

Research Report

The Evolution of Office Space Utilization in the U.S.

September 2016

Please note certain information in this presentation constitutes forward-looking statements. Due to various risks, uncertainties and assumptions made in our analysis, actual events or results or the actual performance of the markets covered by this presentation report may differ materially from those described. The information herein reflect our current views only, are subject to change, and are not intended to be promissory or relied upon by the reader. There can be no certainty that events will turn out as we have opined herein. Certain Deutsche Asset Management investment strategies may not be available in every region or country for legal or other reasons, and information about these strategies is not directed to those investors residing or located in any such region or country.

For Professional Clients (MiFID Directive 2004/39/EC Annex II) only. For Qualified Investors. (Art. 10 Para. 3 of the Swiss Federal Collective Investment Schemes Act (CISA)). For institutional investors only. Further distribution of this material is strictly prohibited.

The Evolution of Office Space Utilization: A Paradigm Shift in Investment Strategy

Today's U.S. office market is a vastly different one than prior to the financial crisis. In the eight years that have passed since the start of the recession, the office market has undergone perhaps one of the greatest transformations since the suburban office market boom of the 1980s. The geographic center of gravity has shifted; demand drivers have changed; and the definition of "office space" has evolved. In particular, space densification — squeezing more workers into less space — has been cited as a heavy drag on office occupancy.

Several factors have contributed to space densification, some transitory and others more durable. Over-leasing during the housing boom likely saddled employers with a surfeit of space that was purged in the wake of the recession. Other structural trends, including the growth of creative industries, the entry of Millennials into the work force, and the proliferation of paper-saving technologies have also played a role. At a macro level, it appears that densification may be waning, offset by the competitive need for employers to provide working space that can both attract top talent and promote individual productivity. Yet at a micro level, these underlying trends continue to have important implications for investment strategy, including product, market, and asset selection.

Space Utilization: Recent and Emerging Trends

In order to think about how space efficiency affects office market opportunity, we need to firmly understand what space utilization is, how it has changed, and how it translates to efficiency and densification. According to the General Service Administration (GSA) and Department of Health and Human Services (HHS), space utilization is defined as "the usable square feet (USF) divided by the number of persons assigned within the USF."¹ Usable square feet, however, does not just pertain to the cubicle or private office that a worker occupies; it extends to common area space, such as conference and meeting rooms, break rooms, and even the kitchen area and bathrooms, within an office.² Ultimately, the space utilization rate is measured as the number of square feet per worker, a rate that fluctuates across industries. For example, law firms have historically used more space per worker to accommodate libraries, files, and private offices.³

Shadow Space and the Great Recession

When the Great Recession hit, companies were forced to downsize and dramatically reduce costs, including releasing space to the market that was not necessarily occupied to begin with, or shadow space (unused space, either off the market or on the market for lease)⁴. The combination of densification and the overhang of shadow space prolonged the office market's recovery in this cycle, predominantly by netting lower absorption levels than in previous recoveries. According to CoreNet Global, by 2013, the average space per office worker declined to about 150 square feet from 225 square feet in 2010.⁵

Shadow space has now mostly burned off, as companies have expanded into their unused space. During the period between 2010 and 2014, the burn-off of shadow space effectively neutralized the housing-boom over-leasing. However, net absorption returned to its pre-recession long term average in 2014. Sublease availability on a national level is now at the lowest level since peaking, totalling 25.5 MSF at the end of 2015, compared with 58.9 MSF in 2009, translating to a 56.8% reduction.

¹ GSA & HHS, "Utilization rate for office and related space."

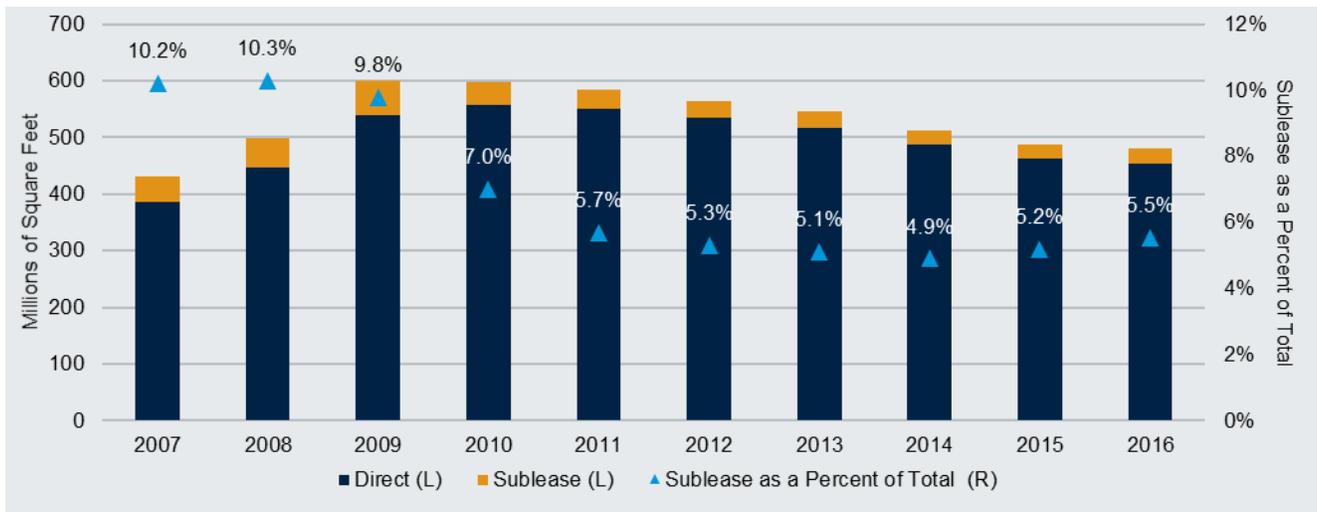
² 42Floors.com, Colliers

³ This rate could be as high as 500 to 1,000 square feet per worker. The Commercial Observer, "Law firms are taking a second look at their offices." September 2015.

⁴ Cassidy Turley, Shadow vacancy is defined as space leased but not currently utilized.

⁵ CoreNet Benchmark Survey. August 2013.

Sublease Space as a Percentage of Total Vacant Space

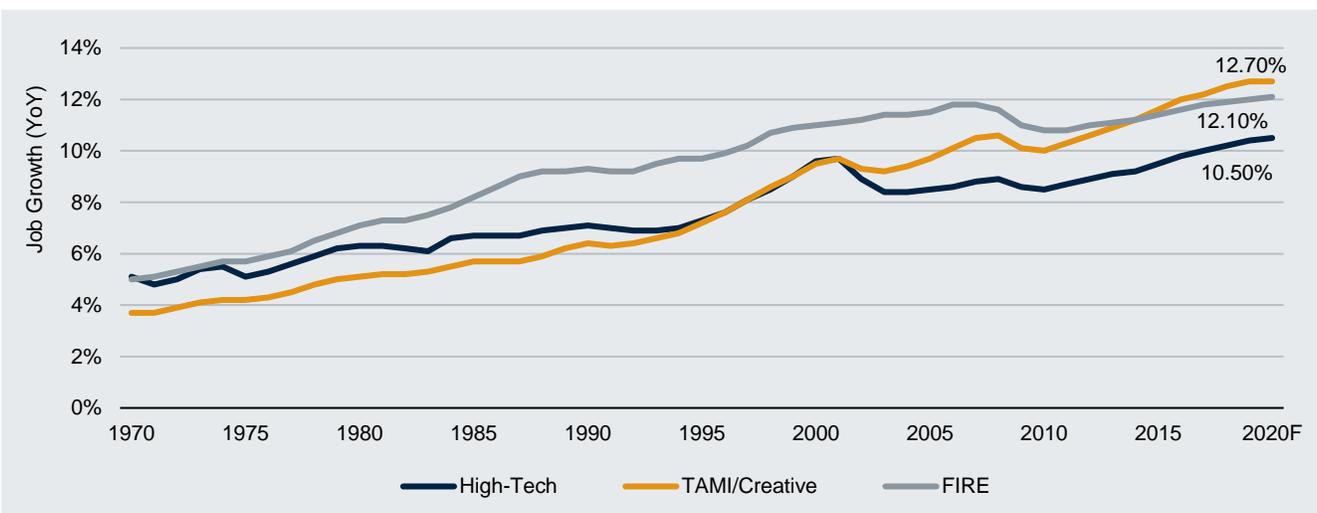


Sources: Deutsche Asset Management, CBRE-EA. As of June 2016.

“New Economy” Growth Drivers

The traditional demand drivers in the U.S. office market have been professional and business services, legal services, and FIRE (Financial Services, Insurance and Real Estate). While all of these sectors continue to drive a large proportion of demand, in the last 15 years, high-tech, including biotech, and technology, advertising, media and information (TAMI) have taken on a greater share of the demand pool. As a result, FIRE has yielded to TAMI as the prevailing demand grouping. According to PWC’s Emerging Trends in Real Estate report, “Investors use the presence of tech firms and science, technology, engineering, and math (STEM) workers in a metro area as a screen for acquisition strategies. As we go through a period when financial firms no longer drive office demand, brokers are [also] concentrating on the technology and media industries as a key source of leasing.”⁶

Share of Employment by Sector



Sources: Deutsche Asset Management, and Moody’s Analytics. As of June 2016.

⁶ PWC, “Emerging Trends in Real Estate.” 2015.

The concentration of employment growth exhibited in the last five years has been in sectors that have spearheaded the space efficiency trend. The growth of high-tech and TAMI industries as office users has re-shaped the traditional office setting. Job growth in these sectors outpaced job growth in finance, insurance and professional and business services during the economic recovery and start of the expansion. With the change in tenant composition came a shift in office layout that would cater better to the operational needs of these tenants.

Construction counsel at an international law firm identified “many key elements and design features [that] characterize the TAMI workspace.” These features include open floor plans and a focus on amenities, collaborative space and outdoor space.⁷ High-tech firms also value a “plug-and-play” aspect where start-ups and growing businesses can quickly adapt to increased headcount without having to reconfigure offices or increase their real estate footprint. Efficiency is key. The basic floor plan of a high-walled cubicle and private office environment has morphed into an open-plan setting, sometimes with low-partition cubicles, but very few – if any – private offices. Components of today’s office include space for hoteling, amenities, break-out or huddle rooms for collaboration and emerging concepts such as “focus booths” for concentration.⁸ The incorporation of these design strategies and overall space efficiency increases densification in regards to the personal workspace of a worker, but also requires more space for collaboration areas than previous, more traditional office layouts.

More than just TAMI:

In recent years, more traditional office-using sectors have begun to adopt efficiency strategies as well. Law firms, for example, are increasingly experimenting with open plan layouts. According to a recent article in the Wall Street Journal, “As law firms find ways to cut costs, junior lawyers have gotten shifted around in other ways, if not to a cubicle. In the pricey New York real estate market, junior associates typically share offices.”

Wall Street Journal, “Lawyer Cubicles are coming to New York” August 2015

The Impact of Millennials

The emerging component of “Millennial” workers (defined by the PEW Center as those born between 1981 and 1997)⁹ is also driving change in the perception of office space and densification. According to a Finland study on office workers, “Those born after 1980 liked an environment that supported collaboration and socializing more than older generations....Millennials, born in the 1980s and 1990s, see the same drawbacks to open layouts — noise, distractions, lack of privacy and crowding — as older people. But they strongly believe that the opportunities to socialize, work in teams or get help from colleagues outweigh the negatives.”¹⁰ In an office setting, Millennials prioritize many of the same design concepts found in high-tech and TAMI offices, especially provisions for collaboration and integration including an open-space plan, huddle rooms and amenity space. As a generation, as shown in the chart below, Millennials now account for 34% of the U.S. labor force, alongside the GenXers (also at 34%) and surpassing the Baby-Boomers (29%). Now more than ever before, the Millennial generation influences the real estate decision-making process.

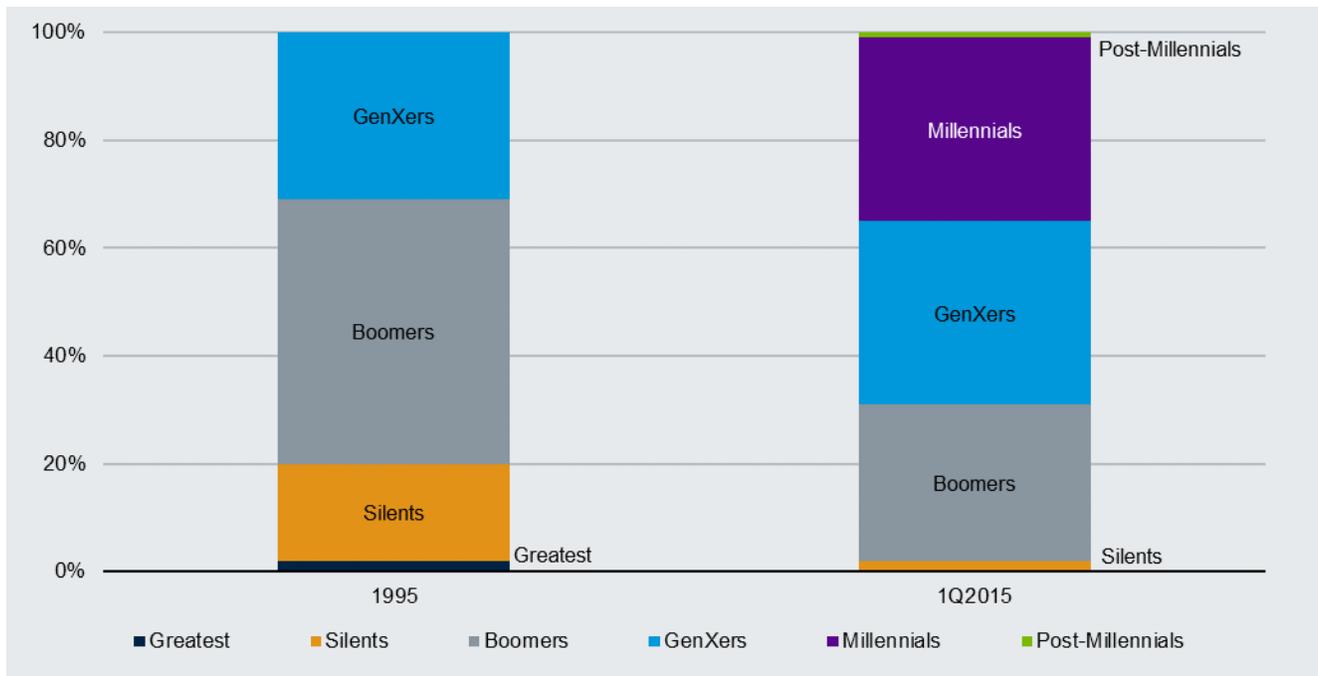
⁷ Proskauer, “The Next Generation of Office Space,” Construction Today. June 2015.

⁸ Gensler, “The Victims of Open Offices are Pushing Back,” BBC Capital. September 2014.

⁹ Pew Research Center

¹⁰ “The Victims of Open Offices are Pushing Back,” BBC Capital. September 2014.

Labor Force Composition by Generation (% of Labor Force)



Sources: Deutsche Asset Management, PEW Center for Research. As of April 2015. Notes: Post-Millennials (After 1997); Millennial (1981-1997); GenX (1965-1980); Baby-Boomers (1946-1964); Silents (1928-1945); Greatest (Before 1928)

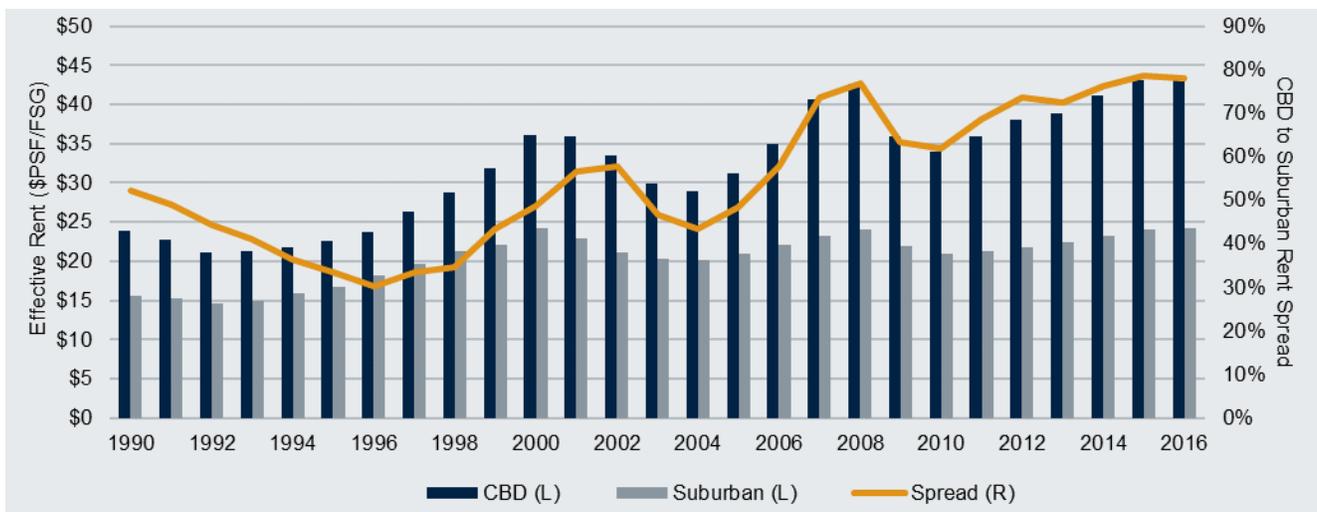
The influence of the Millennials is seen on two levels. First, companies want to attract this generation of talent. One way to do this is to cultivate an office environment – specifically in terms of location and layout – that is favorable to Millennials. Second, often our perceptions of Millennials are of those in the younger subset; however, the leading edge of the Millennials is approaching management level as they enter their mid-thirties. As a result, they are starting to make real estate decisions for their companies. And, of course, not all Millennials are employed by high-tech or TAMI businesses, meaning that their real estate preferences are permeating more traditional office spaces. According to Gensler, “The Millennial workplace is now a ubiquitous condition that exists across the country and is desired by all types of industries.”¹¹ In fact, a 2015 National Legal Sector Benchmark Survey revealed that in more than half the firms surveyed, Millennials represented at least 40% of the attorney roster. Because leases for legal services space are typically longer due to the more sophisticated nature and expense of the build-outs, “associates are increasingly...influencing real estate decisions.”¹²

The impact of Millennials also goes beyond interior office space, influencing location decisions as well, to the detriment of the suburban market. In the most recent office cycle, the downtown markets or CBDs (Central Business District) have led the recovery, both in terms of absorption levels and rent growth. Since effective rents bottomed in 2011, CBD rents have recovered 30% compared with a 12% recovery in suburban office markets. Likewise, CBD rents are 5% above the previous 2008-peak while suburban rents are 2% higher.

¹¹ Gensler. Workplace Transformation: How Human Capital is Impacting Investment in Real Estate. February 2015.

¹² Cushman & Wakefield. 2015 National Legal Sector Benchmark Survey. March 2015.

CBD versus Suburban Effective Rents (All Classes, \$PSF/FSG)



Sources: Deutsche Asset Management, Moody's Analytics and CBRE-EA. As of June 2016.

Initially, some of the movement from suburban to CBD locations was driven by a flight to quality, or ability to capitalize on lower rents for higher quality space or better locations as the market bottomed. This gradually transformed into a recruitment effort, where businesses realized they were best able to attract and retain talented employees if located in highly accessible, high-amenity locations – attributes that Millennials prefer and are most often found in CBDs. “Now, large companies are moving back into the city in an attempt to attract and retain workers—particularly younger workers who are postponing homeownership and favor renting in walkable neighborhoods with easy access to restaurants, shopping and cultural opportunities.”¹³

Digitization and the Paperless Office

The fast-paced world of technology is also permeating the office space in a literal way, changing the actual technology used for daily work. The growth of cloud computing, wireless technology, and digitization of information previously housed in files and separate storage rooms has driven down the amount of office space needed to accommodate associated uses. This is particularly true for legal services firms, which began to participate in the densification process as a cost-saving measure, but for practicality as well. Large spaces to house files are no longer necessary with the transition to digital filing systems. A study by Ted Moudis Associates found that a “paperless” office would equate to one filing cabinet per 17 workers. More realistically, offices are going “paper-light” which results in one filing cabinet per two workers.¹⁴

The use of remote computing technology has even eliminated the need for employees to be in the office full-time. “With the advance and maturity of technology and network availability, the growing trends are tenants downsizing their offices, particularly larger public firms, as they increasingly adopt policies for sharing non-dedicated offices and implement technology to support their employees to work from anywhere and anytime using any of their own devices.”¹⁵ “Wireless technology, rapid access of data, and streamlined computing have all made connectivity to the workplace very simple,” which in turn encourages hoteling and in effect, less space used by full-time workers on a regular basis.¹⁶

¹³ Wall Street Journal, “Companies Trade Suburbs for City Life.” August 2015.

¹⁴ 2016 Workplace Report: TMA by the Numbers. Ted Moudis Associates.

¹⁵ GlobeSt.com, “Technology, Major Factor Behind all Space Utilization Changes.” August 2015.

¹⁶ GlobeSt.com, “What’s Happening Inside US Office Space.” December 2015.

The Limits of Open-Plan Layouts

Certain elements of space efficiency and densification are also starting to get pushback as productivity is questioned, resulting in counter efforts, such as including more areas for focus and concentration. As a result, alternative spaces, including amenity, meeting and focus spaces, are on the rise. The number of “alternative” seats account for almost half of all spaces that employees can utilize, according to Ted Moudis Associates, or triple the average just five years ago.¹⁷ A recent NGKF report found that the cost savings realized in some densification plans can be nearly or entirely reversed by a drop in productivity, particularly when such a layout is not conducive to the type of business that undergoes rapid or significant space densification. “Just a 2% decline in productivity can wipe out a tenant’s cost savings.”¹⁸ Variables that detract from productivity but come along with more dense office configurations include distractions, spread of illness, and a lack of privacy. There is growing pushback against open plans, backed up by several studies including but not limited to various academics, and firms NGKF and Gensler, providing further ammunition that densification could be peaking. The number one finding in Gensler’s 2013 Workplace Survey found that “U.S. workers are struggling to work effectively...when focus is compromised in pursuit of collaboration.”¹⁹

More and more, office space is being viewed as a part of compensation and something critical for talent attraction and retention. “With the ongoing war for talent and need to attract and retain high-quality tenants, office owners are getting increasingly creative with the amenities they are introducing.”²⁰ For office owners this has spawned an effort to upgrade and renovate existing facilities to varying degrees.

An upgrade in stock quality generally underpins more rent growth and absorption in those buildings, but also could create a bifurcation within an office market as a result. Buildings that are not updated are more likely to show rent contractions and longer lease-up times. The composition of an office market’s stock will contribute to whether or not the market is more likely to show further growth or retraction. In addition, companies making talent attraction and retention a part of their real estate strategy will also contribute to office market momentum. Companies may add more space to current office leases or relocate to buildings that are able to accommodate their expanded amenity needs, either on-site or in the immediate vicinity.

The Macro View: Impact on Office Demand

Since the office market entered recovery in 2009, indicators suggest the range of square feet per worker has trended lower as companies expanded into shadow space already under lease. The key question is whether structural forces contributing to densification (TAMI, Millennials, and digitization) will continue to put downward pressure on space usage now that the recessionary hangover has seemingly run its course. The answer, at least tentatively, appears to be “no” as indicated below: office density stabilized in 2014 on a national basis and ticked up slightly in the top seven markets (New York, Washington DC, Chicago, Boston, Los Angeles, Dallas, and Houston).

¹⁷ 2016 Workplace Report: TMA by the Numbers. Ted Moudis Associates.

¹⁸ NGKF. The Impact of Office Space on Employee Productivity and Implications for Occupancy Costs. February 2016.

¹⁹ Gensler 2013 U.S. Workplace Survey.

²⁰ GlobeSt, “Which Office Amenities Will Make the Cut?” January 2016.

Office Space Density/Space per Worker (Index 100=Year 2000)



Sources: Deutsche Asset Management, Moody's Analytics and CBRE-EA. As of June 2016. No assurance forecast will be achieved.

An analysis by NAIOP on office lease size, also suggests that even the companies that spearheaded the space efficiency trend are starting to be less aggressive in terms of densification. "Office-using industries that are adding jobs most rapidly over the long term, such as technology, media and finance, are seeing leases shrink more slowly. In the fastest-growing sector of the economy, technology, the average lease size actually increased by 21% over the past 10 years. This is partly because competition among employers for technology workers is so steep, employers in the industry need to offer spacious, amenity-rich office space to attract and retain employees."²¹

Investment Strategy Implications

While densification may be ebbing, the growth of TAMI, Millennials and digitization, as well as the competitive drive to attract top talent and promote productivity, are cross-currents that continue to hold important implications for investment strategy.

Market Selection

An absence of shadow space, controlled speculative development, stabilizing densification, and the modernization of office space position the U.S. office market for continued momentum. Generally, the office markets that will benefit the most are those with the most exposure to these trends. For example, office markets where the concentration of high-tech and TAMI workers are highest, and where Millennials account for a large share of the workforce have also been some of the markets to recover the most in terms of rent growth (see Appendix, Exhibits A & B). At the same time, metros with higher shares of TAMI employment, a growing Millennial population, and a higher percentage of stock that can accommodate this demand (see Appendix, Exhibit C), will have the most exposure to changes in tenant preferences and their impact on the office market. Generally, downtown, urban core and urban fringe areas of these metros will capture the lion's share of demand, being more accessible and with more office stock able to accommodate office space preferences.

²¹ NAIOP. Trends in Square Feet per Office Employee. March 2015.

Among metros tracked by Deutsche AM, San Francisco, San Jose, Seattle, Austin and Dallas scored highest in all these categories (see Appendix, Exhibit D). A study by JLL examining office construction across major U.S. metros found that current and future supply in a majority of metros, including San Francisco, will meet demand. The study also revealed that current and future supply would only meet some of the office demand anticipated in Austin, San Jose and Seattle. Dallas, however, is at risk for oversupply.²² In metros that satisfy these metrics and are also in a mature phase of the office market cycle, the speculative supply pipeline should be limited relative to existing Class A stock and historical construction trends. Build-to-suit projects should be considered if demand is being pulled out of an existing building. Supply underway should also be controlled in emerging metros as well, but depending on quality of existing stock, newer product being brought to market to attract today's demand preferences should also be viewed as advantageous.

Product Type

In order to attract Millennial and TAMI talent, non-TAMI (e.g., financial and legal) sectors will have to deepen their investment in competitive office space. Initially, the urban stock capturing the largest proportion of this new-age demand was dominated by low- to mid-rise, brick and beam, buildings. However, demand has broadened to more traditional high-rise, glass and steel as well. "Vertical campuses" include all of the typical features of an office campus captured in a single building, "the energy, easy access to high-quality amenities such as wellness and fitness facilities, outdoor work spaces and outstanding food."²³ Demand for these types of vertical campuses, and modernized buildings that allow the build-out and flexibility of an open-office plan or more boutique, brick and beam stock will outpace demand for commodity space characteristic of builds in the 1980s and most common in suburban office park settings.

Asset Selection

Asset-level opportunities we identify at this stage in the office market expansion are value-add or low-to-medium risk reposition plays of underperforming assets in mature, gateway metros located within the urban core or fringe with surrounding transit and amenities. These opportunities could include an urban-fringe industrial loft or multi-story warehouse reposition to creative office; or a mid-rise, Class B property that has not been renovated in the last 10 years. Assets that are located in close proximity to transit or in a vibrant, high-amenity area are clear targets. Commodity, glass and steel assets catering towards more traditional office-using sectors that cannot be upgraded to house additional on-site amenities or accommodate an open-space plan are at risk. In emerging metros, such as Denver, Oakland, Portland, or Minneapolis, the opportunities we identify include prime-located, well-amenitized, modern assets with near to medium-term lease roll in order to capitalize on current demand trends. In an earlier stage of the cycle, opportunities could extend to include ground-up development or repositions of prime-located but underperforming assets or offer a lease-up play. Generally, disadvantaged assets in emerging metros are those outside the urban core and fringe, in areas with fewer access points and transit connections.

Conclusion

Today's office market landscape is irreversibly changed from what we knew 10 years ago, and will continue to change. The office market is currently positioned to benefit from the reduction in shadow space, stabilization in density and other positive impacts from further employment growth in TAMI and office-using sectors. The key to investing at this juncture is looking for adaptable assets in locations that have the qualities and infrastructure that will continue to support growth. By strategizing in line with these dynamics, investors will ultimately benefit from a more stable and flexible portfolio.

²² JLL. US Office Development-Spring 2016. March 2016.

²³ GlobeSt.com, "Office Users Want Vertical Campuses." March 2016.

Appendix

The driving forces behind tenant preference (high-growth employment sectors and rapid entry of Millennials into the workforce) and ability to adopt these preferences (supply-side analysis) can be measured and taken into account. We have identified three measurable ways to assign viability to an office investment in this context:

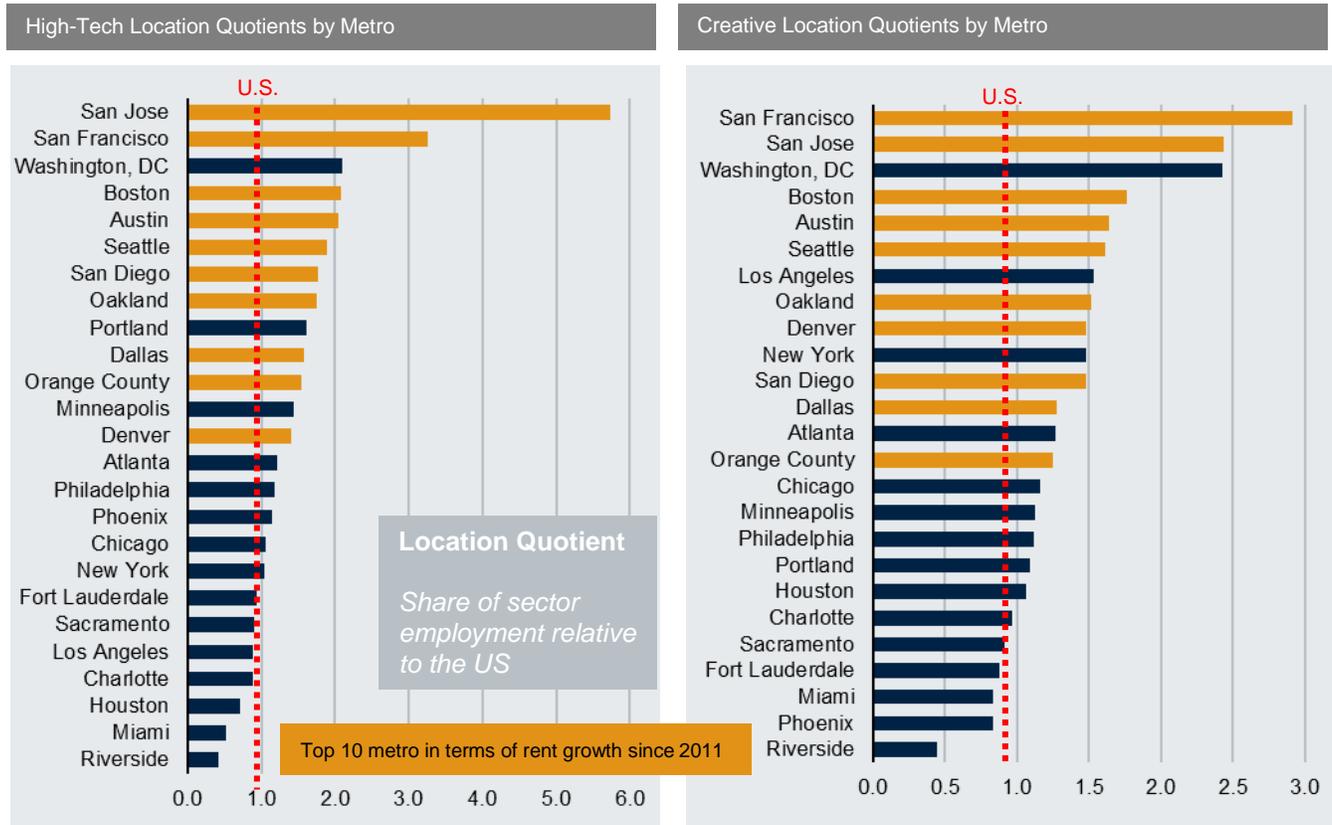
1. Measure the metro's labor pool, isolating sectors or industries that prioritize space efficiency. What is the proportion of high-tech or creative employment and how fast are these sectors growing? Is there a well-developed professional and business services sector to support the growth in these sectors?
2. Examine demographics. Today's Millennials are the green shoots of company leadership tomorrow; do they account for a significant portion of the area's population?
3. Supply-side analysis. Identify the age range of existing, competitive buildings. Determine whether the construction pipeline is healthy, yet restrained, as measured by comparing to the previous growth cycle.

The first two measures are demand-oriented, and allow us to understand what type of office market we are analyzing; if it is one where current tenant preferences, including better space efficiency, will be more prevalent. The change in space utilization and increase in density over time is correlated with changes in the industries driving office space demand as well as the preferences of office workers. The third measure serves to connect tenant preferences and space efficiency with supply, and help identify whether existing supply in a market can attract and accommodate growing office-using sectors. It is easy to identify this for a specific asset under consideration for investment, but acquiring a single building that *can* meet demand in a market with supply that *cannot* support further growth can be risky. Moreover, measuring the ability of an office market to accommodate growth is a useful tool to proactively identify opportunities in regional, emerging office markets. Now that we have three measuring tools to guide the office investment process, we need to dive deeper into our understanding as to why they are the optimal measures to use.

By assessing the labor market conditions, specifically looking at the location quotients and employment growth trends of the sectors that most directly drive demand for more space efficient office planning, we can better identify what metros have the most exposure to office space densification trends. This allows us to evaluate the viability of an office investment within that context as it pertains to supporting the demand that exists within the metro and supporting a more space efficient layout.

Exhibit A

Office markets where the concentration of high-tech and TAMI workers are highest have also been some of the markets to recover the most in terms of rent growth. Among the top 10 metros with the most robust office rent recovery in the US per CBRE²⁴, all but two have location quotients in both high-tech and creative employment higher than the US. All metros have at least one sector with a higher than US average employment concentration, while half of the metros have 1.5 times the average concentration in both sectors.



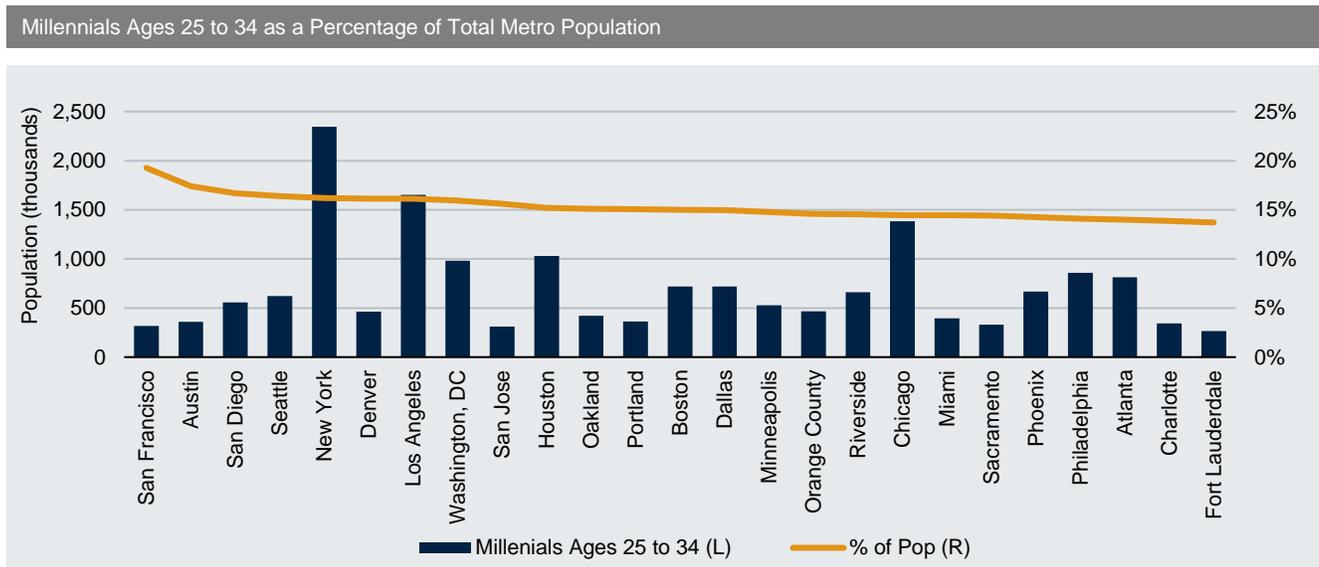
Sources: Deutsche Asset Management, Moody's Analytics, BLS (U.S. Bureau of Labor Statistics) and CBRE-EA. As of June 2016.

²⁴ CBRE-EA. Top 63 US metros. Effective rent growth 2011-2015.

Exhibit B

Looking at the metros with the highest concentrations of Millennials of working age (25 to 34), again, there is a clear relationship with those metros that have the highest concentrations of high-tech and creative employment, as well as with those exhibiting the strongest office rent recovery in the last three years among all major US metros, as tracked by CBRE.²⁵

Measuring population dynamics, in this case, focusing on the Millennials, allows us to pinpoint those metros that appear to attract a large portion of this population cohort. Likewise, it reveals what metros' office markets are most susceptible to the location and office layout preferences of Millennials. Again, in line with labor market assessment, we are more informed in evaluating the viability of an office investment. This segues to examining how the office supply of a metro supports or counters the demand-side fundamentals discovered through labor market and demographic analysis.

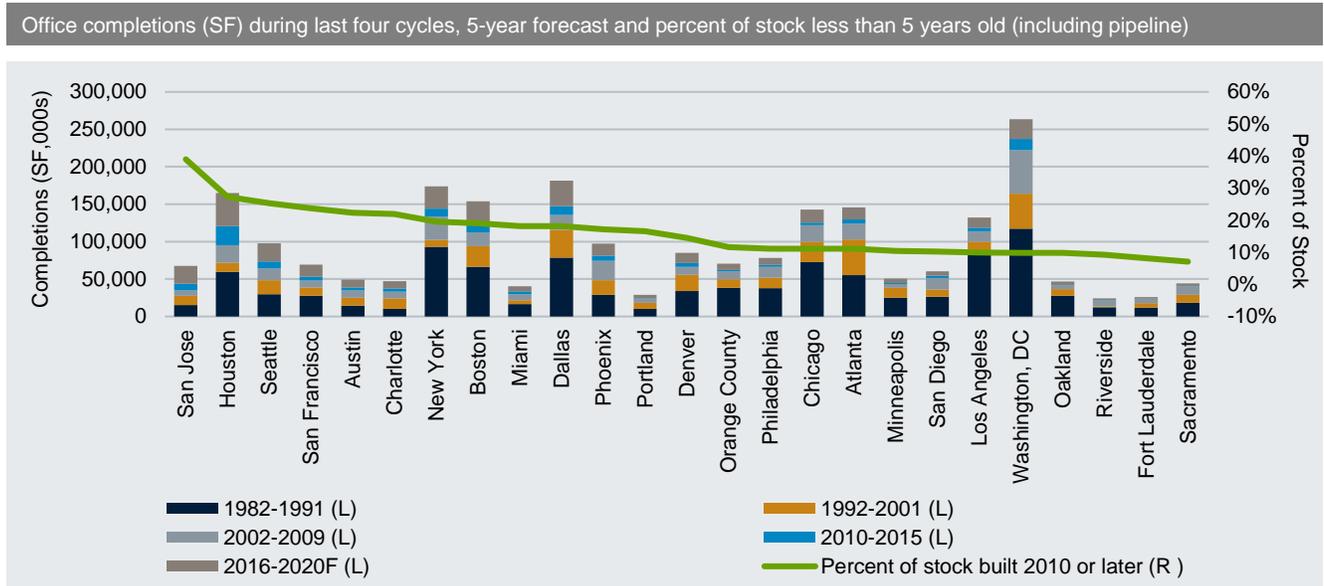


Sources: Deutsche Asset Management, Moody's Analytics and CBRE-EA. As of June 2016.

²⁵ CBRE-EA. Top 63 US metros. Effective rent growth 2012-2015.

Exhibit C

One way we can assess whether or not the supply of an office market can meet these needs is by analyzing the age of office stock. Looking at office stock age in the top office metros tracked by Deutsche AM during the last four expansion cycles and during our forecast period, on average, two-thirds of office stock was built between 1982 and 2001. Stock built between 2002 and 2009 is more likely to be upgraded or adapted for open-office, high-density plans, but product built within the last five years is typically readily able to meet these needs. Those metros that have the highest shares of office stock built since 2010 or currently under construction are best positioned to support the growth of today’s office tenants. Many of these metros intersect with those that have the highest shares of high-tech and creative tenants and the highest office rent growth potential, including San Jose, San Francisco, Seattle, Dallas and Austin. So, while there may be some perceived supply risk in these markets, the new supply is also most desirable to the existing demand base.



Sources: Deutsche Asset Management, Moody’s Analytics and CBRE-EA. As of June 2016. No assurance forecasts will be achieved.

Exhibit D

	Location Quotient		Millennial Population	Age of Stock	5-Year Employment Forecast		Score
	High-tech	Creative			High-tech	Creative	
San Francisco	24	25	25	22	21	15	34.5
Austin	21	21	24	21	22	23	32.9
San Jose	25	24	17	25	3	12	29.5
Seattle	20	20	22	23	7	7	27.3
Dallas	16	14	12	16	25	25	24.8
Washington DC	23	23	18	5	11	3	24.6
Boston	22	22	13	18	5	2	24.0
San Diego	19	15	23	7	4	13	22.8
New York	8	16	21	19	24	4	22.7
Denver	13	17	20	13	13	10	22.6
Oakland	18	18	15	4	6	18	21.5
Los Angeles	5	19	19	6	19	6	19.1
Houston	3	7	16	24	20	9	17.5
Portland	17	8	14	14	2	8	17.3
Minneapolis	14	10	11	8	8	16	16.9
Chicago	9	11	8	10	16	20	16.8
Philadelphia	11	9	4	11	15	22	16.0
Orange County	15	12	10	12	1	1	15.2
Charlotte	3	6	2	20	23	24	14.8
Phoenix	10	2	5	15	18	21	14.6
Atlanta	12	13	3	9	10	5	13.7
Miami	2	3	7	17	17	17	12.4
Sacramento	6	5	6	1	14	14	10.1
Ft Lauderdale	7	4	1	2	12	19	9.2
Riverside	1	1	9	3	9	11	7.0

Source: Deutsche Asset Management based on data from Moody's Analytics, Bureau of Labor Statistics, and CBRE-EA. As of June 2016. Deutsche AM ranked and scored 25 U.S. metros viewed as preferred metros for office investment. Criteria for the final ranking included the location quotient for high-tech and creative employment (share of total employment in the metro versus the U.S.), the concentration of Millennial population, the percent of office stock built in the last five years, and the five-year forecasts for high-tech and creative employment growth. The final score weights each of these criteria, and the higher the score, the stronger the metro is positioned in regards to investment, considering today's office market drivers and changing space utilization.

Important Information

Deutsche Asset Management represents the asset management activities conducted by Deutsche Bank AG or any of its subsidiaries. Clients will be provided Deutsche Asset Management products or services by one or more legal entities that will be identified to clients pursuant to the contracts, agreements, offering materials or other documentation relevant to such products or services. In the U.S., Deutsche Asset Management relates to the asset management activities of RREEF America L.L.C.; in Germany: RREEF Investment GmbH, Deutsche Asset & Wealth Management GmbH, RREEF Management GmbH, and RREEF Spezial Invest GmbH; in Australia: Deutsche Australia Limited (ABN 37 006 385 593) an Australian financial services license holder; in Japan: Deutsche Securities Inc. (For DSI, financial advisory (not investment advisory) and distribution services only); in Hong Kong: Deutsche Bank Aktiengesellschaft, Hong Kong Branch (for direct real estate business), and Deutsche Asset Management (Hong Kong) Limited (for real estate securities business); in Singapore: Deutsche Asset Management (Asia) Limited (Company Reg. No. 198701485N); in the United Kingdom: Deutsche Alternative Asset Management (UK) Limited, Deutsche Alternative Asset Management (Global) Limited and Deutsche Asset Management (UK) Limited; and in Denmark, Finland, Norway and Sweden: Deutsche Alternative Asset Management (UK) Limited and Deutsche Alternative Asset Management (Global) Limited; in addition to other regional entities in the Deutsche Bank Group.

Key Deutsche Asset Management research personnel are voting members of various investment committees. Members of the investment committees vote with respect to underlying investments and/or transactions and certain other matters subjected to a vote of such investment committee. Additionally, research personnel receive, and may in the future receive incentive compensation based on the performance of a certain investment accounts and investment vehicles managed by Deutsche Asset Management and its affiliates

This material was prepared without regard to the specific objectives, financial situation or needs of any particular person who may receive it. It is intended for informational purposes only. It does not constitute investment advice, a recommendation, an offer, solicitation, the basis for any contract to purchase or sell any security or other instrument, or for Deutsche Bank AG or its affiliates to enter into or arrange any type of transaction as a consequence of any information contained herein. Neither Deutsche Bank AG nor any of its affiliates gives any warranty as to the accuracy, reliability or completeness of information which is contained in this document. Except insofar as liability under any statute cannot be excluded, no member of the Deutsche Bank Group, the Issuer or any officer, employee or associate of them accepts any liability (whether arising in contract, in tort or negligence or otherwise) for any error or omission in this document or for any resulting loss or damage whether direct, indirect, consequential or otherwise suffered by the recipient of this document or any other person."

The views expressed in this document constitute Deutsche Bank AG or its affiliates' judgment at the time of issue and are subject to change. This document is only for professional investors. This document was prepared without regard to the specific objectives, financial situation or needs of any particular person who may receive it. No further distribution is allowed without prior written consent of the Issuer.

An investment in real estate involves a high degree of risk, including possible loss of principal amount invested, and is suitable only for sophisticated investors who can bear such losses. The value of shares/ units and their derived income may fall or rise. Any forecasts provided herein are based upon Deutsche Asset Management's opinion of the market at this date and are subject to change dependent on the market. Past performance or any prediction, projection or forecast on the economy or markets is not indicative of future performance.

The forecasts provided are based upon our opinion of the market as at this date and are subject to change, dependent on future changes in the market. Any prediction, projection or forecast on the economy, stock market, bond market or the economic trends of the markets is not necessarily indicative of the future or likely performance.

This document is confidential and is being presented for informational and discussion purposes only. Any reproduction and/or redistribution thereof, in whole or in part, and any disclosure of its content without our consent is strictly forbidden.

© 2016 Deutsche Bank AG. All rights reserved. (08/16) I-047689-1

Research & Strategy – Alternatives

Office Locations:

Chicago
222 South Riverside Plaza
26th Floor
Chicago
IL 60606-1901
United States
Tel: +1 312 537 7000

Frankfurt
Taunusanlage 12
60325 Frankfurt am Main
Germany
Tel: +49 69 71909 0

London
Winchester House
1 Great Winchester Street
London EC2A 2DB
United Kingdom
Tel: +44 20 754 58000

New York
345 Park Avenue
24th Floor
New York
NY 10154-0102
United States
Tel: +1 212 454 6260

San Francisco
101 California Street
24th Floor
San Francisco
CA 94111
United States
Tel: +1 415 781 3300

Singapore
Floor 20
One Raffles Quay
South Tower
Singapore 048583
Tel: +65 6538 7011

Tokyo
Floor 18
Sanno Park Tower
2-11-1 Nagata-cho
Chiyoda-Ku
Tokyo
Japan
Tel: +81 3 5156 6000

Team:

Global

Mark Roberts
Head of Research & Strategy
mark-g.roberts@db.com

Gianluca Minella
Infrastructure Research
gianluca.minella@db.com

Jessica Elengical
Head of ESG Strategy
jessica.elengical@db.com

Jaimala Patel
Quantitative Strategy
jaimala.patel@db.com

Aaron Heffernan
Liquid Real Assets Research
aaron.heffernan@db.com

Americas

Kevin White
Head of Strategy, Americas
kevin.white@db.com

Ross Adams
Industrial Research
ross.adams@db.com

Bradley Doremus
Apartment Research
bradley.doremus@db.com

Ana Leon
Retail Research
ana.leon@db.com

Brooks Wells
Head of Research, Americas
brooks.wells@db.com

Erin Patterson
Office Research
erin.patterson@db.com

Silverio Vasquez
Quantitative Research
silverio.vasquez@db.com

Europe

Simon Wallace
Head of Research, Europe
simon.wallace@db.com

Tom Francis
Property Market Research
tom.francis@db.com

Farhaz Miah
Property Market Research
farhaz.miah@db.com

Matthias Naumann
Head of Strategy, Europe
matthias.naumann@db.com

Martin Lippmann
Property Market Research
martin.lippmann@db.com

Julien Scarpa
Property Market Research
julien.scarpa@db.com

Asia Pacific

Koichiro Obu
Head of Research & Strategy, Asia Pacific
koichiro-a.obu@db.com

Seng-Hong Teng
Property Market Research
seng-hong.teng@db.com

Natasha Lee
Property Market Research
natasha-j.lee@db.com

Hyunwoo Kim
Property Market Research
Hyunwoo.kim@db.com

