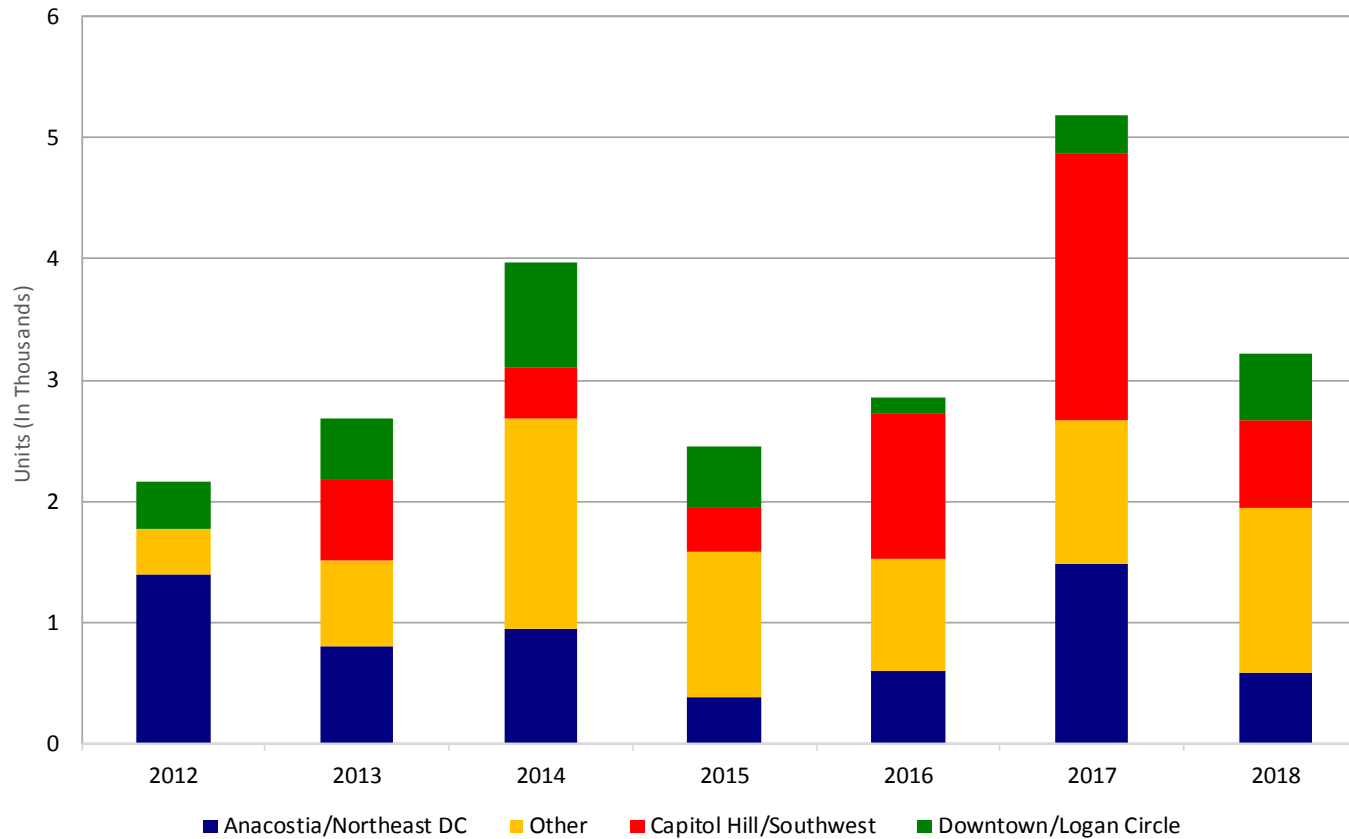
## Supply & Demand Trends



Source: Reis, Real Estate Solutions by Moody's Analytics

# Completions by Submarket (DC)

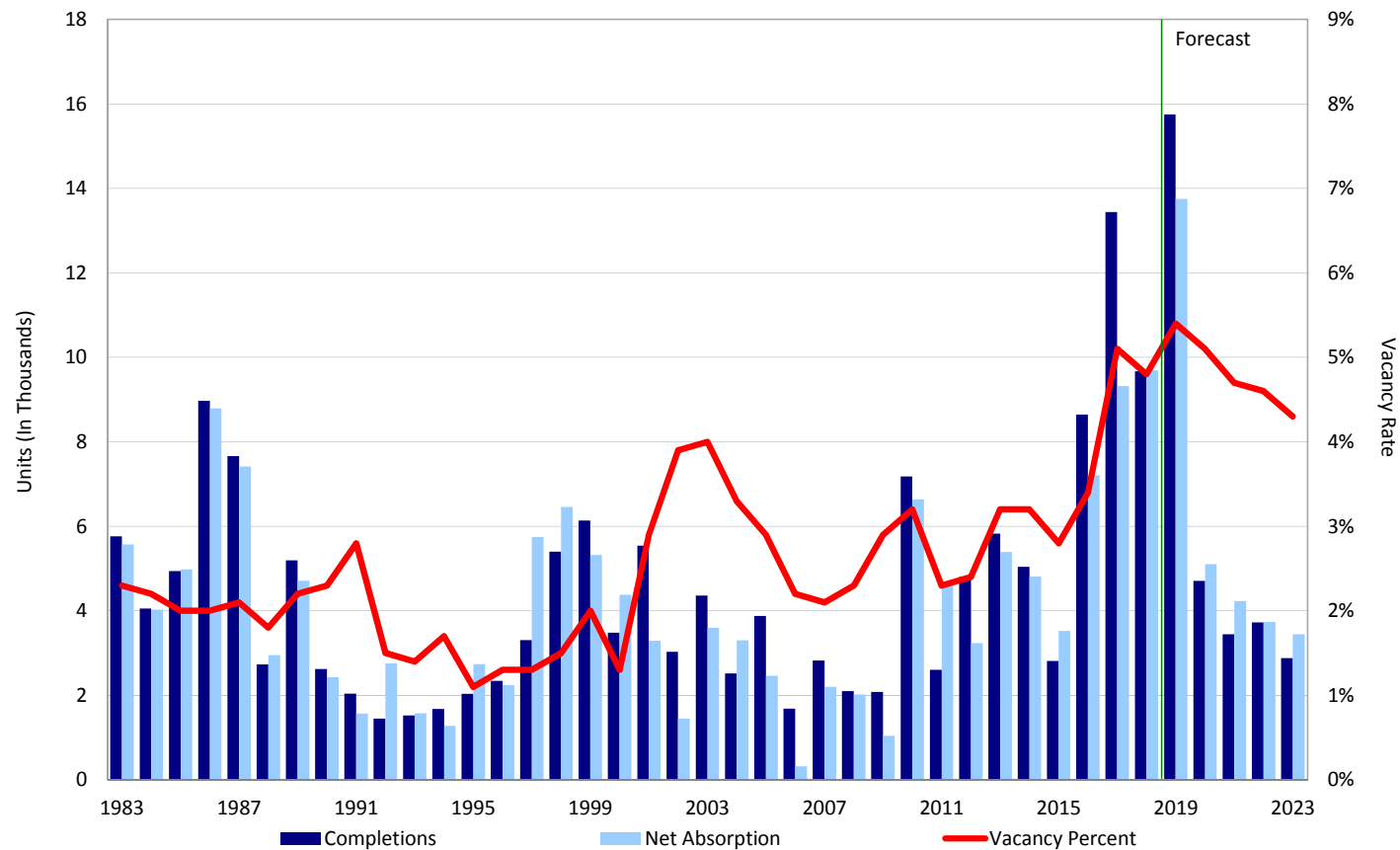
2012-2018, Yearly



Source: Reis, Real Estate Solutions by Moody's Analytics

# NY Apartment Market

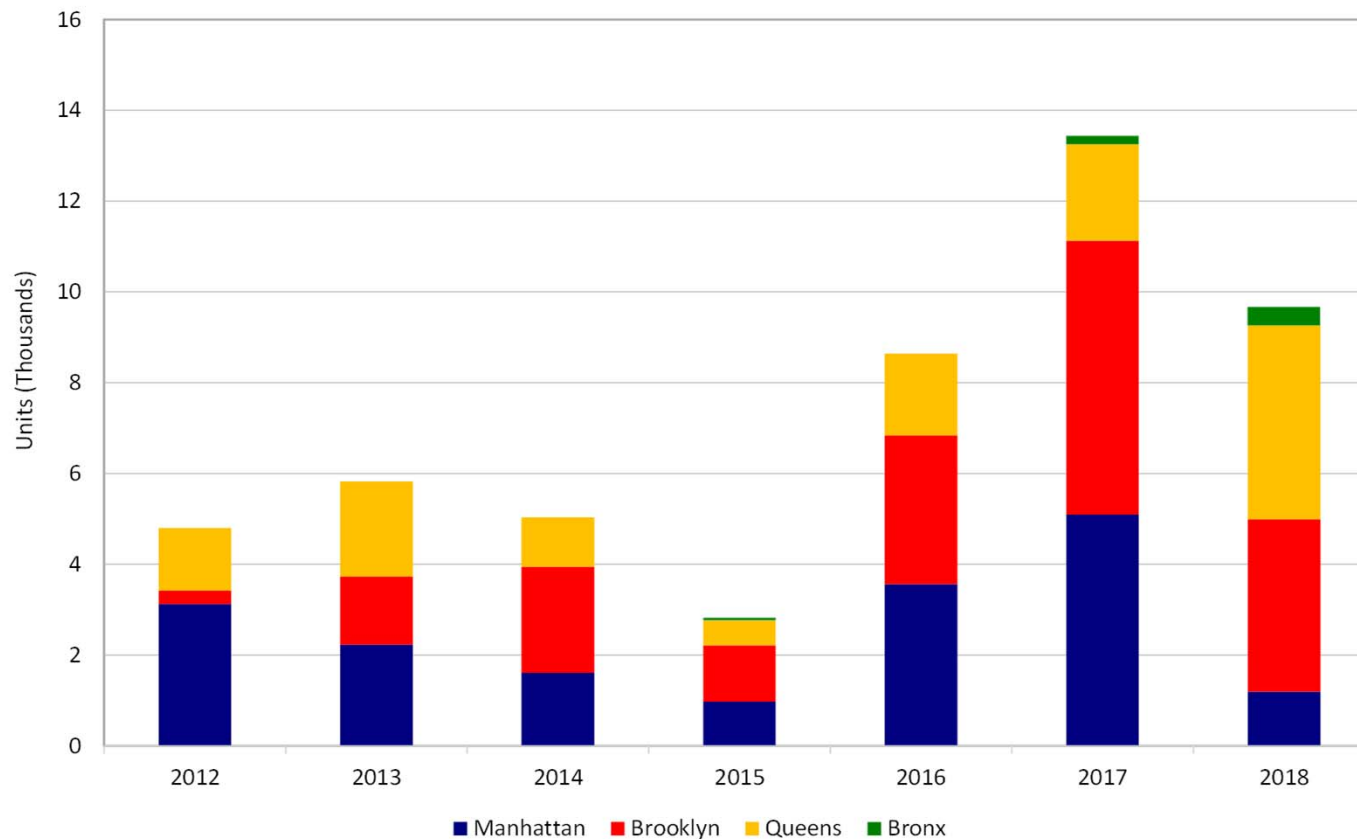
## Supply & Demand Trends



Source: Reis, Real Estate Solutions by Moody's Analytics

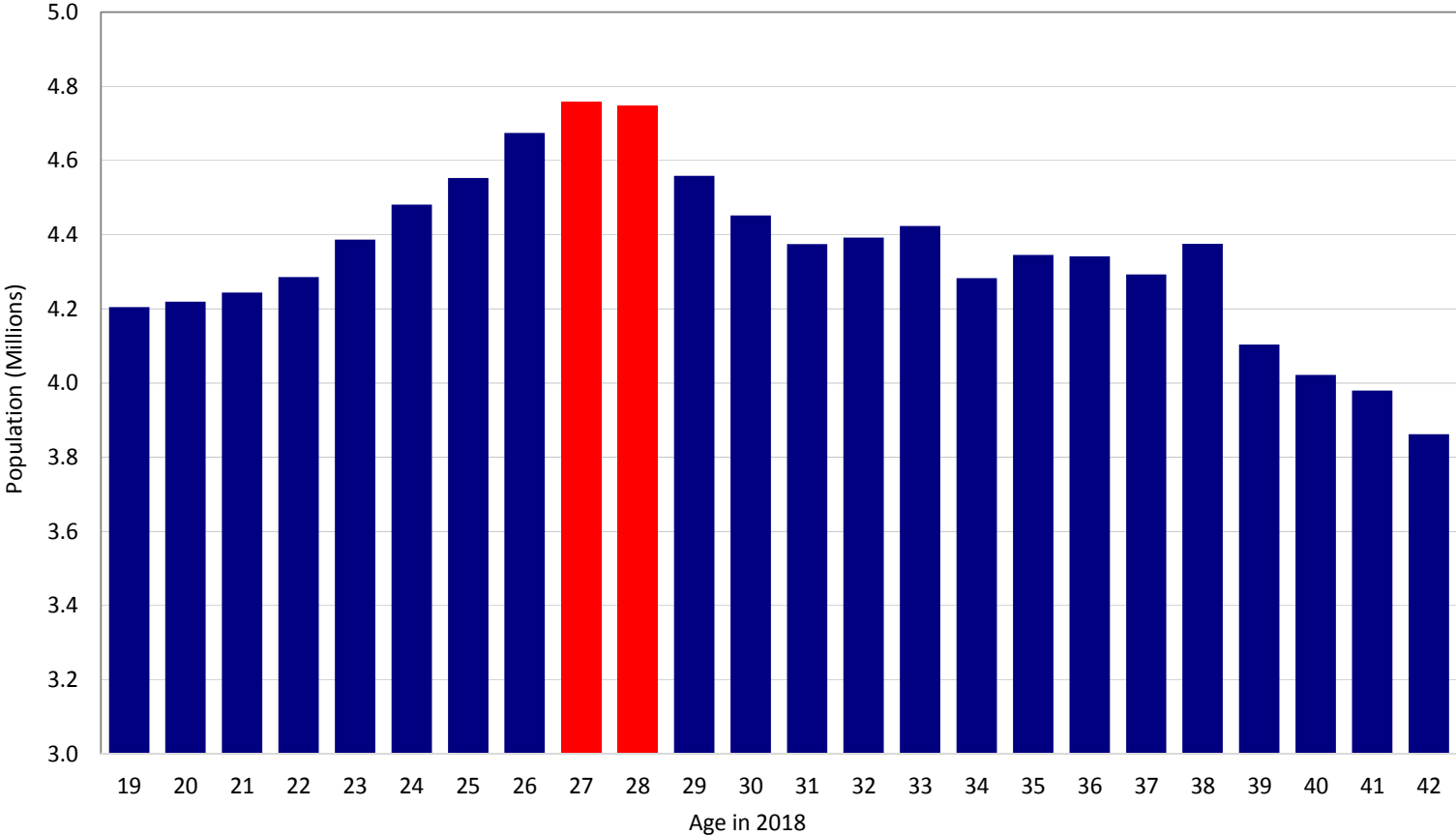
# Completions by Submarket (NY)

2012-2018, Yearly



Source: Reis, Real Estate Solutions by Moody's Analytics

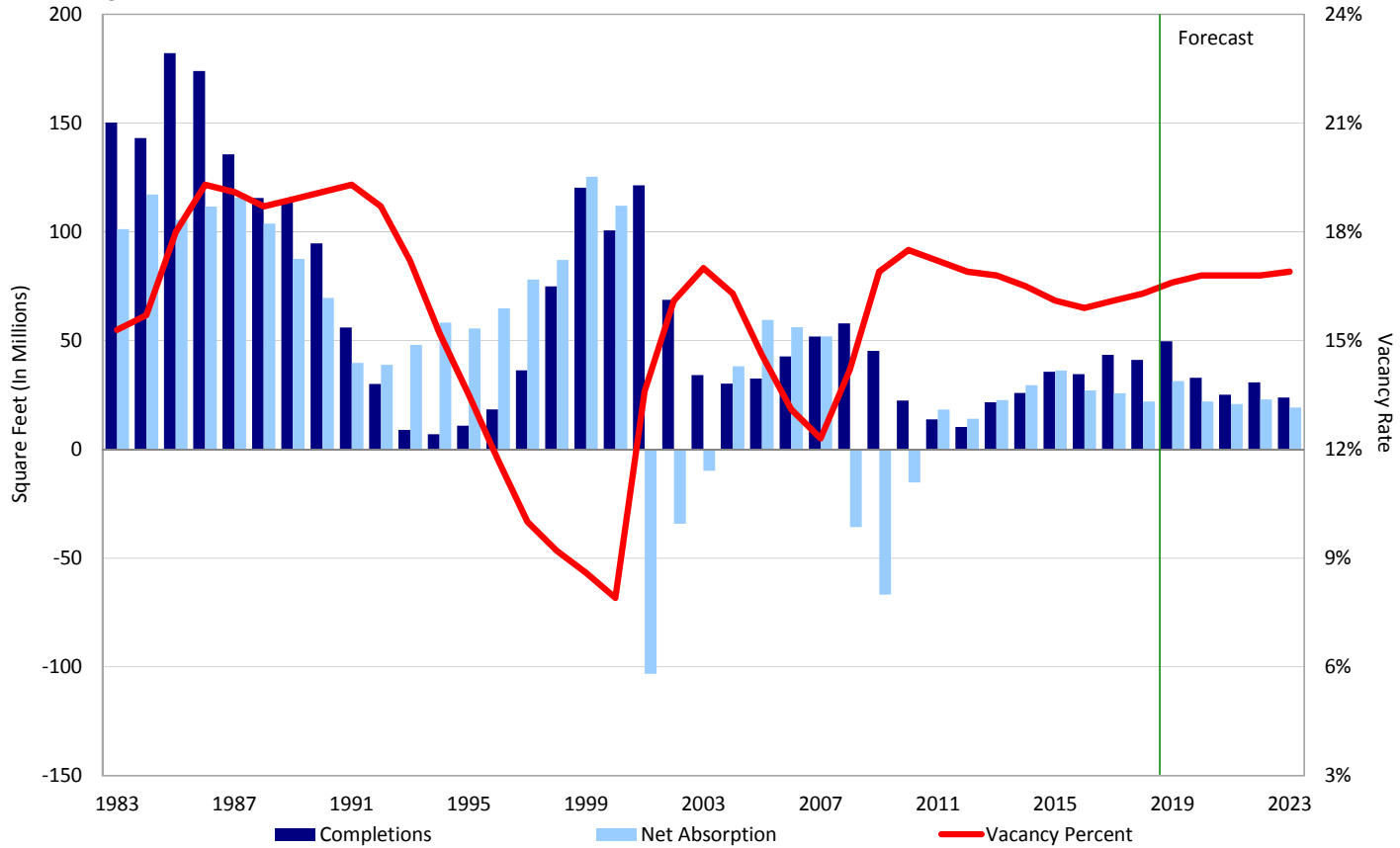
# Demographic Tailwinds



Source: U.S. Census Bureau, Population Division

# National Office Market

## Supply & Demand Trends



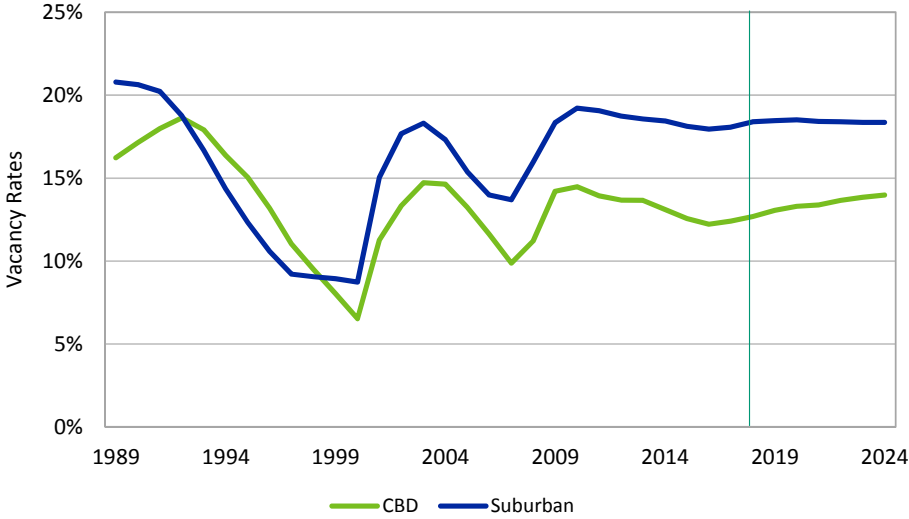
Source: Reis, Real Estate Solutions by Moody's Analytics; Top 50 Primary Office Markets



# Office Space Per Employee

Metrocode	Year	Occupied Stock per Employee
NY	1980	253
NY	1981	248
NY	1982	246
NY	1983	241
NY	1984	237
NY	1985	234
NY	1986	230
NY	1987	223
NY	1988	224
NY	1989	224
NY	1980-1989	236

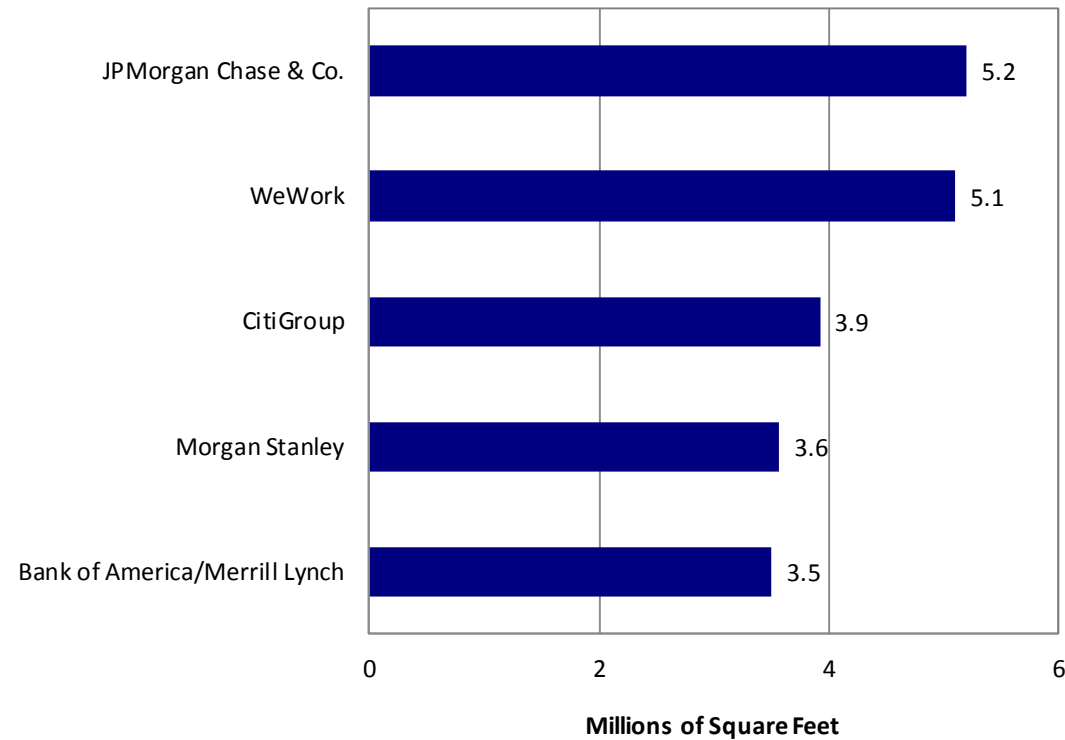
Metrocode	Year	Occupied Stock per Employee
US	2013	127
US	2014	126
US	2015	124
US	2016	123
US	2017	122
US	2018	121
US	2013-2018	124



Source: Reis, Real Estate Solutions by Moody's Analytics

# WeWork's Growing Influence

Manhattan's Largest Office Tenants by Square Footage



» As of September 2018, WeWork is now the largest office tenant in Manhattan with 5.3 Million Square Feet

» The Co-Sharing Company is the second largest occupier of office space in London, after government office space

Source: Cushman & Wakefield  
(As of August 2018)

# National Retail Market

## Quarterly and Annual Market Conditions

### Neighborhood and Community Shopping Centers



Year	Qtr	Net Absorption	Asking Rent	Percent Change	Effective Rent	Percent Change	Vacancy Rate
2011	4	4.5	\$18.99	0.1%	\$16.50	0.1%	11.0%
2012	1	3.5	\$19.00	0.1%	\$16.52	0.1%	10.9%
2012	2	2.7	\$19.03	0.2%	\$16.54	0.1%	10.8%
2012	3	2.1	\$19.06	0.2%	\$16.57	0.2%	10.8%
2012	4	3.1	\$19.08	0.1%	\$16.59	0.1%	10.7%
2013	1	2.9	\$19.14	0.3%	\$16.64	0.3%	10.6%
2013	2	2.9	\$19.20	0.3%	\$16.69	0.3%	10.5%
2013	3	2.2	\$19.26	0.3%	\$16.75	0.4%	10.5%
2013	4	4.6	\$19.35	0.5%	\$16.83	0.5%	10.4%
2014	1	1.2	\$19.43	0.4%	\$16.91	0.5%	10.4%
2014	2	3.3	\$19.52	0.5%	\$16.99	0.5%	10.3%
2014	3	4.1	\$19.60	0.4%	\$17.07	0.5%	10.3%
2014	4	4.8	\$19.70	0.5%	\$17.17	0.6%	10.2%
2015	1	3.6	\$19.80	0.5%	\$17.27	0.6%	10.1%
2015	2	2.5	\$19.90	0.5%	\$17.36	0.5%	10.1%
2015	3	3.7	\$20.01	0.6%	\$17.46	0.6%	10.0%
2015	4	2.5	\$20.11	0.5%	\$17.55	0.5%	10.0%
2016	1	3.1	\$20.22	0.5%	\$17.66	0.6%	9.9%
2016	2	3.8	\$20.30	0.4%	\$17.73	0.4%	9.8%
2016	3	1.1	\$20.39	0.4%	\$17.81	0.5%	9.9%
2016	4	4.4	\$20.48	0.4%	\$17.90	0.5%	9.9%
2017	1	2.7	\$20.56	0.4%	\$17.98	0.4%	9.9%
2017	2	1.1	\$20.66	0.5%	\$18.07	0.5%	10.0%
2017	3	1.9	\$20.76	0.5%	\$18.16	0.5%	10.0%
2017	4	3.6	\$20.88	0.6%	\$18.27	0.6%	10.0%
2018	1	1.2	\$20.97	0.4%	\$18.36	0.5%	10.0%
2018	2	-3.7	\$21.03	0.3%	\$18.41	0.3%	10.2%
2018	3	2.6	\$21.13	0.5%	\$18.49	0.4%	10.2%
2018	4	1.4	\$21.21	0.4%	\$18.57	0.4%	10.2%

Year	Net Absorption	Asking Rent	Percent Change	Effective Rent	Percent Change	Vacancy Rate
2009	-21.5	\$19.13	-2.0%	\$16.75	-3.7%	10.6%
2010	-3.2	\$18.99	-0.7%	\$16.51	-1.4%	11.0%
2011	6.3	\$18.99	0.0%	\$16.50	-0.1%	11.0%
2012	11.3	\$19.08	0.5%	\$16.59	0.5%	10.7%
2013	12.7	\$19.35	1.4%	\$16.83	1.4%	10.4%
2014	13.4	\$19.70	1.8%	\$17.17	2.0%	10.2%
2015	12.3	\$20.11	2.1%	\$17.55	2.2%	10.0%
2016	12.4	\$20.48	1.8%	\$17.90	2.0%	9.9%
2017	9.4	\$20.88	2.0%	\$18.27	2.1%	10.0%
2018	1.4	\$21.21	1.6%	\$18.57	1.6%	10.2%
2019	5.8	\$21.51	1.4%	\$18.84	1.5%	10.3%
2020	7.5	\$21.79	1.3%	\$19.09	1.3%	10.3%
2021	7.8	\$22.14	1.6%	\$19.39	1.6%	10.2%
2022	8.1	\$22.54	1.8%	\$19.73	1.8%	10.2%
2023	8.7	\$22.96	1.9%	\$20.09	1.8%	10.1%

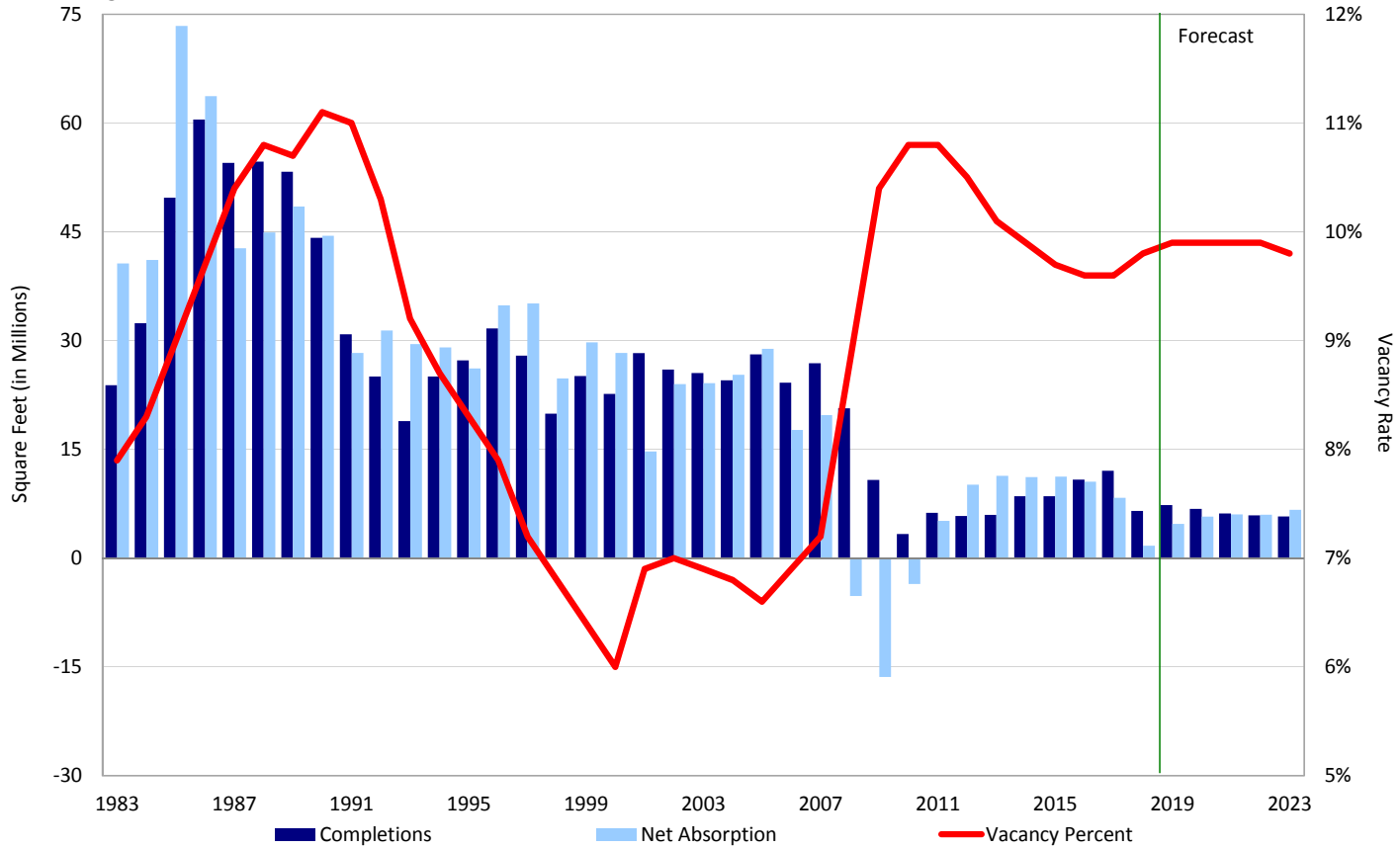
### Regional/Super Regional Malls

Year	Quarter	Asking Rent	Percent Change	Vacancy Rate
2008	Y	\$40.48	0.3%	7.1%
2009	Y	\$39.03	-3.6%	8.8%
2010	Y	\$38.79	-0.6%	8.7%
2011	Y	\$38.92	0.3%	9.2%
2012	Y	\$39.31	1.0%	8.6%
2013	Y	\$39.95	1.6%	7.9%
2014	Y	\$40.66	1.8%	8.0%
2015	Y	\$41.54	2.2%	7.8%
2016	Y	\$42.38	2.0%	7.8%
2017	Y	\$43.00	1.5%	8.3%
2018	Y	\$43.35	0.8%	9.0%

Source: Reis, Real Estate Solutions by Moody's Analytics; 77 of 190 Office Markets  
 Net Absorption figures are in millions of square feet.

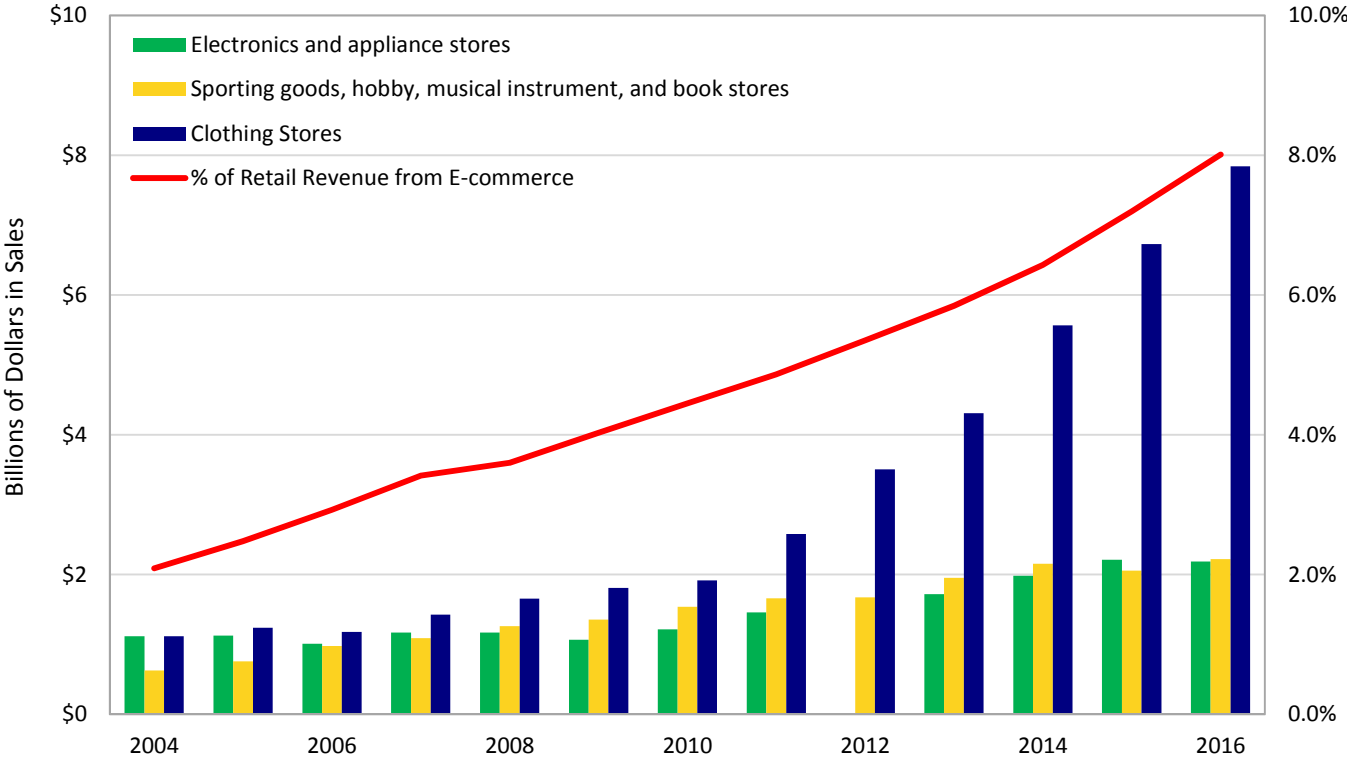
# National Retail Market

## Supply & Demand Trends



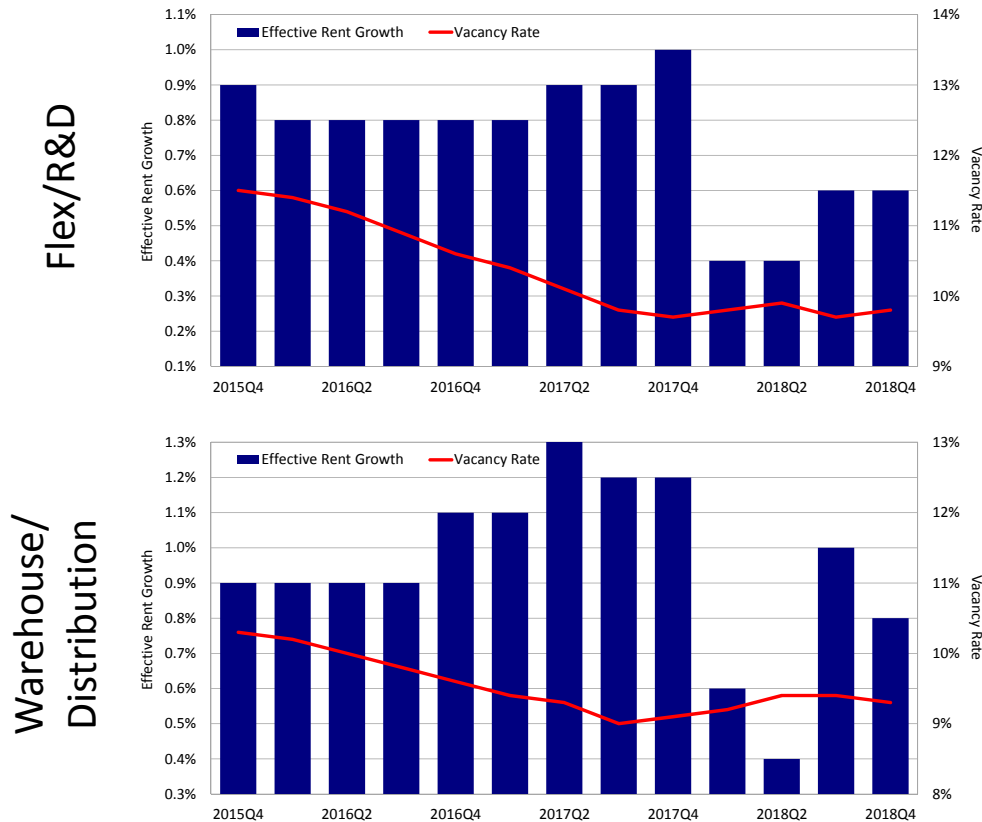
Source: Reis, Real Estate Solutions by Moody's Analytics; Top 50 Primary Retail Markets

# Retail e-commerce trends



Source: U.S. Census Bureau, Population Division

# Industrial: Upward for 2018



- » Flex/R&D vacancies rose by 10 basis points to 9.8% after falling the previous quarter.
- » Effective rents grew at the same clip as the past quarter.

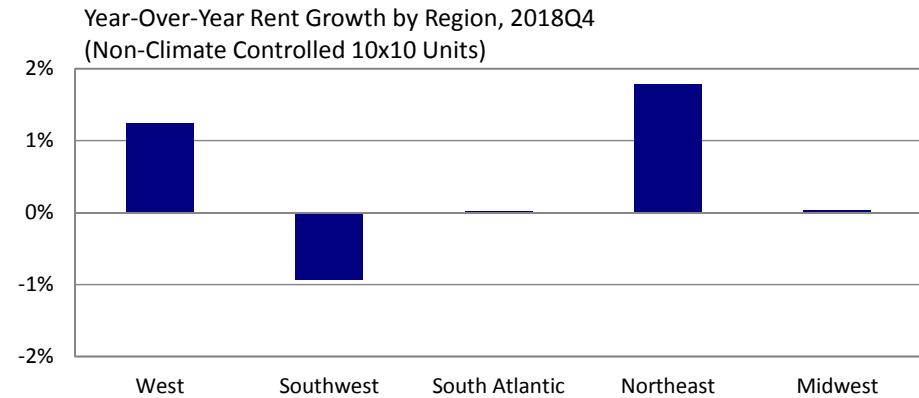
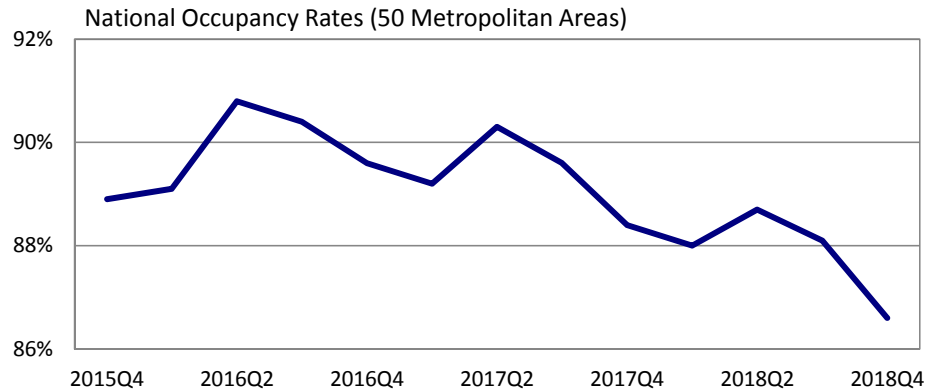
- » Warehouse/distribution vacancies fell to 9.3% in the fourth quarter.
- » Some evidence of recovery on the pricing side, with effective rents growing by 0.8% (an improvement over the first half of the year).

Source: Reis, Real Estate Solutions by Moody's Analytics

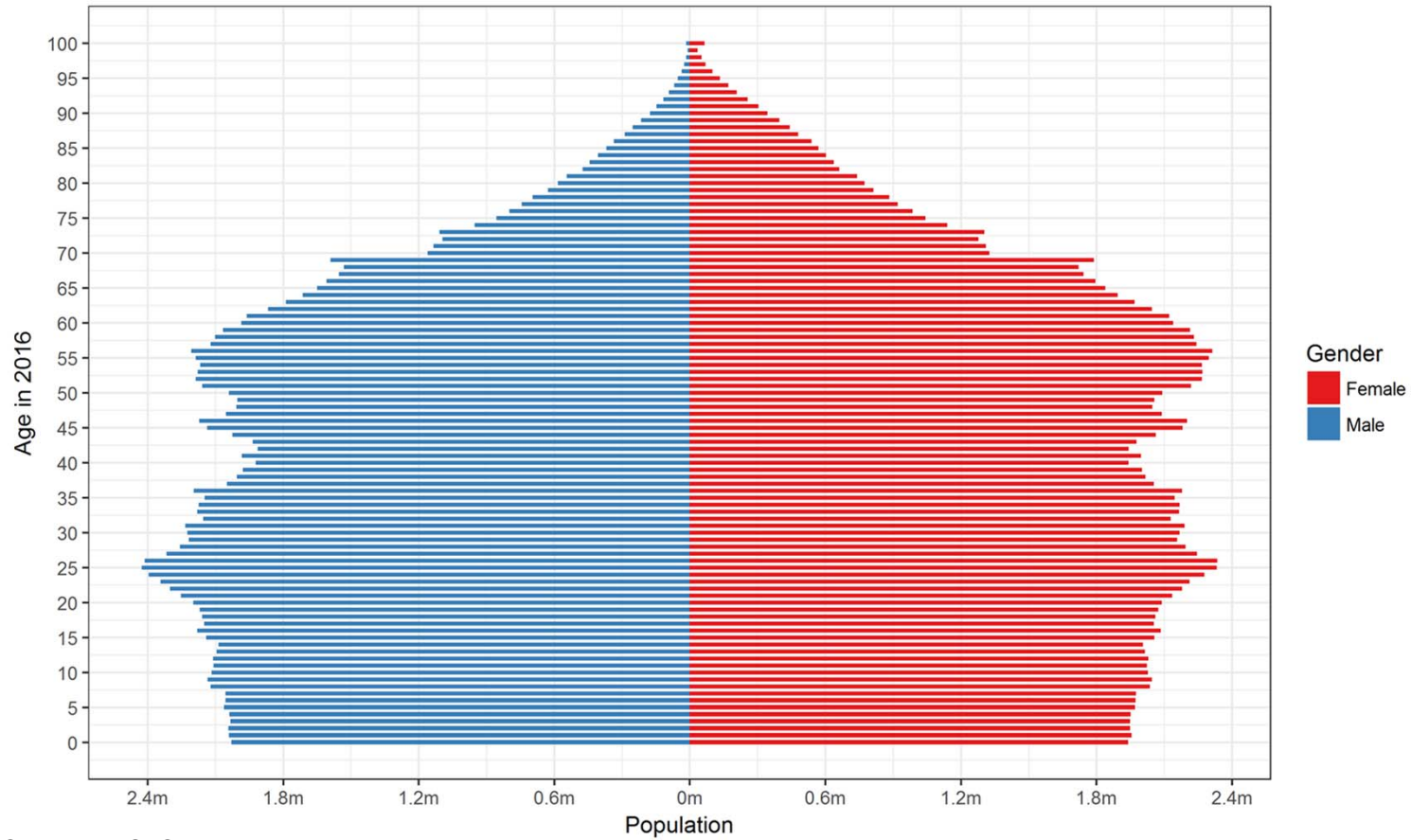
# Self-Storage in the Fourth Quarter

- » Occupancies weakened by 150 basis points in the fourth quarter, ending the period at 86.6%
- » Climate-controlled 10x10 unit rents fell by 2.4%, and non-climate-controlled 10x10 unit rents fell by 1.8%
- » Supply concerns may ease as soon as this year, but it remains to be seen if sector fundamentals will improve significantly as it tries to absorb new deliveries.

Source: Reis, Real Estate Solutions by Moody's Analytics



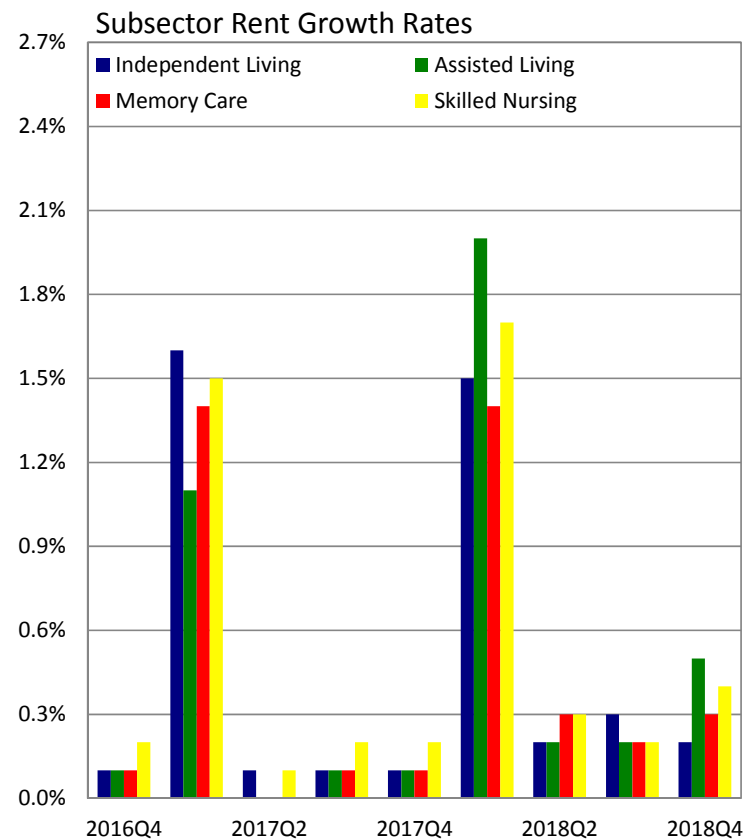
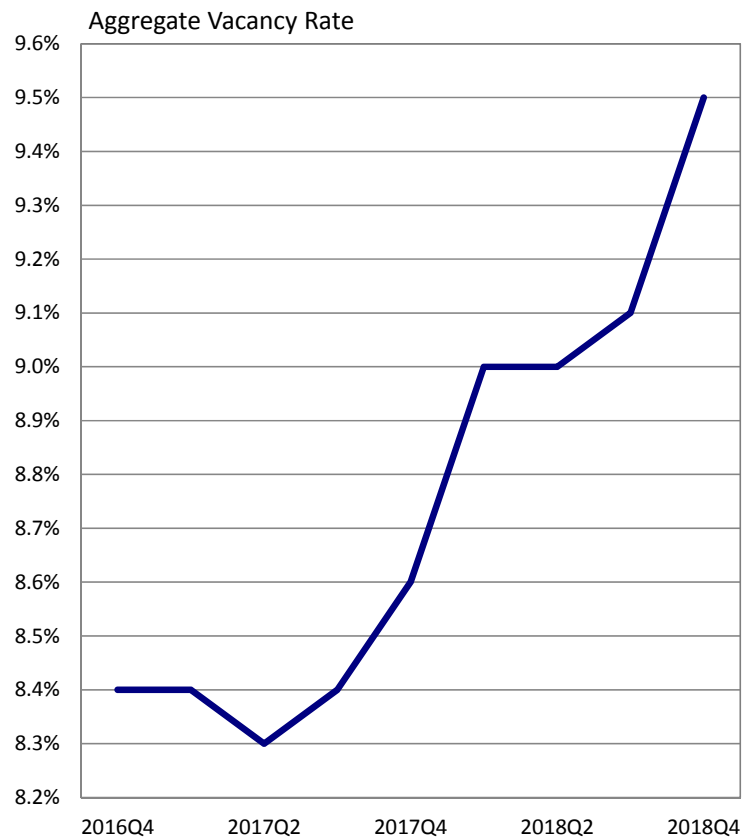
# How About All the Others?



Source: U.S. Census Bureau, Population Division



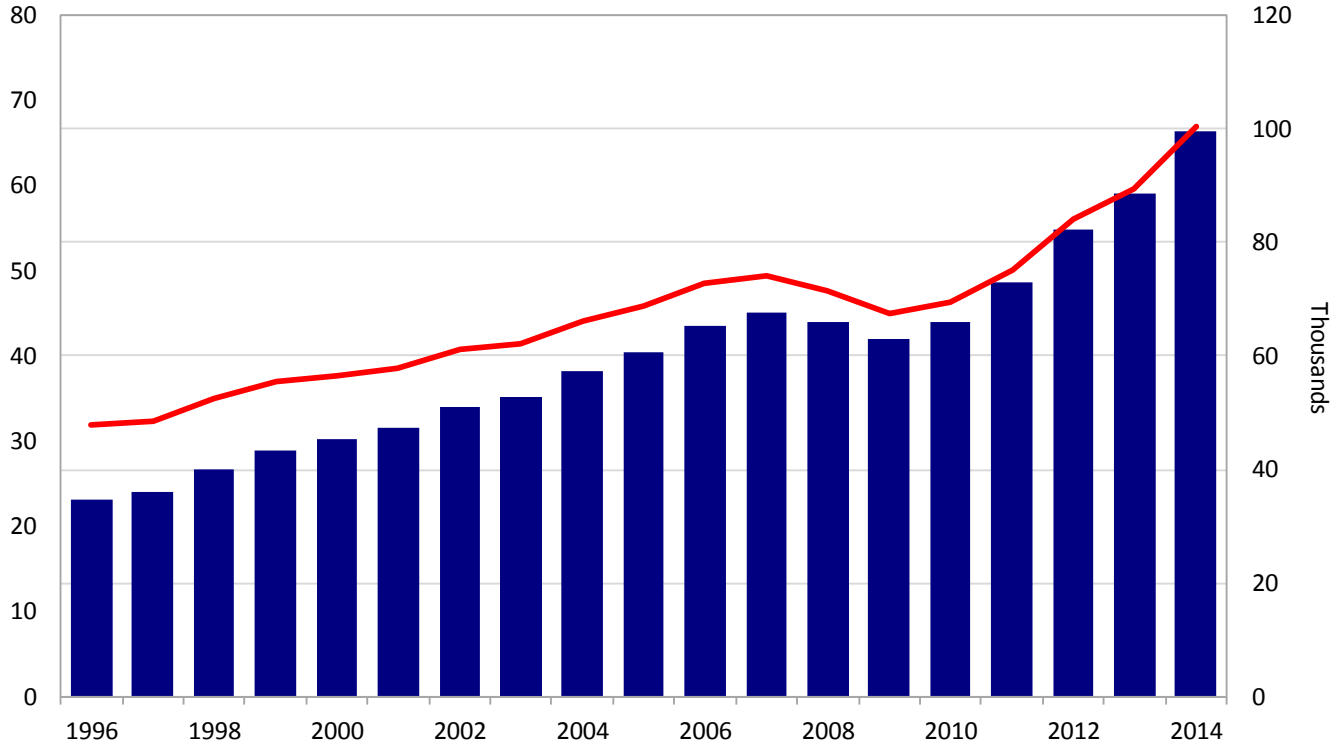
# Senior Housing in the Fourth Quarter



Source: Reis, Real Estate Solutions by Moody's Analytics

# A Slide That Will Remain Untitled

*How Did That Slide Get In There?*

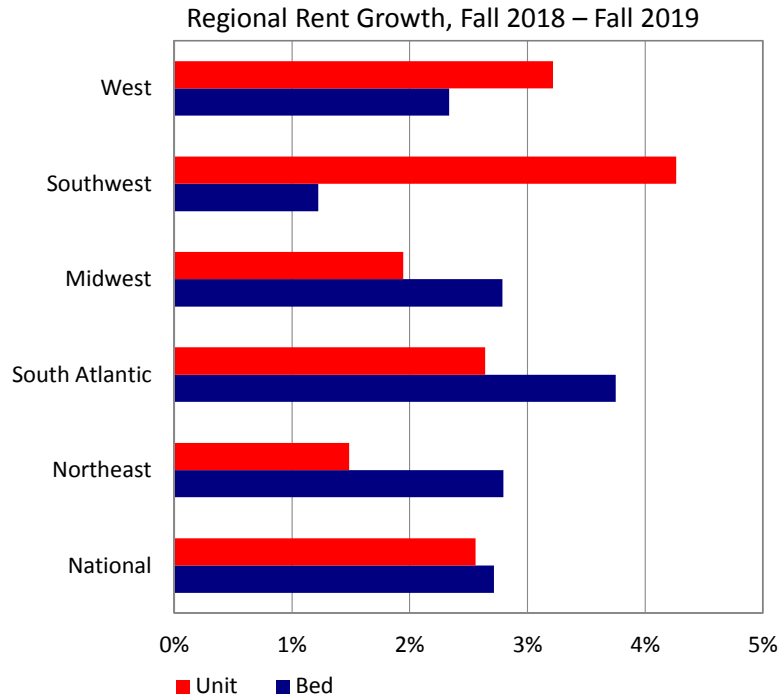


Source: Center for Disease Control

# Student Housing in the Fourth Quarter



National Student Housing Market, Fall 2018 – Fall 2019				
	Vacancy Rate	Vacancy Chg, BPS	Rent Growth	Inventory Growth
Bed	4.6%	-40	2.7%	5.4%
Unit	2.5%	-10	2.6%	2.6%



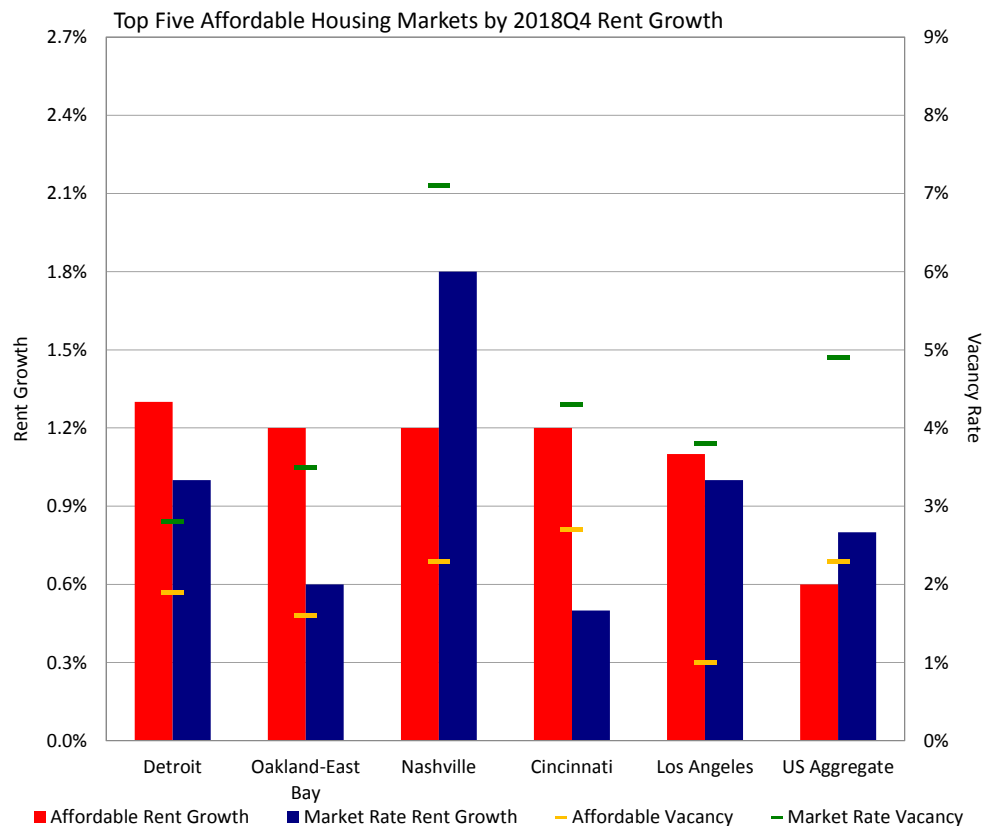
Source: Reis, Real Estate Solutions by Moody's Analytics

- » Tables present Fall 2018 to Fall 2019 expected trends in vacancies and rent change.
- » We expect a continued decrease in vacancies, despite strong supply growth, particularly for properties that rent by the Bed.
- » We expect a good year (Fall 2018 to Fall 2019) for student housing properties – with properties in the Southwest that rent by the Unit forecasted to show the strongest rent growth.

# LIHTC in the Fourth Quarter



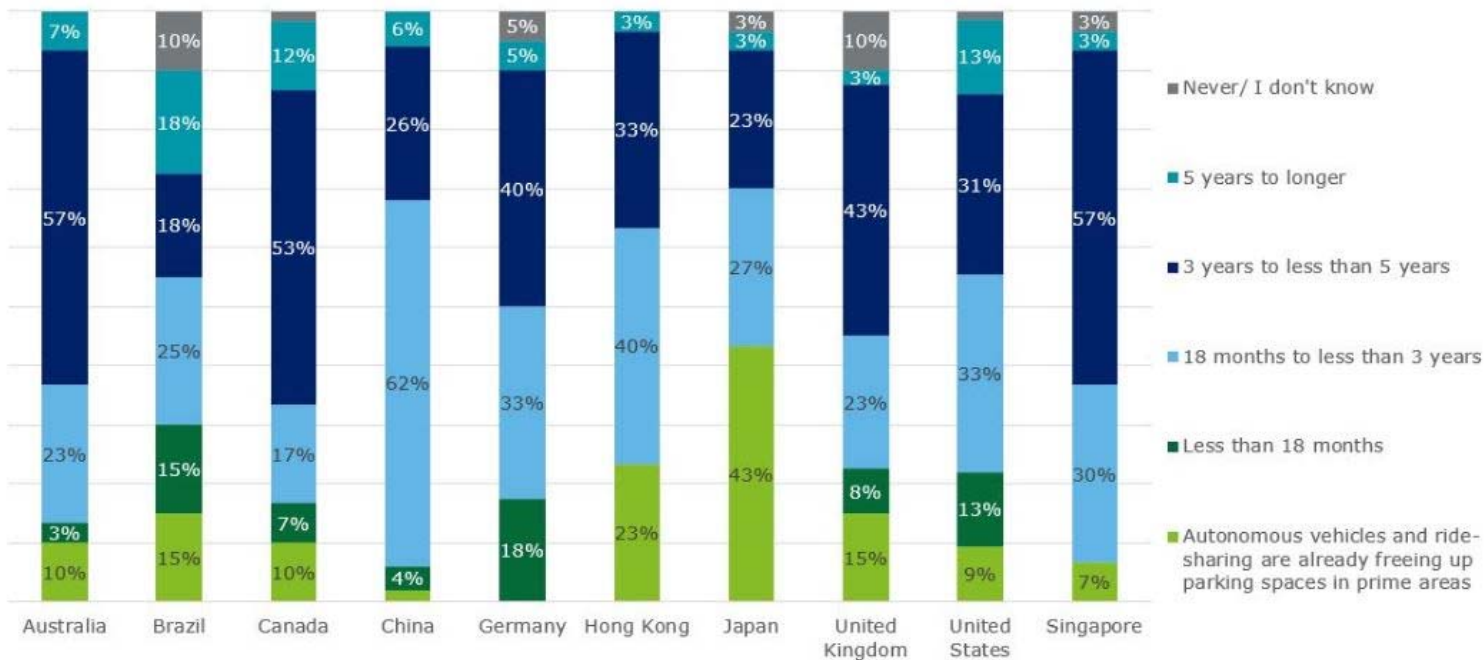
- » National aggregations for vacancies of LIHTC properties remained very tight at 2.3% (though this represents a 20 basis point increase year over year).
- » Because of tax reform lowering the value of LIHTC tax credits, we estimate a 40% reduction in LIHTC deliveries over the five year forecast period – relative to baseline. What is to be done?



Source: Reis, Real Estate Solutions by Moody's Analytics

# Driverless Cars

Investor's Expectations of AV's Impact on Parking and Development Opportunities



Source: Deloitte

# The Changing Policy Environment



- » Opportunity Zones as the latest iteration of “investing in places.”
- » Who wins when places compete for business? The Amazon HQ2 story.
- » How should one think of policy interventions and assess its impacts?
- » What about other real estate related policy initiatives? Is infrastructure spending even part of the conversation these days (it should be)?

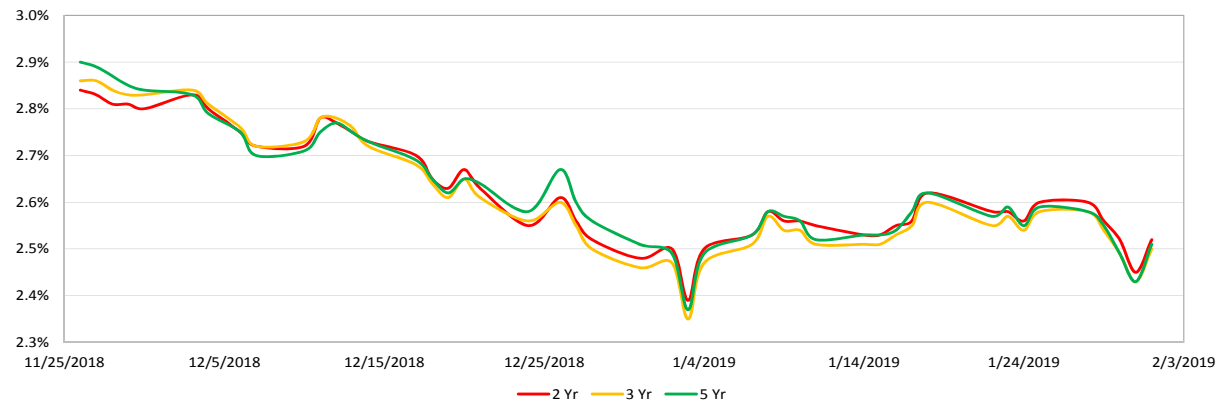
# Yield Curve Tightening

Shorter term maturities invert, longer maturities retain higher rates



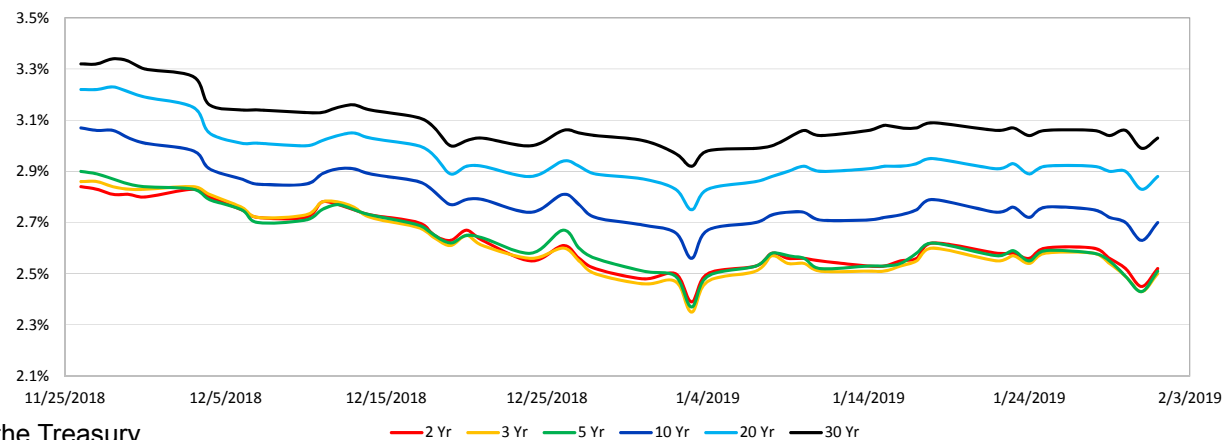
## Shorter term Inversion

Shorter term yields vs. 5-Yr TSY recently inverted



## However...

Longer maturities have not yet dropped below shorter term yields



Source: U.S. Department of the Treasury

# Summary and Parting Thoughts

*So, what will cause the next recession?*



- » The US economy grew by 2.9% in 2018 – matching the recent cyclical high from 2014, dated from when the last recession ended.
- » A climb down back to the low 2s in 2019 does not mean a contraction.
- » Short of an exogenous shock, a recession (however minor) can stem from a multitude of firms and individuals cutting back, however slightly, because they are acting prudently. The systemic result, however, can be economic contraction. Are you talking yourself into a recession?
- » Multifamily and Self-Storage vacancies rising because of supply conditions, but will ease as soon as next year. Student Housing and Affordable Housing properties are relatively tight; Senior Housing needs to deal with demographic challenges. Other commercial property types not doing nearly as well as multifamily (with the possible exception of Industrial).





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