



2019 U.S. Office Market Update



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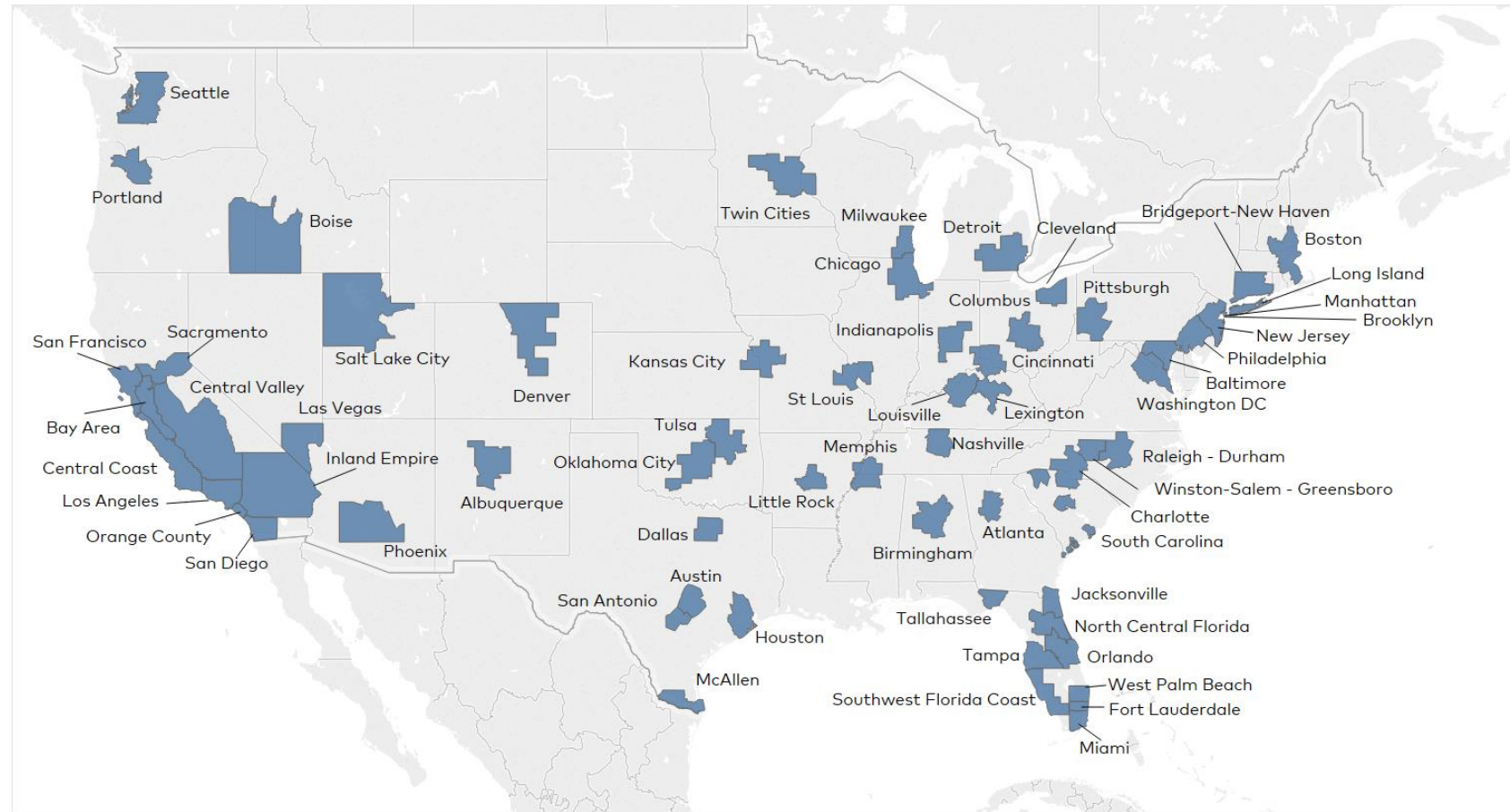
Jack Kern
Director, Research and Publications

Yardi Matrix Office Market Coverage

66 Markets with Tenant and Listing Data

Property Coverage Continues to Grow

- 115 Markets
- 62,106 Properties
- 8 Billion Square Feet
- 94 Markets Down to 25,000 Square Feet
- 83 markets with lease and expense comp data
- 66 markets with tenant and listing information



Today's Agenda

- Macroeconomic Outlook
- National Office Fundamentals
- Secular Changes and Emerging Trends in Office
- Placemaking Opportunities and Opportunity Zones



The Yardi Matrix View – Office Investment Strategy

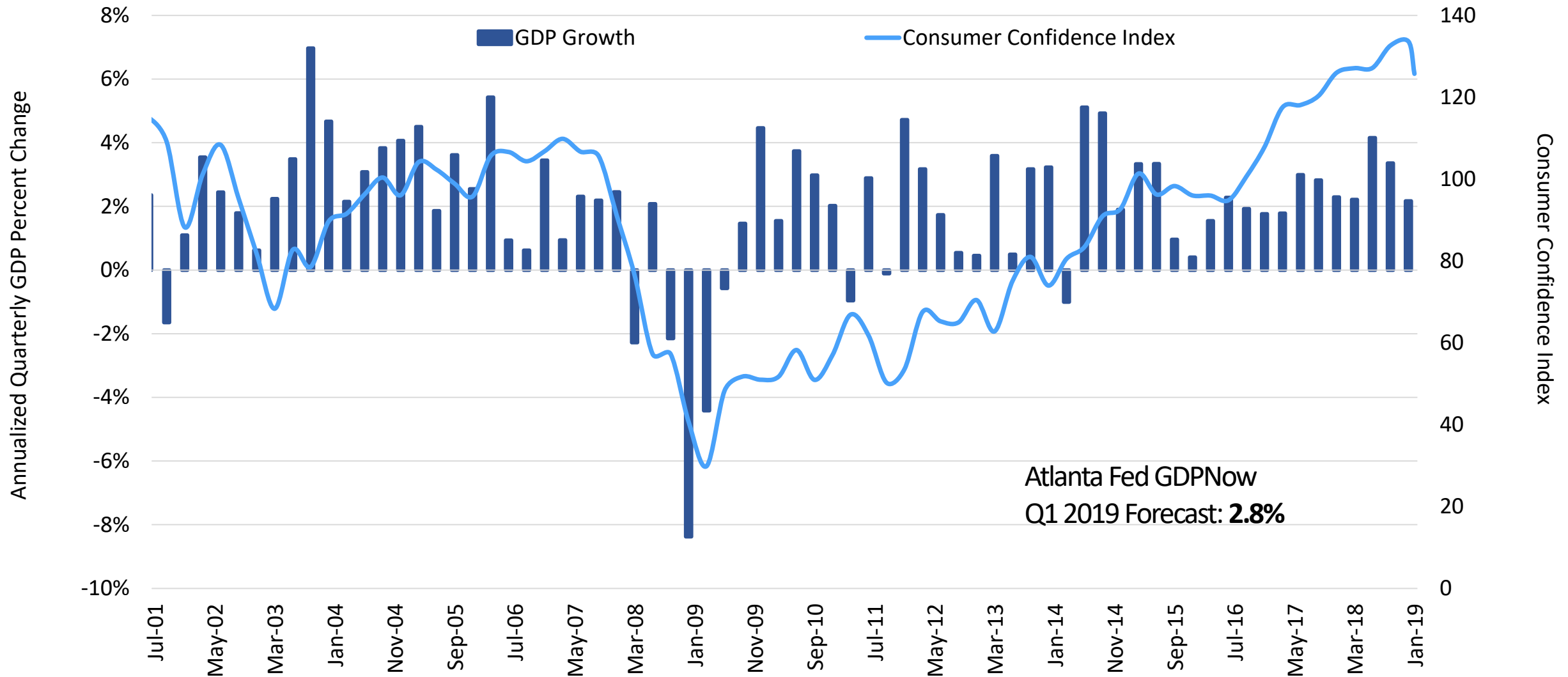
- **U.S. economy is in decent shape**
 - Q2 is showing a reacceleration after a slow-down late last year and into the beginning of this year
 - GDP growth is decelerating but still north of 2%
 - U.S. oil production is keeping inflation low below 2% - and low inflation is a global phenomenon
 - The yield curve briefly inverted, but Fed easing has pulled us back from the brink
 - The labor market is extremely tight, and wages continue to rise, particularly in office-using industries
- **Conditions sufficient to maintain good office using employment growth, occupancy and slow rental growth**
 - Demand is steady with job growth in office-using industries outpacing other industries, and tech hub markets have had the most dynamic job growth
 - More than half of Yardi Matrix markets are seeing moderate rent growth over the past year, with some big winners (San Francisco, Tampa, Miami, Los Angeles, Bay Area), but some have seen asking rates fall (San Diego, Denver, Portland, Inland Empire, Austin)
 - Office completions peaked in 2018, but a lot of markets still have room for absorption
 - The markets with the heaviest development pipelines also have a lot of loans coming due over the next two years
 - Transaction activity has been slowing, and prices for Class A assets have increased more than B and C since the recession

Office Investment Strategy – Continued

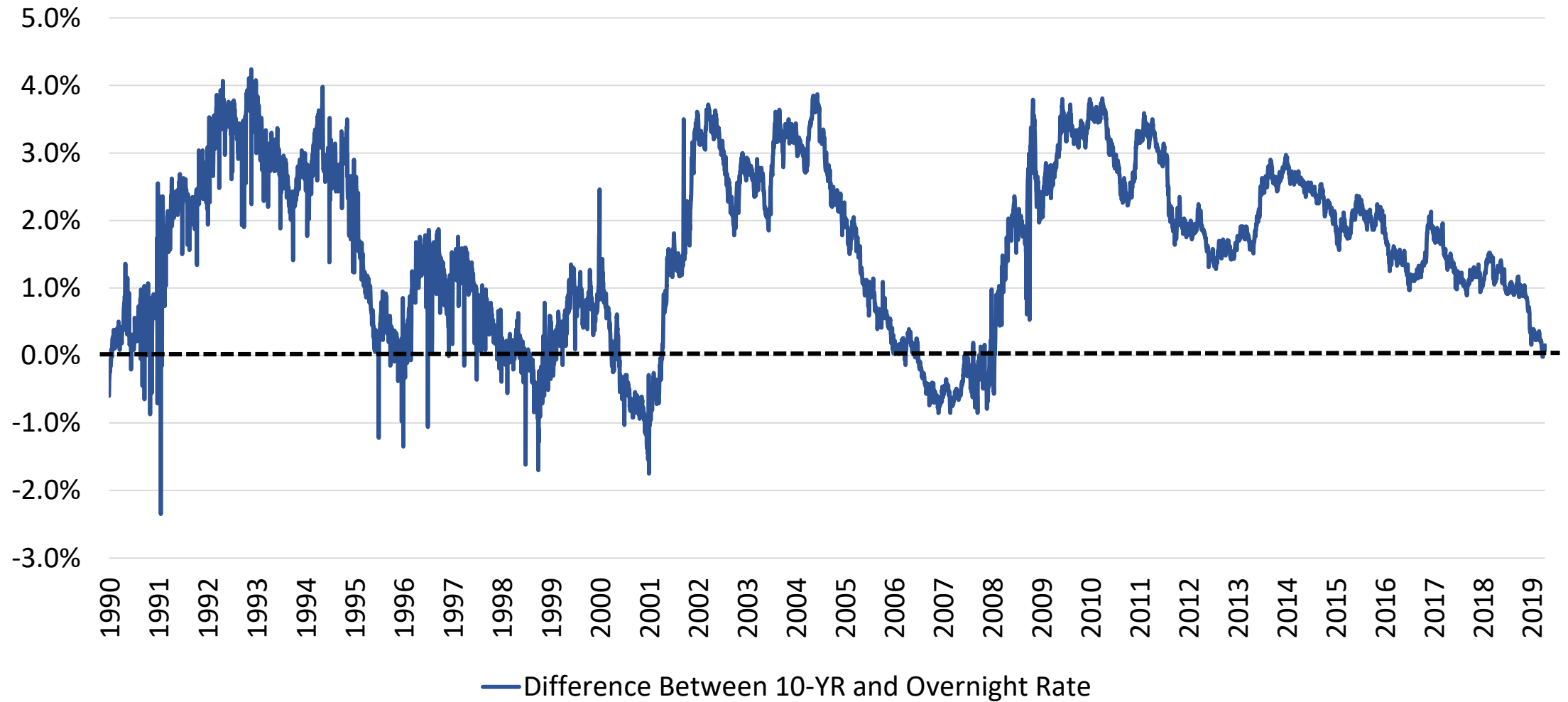
- **Macroeconomic factors indicate that the office industry should be performing better than ever...but secular changes have been a drag on the industry**
 - Coworking is growing as companies are increasing their sprawl of employment in various locations outside of their primary office locations
 - As flexible office space and coworking continue to take off, sq. ft. per person is falling
 - With such a tight labor market, office space is being used as an HR strategy to attract talent, and with that comes substantial capital expenditures
 - The core market investment strategy seems to be less attractive than in the past due to the above forces
- **There are places where value is being created through entrepreneurial activity and placemaking**
 - Primarily in suburbs of tech hub markets
 - Mixed-use developments incorporating live-work-play
 - Examples - The Domain in Austin, The Maxwell and Avalon in Atlanta
 - Located within established intellectual capital nodes outside of the urban core
- **Investment strategy is bifurcated**
 - Capital preservation (international gateway CBDs) and capital appreciation (suburban revitalization, primary and secondary cities)...there is also some drift down to some tertiary markets

Macroeconomic Outlook

U.S. Economic Growth is Good After a Q4 Scare

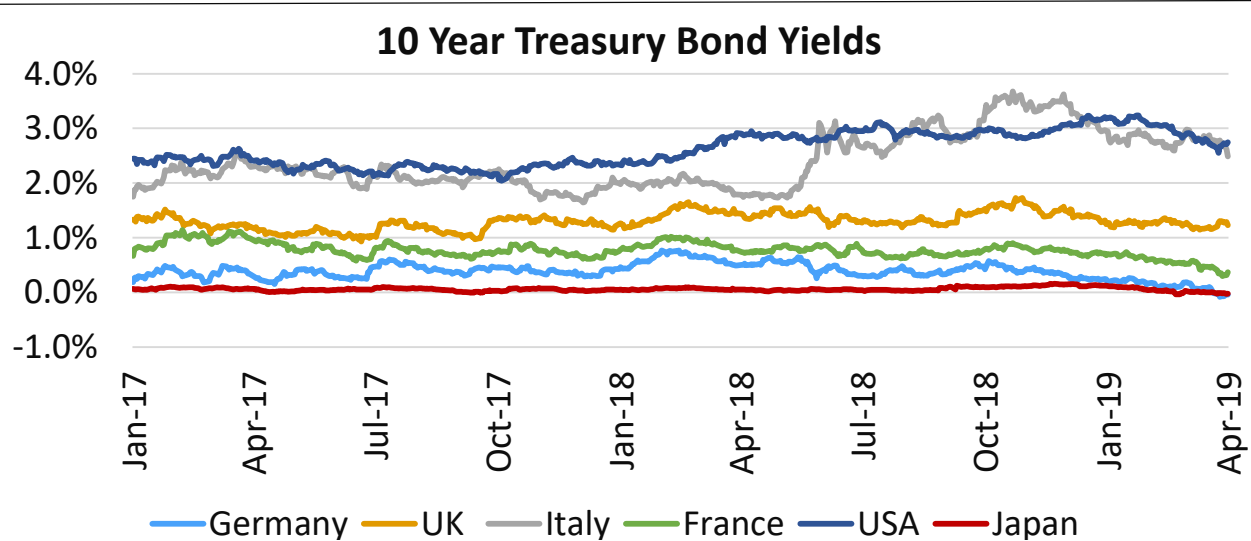
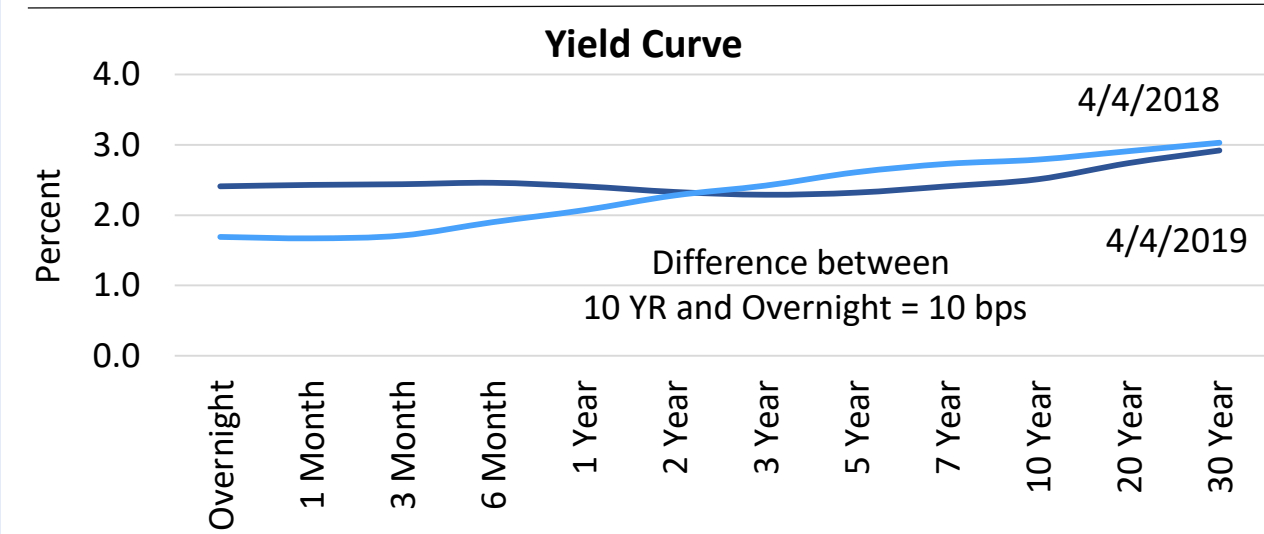
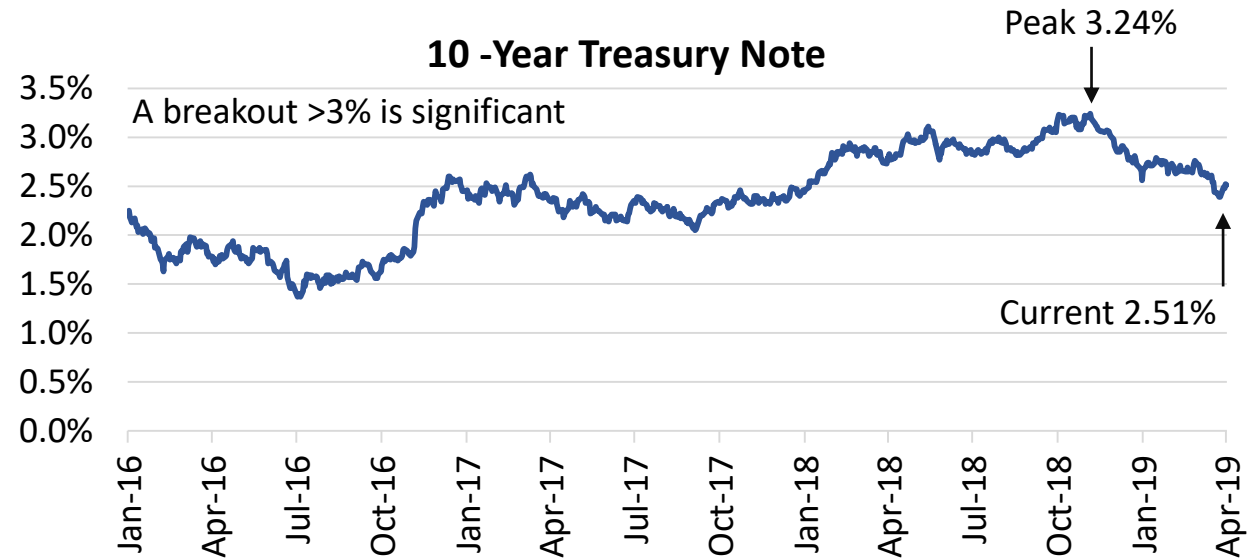
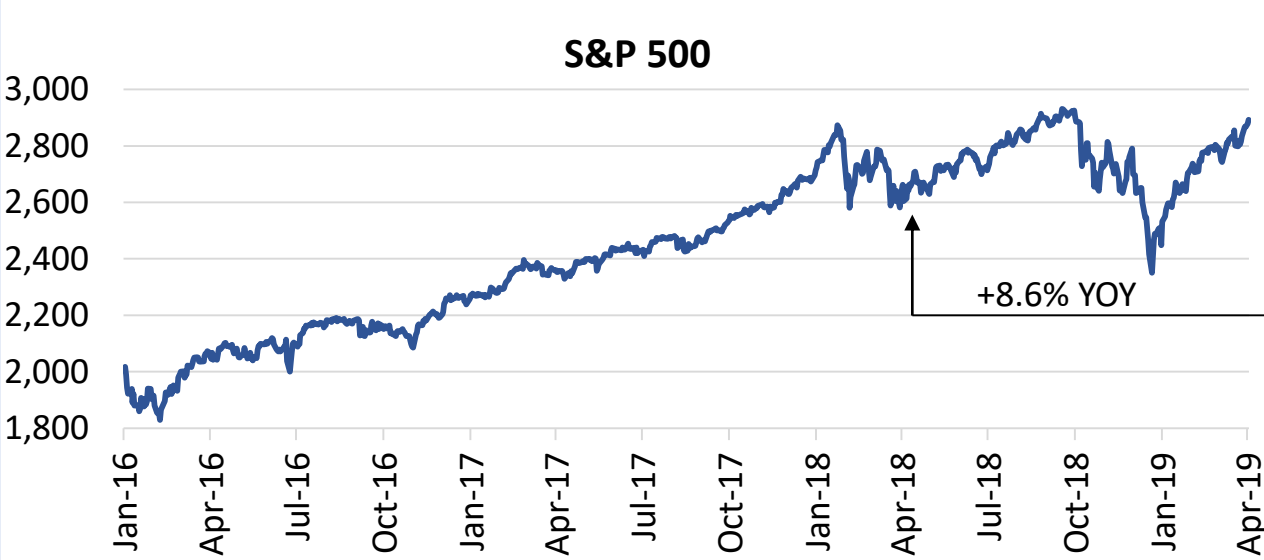


The Yield Curve Has Been Inching Down, With a Transient Inversion Early This Year

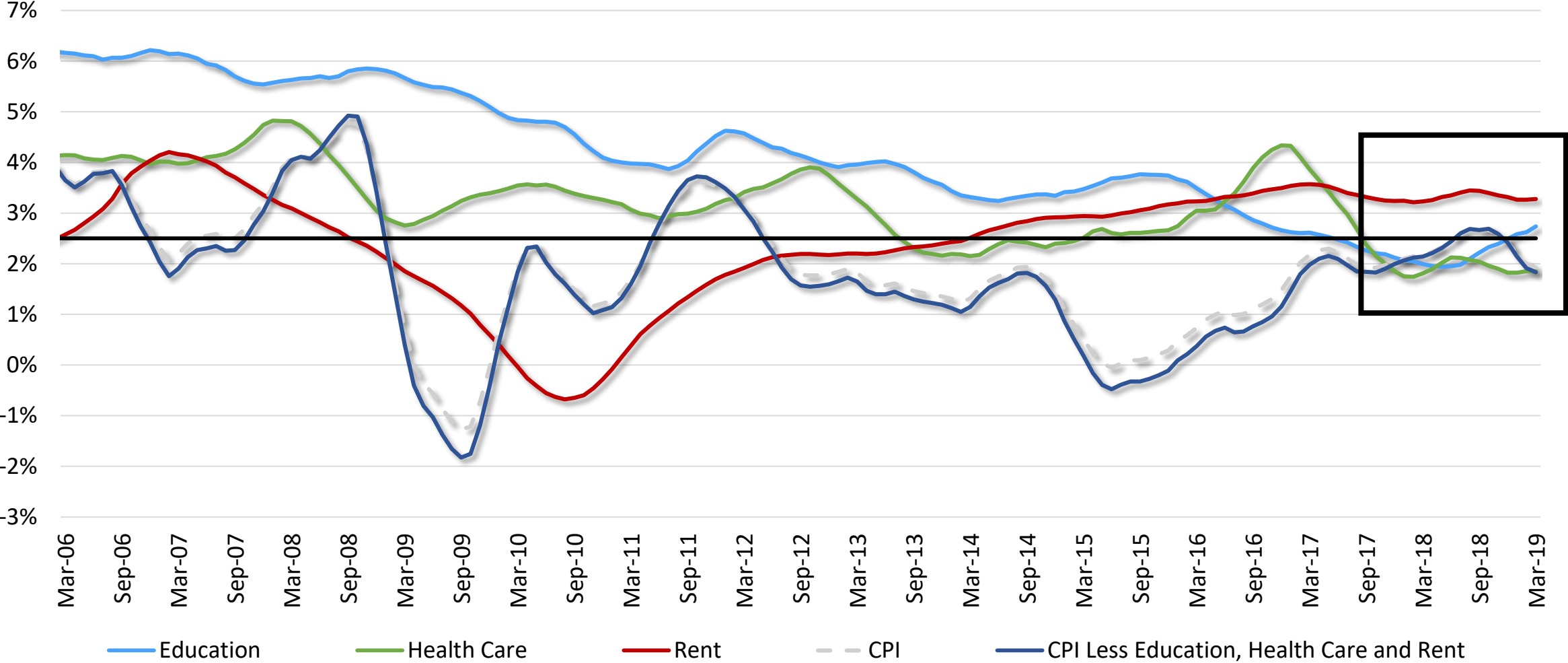


Source: Moody's Analytics; U.S. Board of Governors of the Federal Reserve System (FRB)

U.S. and International Financial Market



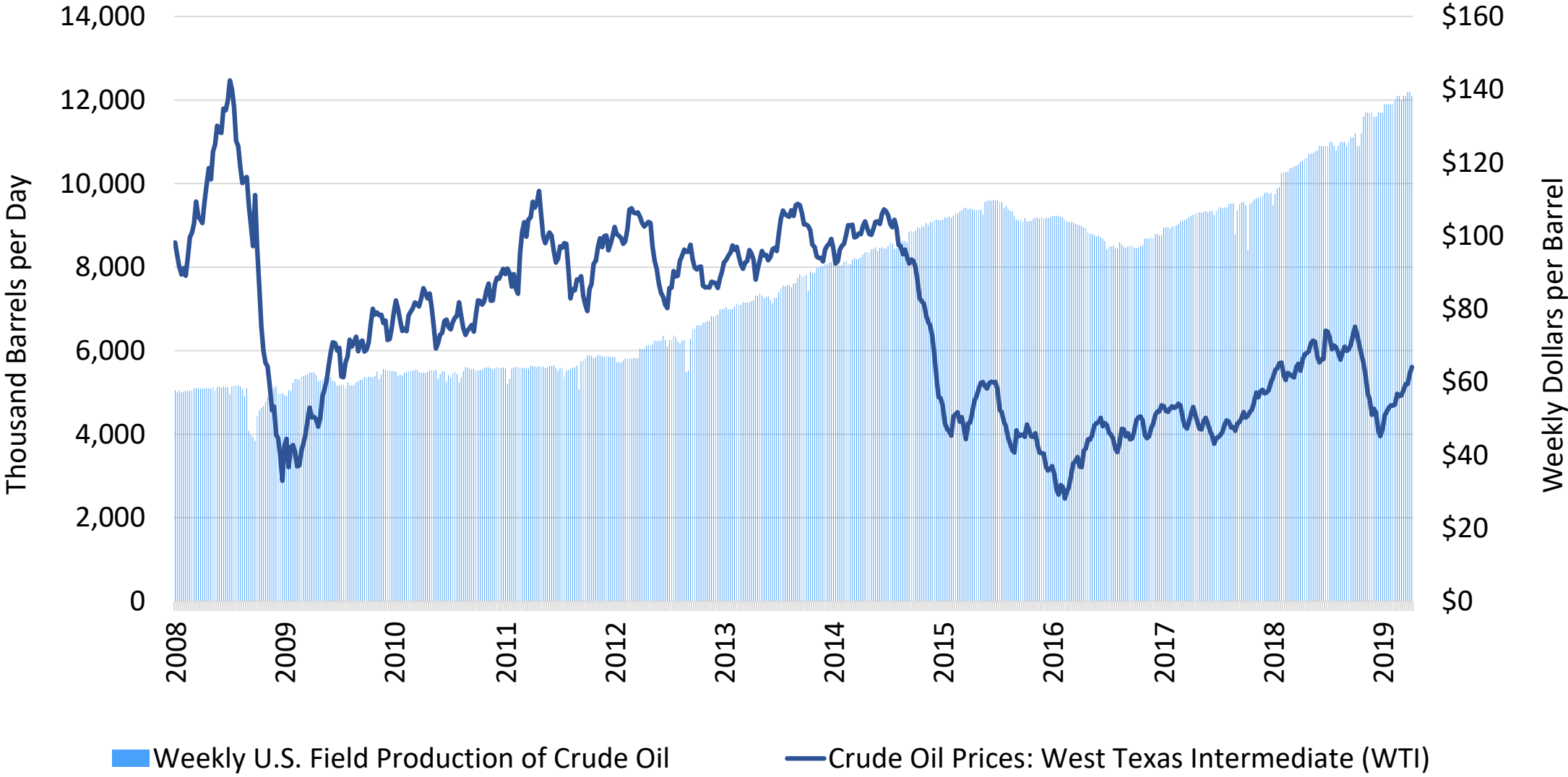
Inflation Was Rising, But is Now Well Below 2%, and is Unlikely to Break Out >2.5%



*YOY 6 month moving avgs. CPI Less Health Care, Education and Rent is an estimate using BLS document "Math calculations to better utilize CPI data"
 Source: Moody's Analytics; Bureau of Labor Statistics (BLS)

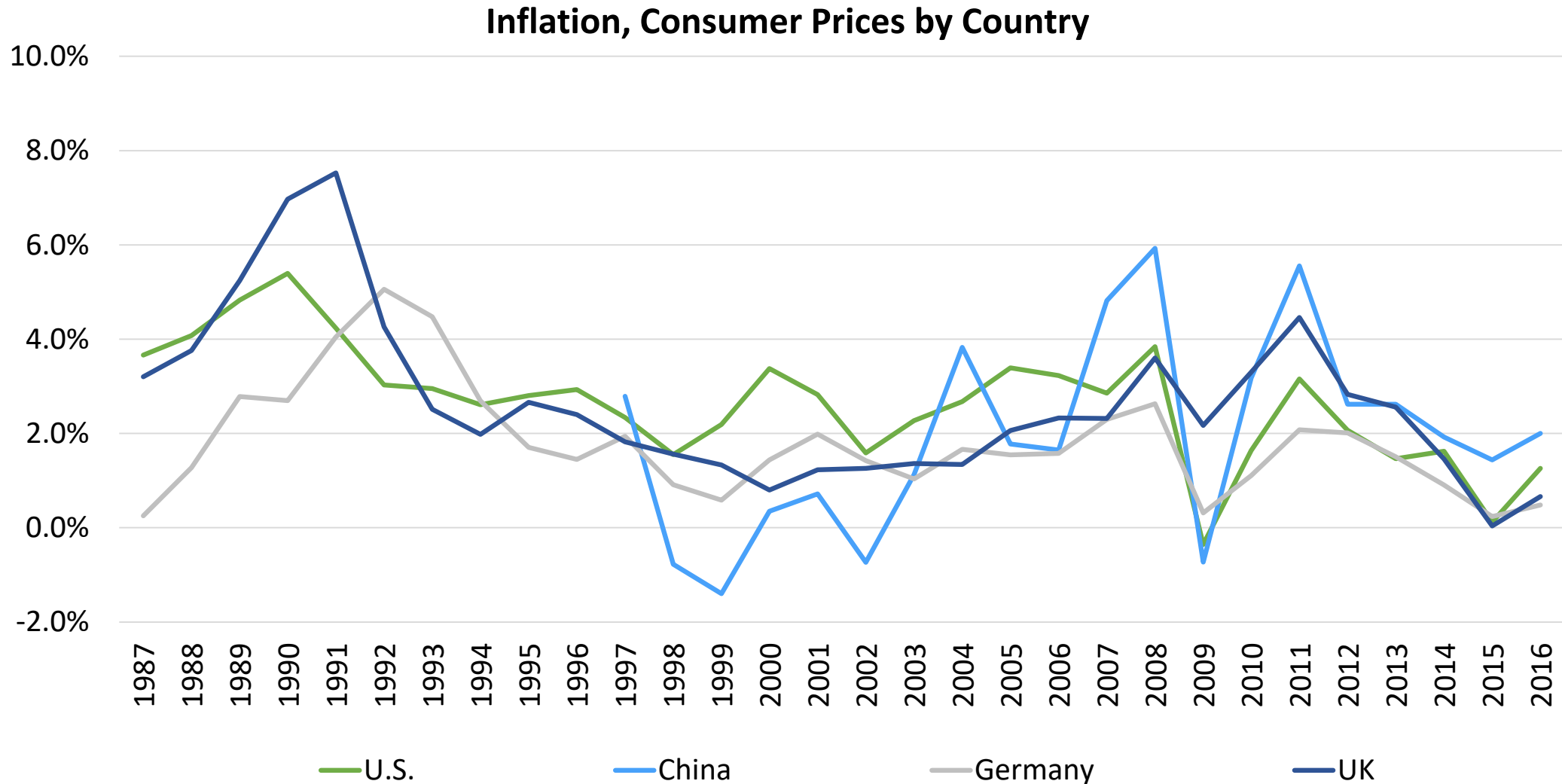


Why is There No Inflation? U.S. Oil is Flooding the Market



Source: Energy Information Administration, Federal Reserve Bank of St. Louis, Economic Research Division

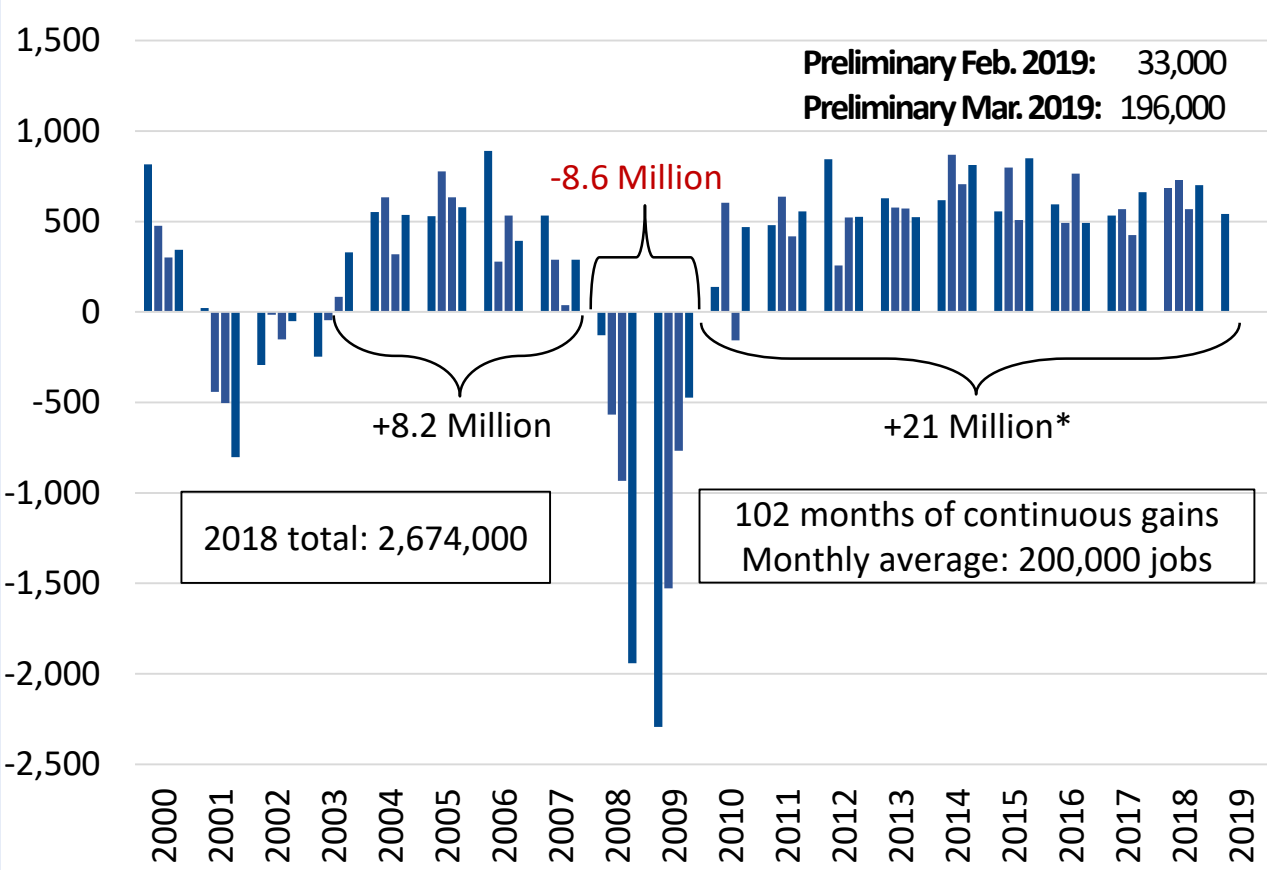
Inflation Going Down is a Global Phenomenon



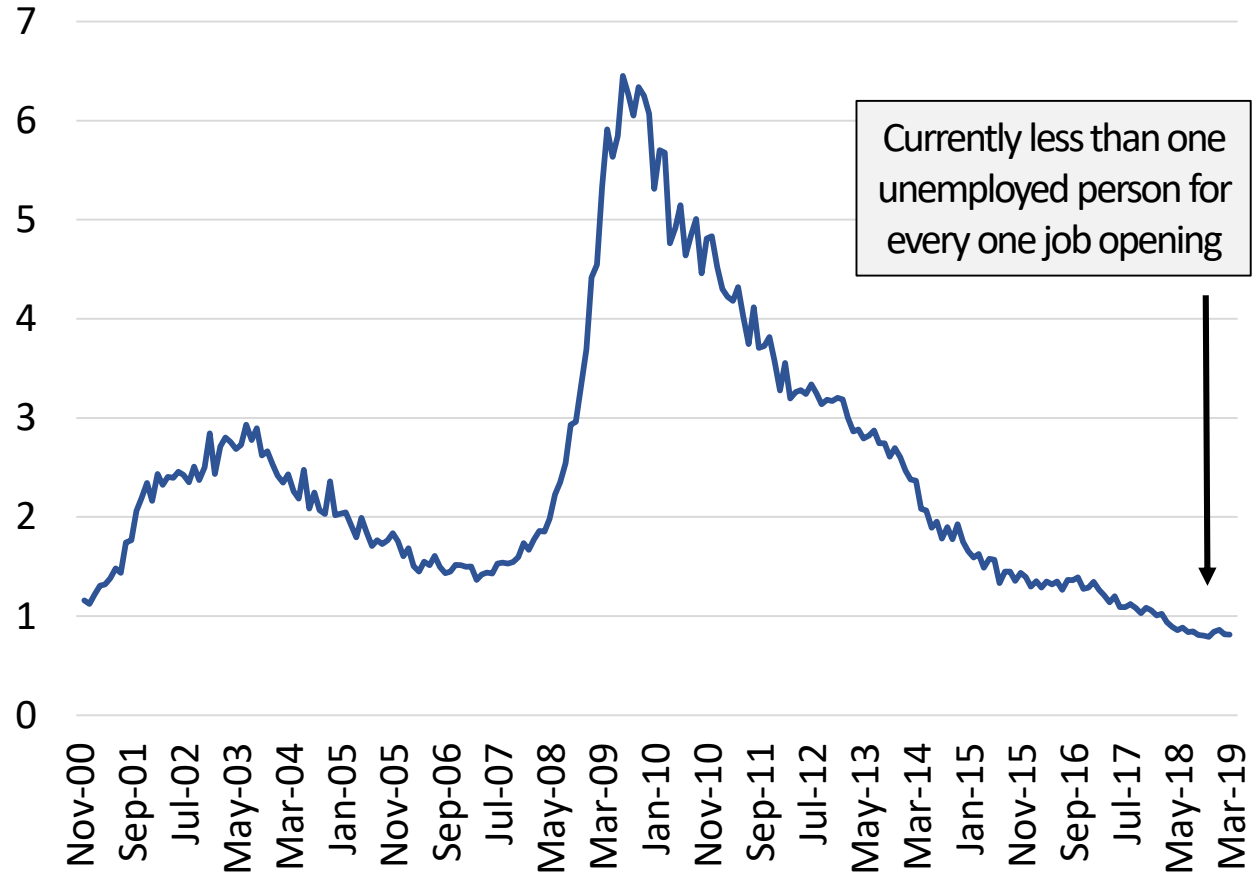
Tight Labor Market, Pulling People Off the Sidelines

It is difficult to find labor at the right *price*, with the right *skills*, in the right *city*

Long Stretch of Continuous Job Gains



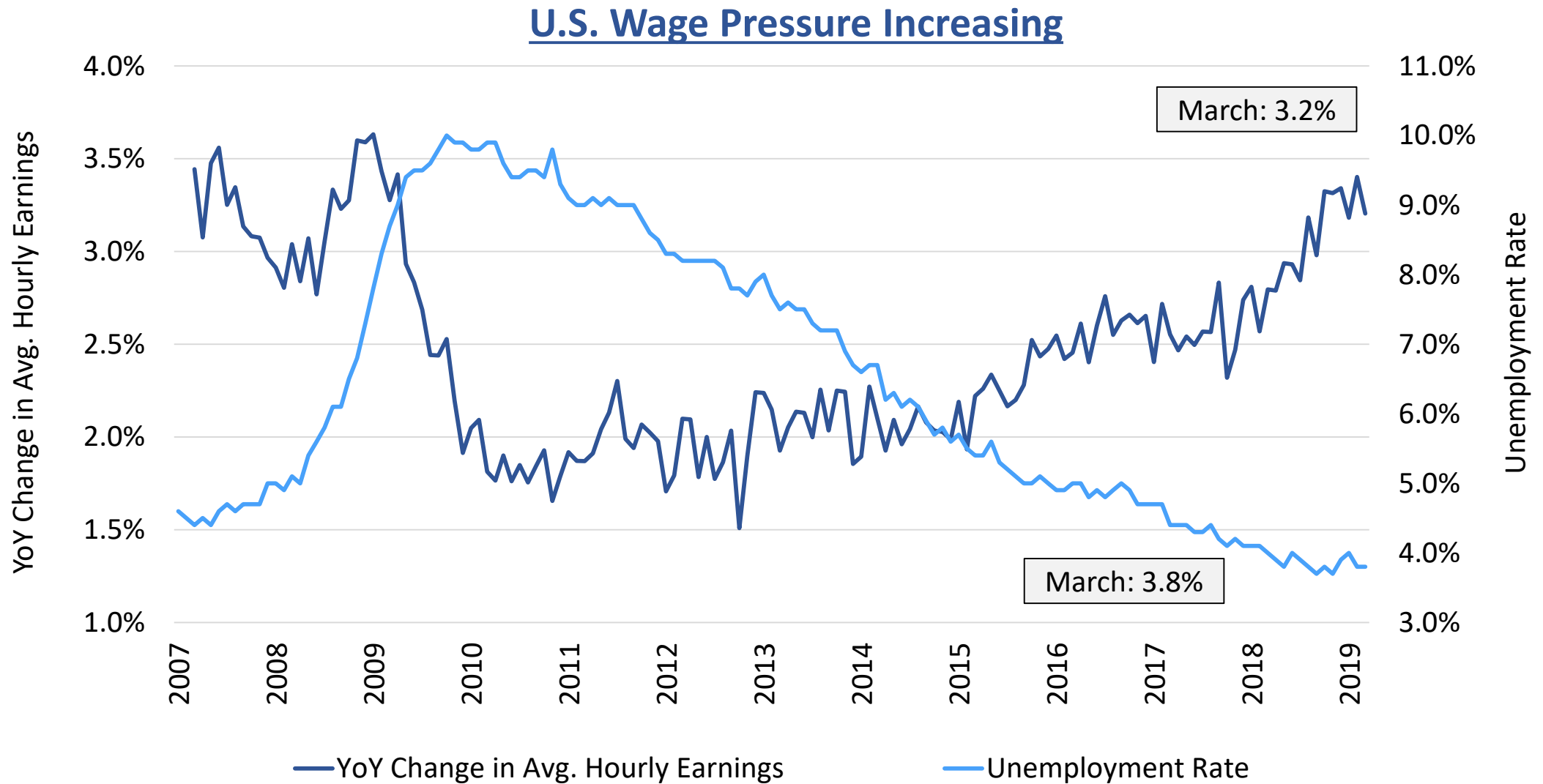
Unemployed Persons per Job Opening



*Through March 2019

Source: Moody's Analytics; Bureau of Labor Statistics (BLS); The Conference Board

Wage Growth Finally Emerging

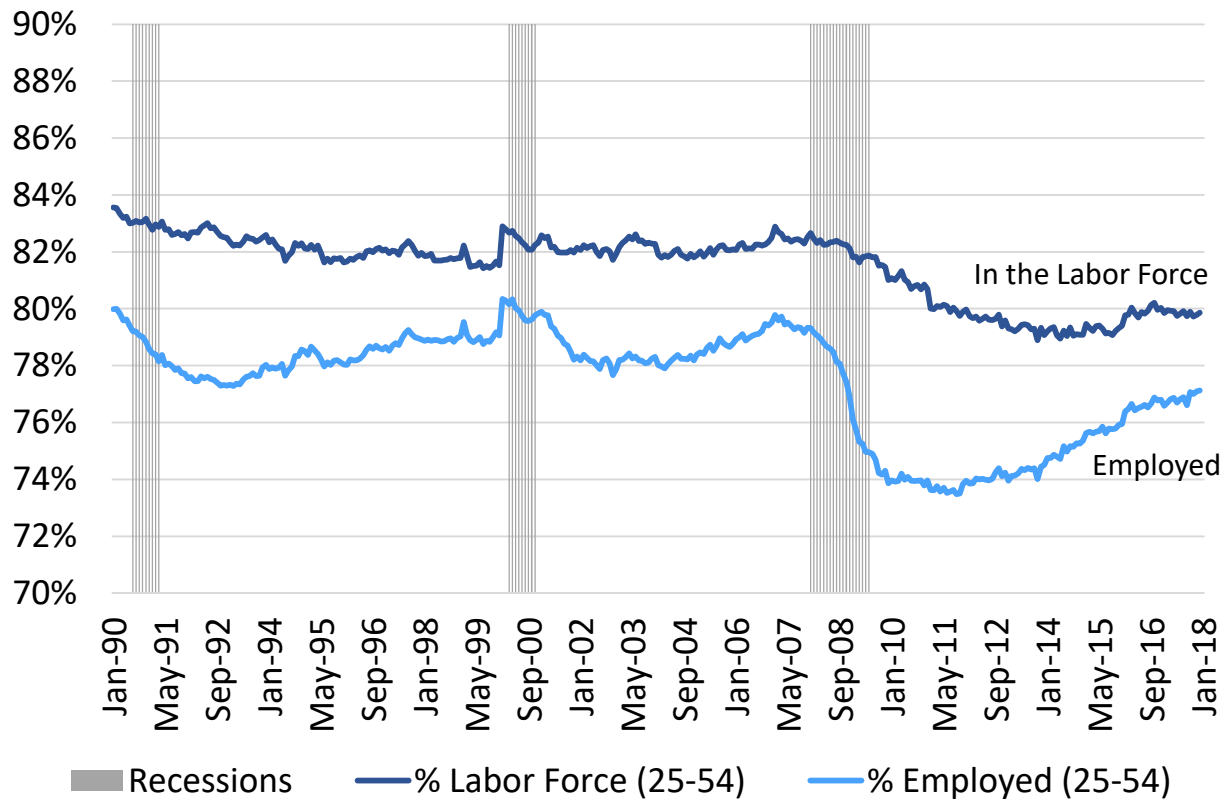


Source: Yardi® Matrix; Moody's Analytics; Bureau of Labor Statistics (BLS); Current Population Survey (CPS)

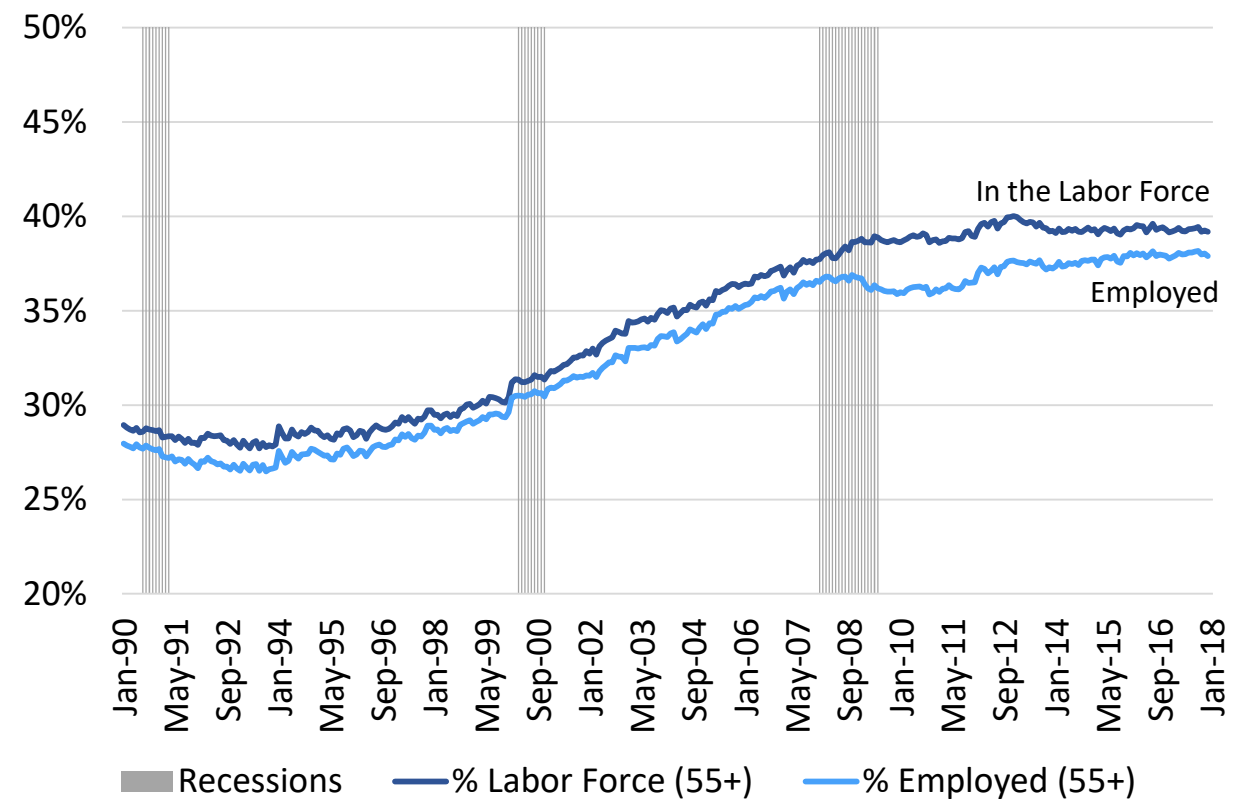
Reserve Supply of Labor

- Another 2% of the prime-age population could get engaged – approximately 2.6 million people
- Participation rates for people age 55+ are rising – buoying the expansion

Share of Prime-Age Population (25-54) That Is...

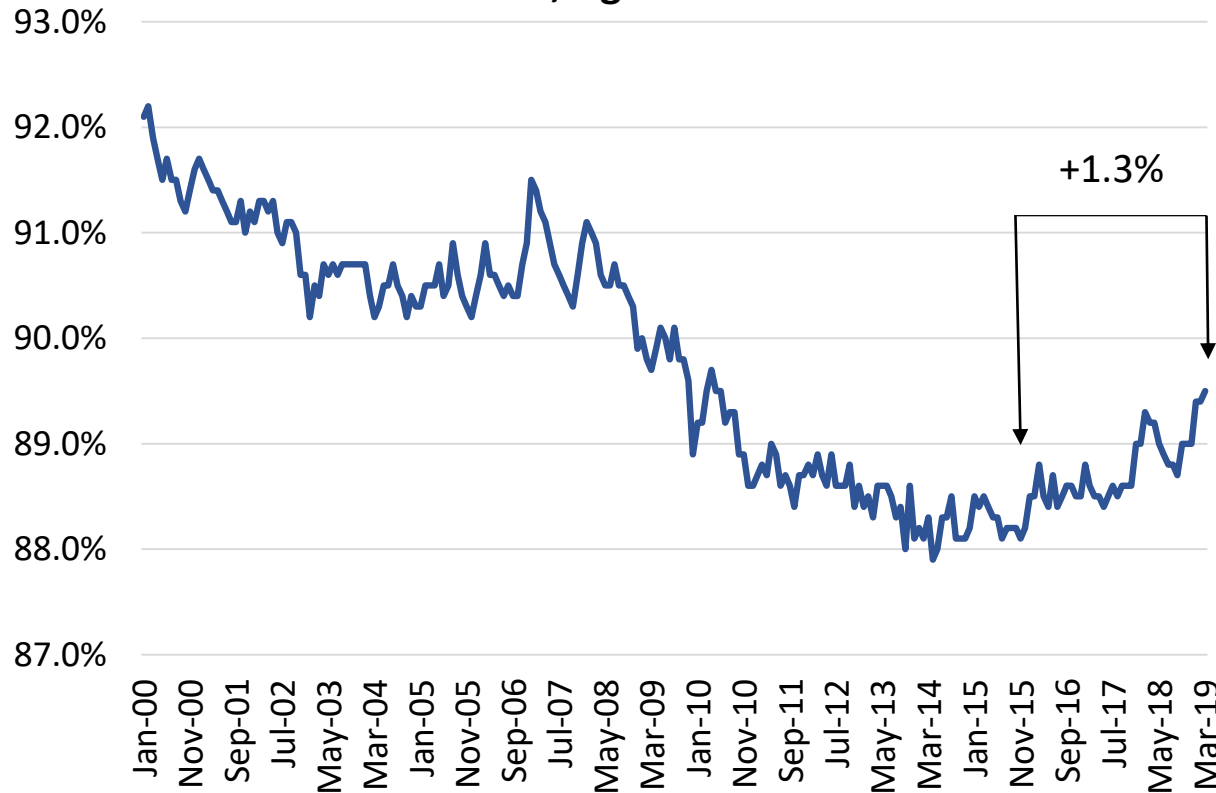


Share of Age 55+ Population That Is...

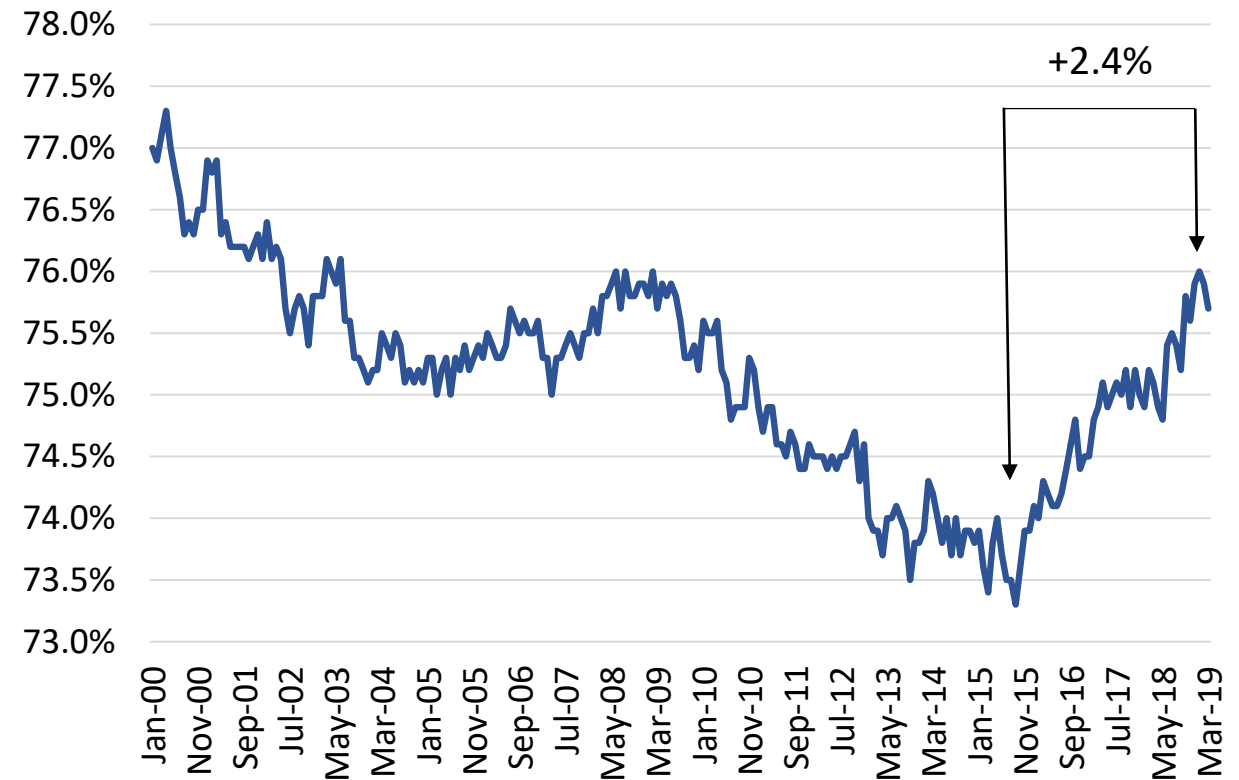


The Increase in the Labor Force Participation Rate Among 25-54 Year Olds is Driven by Women

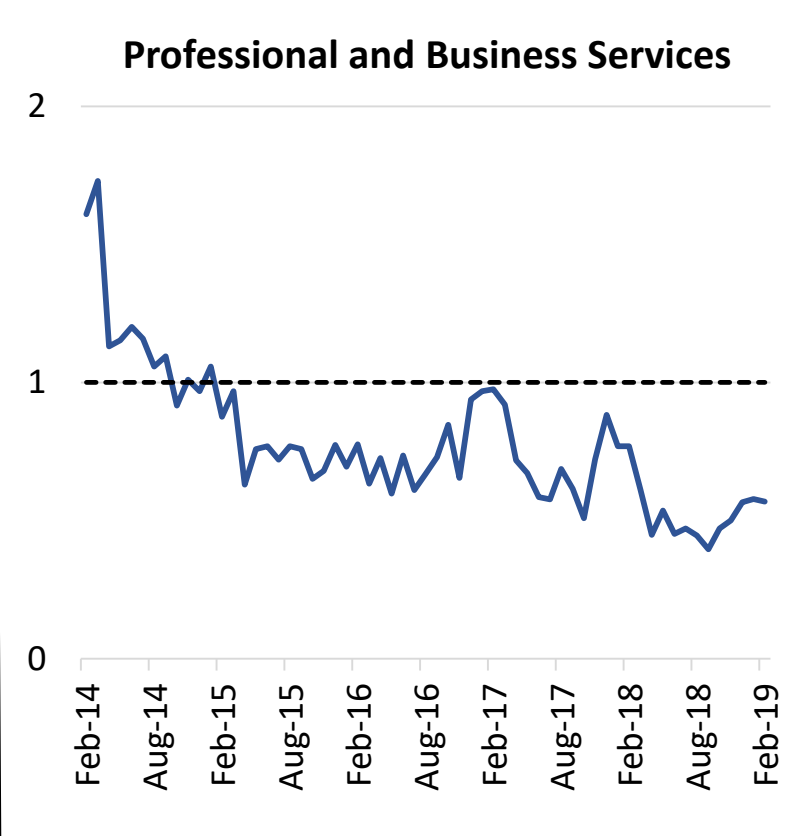
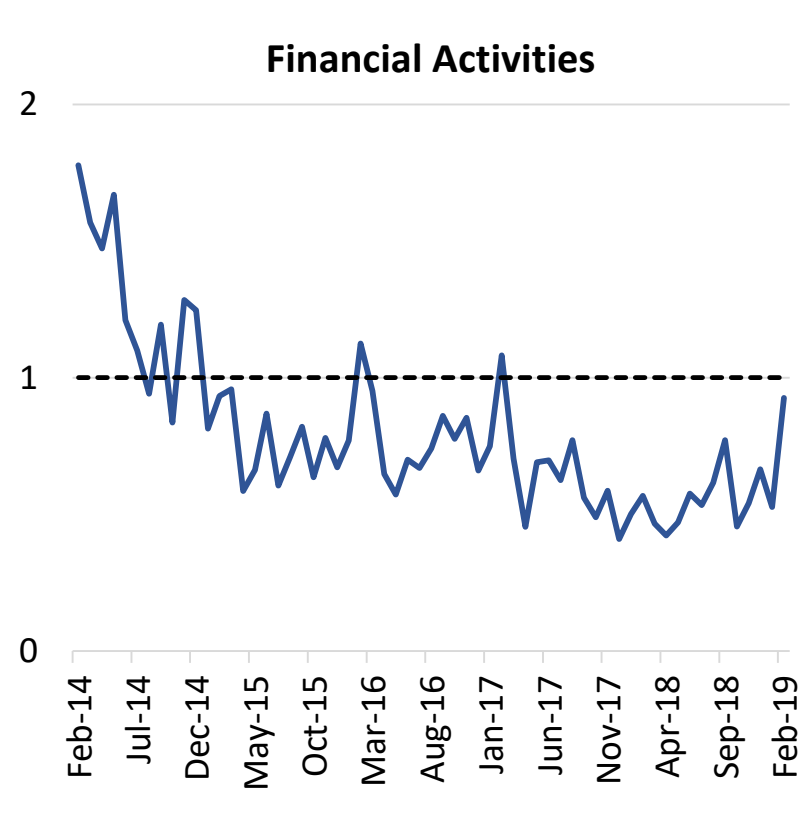
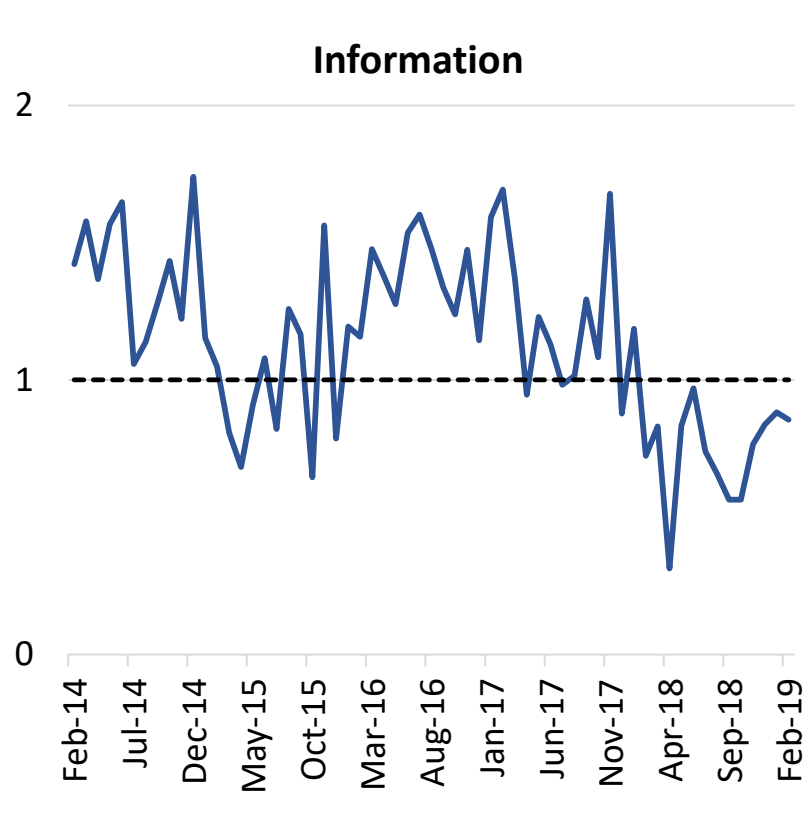
**Labor Force Participation Rate
Male, Ages 25-54**



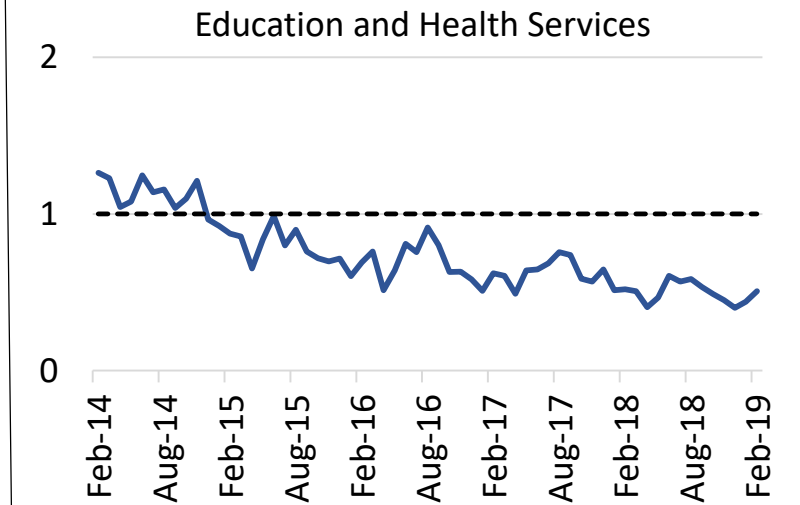
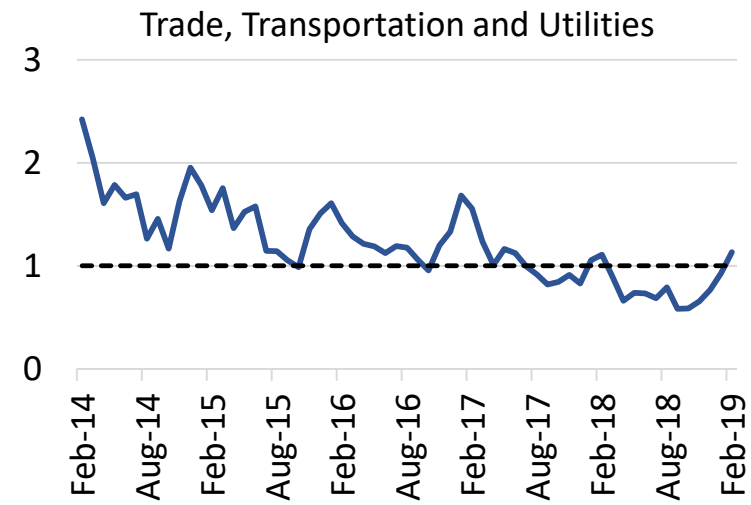
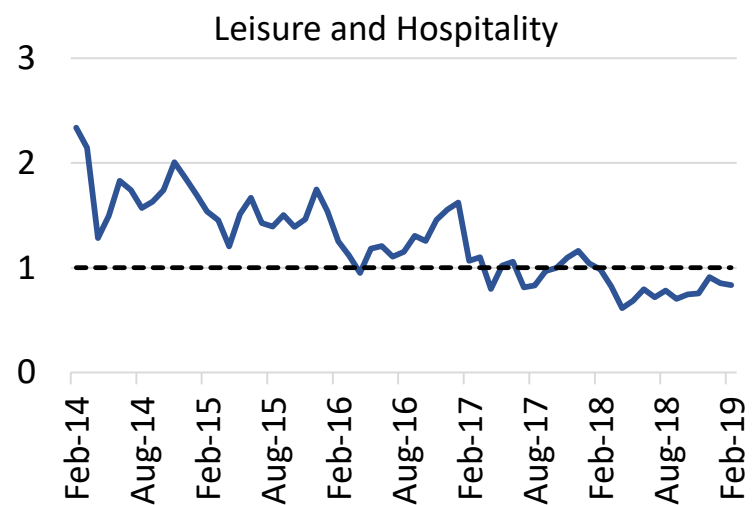
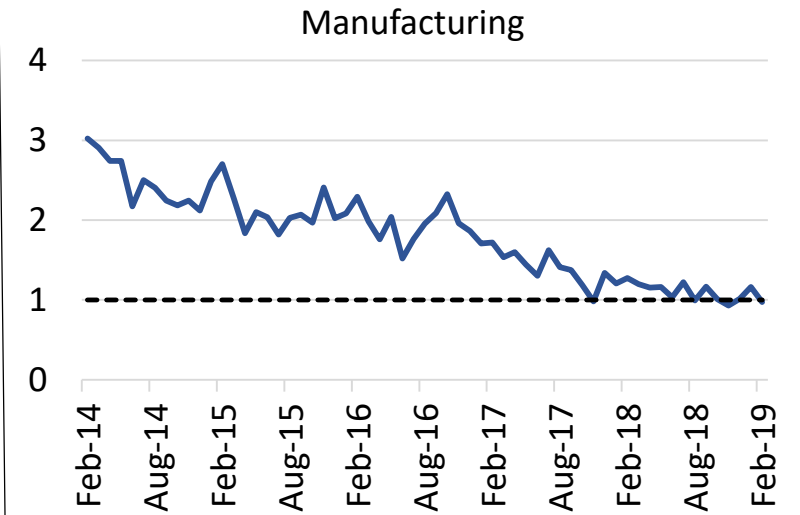
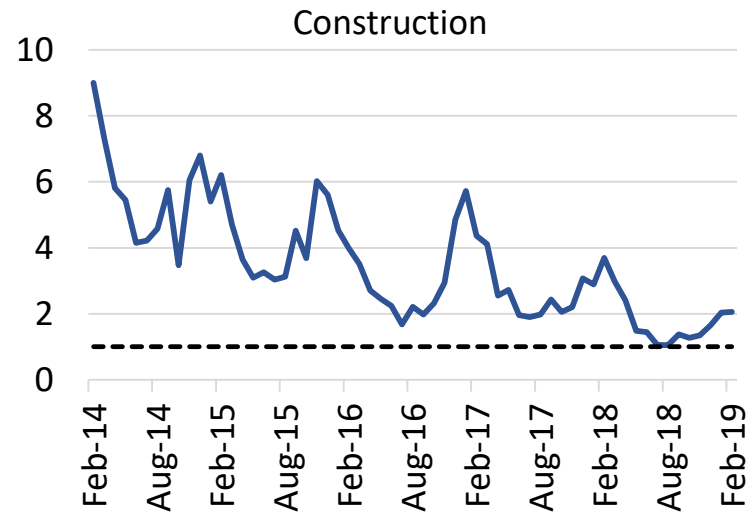
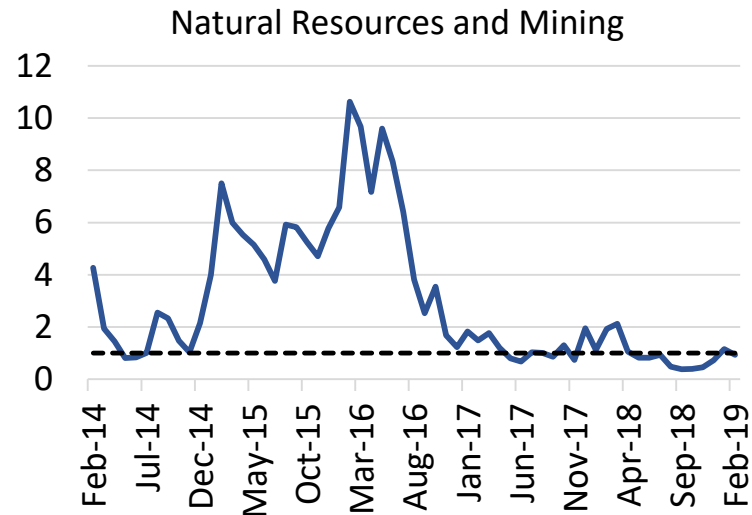
**Labor Force Participation Rate
Female, Ages 25-54**



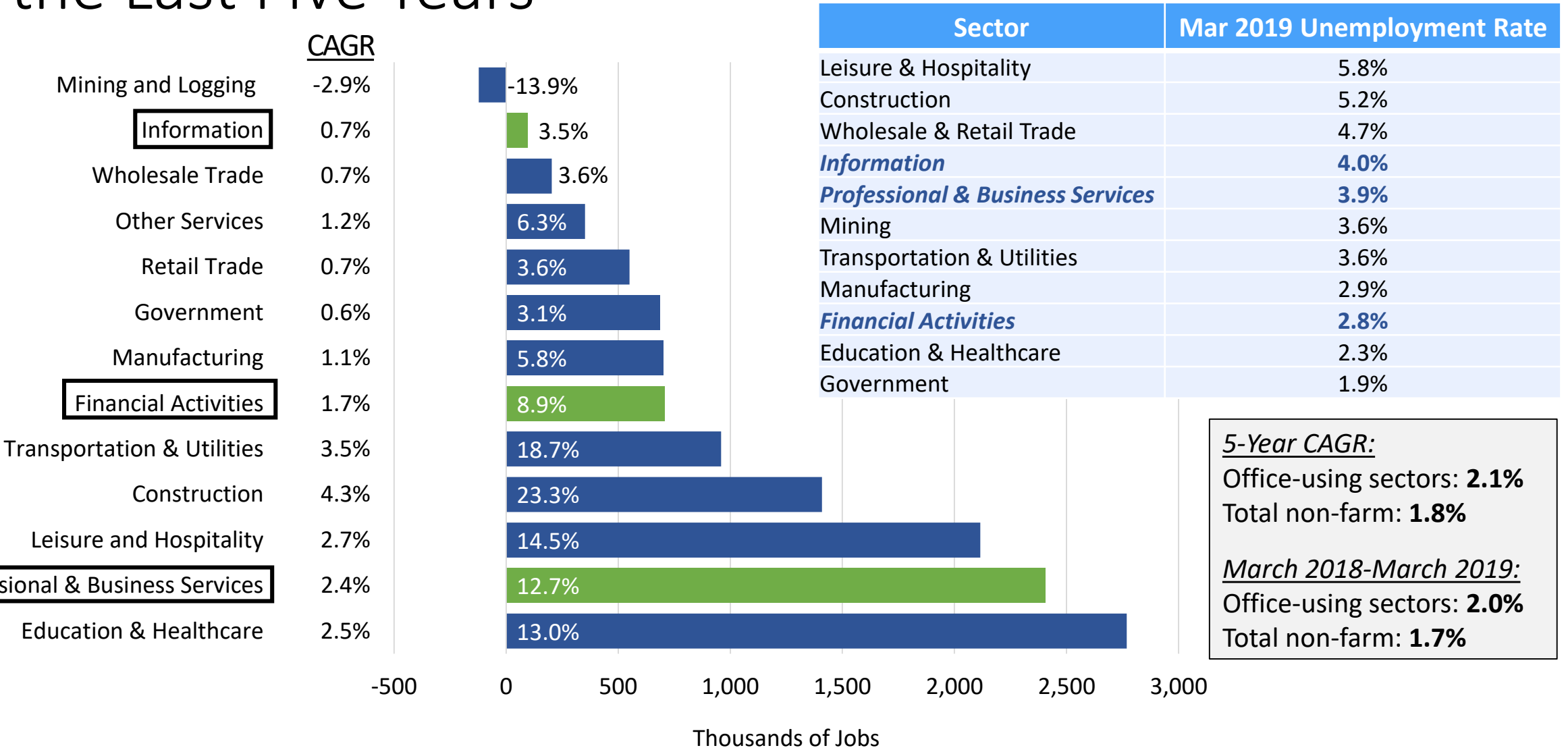
Unemployed Persons per Job Opening: Office-Using Industries



Unemployed Persons per Job Opening: Non Office-Using Industries

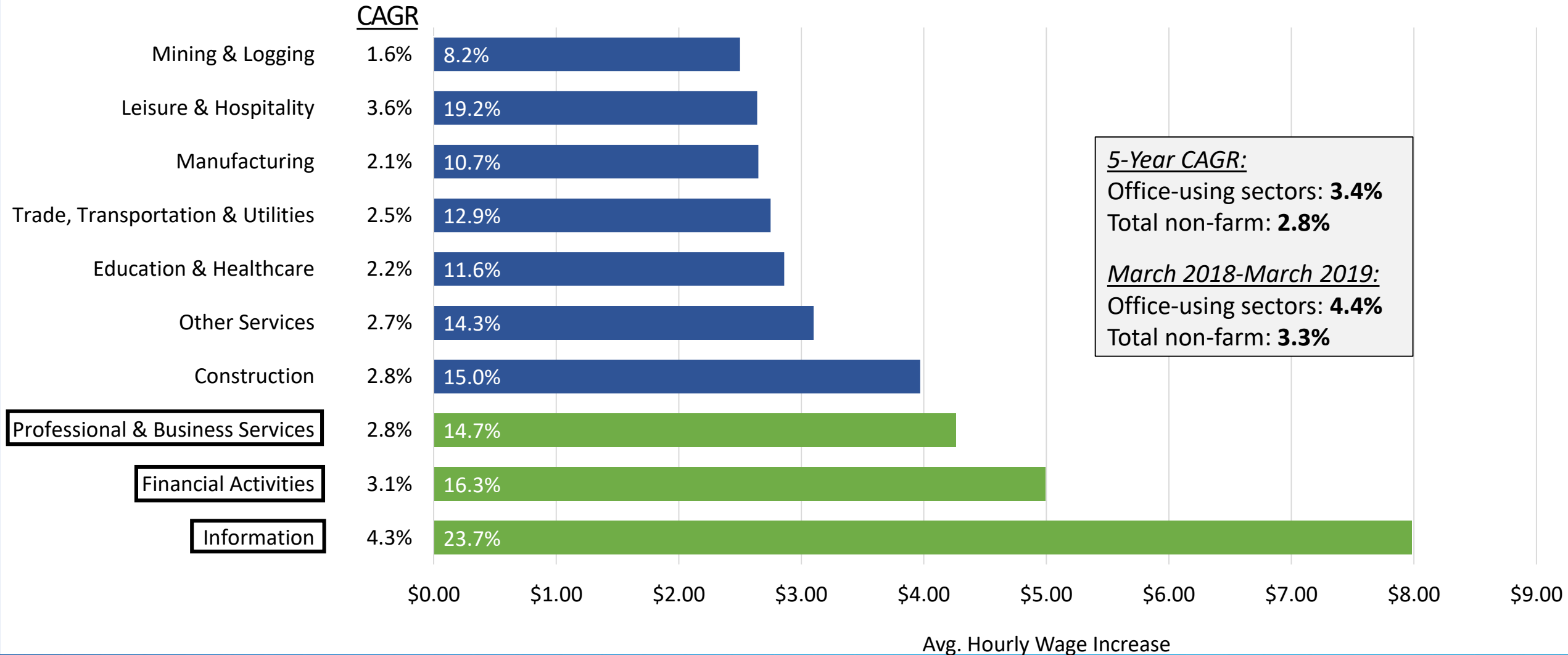


Office-Using Sectors Outpaced Overall Job Growth Over the Last Five Years



*March 2014-March 2019, Boxed labels are office-using sectors
 Source: Moody's Analytics; Bureau of Labor Statistics (BLS)

Office-Using Sectors Exhibit the Most Wage Growth Over the Last Five Years



*March 2014-March 2019, Boxed labels are office-using sectors
 Source: Moody's Analytics; Bureau of Labor Statistics (BLS)

U.S. Federal Policy Mix is Mildly Pro-Growth – Shifting Away From Consumers Towards Producers

Pro-Growth

- Tax Reform
- Regulatory Relief
- Executive Orders
 - Energy
 - Finance
 - Labor Costs



Generally Positive Progress

Pro-Growth but Slow

- Infrastructure
- Education Reform
 - German Model
- Healthcare Reform



Progress in Tone, but Not Yet Substantive

Anti-Growth

- Immigration Control
- Trade Renegotiation
 - President Trump announced U.S. will impose tariffs on steel and aluminum imports



Recent Tariff Move a Potential Drag on Growth

In Summary:

- GDP growth is decelerating but bounced back after a Q4 scare and is still north of 2.0%
- The Yield Curve briefly inverted, but Fed easing has pulled it back
- Low inflation is a global phenomenon – with oil production keeping it low in the U.S.
- The labor market is extremely tight, and employment and wage growth are in excellent condition, particularly in office-using industries

All macroeconomic factors would indicate that the office industry should be performing great...but is it?

National Office Fundamentals

Market Classifications

Gateway Markets

Bay Area
Boston
Brooklyn
Chicago
Long Island
Los Angeles
Manhattan
New Jersey
Queens
San Francisco
Washington, D.C

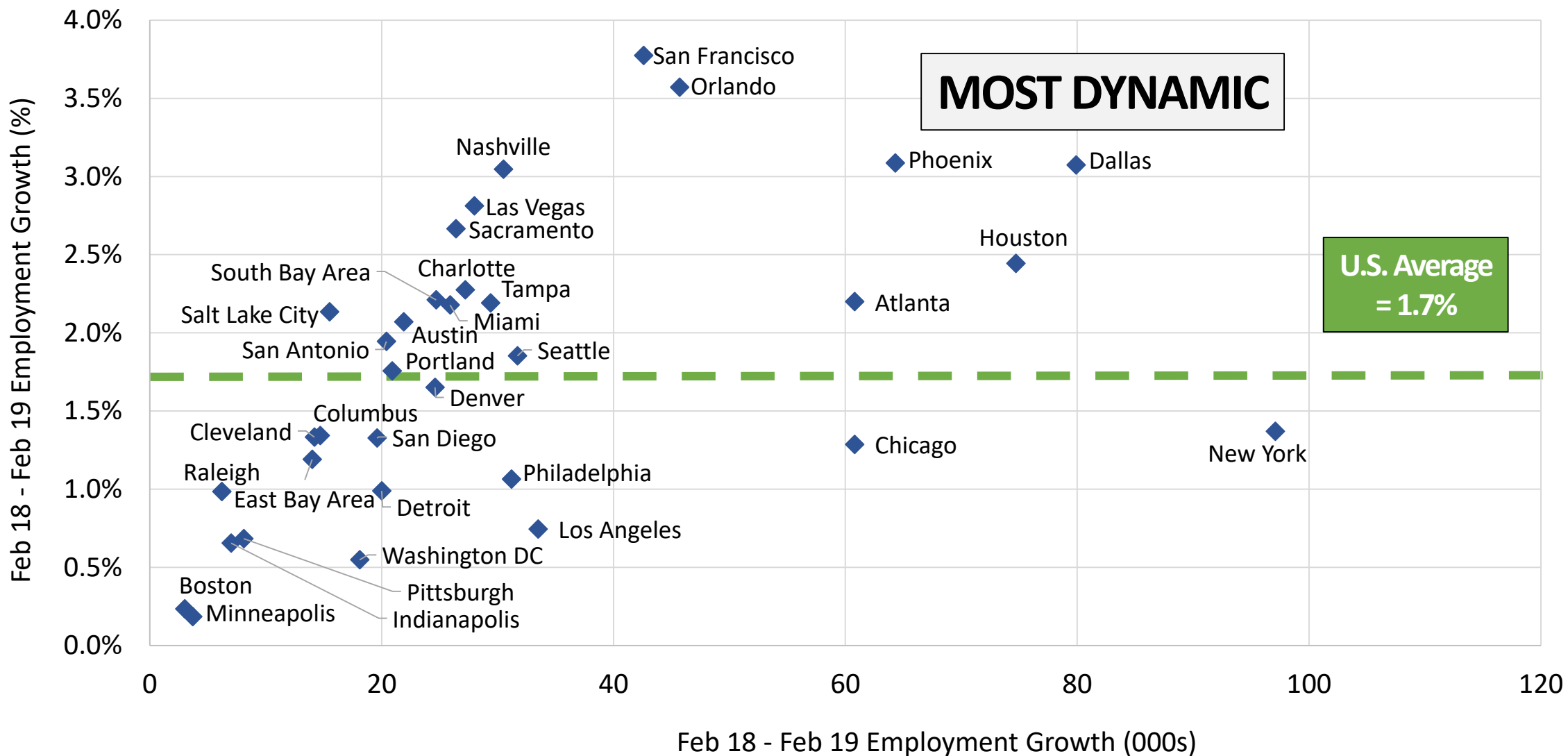
Tech Hub Markets

Atlanta	Minneapolis-St. Paul
Austin	Nashville
Boise	Omaha
Charlotte	Orlando
Columbus	Philadelphia
Dallas	Phoenix
Denver	Pittsburgh
Detroit	Portland
Houston	Raleigh-Durham
Indianapolis	Sacramento
Jacksonville	Salt Lake City
Kansas City	San Diego
Las Vegas	Seattle
Madison	Tampa
Miami	

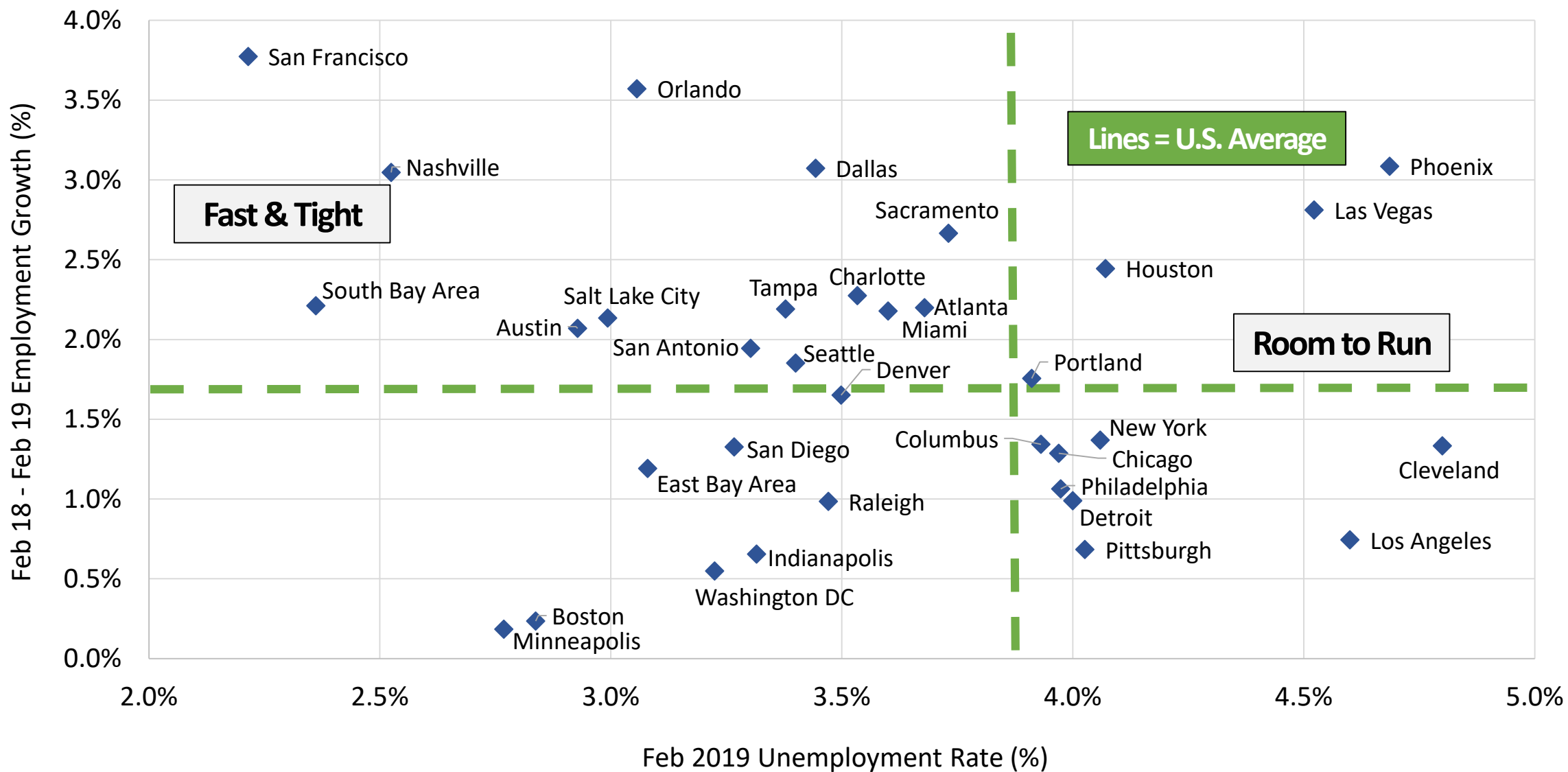
Tertiary Markets

Remaining 77 Yardi® Matrix office markets

Tech Hub Markets Have the Most Dynamic Job Growth

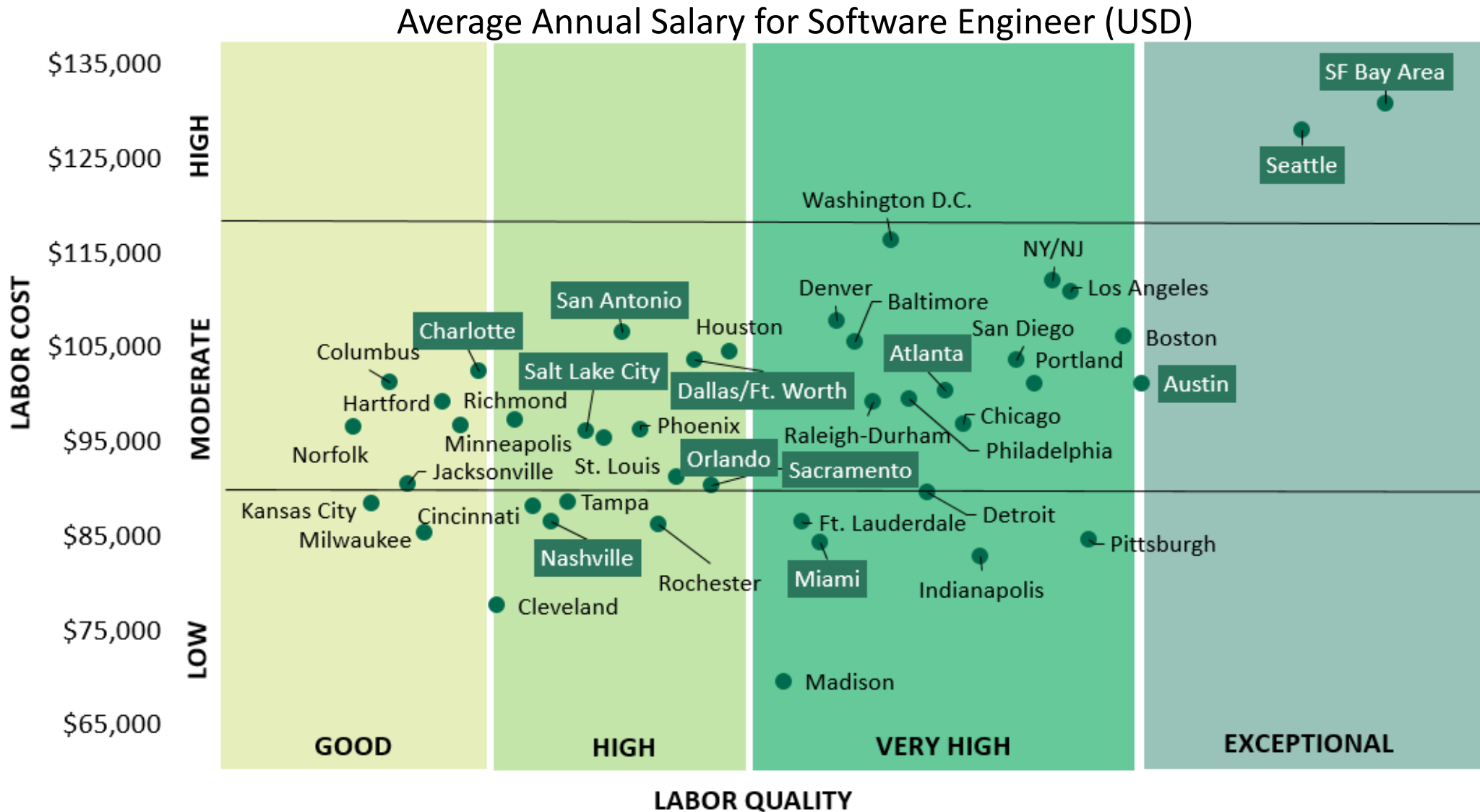


Tech Hub Markets Have the Most Dynamic Job Growth



Source: Moody's Analytics; U.S. Bureau of Labor Statistics (BLS)

Tech Talent Quality vs. Cost Analysis



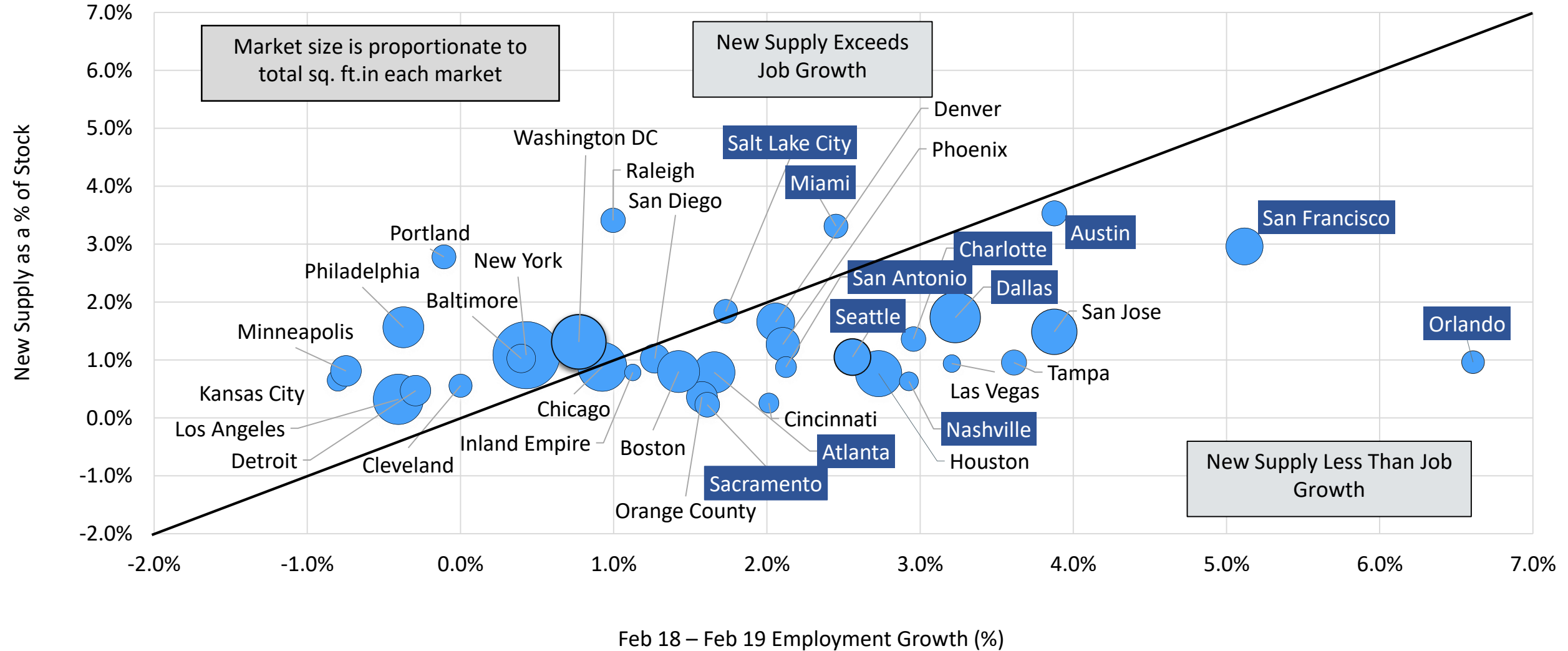
*Boxed markets had the most dynamic employment growth Feb 18 – Feb 19

Source: CBRE Research, 2018; CBRE Labor Analytics; U.S. Bureau of Labor Statistics (BLS); Statistics Canada, April 2018; U.S. News & World Report



Most Markets are Absorbing Office Space

Employment and Supply Growth: February 2018 – February 2019



*Boxed markets had the most dynamic employment growth Feb 18 – Feb 19 Source: Yardi®Matrix

Office Fundamentals – Top 10 Markets

Top 10 Markets					
Market	Year-Over-Year Change in Full Service Equivalent Asking Rents (Trailing 3 Month Avg)	YoY Change in Vacancy Rate (Trailing 3 Month Avg)	March 2019 Full Service Equivalent Asking Rent	March 2019 Vacancy Rate	New Deliveries as a % of Stock last 12 months
San Francisco	16.5%	-0.5%	\$66.04	9.0%	3.0%
Tampa	5.1%	0.0%	\$25.06	10.8%	1.1%
Miami	4.5%	-0.7%	\$37.95	13.3%	3.0%
Los Angeles	4.5%	0.0%	\$38.23	13.3%	0.3%
Bay Area	4.4%	1.6%	\$46.16	15.1%	1.2%
Boston	4.0%	0.5%	\$37.66	9.9%	0.9%
Phoenix	2.3%	-0.5%	\$26.76	16.8%	1.2%
Houston	2.1%	1.8%	\$29.21	21.3%	0.8%
Seattle	1.5%	-0.1%	\$37.01	8.8%	0.7%
West Palm Beach	1.1%	-0.6%	\$31.96	12.9%	0.6%
<i>Avg. of Matrix Properties</i>	<i>1.9%</i>	<i>0.6%</i>	<i>\$39.97</i>	<i>13.5%</i>	<i>1.1%</i>

Office Fundamentals – Bottom 10 Markets

Bottom 10 Markets					
Market	Year-Over-Year Change in Full Service Equivalent Asking Rents (Trailing 3 Month Avg)	YoY Change in Vacancy Rate (Trailing 3 Month Avg)	March 2019 Full Service Equivalent Asking Rent	March 2019 Vacancy Rate	New Deliveries as a % of Stock last 12 months
San Diego	-2.9%	0.6%	\$37.15	12.1%	1.0%
Denver	-2.7%	0.3%	\$28.00	13.8%	1.6%
Portland	-2.5%	2.2%	\$27.57	12.6%	2.4%
Inland Empire	-2.3%	2.9%	\$22.67	12.8%	0.8%
Austin	-2.0%	-0.1%	\$37.99	9.3%	3.5%
Manhattan	-1.0%	-0.5%	\$74.63	8.4%	0.9%
Orlando	-0.6%	3.2%	\$21.16	13.3%	1.0%
Fort Lauderdale	-0.6%	0.9%	\$28.88	14.3%	0.5%
Orange County	0.1%	0.6%	\$34.58	12.1%	0.4%
Sacramento	0.1%	4.0%	\$23.40	14.3%	0.3%
<i>Avg. of Matrix Properties</i>	<i>1.9%</i>	<i>0.6%</i>	<i>\$39.97</i>	<i>13.5%</i>	<i>1.1%</i>

Matrix Expert National Operating Data

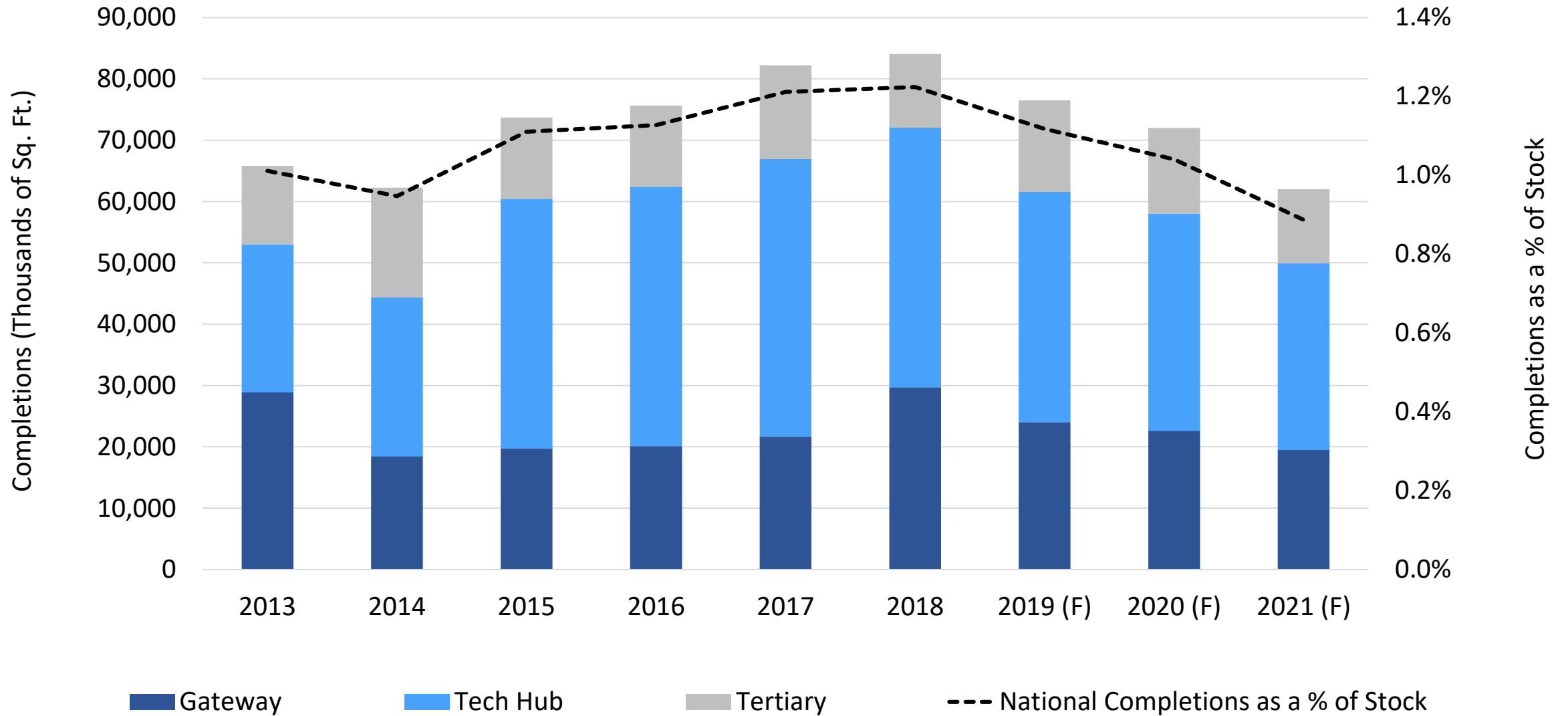
% Change Mar '18-Mar '19	Atlanta	Austin	Boston	Chicago	Denver	Los Angeles	Manhattan	Miami	San Diego	San Francisco	Seattle	Washington DC
Total Operating Income	7.3%	-3.9%	1.3%	6.2%	5.0%	6.1%	-1.9%	4.3%	-6.8%	8.6%	1.0%	2.3%
Payroll	0.0%	5.3%	11.5%	-4.6%	3.2%	6.1%	-5.8%	12.9%	-8.1%	3.2%	-1.7%	0.0%
Marketing & Advertising	16.7%	0.0%	0.0%	20.0%	40.0%	40.0%	0.0%	0.0%	-16.7%	71.4%	0.0%	-12.5%
Repairs & Maintenance	11.6%	-5.0%	3.8%	4.9%	7.4%	5.8%	9.4%	-4.6%	-2.9%	10.5%	-0.7%	3.8%
Administrative	1.9%	-11.2%	7.2%	10.3%	9.9%	10.6%	11.2%	5.8%	14.3%	14.0%	-5.5%	5.5%
Management Fees	4.6%	6.0%	2.1%	2.7%	3.9%	13.1%	12.9%	13.5%	-10.6%	17.8%	6.0%	4.1%
Utilities	8.7%	-4.3%	11.5%	8.8%	-1.2%	6.4%	5.8%	-4.0%	-4.7%	8.0%	-8.3%	5.7%
Real Estate & Other Taxes	7.1%	-6.2%	3.5%	11.2%	7.5%	9.8%	2.5%	8.6%	5.9%	-2.8%	17.0%	-4.5%
Insurance	6.3%	-5.6%	4.2%	4.5%	11.8%	8.0%	-6.0%	0.0%	-5.3%	6.0%	5.0%	11.1%
Total Operating Expense	8.0%	-4.1%	5.2%	7.4%	5.7%	7.3%	4.3%	3.5%	0.5%	8.3%	2.8%	1.0%
Net Operating Income	6.8%	-3.7%	-1.4%	4.9%	4.5%	5.3%	-6.9%	5.0%	-10.2%	8.6%	0.2%	3.3%
Cap Rate (March 2019)	6.8%	7.1%	6.0%	6.1%	5.9%	5.3%	3.9%	5.2%	5.6%	5.2%	5.8%	6.2%

Capital Expenditures Rising as Office Space Becomes a Bigger Part of Talent Strategy

OFFICE	Denver	Atlanta	Austin	Boston	Manhattan	Seattle	Washington DC	Miami	San Diego
Net Operating Income	\$13.25	\$12.19	\$19.12	\$23.71	\$31.68	\$23.28	\$21.29	\$18.13	\$17.94
CapEx	\$3.89	\$3.60	\$4.03	\$5.76	\$7.19	\$4.21	\$3.96	\$4.19	\$5.03
CapEx as a % of NOI	29.4%	29.5%	21.1%	24.3%	22.7%	18.1%	18.6%	23.1%	28.0%

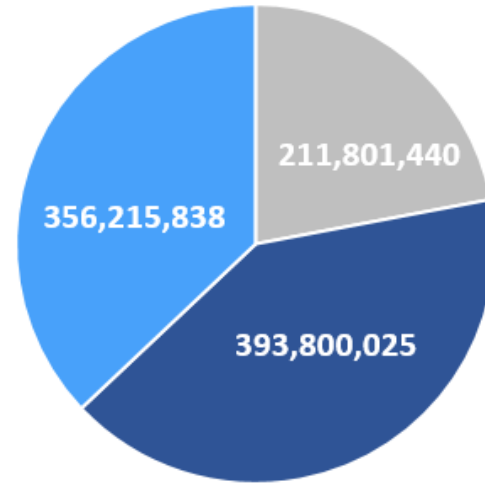
MULTIFAMILY	Denver	Atlanta	Austin	Boston	Manhattan	Seattle	Washington DC	Miami	San Diego
Net Operating Income	\$11,328	\$8,276	\$7,059	\$13,840	\$20,563	\$13,244	\$10,839	\$11,467	\$14,129
CapEx	\$2,223	\$2,044	\$1,528	\$1,710	\$2,425	\$1,359	\$1,375	\$1,210	\$1,676
CapEx as a % of NOI	19.6%	24.7%	21.6%	12.4%	11.8%	10.3%	12.7%	10.6%	11.9%

Office Supply Additions Peaked in 2018



*Includes owner-occupied
Source: Yardi®Matrix

Where is Future Supply Concentrated?



■ Under Construction Sq. Ft.

Top 10 Markets	Sq. Ft. UC (MM)	UC as a % of Existing Stock
Brooklyn	7.5	22.5%
Queens	2.6	13.8%
Nashville	4.8	10.8%
Mobile	0.5	10.0%
Austin	6.5	8.4%
San Francisco	13.4	8.0%
South Bend	0.5	7.3%
Seattle	11.4	7.2%
Midland - Odessa	0.5	6.3%
El Paso	0.4	5.6%

■ Planned Sq. Ft.

Top 10 Markets	Sq. Ft. Planned (MM)	Planned as a % of Existing Stock
Austin	18.2	23.2%
Nashville	9.5	21.4%
Miami	10.1	14.3%
Brooklyn	4.4	13.2%
Atlanta	26.0	12.5%
San Francisco	19.9	11.9%
West Palm Beach	3.9	11.1%
Dallas - Fort Worth	32.8	10.7%
Baton Rouge	1.3	10.3%
Boston	21.9	10.2%

■ Prospective Sq. Ft.

Top 10 Markets	Sq. Ft. Prospective (MM)	Prospective as a % of Existing Stock
Bay Area	41.2	16.6%
Brooklyn	4.6	13.9%
Long Island	7.1	13.3%
Charlotte	9.7	13.2%
Pensacola	1.0	12.3%
Central East Texas	1.0	12.3%
Nashville	4.9	11.1%
Jacksonville	3.7	9.3%
Reno	0.8	9.2%
Austin	7.0	9.0%

*Includes owner-occupied

Source: Yardi®Matrix

Top 20 Largest Office Projects Under Construction

Property Name	Market	Square Footage (MM)
The Post Office	Chicago	2.50
One Manhattan West	Manhattan	2.20
Robert L. Crandall Global Support Campus	Dallas-Fort Worth	1.80
110 North Wacker	Chicago	1.79
One Vanderbilt	Manhattan	1.76
Pier 70	San Francisco	1.75
California Market Center	Los Angeles	1.30
The Jacx	Queens	1.20
Rufus 2.0 – Block 20	Seattle	1.12
Pioneer Natural Resources Headquarters	Dallas-Fort Worth	1.10
The Dayton's Project	Minneapolis-St. Paul	1.10
Nashville Yards	Nashville	1.00
Nike World Headquarters – Serena Williams Building	Portland	1.00
Rainier Square Tower	Seattle	0.98
600 Canal Place	Richmond-Tidewater	0.91
Rufus 2.0 – Block 21	Seattle	0.89
801 Broadway	Los Angeles	0.88
390 Madison Avenue	Manhattan	0.86
The Farley Building	Manhattan	0.86
Bank of America Tower	Charlotte	0.83

*Expected completion year: 2019-2020

Source: Yardi®Matrix

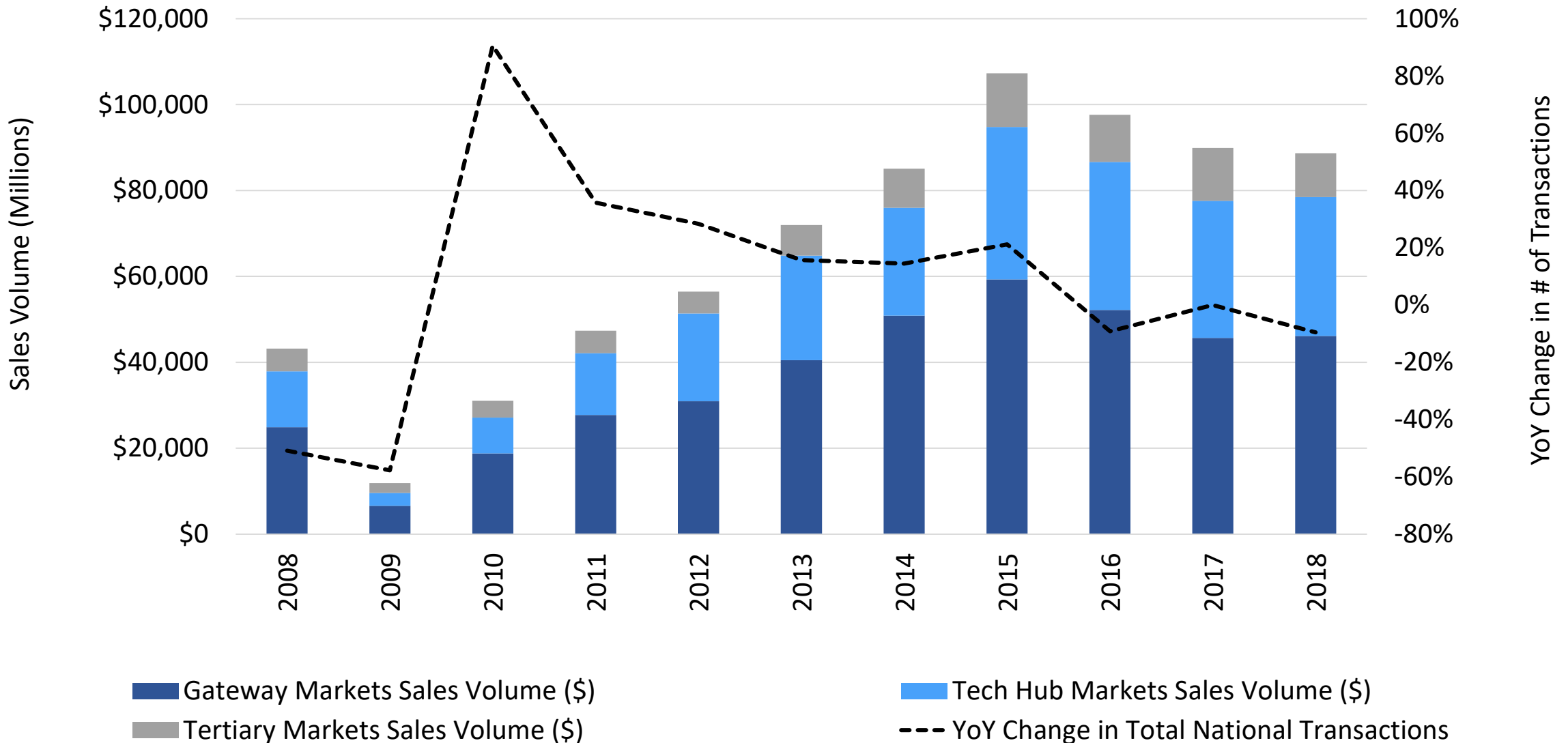
There are a Lot of Loans Coming Due Over the Next Two Years in the Markets with Heavy Development Pipelines

Loans Maturing Over the Next Two Years Between April 2019 – April 2021			
Market	Property Count	Total Sq. Ft.	Total Loan Amount (MM)
San Francisco	45	7,677,756	\$11,008.56
Seattle	40	6,274,706	\$6,647.29
Nashville	32	4,333,223	\$5,159.74
Austin	43	5,103,245	\$1,842.93
Brooklyn	12	3,627,899	\$713.80
Mobile	1	68,000	\$134.01
Queens	4	418,969	\$64.76
South Bend	2	118,075	\$36.12
Midland-Odessa	5	478,657	\$25.17
El Paso	4	236,211	\$21.48

*Sorted by Total Loan Amount (MM)

Source: Yardi®Matrix

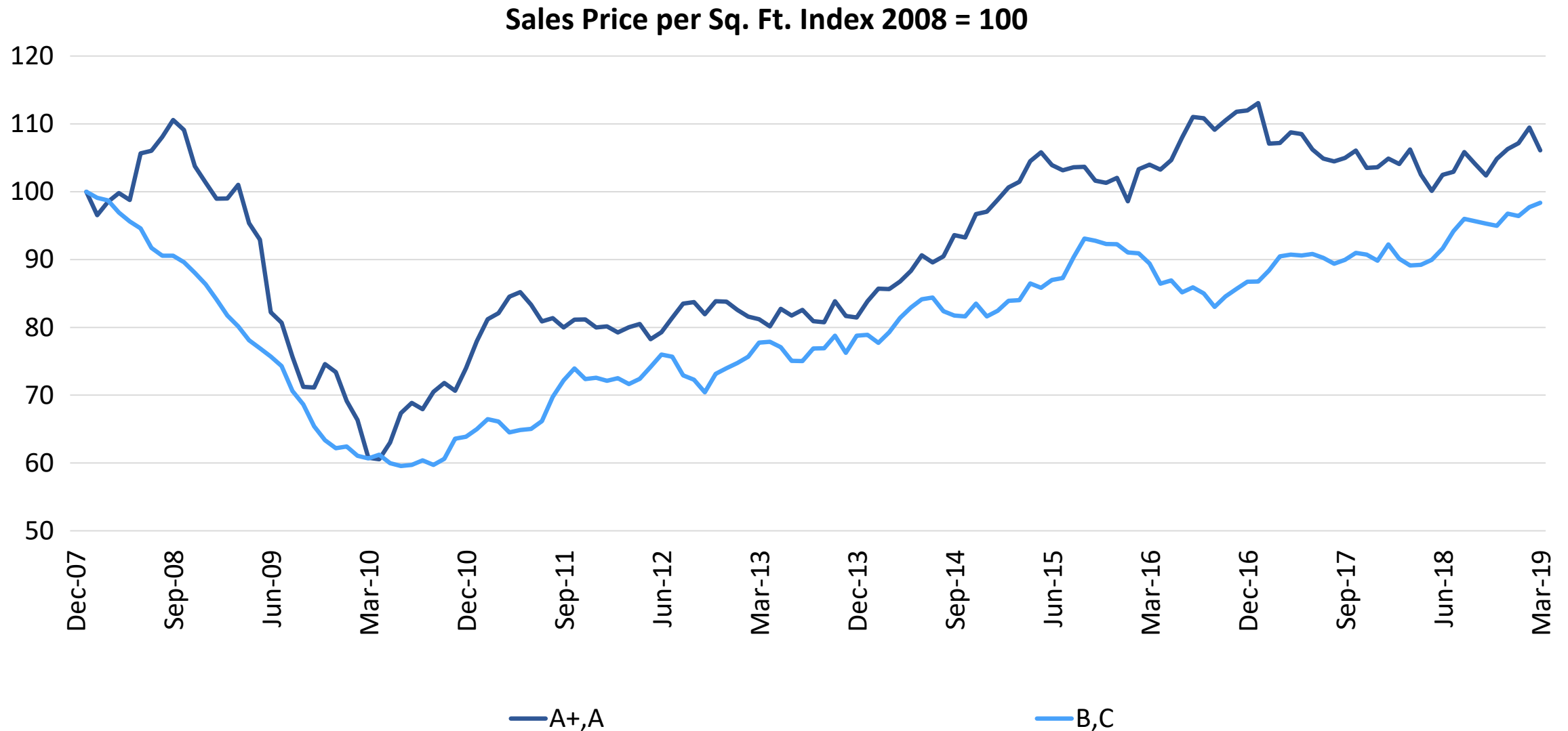
Office Sales Volume Dropping in Each Market Category



*Includes owner-occupied

Source: Yardi® Matrix

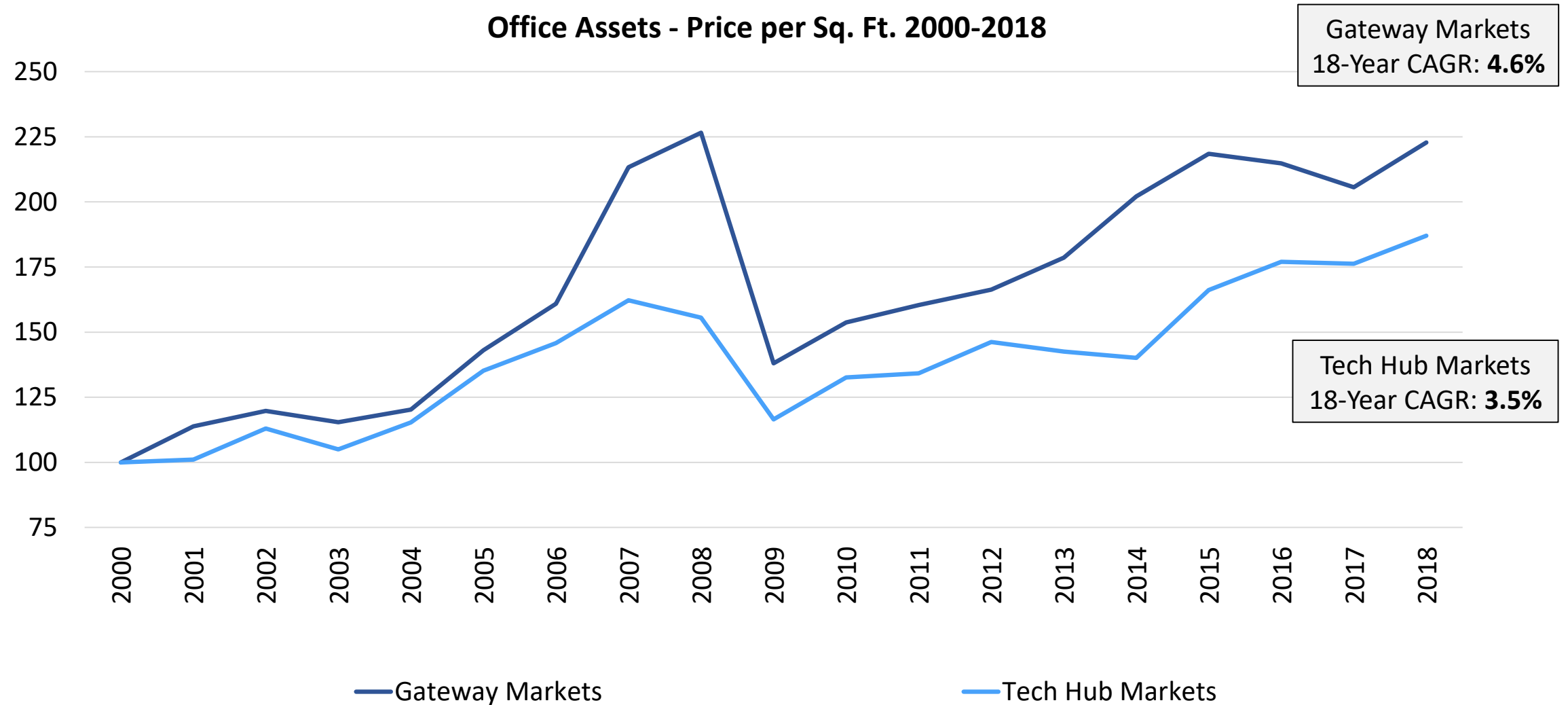
Since the Recession, Class A Has Outperformed B/C



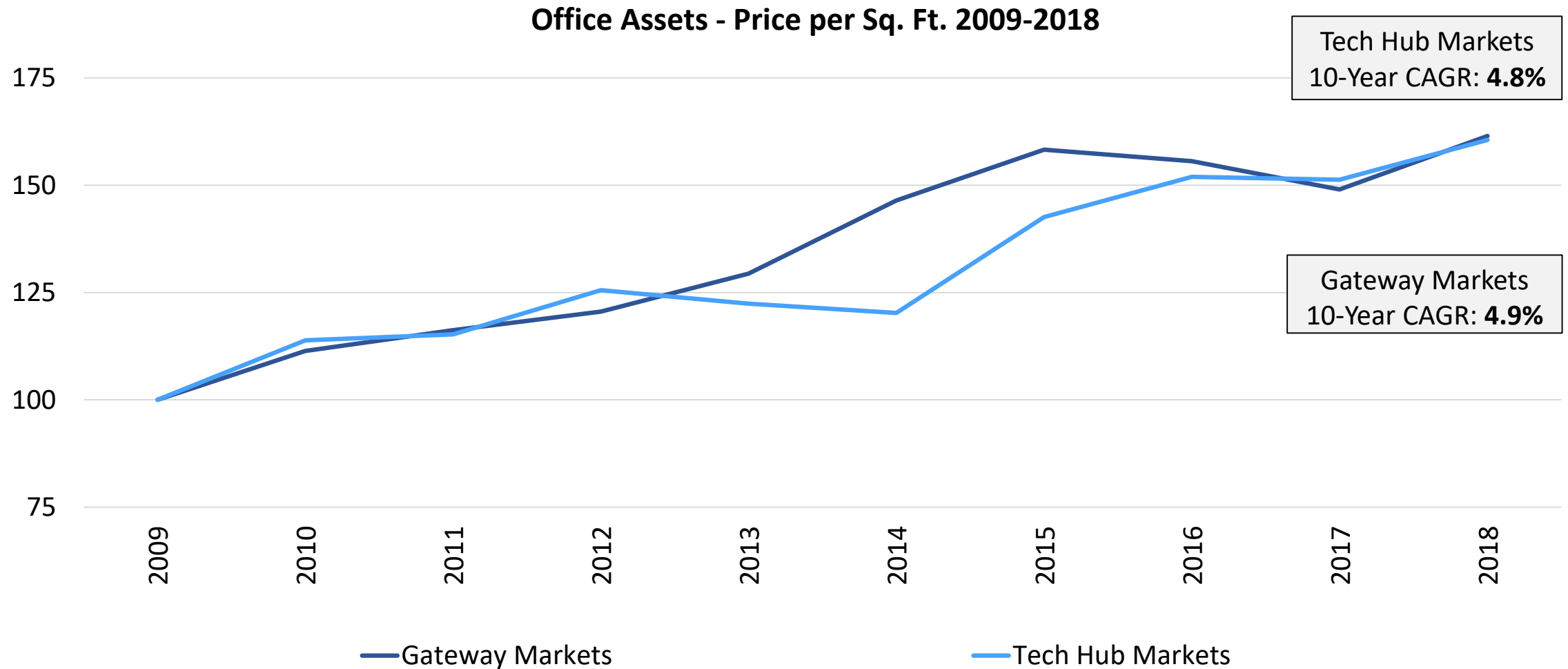
*12-month rolling avg. sales price per sq. ft. index 2008 = 100

Source: Yardi®Matrix

Office Assets in Gateway Markets Have Outperformed Since 2000, but...



Office Assets in Tech Hub Markets Have Performed In Line with Gateway Markets Since 2009



Most Active Sellers

Seller	Total Sq. Ft. (MM)	# of Transactions (Including Portfolio Sales)	Markets Where Transactions Occurred
EQ Office (Formerly Equity Office)	3.11	14	Atlanta, Bay Area, Los Angeles, Orange County, San Diego, & San Francisco
Parmenter Realty Partners	1.86	3	Atlanta & Dallas-Fort Worth
Lexington Realty Trust	1.75	2	Dallas-Fort Worth, Houston, & Phoenix
Hines Interests	1.57	7	Dallas-Fort Worth, Los Angeles, Orange County, Phoenix, San Diego, & San Francisco
Brookfield Properties	1.45	2	Phoenix & Los Angeles
UBS Realty Investors	1.24	3	Atlanta, Bay Area, & Los Angeles
Fortress Investment Group	1.20	5	Atlanta & Phoenix
PGIM Real Estate	1.15	5	Orange County, San Diego, & San Francisco
HighBrook	1.08	6	Dallas-Fort Worth, Denver, & Phoenix
Shorenstein	1.02	6	Bay Area & Seattle

Most Active Buyers

Buyer	Total Sq. Ft. (MM)	# of Transactions (Including Portfolio Sales)	Markets Where Transactions Occurred
Bridge Investment Group	1.57	5	Atlanta & Chicago
Davidson Kempner	1.50	1	Dallas-Fort Worth & Houston
Starwood Property Trust	1.38	3	Atlanta & Bay Area
Rockpoint Group	1.29	2	Manhattan & Orange County
Invesco Real Estate	1.27	3	Manhattan & Seattle
Granite Properties	1.14	2	Houston & Orange County
Vanbarton Group	1.09	3	Manhattan & San Francisco
Oaktree Capital Management	0.98	4	Dallas-Fort Worth & Phoenix
TerraCap	0.85	4	Atlanta & Dallas-Fort Worth
County of Santa Clara	0.83	8	Bay Area

In Summary:

- Office completions peaked in 2018, but in 2019, there is still a heavy development pipeline, with approximately 605 million sq. ft. under construction and in the planning stage nationally
- Office absorption remains robust, and asking rates are increasing nationally
 - The increases were led by San Francisco with the start of pre-leasing of a 1.5M sq. ft. space currently listed at \$95 per sq. ft. NNN
- Transaction activity has been slowing
 - Investors are exhibiting more caution as they assume the economic cycle hits the late stages, and some types of foreign buyers have reduced levels of interest as acquisition yields remain extremely tight in primary markets

Secular Changes and Emerging Trends

Secular Pressures Continue to Alter the Office Market

- Coworking
 - Pulls roughly 1-3% of market demand from traditional office leases
 - More highly concentrated in dense, high cost gateway markets
- Decreasing Square Foot per Employee
 - Specifically in CBD and high cost metros
- Talent Pool for Office Using Employment – Office is becoming more about the *experience*
 - Diversifying and moving to lower cost markets
- Capital expenditures are rising in office assets as the labor market tightens and office occupiers view space as a part of HR strategy, and most markets still have a lot of space to absorb
- Technological advancements are coming that will change the way we invest in and manage office properties

Coworking Trend Reducing Demand for Office Space

Coworking, Telecommuting and Outsourcing

Telecommuting

- Work-at-home population has grown by 115% since 2005
 - Nearly 10x faster than the rest of the workforce
- 3.7 million employees (2.8% of workforce) now work from home at least half the time



Small but growing
Impacts demand at the margins

Outsourcing

- Companies outsource to cut costs, focus on core business, and solve capacity issues

What are your current and future outsourcing strategies for the various business functions?

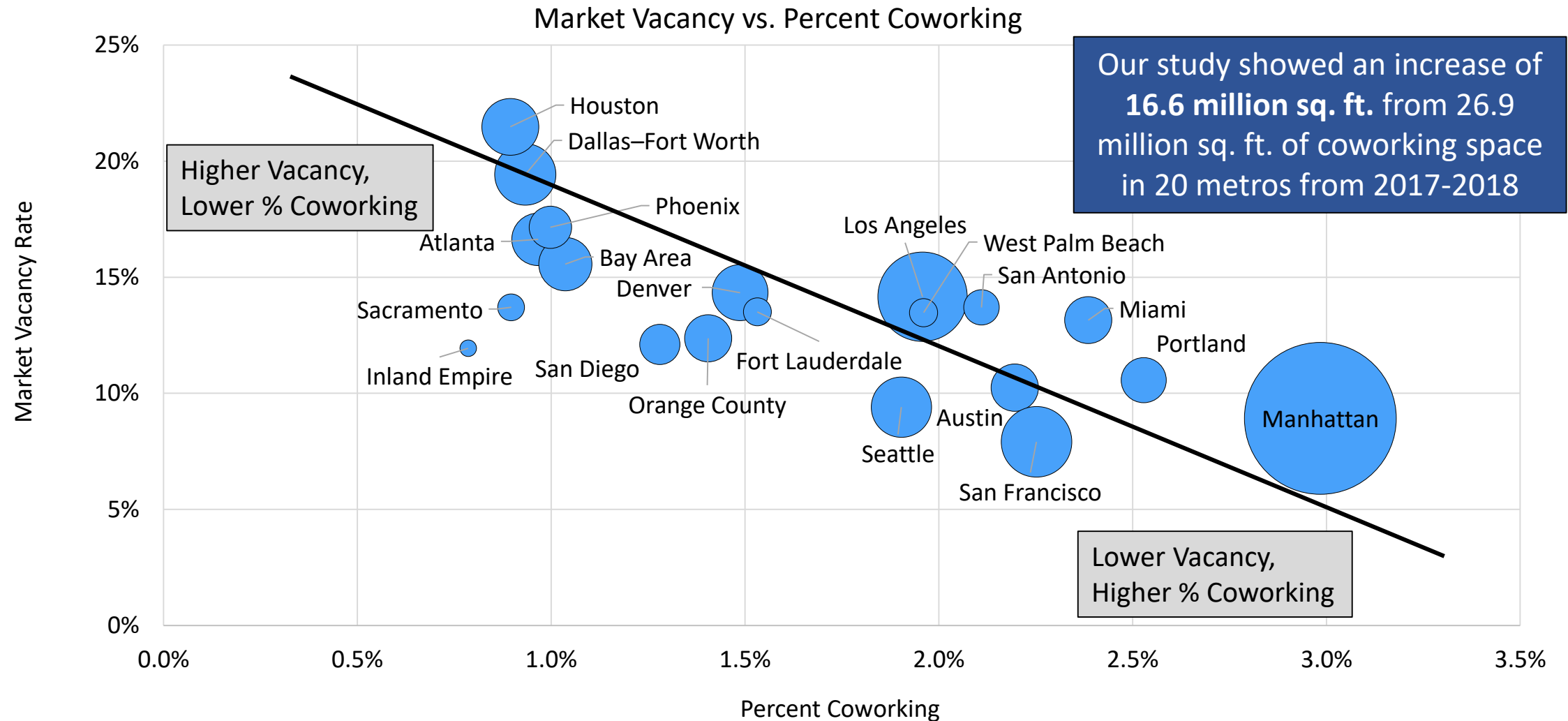
		Currently outsource	Increase use of outsourcing
	IT	72%	31%
	Legal	63%	14%
	RE & FM	60%	30%
	Tax	53%	17%
	HR	47%	32%
	Finance	42%	36%
	Procurement	41%	29%

2016 Global Outsourcing Survey by Deloitte

*Telecommuting data as of June 2017

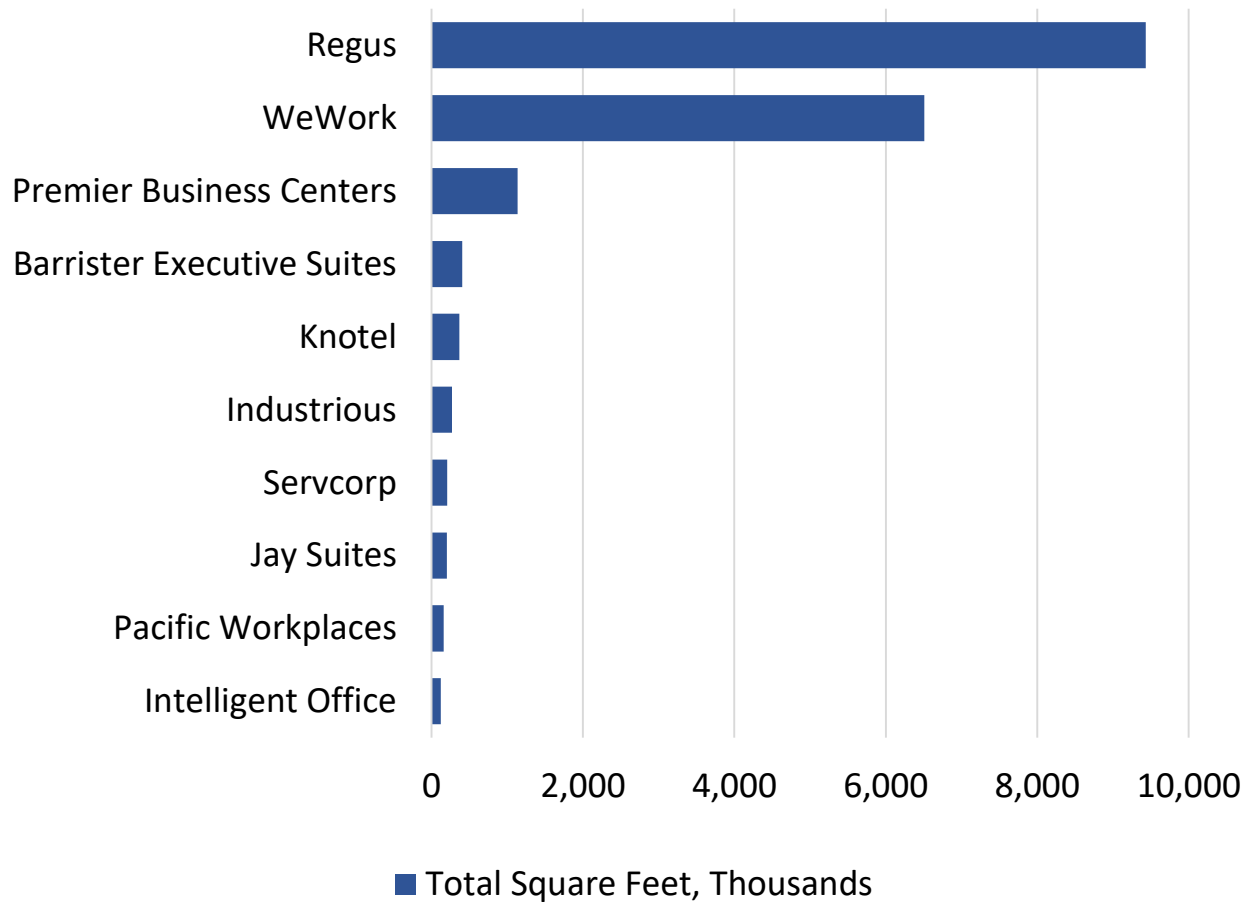
*Outsourcing data as of Jan 2016

Markets with Lower Vacancy Have a Higher Proportion of Coworking Space...but It's Growing Everywhere

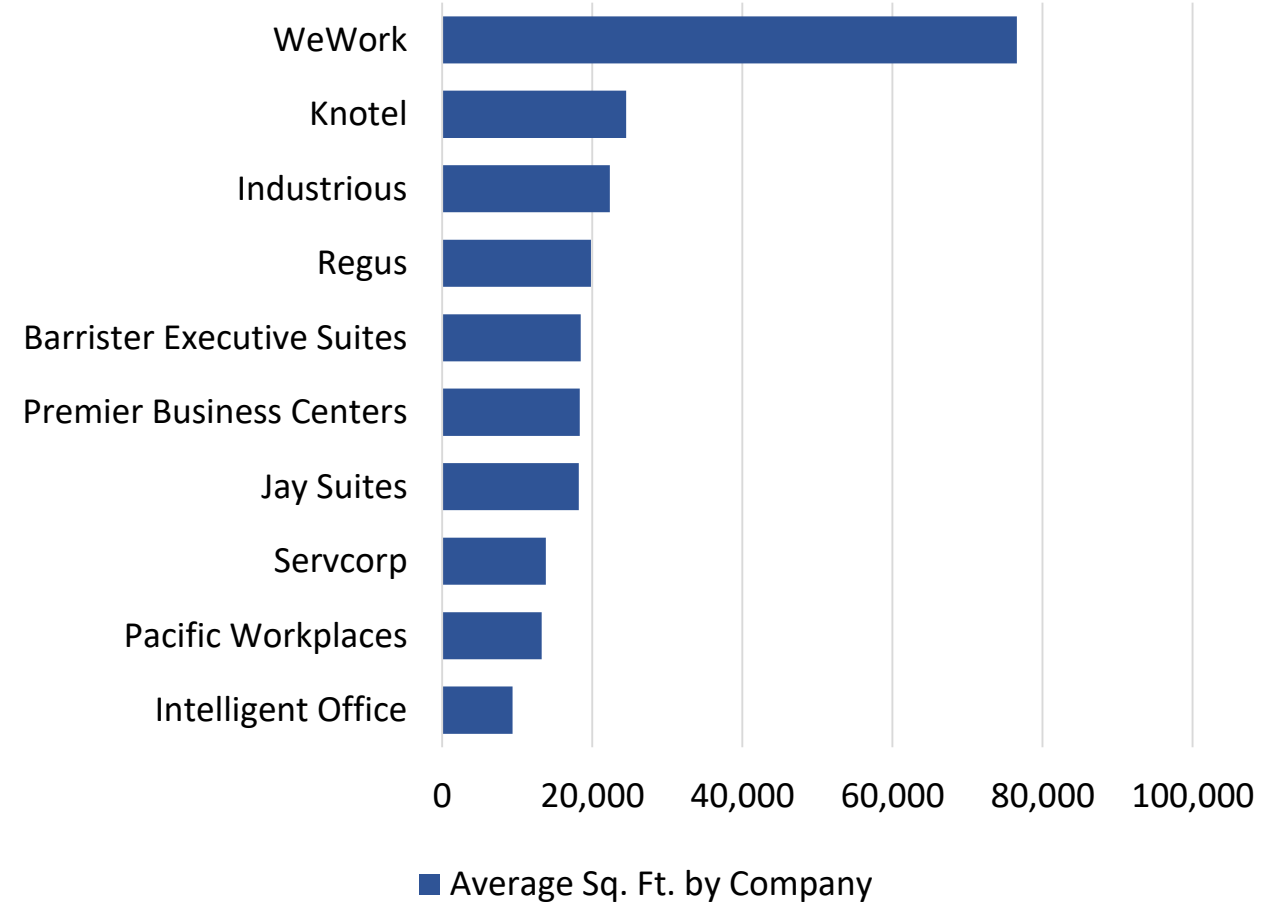


Two Industry Giants Dominate Coworking, but both CBRE and JLL Just Entered the Sector

Regus has the Most Space



While WeWork has the Biggest Spaces



Emerging Trends in Coworking



Hotels

- The Virgin hotel in Chicago has implemented a monthly membership model for its coworking space – includes a bar, private meeting areas, free drinks, a library, Wi-Fi and wireless printing



Airports

- Varidesk recently installed standing desks at the Dallas/Fort Worth International Airport – space includes free Wi-Fi, 75 charging hubs, and a meeting room



Multifamily

- The Cooper, a five-story multifamily community recently broke ground in Fort Worth – will include a coworking space
- Faraday Park development, a two-building multifamily project in Reston, VA will include a coworking space



Malls

- Switzerland-based International Workplace Group signed a 32K SF to open the first U.S. location for its No18 coworking brand – will be located at The Shops Buckhead Atlanta



College Campuses

- WeWork has opened its first location on a college campus at the University of Maryland – space covers more than 16K SF over two floors, more than 300 desks, communal space and access to conference rooms



Niche

- Targeting a specific segment – a coworking space for artists, for developers and coders, writers, photographers, etc.
 - Ex: The Landing Zone – collaborative workspace in New Orleans that caters to veterans
 - Ex: Gateway Works – California's first coworking space exclusively for emerging Cannabis companies

Sq. Ft. of Office Space Per Person is Falling

Office-using employment has grown faster than total employment and population over the past ten years

	10-Year CAGR (2008 - 2018)
Office-Using Employment	1.1%
Total Employment	0.8%
Population	0.7%

And yet, sq. ft. per person has fallen over the same time period in typically expensive markets

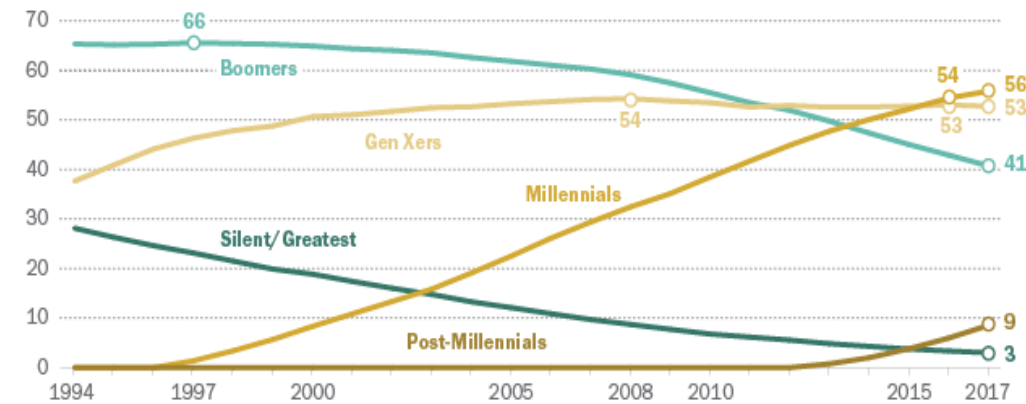
Market	Sq. Ft. per Person 10-Year CAGR (2008 - 2018)
Austin	-2.2%
San Francisco/Bay Area	-1.4%
West Palm Beach	-1.4%
Tampa	-1.3%
Atlanta	-1.3%
Dallas - Fort Worth	-1.1%
San Antonio	-1.1%
Fort Lauderdale	-1.0%
Orlando	-1.0%
Raleigh - Durham	-0.9%
Denver	-0.8%
Charlotte	-0.7%
Orange County	-0.6%

Market	Sq. Ft. per Person 10-Year CAGR (2008 - 2018)
Phoenix	-0.5%
Portland	-0.5%
Miami	-0.4%
Sacramento	-0.2%
Seattle	-0.1%
Boston	-0.1%
Chicago	0.0%
Houston	0.1%
Los Angeles	0.2%
San Diego	0.3%
Washington DC	0.4%
Philadelphia	0.5%
Inland Empire	0.7%

The Office Has Become an Experience Much Like Retail

Millennials became the largest generation in the labor force in 2016

U.S. labor force, in millions

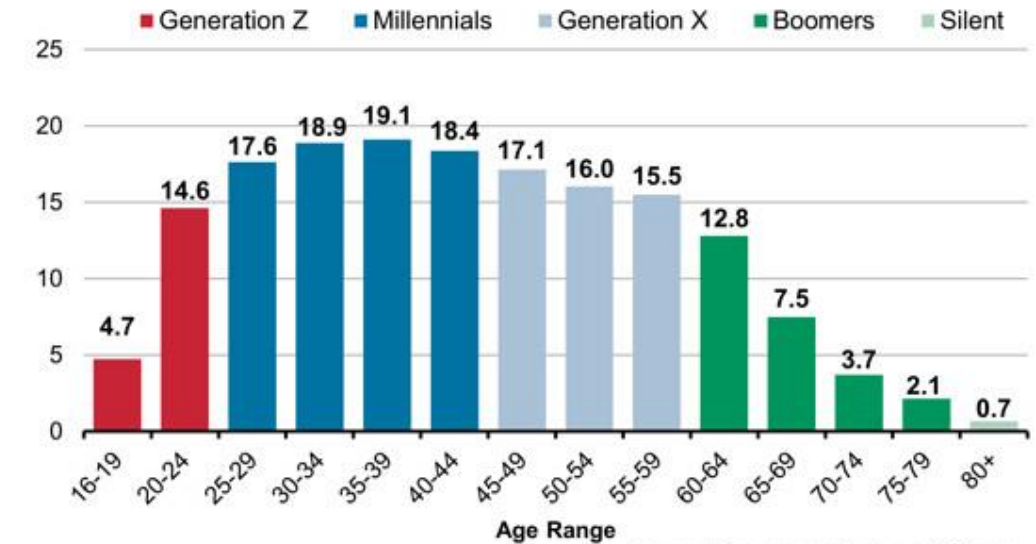


Note: Labor force includes those ages 16 and older who are working or looking for work. Annual averages shown.
Source: Pew Research Center analysis of monthly 1994-2017 Current Population Survey (IPUMS).

PEW RESEARCH CENTER

The Workforce in 2025

Projected size of U.S. labor force (in millions) by age, for the year 2025



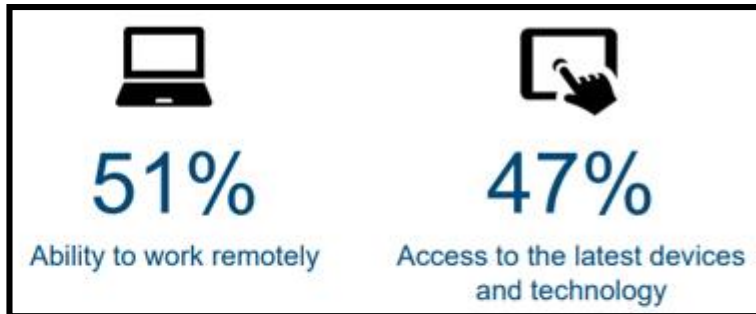
Source: Department of Labor | WSJ.com

From **Commercial Property Executive**: “Gen-Z’s Impact on Workplace Design”

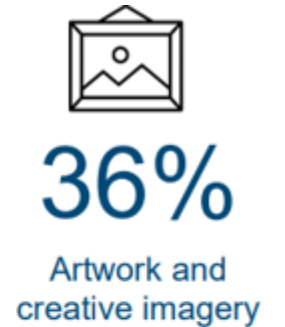
- Gen-z will comprise 30% of the workforce by 2030
- In the reception area, 100% of participants preferred a personal connection over a strictly digital one
- 86% of Gen-Z indicated that office setting would influence the acceptance of a job offer

CapitalOne 2018 Work Environment Survey

Attracting Talent: Meeting Expectations



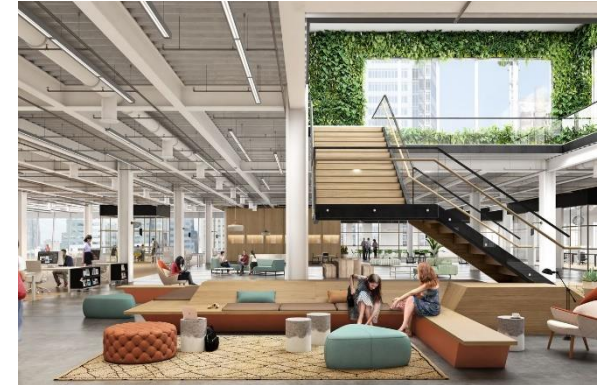
Office Design: Elements That Matter



Platforms to Enhance the Office Experience

JLL - Curae Approach

- Integrated suite of products offering a variety of experience management programming, all with the goal of making life better for clients, tenants and employees
- Wellness programs, yoga, social programming and educational seminars
- Includes partnerships with HqO, an app-based tenant experience platform and Office Depot - tenants will be able to source supplies and products at competitive prices



Tishman Speyer – Zo Amenity Package

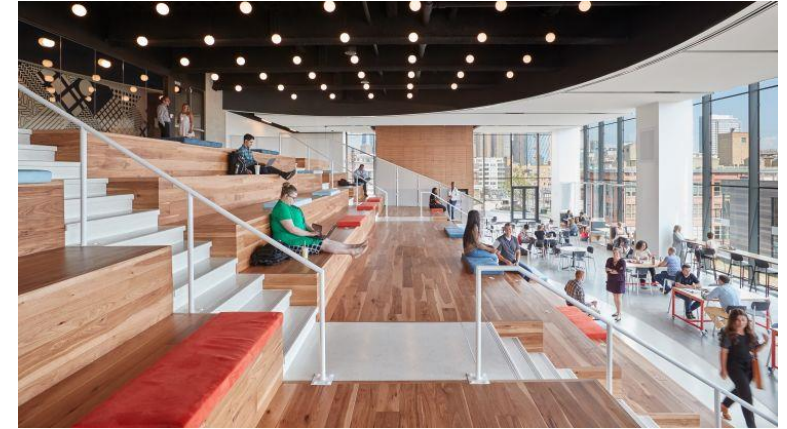
- Provides access to various services: emergency day care, wellness, pet care, ride-sharing, refuel services and flower and food delivery
- A way to provide access to services that small companies may not be able to afford for their employees
- Started with services for tenants at Rockefeller Center and is now expanding nationally



Office as an Experience – Case Studies

McDonalds Headquarters – Chicago, IL

- 48,000 SF, nine stories, completed in 2018
- Features a McDonald's restaurant that is open to the public, showcases menu items from around the world
- Hamburger University is on the second floor – where new managers are trained
- Test Kitchen – where the company experiments on new sandwiches and sauces
- Employee café that features stadium seating and a McCafe with barista-style coffee
- 300 conference rooms, fitness center, several outdoor terraces with views of the city



Microsoft Headquarters – Redmond, WA

- 500-acre campus, expected to be completed between 2023 – 2025
- Will include a campus-wide mobile app that will make it easier for employees to book shuttles, order lunch, or check the wait times at the cafeteria
- Underground tunnels to funnel services, smart parking garages, tucked-away drop-off areas being designed with the automated vehicles of the future in mind
- Two-acre outdoor plaza will create space for more than 10,000 people to gather



Capital Expenditures Rising as Office Space Becomes a Bigger Part of Talent Strategy

OFFICE	Denver	Atlanta	Austin	Boston	Manhattan	Seattle	Washington DC	Miami	San Diego
Net Operating Income	\$13.25	\$12.19	\$19.12	\$23.71	\$31.68	\$23.28	\$21.29	\$18.13	\$17.94
CapEx	\$3.89	\$3.60	\$4.03	\$5.76	\$7.19	\$4.21	\$3.96	\$4.19	\$5.03
CapEx as a % of NOI	29.4%	29.5%	21.1%	24.3%	22.7%	18.1%	18.6%	23.1%	28.0%

MULTIFAMILY	Denver	Atlanta	Austin	Boston	Manhattan	Seattle	Washington DC	Miami	San Diego
Net Operating Income	\$11,328	\$8,276	\$7,059	\$13,840	\$20,563	\$13,244	\$10,839	\$11,467	\$14,129
CapEx	\$2,223	\$2,044	\$1,528	\$1,710	\$2,425	\$1,359	\$1,375	\$1,210	\$1,676
CapEx as a % of NOI	19.6%	24.7%	21.6%	12.4%	11.8%	10.3%	12.7%	10.6%	11.9%

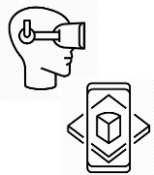
Technology's Impact on Commercial Real Estate

Already in Progress



Utility Optimization

Independent monitoring of HVAC and all associated system and independent correction, optimization and fault notification



Virtual & Augmented Reality

Sell, inspect, repair pre-completion and post completion



Smart Building

Automate locks, rekeying, maintenance, guest entry

4G

Coming Soon



Machine Learning: Everything

Everything that is developed and deployed will have some form of machine learning behind it: Investments, Asset Management, Operations, Maintenance, Construction



Autonomous Transportation

Deliveries, Parking, Ride-Sharing



Energy

Batteries and Solar Energy

5G

In Summary:

- There are a number of secular changes that are weighing on demand for office space
- Coworking isn't going away
 - Companies are increasing their sprawl of employment in various locations outside of their primary office locations
 - As a result, sq. ft. per person is falling
- Office space is being used as a tool to attract top talent in this labor shortage – and employees prefer an experiential office space which takes significant CapEx investment
- Technology is another disruptor to pay attention to over the long-term

Placemaking Opportunities

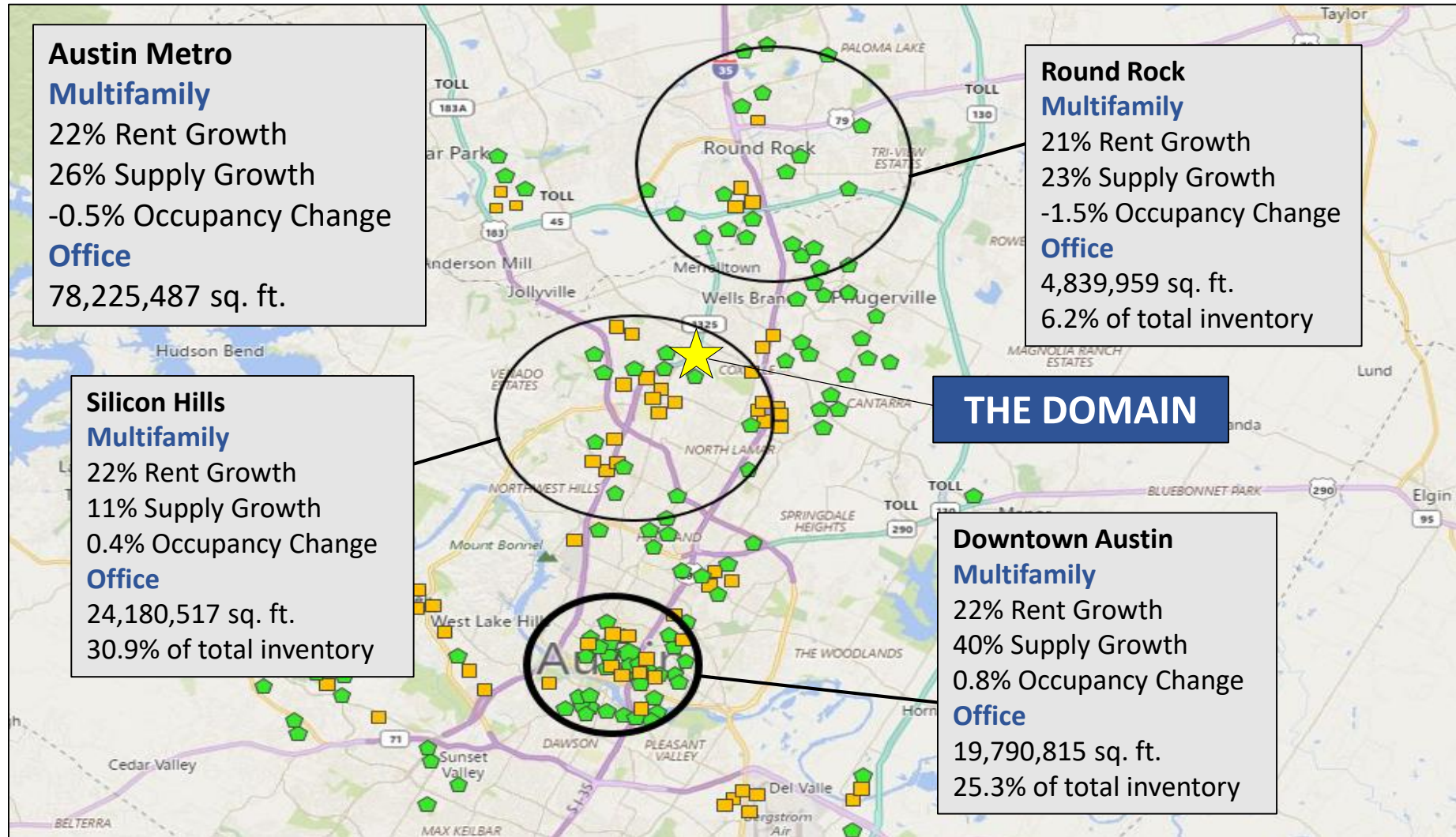
Places Where Value is Being Created

It may take extensive investment, but entrepreneurial activity and placemaking create value

- Primarily in the suburbs of tech markets
- Mixed-use developments incorporating live-work-play



Intellectual Capital Nodes - Austin



■ Office Development

◆ Multifamily Development

*Multifamily rent, occupancy and supply growth March 2014 through March 2019

*Office inventory as of April 2019

Source: Yardi® Matrix

The Domain in Austin, TX

- **The Domain**

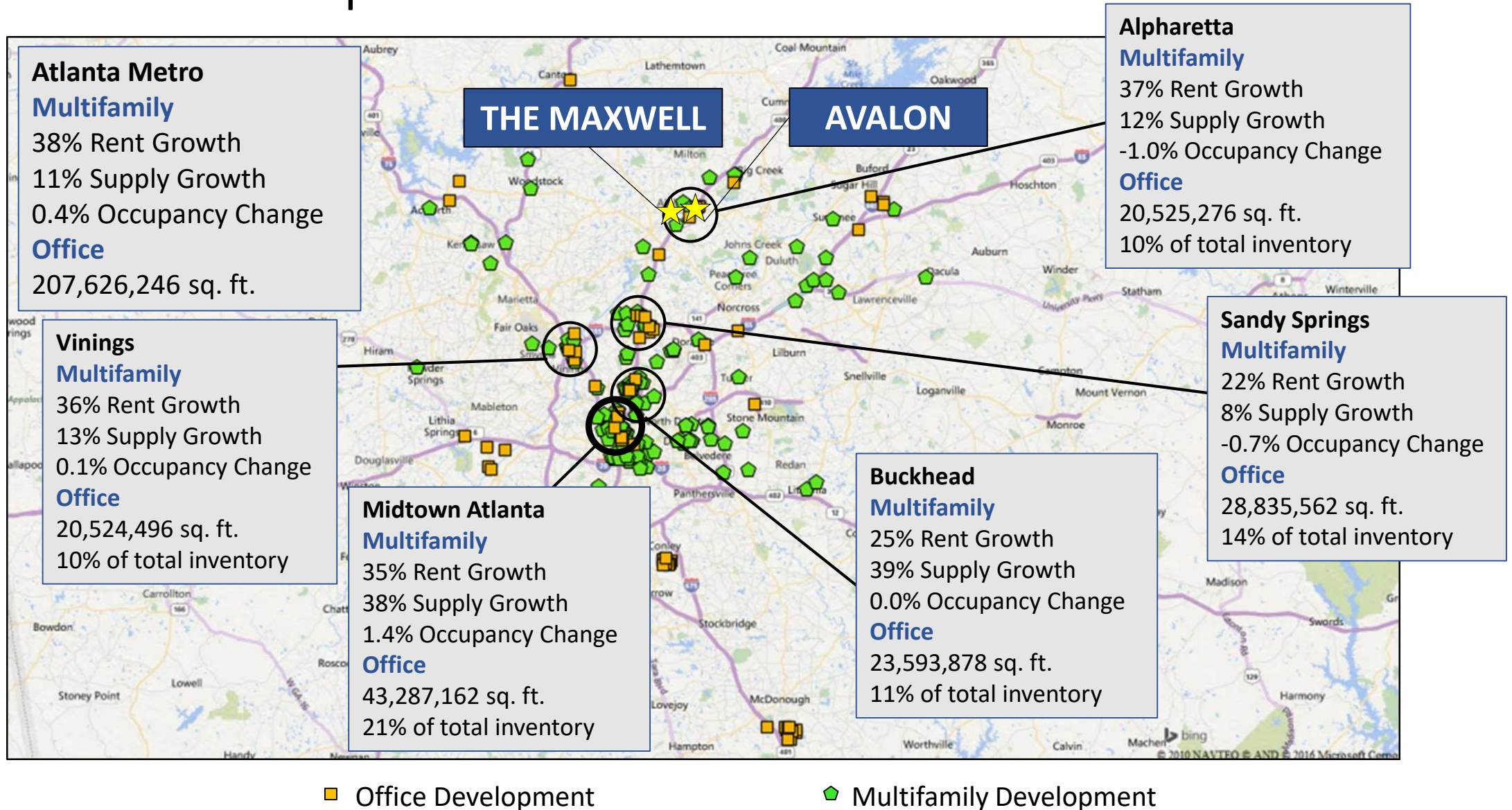
- More than 5,000 tech jobs have been added since 2017
- Approx. 1.8 million sq. ft. of retail space, including more than 50 bars and restaurants and over 100 retail stores
- Approx. 5,000 apartments, with over 1,000 under construction
- Over 800 hotel rooms



Companies

- **Amazon** – currently employs around 1,000 employees in its Domain office, recently announced plans to add 800 high-tech jobs
- **Facebook** – has announced plans to lease all 17 floors of the new Domain 12 office tower
- **HomeAway** – will take over 16 floors of the Domain 11 office tower, which will host its new global headquarters and will have room for up to 2,000 employees
- **IBM** – offices are currently undergoing redevelopment into a 6 million sq. ft. mixed-use campus
- **Indeed** – recently signed a lease at Domain Gateway, will accommodate 3,000 employees

Intellectual Capital Nodes - Atlanta



*Multifamily rent, occupancy and supply growth March 2014 through March 2019

*Office inventory as of April 2019

Source: Yardi® Matrix

The Maxwell and Avalon in Atlanta, GA

Alpharetta

- The Maxwell
 - 13-acre mixed-use site currently under construction
 - Will include 138 townhomes & condos, 26,000 sq. ft. of retail and dining, 8.5 acres of office space
- Avalon
 - Phase I includes 86 acres
 - 800 residential units (luxury apartments & single-family homes), 750,000 sq. ft. of Class A office space, 570,000 sq. ft. of retail space and a 330-room hotel

Companies

- **SAP** occupies a 43,000 sq. ft. lease in Avalon
- **Microsoft Corp.** occupies a 43,000 sq. ft. lease in Avalon
- **Hewlett Packard** occupies a 60-acre campus with approx. 1,000 employees



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The Yardi Matrix View – Office Investment Strategy

- **U.S. economy is in decent shape**
 - Q2 is showing a reacceleration after a slow-down late last year and into the beginning of this year
 - GDP growth is decelerating but still north of 2%
 - U.S. oil production is keeping inflation low below 2% - and low inflation is a global phenomenon
 - The yield curve briefly inverted, but Fed easing has pulled us back from the brink
 - The labor market is extremely tight, and wages continue to rise, particularly in office-using industries
- **Conditions sufficient to maintain good office using employment growth, occupancy and slow rental growth**
 - Demand is steady with job growth in office-using industries outpacing other industries, and tech hub markets have had the most dynamic job growth
 - More than half of Yardi Matrix markets are seeing moderate rent growth over the past year, with some big winners (San Francisco, Tampa, Miami, Los Angeles, Bay Area), but some have seen asking rates fall (San Diego, Denver, Portland, Inland Empire, Austin)
 - Office completions peaked in 2018, but a lot of markets still have room for absorption
 - The markets with the heaviest development pipelines also have a lot of loans coming due over the next two years
 - Transaction activity has been slowing, and prices for Class A assets have increased more than B and C since the recession

Office Investment Strategy – Continued

- **Macroeconomic factors indicate that the office industry should be performing better than ever...but secular changes have been a drag on the industry**
 - Coworking is growing as companies are increasing their sprawl of employment in various locations outside of their primary office locations
 - As flexible office space and coworking continue to take off, sq. ft. per person is falling
 - With such a tight labor market, office space is being used as an HR strategy to attract talent, and with that comes substantial capital expenditures
 - The core market investment strategy seems to be less attractive than in the past due to the above forces
- **There are places where value is being created through entrepreneurial activity and placemaking**
 - Primarily in suburbs of tech hub markets
 - Mixed-use developments incorporating live-work-play
 - Examples - The Domain in Austin, The Maxwell and Avalon in Atlanta
 - Located within established intellectual capital nodes outside of the urban core
- **Investment strategy is bifurcated**
 - Capital preservation (international gateway CBDs) and capital appreciation (suburban revitalization, primary and secondary cities)...there is also some drift down to some tertiary markets

Contact Information

Thank you! We are happy to answer any questions. Please contact:

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