U.S. Macro Outlook, Q1 2017

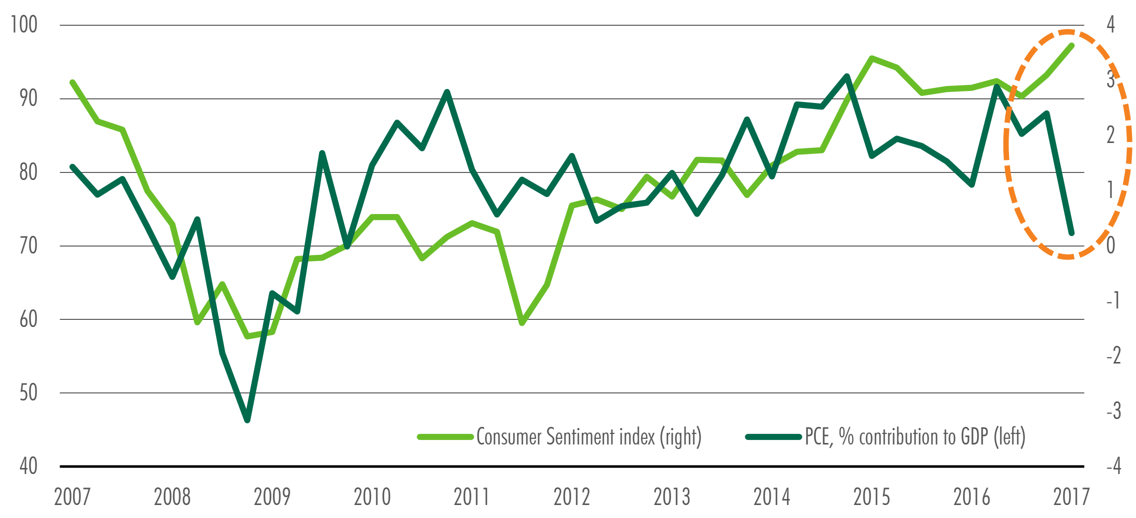
Economic assumptions for baseline and alternative scenario forecasts

- The expansion is mature for both the economy and commercial real estate (CRE), but it still has room to run.
- Real economic activity has been neutral since Donald Trump's inauguration, despite stronger business and consumer sentiment.
- President Trump's policy agenda remains unclear. Some manner of tax reform is likely, but whether it would be a net positive or negative for commercial real estate will depend on the details.
- We have not materially revised our employment growth outlook: we expect gradual slowing before contraction in 2019. Upgraded GDP projections hedge on the side of modest fiscal stimulus in 2018.
- We have updated our upside and downside forecast scenarios to reflect a wider range of possible outcomes.
- The Fed will raise its target rate twice more this year and then begin to wind its balance sheet down in 2018.
- Strong fundamentals and limited risk make the investment environment for U.S. CRE attractive.

2017 U.S. OUTLOOK: KEEP CALM AND GROW 2%

The U.S. economic expansion is in its eighth year and showing no signs that it will end soon. At the same time, it's difficult to envision a sudden burst that would propel growth onto a much higher trajectory. Most likely is that 2017 will bring a familiar dose of 2% GDP growth and 150,000 new jobs per month, as the EA baseline forecast assumes. As uneventful as it may seem, this is exactly what the economy needs at this stage of expansion—a calm and steady growth, absent of high inflation, overleverage, and asset bubbles. Such growth could endure for years to come, although we do believe wage pressures and those "animal spirits" will rear their ugly heads within a couple years, sending the economy into a mild, short recession.

Figure 1: Consumer Sentiment Versus Consumer Spending—A Disconnect



Source: University of Michigan, May 2017.

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KEEPING THE FAITH IN "TRUMPENOMICS"?

President Trump's bold plans for tax reform, deregulation, and increased federal spending on infrastructure and the military have broadly raised economic optimism among both business leaders and U.S. consumers. Many economists have upped their forecasts for these reasons. Speculation is a big leap of faith, however, given the lack of concrete action taken thus far. Until we have more insight on how government policy will evolve under the Trump administration, the safe bet is that over the next couple years, economic forces will play a larger role in growth than politics will.

Now more than 100 days into the presidency, Trump has faced some difficulty in advancing his agenda, including serious pushback on aspects of his tax reform outline. This does not necessarily doom his policy agenda, but it does underscore political realities that could delay or derail some of the proposals many hope will boost growth. Even with full-blown tax reform and fiscal stimulus, the chances of achieving economic growth of 3% or 4% are slim.

For commercial real estate, several potential policy changes could have outsized effects. For instance, repealing the 1031 "like-kind" exchange that allows owners to defer tax on capital gains when they reinvest it in other properties would be a huge disincentive for CRE investment. Similarly, the EB-5 program plays a large role in financing real estate development with foreign capital, which would be less available if the program were abolished. Carried interest, mortgage interest deductibility, and expensed depreciation are also hot topics that directly impact real estate—not to mention indirect effects from potential changes to immigration, border taxes, and broader tax reform. Needless to say, there is quite a bit of policy uncertainty.

Abstracting from the range of possible policy changes, the economy is poised to slow. There are a number of factors that we are confident will contribute to softer growth this year and next:

- **Labor shortage.** The economy is very close to being at "full employment"—essentially meaning everyone who wants a job can find one. Of course there are still people out of work and plenty of unfilled jobs, but a skills mismatch prevents more hiring from taking place. Job openings are currently at a record high, so this is not a matter of demand, but of scarce labor supply.
- **The strong U.S. dollar.** The trade-weighted dollar has appreciated nearly 30% in the last 18 months and is near record highs. This rally accelerated immediately following Trump's victory, although the President's public appeal for a weaker dollar has caused some volatility. In the long term, the strength of the dollar is outside of the President's control, for the most part. But fiscal stimulus and tax cuts would likely result in an even stronger currency, so further dollar appreciation is likely. A strong dollar weighs on the trade deficit—which directly subtracts from GDP—and puts domestic manufacturers at a competitive disadvantage to foreign competitors.
- **Higher interest rates.** The Federal Reserve has been extremely cautious to not raise interest rates too quickly and possibly short-circuit the economic recovery. The Fed expected 2016 would be the year it would ramp up interest rate normalization, but ended up hiking the fed funds target by just one 25 bps increment. This year will be different, as the Fed has raised rates once already and is poised for two more hikes in 2017. They will also announce plans to wind down the balance sheet, which will likely put upward pressure on the long end of the curve. We believe rates will drift higher as the Fed's plan becomes clear, but communication will be needed to avoid bond market volatility.

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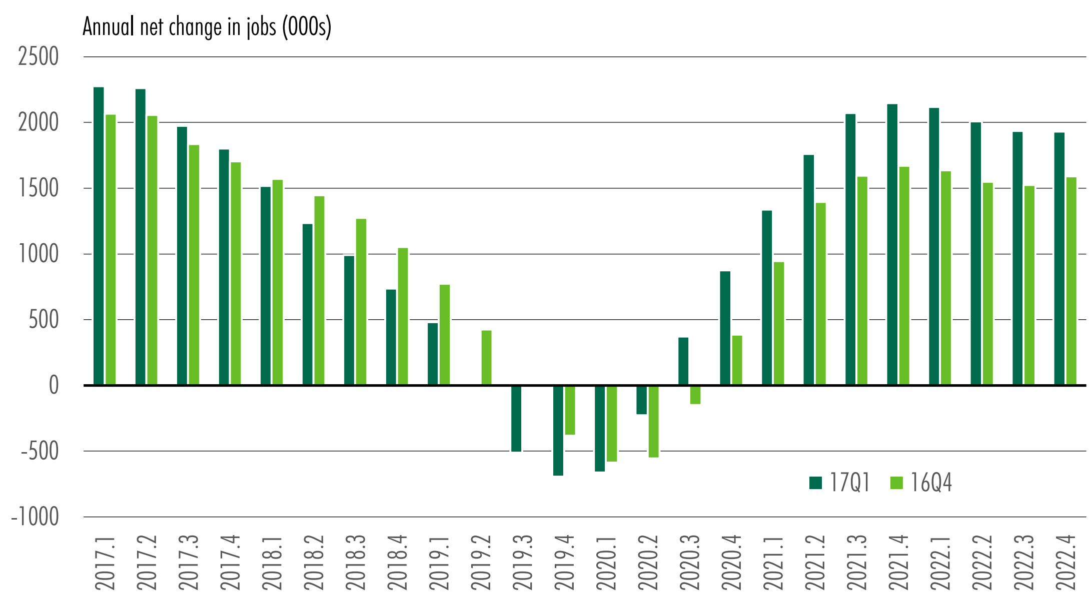
- **Fewer car sales.** With vehicle sales slowing from their breakneck pace, U.S. auto manufacturers will produce fewer cars and trucks in the next few years. Autos have been a major driver for both the production and consumption sides of the economy during this expansion, but much of the pent-up demand for autos has been met. Additionally, a glut of used vehicles is hitting the market as 2017 will be a record year for lease returns.
- **Sluggish housing market.** The housing market—overbuilt leading up to the Great Recession—is a now facing the opposite problem: being underbuilt. Both single-family homes and apartments remain unaffordable for a large swath of Americans, and the lack of affordable housing is preventing more economic growth from taking place. Construction of housing, particularly of single-family homes, has a tremendous spillover impact on the economy. While the supply side has its problems, demand for housing is likely to be restrained as mortgage rates rise with interest rates.

EA BASELINE FORECAST

Figure 2: Employment Forecast—A Slight Timing Shift



Source: BLS, CBRE Econometric Advisors; Q1 2017.

Our baseline forecast is little changed from Q4 2016. The job market slowdown that we have been anticipating is underway and will likely continue, given labor supply constraints. That said, we still expect the economy to add a healthy 1.8 million jobs this year, down from 2.2 million in 2016. With this level of tightness in the job market, wage growth should accelerate more vigorously, providing a nice lift to consumer spending.

The Fed has signaled that it will be more aggressive in 2017—it has already raised rates once this year—but the degree of uncertainty regarding monetary policy has increased. The Fed winding down its balance sheet will alter the long end of the Treasury yield curve, as rate hikes will lift the short end. This adds another element to already elevated policy uncertainty.

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Higher interest rates will raise borrowing costs for everyone, leading to less consumer spending and business investment. After a few years, this will weigh on growth expectations and lead to an inversion of the yield curve—a telltale sign of recession within the next year. Thus, our baseline scenario envisions a short technical recession beginning in 2019, which yields a net loss of about 700,000 jobs that year. That forecasted decline is slightly larger in magnitude than the one from our Q4 baseline, but at the same time, the recession's duration has shortened to just a couple of quarters.

Figure 3: We Expect Economic Growth to Moderate

CBRE EA BASELINE FORECAST	2017	2018	2019	2020	2021
GDP, %	2.1	2.4	0.1	1.9	2.1
Employment, mil.	1.8	0.7	-0.7	0.9	2.1
CPI, %	1.8	2.1	1.1	1.7	2.4
10-yr Treasury, %	3.0	3.2	1.6	2.3	3.1

Note: Figures are Q4/Q4 change—except the 10-year, which is Q4 % yield.

Source: BEA, BLS, Federal Reserve, CBRE Econometric Advisors, Q1 2017.

Commercial real estate's cycle will closely mirror that of the U.S. economy. Over the next several years we are likely to see fundamentals and pricing moderate, with negative nominal rent growth in most property types by 2019 or 2020. Multifamily should be the first to falter; several large markets have already reached an inflection point.

Since we do not anticipate any distinct external shocks to the economy, markets and property types should behave similarly to their performance in past business-cycle recessions. We do not anticipate idiosyncratic patterns like those associated with tech-bubble or housing-market crashes. Rather, markets with the largest supply/demand imbalances will falter first. Office markets in the Bay Area and Houston stand out as examples, as do a handful of multifamily markets burdened with flush supply pipelines.

EA UPSIDE SCENARIO

Our upside scenario reflects a more optimistic view of the U.S. economic outlook. The upside is currently even more sanguine than previous versions, in a nod to the possibility that President Trump's fiscal policies will be highly stimulative for economic growth. It also assumes that the potential tariff and immigration policies he has floated do not materialize or are at least scaled back. Under this scenario, the economy takes off in late 2017 and 2018 as President Trump's policy proposals invigorate fresh optimism about U.S. growth, inciting robust construction, capital expenditure and hiring. This optimism would be partially underpinned by a favorable business reaction to the lower regulatory burden Trump has promised.

Figure 4: Upside Scenario: Economic Growth to Increase Slightly

CBRE EA UPSIDE FORECAST	2017	2018	2019	2020	2021
GDP, %	2.5	3.3	2.1	1.8	2.4
Employment, mil.	2.5	3.2	3.3	2.7	2.4
CPI, %	2.3	2.4	2.3	2.3	2.3
10-yr Treasury, %	3.7	3.6	3.5	3.5	3.5

Note: Figures are Q4/Q4 change—except the 10-year, which is Q4 % yield.

Source: BEA, BLS, Federal Reserve, CBRE Econometric Advisors, Q1 2017.

Under such a best-case scenario, job growth would accelerate over the next two years, generating 2.5 million and nearly 3.2 million jobs in 2017 and 2018, respectively. Employers would have trouble finding workers in the existing labor pool, so some portion of these jobs would go to legal immigrants, new graduates, and previously disenfranchised workers. Inflation and interest rates would both rise at quicker rates as well. The Fed would likely tolerate above-trend inflation initially, but would soon begin to raise interest rates on a curve that is steeper than the one under our baseline scenario, resulting in higher long-term bond yields as well. Another feature of this upside is that anticipate no recession over the course of

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the 10-year forecast period. Although history says we are unlikely to go that long without a recession, there are no time limits on expansions, so the economy has the potential to grow indefinitely in the absence of any setbacks. This scenario represents a fundamentally better economy in the near term, and pro-growth structural reforms.

EA DOWNSIDE SCENARIO

Our downside scenario represents what could realistically go wrong for the U.S. economy during the next few years. There are plenty of risks for investors to be concerned about, and this scenario assumes some combination of shocks to sink the economy into a recession by year's end. Financial market turbulence is our downside scenario's single prerequisite, and the source of such volatility could include uncertainty about monetary and fiscal policy, geopolitical events, the or popping of an unexpected asset bubble. Recessions are always accompanied by a stock market correction, even if the reverse is not always true.

Figure 5: Downside Scenario: Recession in 2017

CBRE EA DOWNSIDE FORECAST					
	2017	2018	2019	2020	2021
GDP, %	2.1	2.4	0.1	1.9	2.4
Employment, mil.	1.4	-0.9	-2.5	0.4	2.1
CPI, %	1.8	1.0	1.0	1.7	2.1
10-yr Treasury, %	2.3	1.4	1.6	2.3	3.1

*Figures are Q4/Q4 change—except the 10-year, which is Q4 % yield.

Source: BEA, BLS, Federal Reserve, CBRE Econometric Advisors, Q1 2017.

A domestic policy misstep is a greater risk than it was a few months ago. Whatever the merit of President Trump's agenda items, he is clearly less willing than most to adhere to political norms, which could mean a greater surprise factor. Bouts of uncertainty can cause financial markets to whipsaw in an instant, and once business and consumer confidence are undermined, it could be difficult for the economy to right itself before slipping into recession.

In addition to the confidence factor, actual policies matter. While our baseline scenario assumes that any fiscal policy changes are stimulative, our downside scenario assumes that no such catalysts come to fruition, or that they are watered-down. Given the Republican control of Congress, this may seem unlikely; however, the politics could still prove tricky. Many Republican leaders are not eager to increase government spending and lower taxes without offsetting reductions elsewhere. President Trump has vowed to protect Social Security and Medicare, leaving less room to make stimulus deficit-neutral. Additionally, economic research shows that fiscal multipliers—the bang-for-the-buck of government spending and tax cuts—are much lower when the economy is running near full capacity, as it is today. This implies that any stimulus might not be that stimulative at all—meaning the economy would see higher inflation and interest rates without the benefit of stronger growth. The downside scenario is the extreme version of this, accompanied by downside policies such as a trade war, large-scale deportations, and otherwise anti-growth legislation.

In terms of overall damage to the economy, a realistic downside scenario more closely resembles the dot-com bust than the Great Recession. Our model predicts fewer than 3 million net job losses at its worst, before a cyclical recovery takes hold. The Fed's aggressive response—along with foreign capital flows into the U.S.—would likely keep the 10-year yield well below 2% until 2020.

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EA SEVERE DOWNSIDE SCENARIO

Our severe downside scenario is meant as a proxy for the Federal Reserve's "Severely Adverse" supervisory scenario under its Comprehensive Capital Analysis and Review (CCAR) program. CCAR is meant to evaluate the capital planning processes and capital adequacy of U.S. banks under stressful macroeconomic scenarios. This scenario is certainly stressful; the Fed assumes the unemployment rate to hit 10%—equal to its 2009 peak. The peak-to-trough GDP decline in this scenario is also on par with that recorded during the Great Recession.

Figure 6: Severe Downside Scenario: Stress Test

CBRE EA SEVERE DOWNSIDE FORECAST					
	2017	2018	2019	2020	2021
GDP	-3.0	-3.5	2.6	1.9	2.5
Employment	-1.6	-6.0	3.1	2.1	2.1
CPI	0.8	0.9	1.0	2.1	2.3
10-yr Treasury	0.8	1.2	1.6	3.1	3.5

Note: Figures are Q4/Q4 change—except the 10-year, which is Q4 % yield.

Source: BEA, BLS, Federal Reserve, CBRE Econometric Advisors, Q1 2017.

Since the Fed does not provide guidance on payroll employment growth, EA uses the change in GDP and the unemployment rate to approximate the impact. The scenario's supposed recession occurs immediately and wipes out more than 7 million jobs by the end of 2018. Although the Fed is quiet on what might cause such a severe recession, we can safely assume that financial markets would suffer some sort of systemic failure, likely leading to government intervention. The Federal Reserve does not discuss a hypothetical reaction in terms of monetary policy either, but history tells us it would use everything in its toolbox to stop the bleeding. This could mean negative interest rates, quantitative easing, and even helicopter money. The severe downside scenario has an extremely low probability, but it offers a useful guide to capital planning under the direst macroeconomic situations.

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