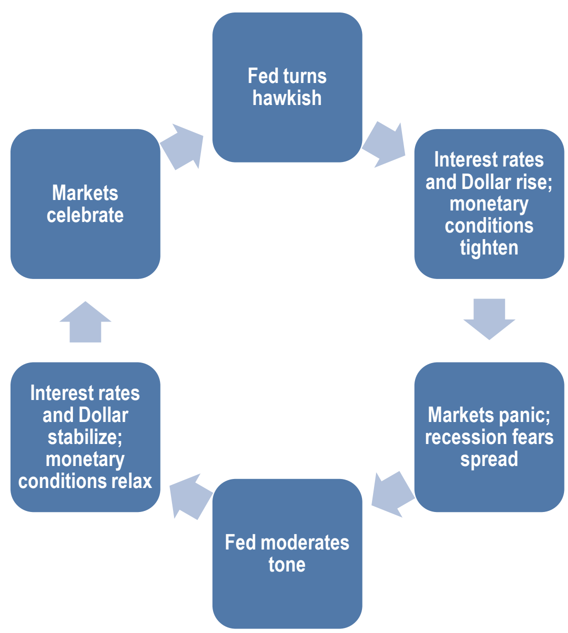
If there was one takeaway lesson for 2016, it was that "conventional wisdom" is not necessarily predictive. Conventional wisdom told us that Britain would remain in the EU, Hillary Clinton would be the next US President, and any team besides the Chicago Cubs would win the World Series. Like any period of change, this one will offer both challenges and opportunities for global investors (and for bookmakers). While we don't promise to get it right in 2017, we are firm believers in having a view and strategizing accordingly. Last year we did pretty well despite all of the curveballs and have provided a brief synopsis of our results in "Scorecard 2016" at the end of this piece. In the meantime, here are our top 10 predictions for 2017:

OUTLOOK 2017

1. US interest rates will rise modestly

After promising a more hawkish approach following its initial rate hike in December 2015, market events intervened to hold the Federal Reserve to just one additional rate hike in 2016. This reluctance or inability to tighten policy followed a neatly established pattern of the markets doing the Fed's job for it, as demonstrated in our illustration to the right. While we expect to see continued echoes of this pattern in 2017, the Fed has guided markets to expect three additional rate hikes in 2017, and we have more reason to believe the Fed's determination this time.

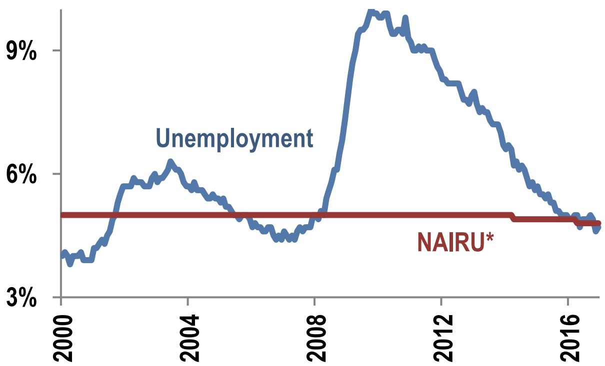
We've Seen This Movie Before – The Fed Cycle



Before considering any impact from the US election results, the US economy was already showing signs of running at full capacity going into 2017. US GDP continues to grow at a steady clip, averaging about 2 percent annually over the past two years. National unemployment has stopped falling and has fluctuated in a 4.6 to 5.0 percent range since late 2015 – levels consistent with what economists consider "full employment."

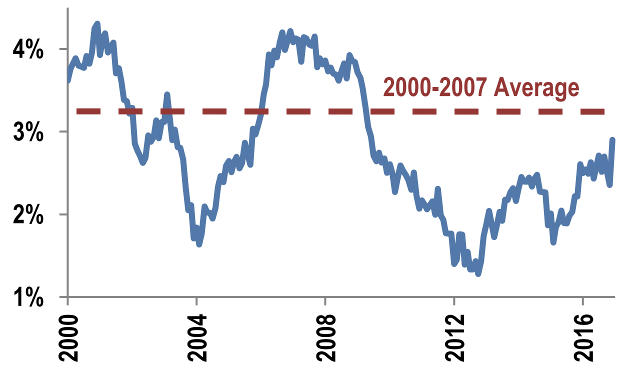
Wage growth, which was stubbornly low for many years following the Global Financial Crisis, has finally accelerated back towards its pre-crisis average, indicating a tighter labor market.

Tight Jobs Market – Unemployment Rate vs NAIRU*, Jan 2000-Dec 2016



Source: FRED Economic Data
*NAIRU = Non-Accelerating Inflation Rate of Unemployment, often referred to as the "natural rate of unemployment"

Rising Wages – Average Hourly Earnings Growth, Jan 2000-Dec 2016



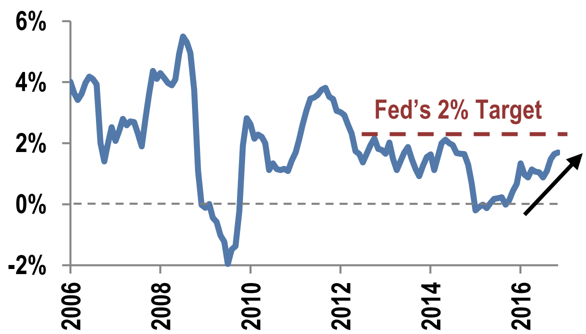
Source: FRED Economic Data

In short, the US economy is beginning to look "hot" going into 2017, which should make the Fed more inclined to raise rates to ward off inflation. Should a Trump Administration and a Republican Congress follow through on many of Mr. Trump's campaign promises (as we expect they will) inflation is likely to be more of a concern to Fed policymakers. For example, the amount of new infrastructure and defense spending Mr. Trump has proposed would significantly increase federal spending and be highly stimulative at a time when the economy is already running at full strength. Banking deregulation could also lead to increased lending, especially among regional and community banks whose risk-taking abilities have been disproportionately curtailed by Dodd-Frank.

Republican lawmakers will claim that such stimulus is justified on the grounds that US economic growth has been uneven, benefitting more urban and coastal areas while leaving out many of the middle parts of the country such as the Rust Belt. Further stimulus could help these areas catch up to the rest of the country and placate an angry electorate that is increasingly skeptical of Washington DC's willingness to help them.

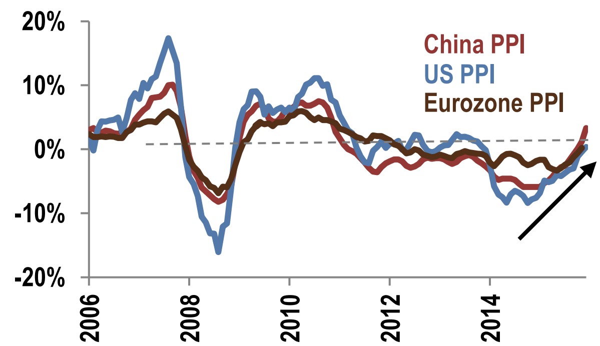
Still, we believe the Fed will be reluctant to let the economy "run hot" as many hope due to the likelihood of higher inflation. Inflation is already more of a threat in 2017 than most people appreciate. US CPI growth is approaching the Fed's target of 2 percent and could accelerate further as the labor market tightens. In the real estate sector, the Fed's CPI index for urban "owner's equivalent rent of residences" has accelerated to post-2007 highs of nearly 4 percent annually. Producer price indices in the US and around the world have also shown marked increases recently, most notably in China where the PPI has turned positive for the first time since 2012. This development indicates higher manufacturing costs that should ultimately pass through to global consumer prices (i.e. inflation). As a result, the Fed risks falling behind the curve if it does not tighten monetary policy soon, and we believe any attempts to further stimulate the economy at this stage are likely to be met with additional counterbalancing measures from the Fed.

Target in Sight – US Consumer Price Index, Jan 2000-Dec 2016



Source: FRED Economic Data

Global Inflation Signs – US, China, and Eurozone Producer Price Indices, Jan 2006-Nov 2016



Source: FRED Economic Data, OECD Data, National Bureau of Statistics of China

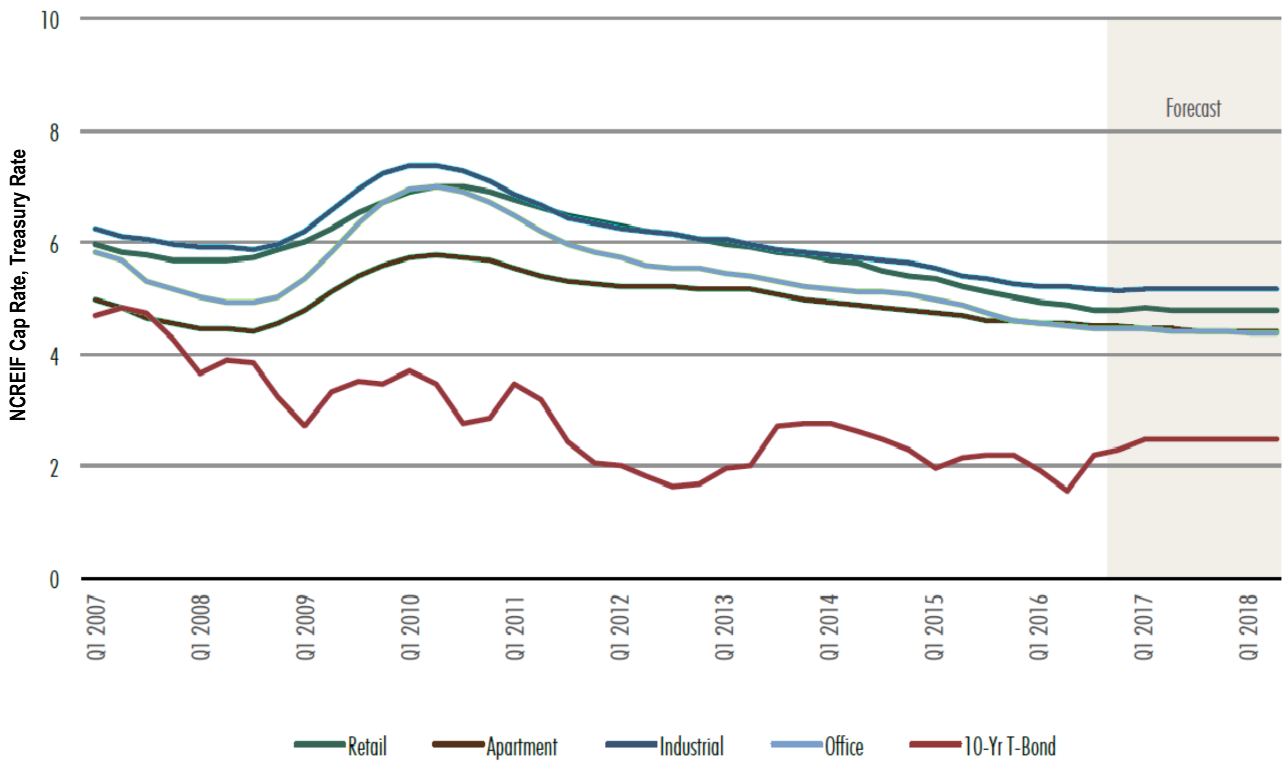
Despite all of these signs pointing to higher interest rates in the US, we remain skeptical of the Fed's forecast for three rate hikes in 2017. Each time the Fed has turned hawkish following the GFC, market events have forced the Fed to temper its expectations. In 2017, for instance, a strong US Dollar should partially counter monetary and fiscal stimulus, thereby reducing some inflationary pressures. Furthermore, the structural pressures that have driven developed world interest rates this low are not going away any time soon: US and global populations are getting older, productivity growth is low, and financial leverage remains high relative to history. As a result, while we expect rates to rise in 2017, we would not be surprised to see fewer rate hikes than the Fed is currently forecasting.

2. US commercial real estate fundamentals will continue its bull market cycle

Despite the prospect of rising interest rates, we remain positive in our view toward US commercial real estate and expect the current bull market cycle to continue, albeit with a few bumps in the road. The US real estate industry clearly learned some valuable lessons from the GFC. Investors and lenders have generally remained prudent with leverage ratios, and construction lending has been relatively subdued. Supply and demand are in relative balance with the exception of select markets and asset classes. Markets appear to be forecasting a continued US economic expansion at perhaps higher rates of growth, which should ultimately benefit real estate prices and fundamentals. That being said, we believe the transition from a low growth, low inflation environment to one of higher growth and potentially higher inflation signals a new phase in the current expansion, with clear implications for real estate investment strategies.

One implication of higher inflation and higher interest rates is likely an end to the steady drift downward in cap rates. Indeed, going into 2017 cap rates already appear to have bottomed. However, we do not expect a drastic rise in cap rates in response to higher interest rates. Interest rates and cap rates have actually shown very little correlation over the years, most likely because real estate return profiles are not directly comparable to fixed income and are more akin to a hybrid between fixed income and equity. Higher interest rates typically correspond to higher rates of growth, which in turn should fuel faster NOI growth at the property level. In such an environment, real estate investors should be willing to pay a higher earnings multiple on an asset, which in real estate means lower – not higher – cap rates. For this reason, we expect any movement in cap rates in 2017 to be relatively benign.

Not Much Drama Here – NCREIF NPI Capitalization Rates: National Sectors, Q1 2007-Q3 2016



Source: NCREIF, CBRE Econometric Advisors, Q3 2016. Reprinted with permission.

There are, however, other factors at play that we expect will have a more direct and immediate impact on real estate strategies in 2017. For one, in addition to increased fiscal stimulus, Republican control of Washington is expected to produce sweeping reforms in both taxes and financial sector regulation. Throughout the current cycle, strict banking regulation has tempered the available capital for new construction and transitional assets, which may have contributed to years of relatively subdued supply growth. Deregulation of the banking sector could change this by increasing capital availability for higher risk projects. Tax reform will also have a significant impact on how real estate is priced, so much so that we have given tax reform its own section below.

We also believe that high valuations and slower rent growth argue for a more proactive and targeted approach to asset class and market selection:

- **Office.** The office sector should ultimately benefit from an environment of faster growth and job creation. However, forecasts of more than 50 million square feet of new supply coming online in 2017 – a post-GFC high – means select markets are likely to experience dislocations.

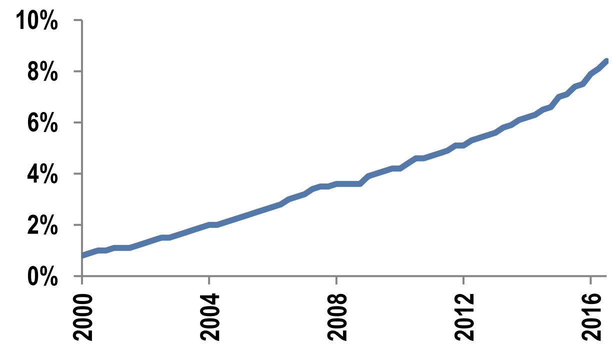
- **Multifamily.** New multifamily deliveries are also expected to crest in 2017, with higher-end Class A urban multifamily looking most vulnerable to a correction. Meanwhile Class B and Class C multifamily targeting middle-income families looks set to outperform amidst higher demand and low supply growth.

- **Industrial.** The industrial sector also requires a highly selective approach despite strong expected rent growth and record low vacancies. E-commerce continues to generate seismic shifts in how companies think about inventory, supply chains, and distribution, creating both winners and losers in industrial properties. Logistics properties should ultimately benefit from a growing US economy, but a shift towards more protectionist trade policies would leave certain properties and markets vulnerable.

- **Retail.** The retail sector has its own challenges and opportunities due to the rapid growth of e-commerce. More "experiential" retail properties, such as those that incorporate entertainment, dining, and service venues, are expected to keep performing well as US consumer spending growth continues apace, while less dynamic properties are expected to lag.

The next phase of the US real estate cycle should continue to offer attractive risk-reward opportunities across real estate asset classes. The retail sector, for instance, could offer some of the best value-add repositioning opportunities with the right tenant mix in the right locations. But considering the dynamic nature of the current environment, we believe the coming year will strongly favor experienced managers with unique local insights and operating expertise.

The Trend Everyone is Talking About – E-commerce as a Percent of Total Retail Sales, Q1 2000-Q3 2016



Source: FRED Economic Data

3. Tax reform will fundamentally alter how real estate investments are priced

One of the most significant events of 2017 affecting long-term real estate values may be a sweeping overhaul of the US tax code. The last time tax reform had a major impact on the real estate industry was arguably the Tax Reform Act of 1986, which increased the capital gains tax, extended the depreciation periods for most properties, and imposed limitations on passive investment losses. The 1986 reform transformed the real estate industry and fundamentally altered how investment properties were priced. We believe the new reforms being proposed by the Republican Congress and the incoming Trump Administration will have a similarly transformational impact on the US real estate market.

The current reform proposal, authored by Congressman Kevin Brady (R-TX) and dubbed the "Brady Blueprint," would represent a radical departure from the current tax code. The Blueprint would replace current straight-line depreciation periods of 20 to 39 years with an immediate, full expensing of the cost of all tangible, intangible and real property with the exception of land. Net operating loss carry-forwards, which currently expire after 20 years, would be allowed to be carried forward indefinitely as well as adjusted to account for inflation. The Blueprint would also eliminate the net interest expense deduction, which would have wide-ranging implications for capital structures across all industries. Lastly, the plan calls for a broad reduction in tax rates on investment income, including capital gains, dividends, and interest.

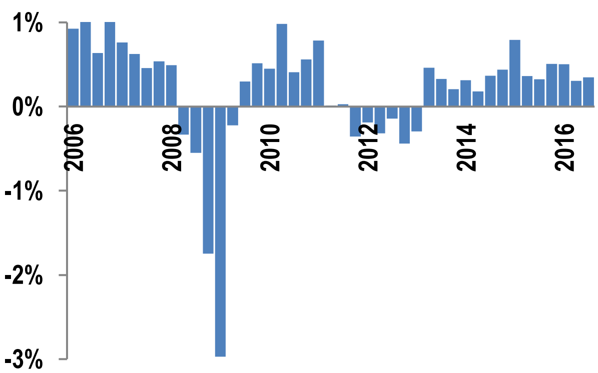
These changes are all designed to encourage investment and promote growth. At this writing it is difficult to anticipate the content and timing of a new tax law, but it is clear that changes of the magnitude proposed would have a significant impact on valuations and capital flows across the sector. We predict many late nights at the office for real estate analysts in 2017 as they adjust their underwriting models to reflect these proposed scenarios.

4. European markets will continue to be volatile

Over the years, Europe's steady integration through the European Union has been likened to a bicycle: either it continues to move forward, or it falls over. In 2017 we may finally discover whether that metaphor is accurate. Brexit and other populist rumblings have created serious questions about the future of the post-war European order. While we ultimately expect the EU and the Eurozone to continue to muddle through, a busy political calendar and lingering economic uncertainties appear likely to produce bouts of currency and asset price volatility in the year ahead.

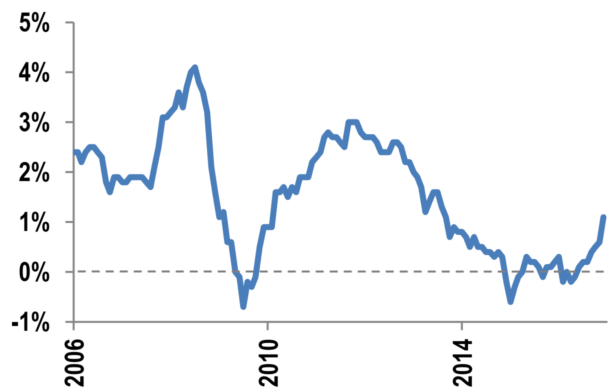
From a macroeconomic perspective, Europe seems poised to enter 2017 on a positive note. Sovereign debt yields remain near record lows thanks to the European Central Bank's relentless quantitative easing measures. The Eurozone's December flash PMI reading of 53.9 suggested that GDP grew around 0.4% in the fourth quarter. Manufacturing output also improved at the fastest rate since 2011, possibly in response to a weak Euro boosting exports. The weak Euro also appears to be creating some inflationary pressures, which further vindicates the ECB's unprecedented stimulus. With the ECB signaling a continued dovish disposition, we remain confident that the ECB will honor its pledge to do "whatever it takes" to keep the Eurozone together and boost growth.

Slow but Steady – Eurozone Quarterly GDP Growth, Q1 2006-Q3 2016



Source: Eurostat

Deflation Defeated? – Eurozone Annual Inflation, Jan 2006-Dec 2016



Source: Eurostat

At the same time, we must also recognize that the ECB is limited in its ability to contain political risk. That risk has evolved and grown over the past year. Consider, for instance, that since the GFC one of the biggest risks to the Euro's survival was the prospect of a member state being kicked out of the single currency following a sovereign debt default. Today, we must also contend with the idea of a member state voluntarily *choosing* to quit the Euro. While this possibility still seems remote, there are several items on the 2017 political calendar that should give investors pause, most notably:

- **Dutch general election, March 15**: Voters in the Netherlands will elect all 150 members of the House of Representatives. As of this writing, Geert Wilders' Eurosceptic far-right Party for Freedom (PVV) leads all other major parties, and based on current polling would enter the government with 36 seats versus its current 12 seats. This would not be a sufficient majority to form a government, and so Mr. Wilders would still need to form a viable coalition should he wish to become prime minister. Still, we expect 2017 will see multiple awkward attempts to combine "Netherlands," "exit," and other synonyms to reflect the possibility of a PVV win followed by a popular referendum to take the Netherlands out of the EU ("Netherlexit" or "Holleave" perhaps?).

- **French presidential election, April 23 and May 7**: France will elect a new president in 2017, and all signs currently point to Marine Le Pen of the far-right National Front (FN) leading the first round and proceeding against another major party candidate in the May 7 run-off. The FN has been deeply critical of the EU, and Ms. Le Pen has vowed to hold a "Frexit" referendum if she wins. We do not expect Ms. Le Pen to win, and think it more likely that Republican candidate Francois Fillon advances and defeats her in the May 7 run-off. However, Brexit and the 2016 US elections have taught us that democracy in the developed world is at an inflection point and a large portion of the electorate is happy to bet on change over the status quo. This makes political predictions a much riskier game. At the very least we expect the final vote tally in France to be closer than either side would like.

- **German federal elections, H2 2017**: Markets fully expect Angela Merkel will remain Chancellor of Germany for a fourth term. We are much less sanguine regarding her prospects, and believe more uncertainty leading up to the election will lead to market volatility. Merkel's support has been slipping in the polls due to backlash against her handling of Europe's refugee crisis. We believe her support will be vulnerable to future shocks such as acts of terrorism and troubles in the banking sector. Merkel also faces the remote but not implausible possibility of a split within her CDU/CSU coalition due to disagreements over her immigration stance. Our base case scenario is that Merkel hangs on for another term, but given that the CDU/CSU is currently polling around 36 percent, her path is quite narrow and leaves little room for error.

In addition to the election calendar, several other uncertainties will hang over Europe throughout 2017. Currencies remain volatile, with the Euro potentially headed towards parity or lower versus the US Dollar. Italy's banks are still in bad shape and will likely need to be recapitalized. Russian aggression in Eastern Europe may threaten the integrity of NATO. Britain has vowed to trigger Article 50 in March. Even the Greek sovereign debt crisis looks likely to be rekindled as President Tsipras finds himself once again at an impasse with creditors. In short, there are many reasons for investors to be nervous about Europe in 2017.

However, for real estate investors the uncertain environment could also create opportunities. Brexit will produce winners and losers, but global cities such as London, Paris, Berlin, Amsterdam, and Madrid will likely remain powerful commercial centers and cultural hubs. Political tremors could lead to some broken transactions or hasty exits, and experienced managers with strong local insights should be able to capitalize on any resulting dislocations. Low and negative interest rates should continue to drive demand for core real estate as a yield alternative, offering attractive exit opportunities for value-add and opportunistic investors selling stabilized assets. Additionally, a strong US Dollar may offer an attractive entry point for Dollar-denominated investors looking to gain exposure abroad. As such, we believe Europe merits caution in 2017, but for investors willing to stomach some extra volatility there may be interesting opportunities buried in all the noise.

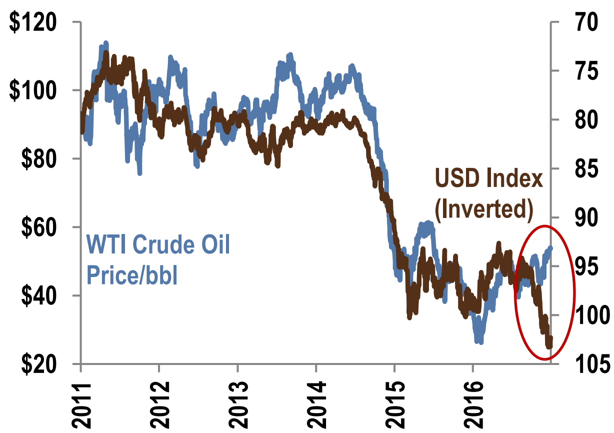
5. Emerging markets performance will be mixed, but Latin America will be a bright spot

After years of underperformance due to a surging Dollar and falling commodity prices, several emerging markets finally seemed to find their footing in 2016. The Dollar mostly remained range-bound throughout the year following its initial surge in late 2014 and early 2015. This has caused emerging market currencies to level off somewhat and helped mitigate inflation pressures, allowing several emerging market central banks to pivot to less restrictive policy. Commodity prices have also stopped falling and have even rebounded in certain places, removing a powerful headwind to countries that rely heavily on raw materials exports. As a result, several emerging markets appear to have turned the corner in 2016 and look to improve further in 2017.

However, the next year will present a new set of challenges for emerging markets. If US interest rates rise in 2017 as expected, that is likely to push the Dollar higher as developed market interest rate differentials widen. Indeed, the US Dollar Index has already broken out of its 2015-2016 range in the wake of the US election results and appears set to rise further. This may create pressures on emerging market currencies and capital flows, leading to a revival of inflationary pressures.

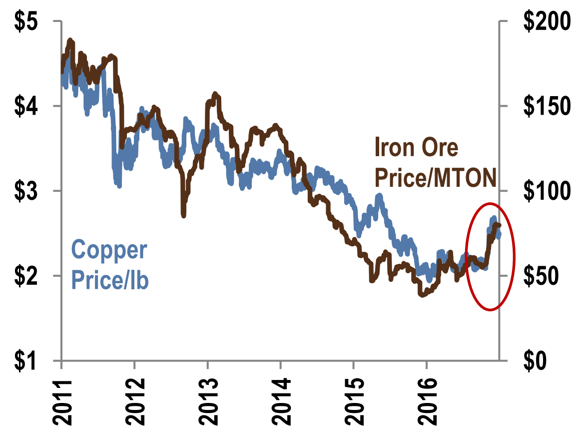
While we believe a rising Dollar may dampen or delay growth in some emerging markets, we do not expect a repeat of the 2013-2015 emerging markets downturn. For one, commodity prices appear to be staging a recovery. Unlike the 2014-2015 Dollar surge which corresponded with falling commodity prices, the Dollar's post-election gains in late 2016 have oddly coincided with rising commodity prices. Oil and energy prices, for example, look particularly resilient and appear to have decoupled from a historical negative correlation to the Dollar. Industrial commodities, such as iron ore and copper, are also rallying due to a combination of improving Chinese trade data and the prospect of increased US infrastructure spending. This bodes well for economies that are largely driven by commodity exports.

Going Separate Ways – WTI Crude Oil vs US Dollar Index (Inverted), Jan 2011-Dec 2016



Source: Bloomberg

Did Someone Say Infrastructure? – Copper and Iron Ore* Prices, Jan 2011-Dec 2016

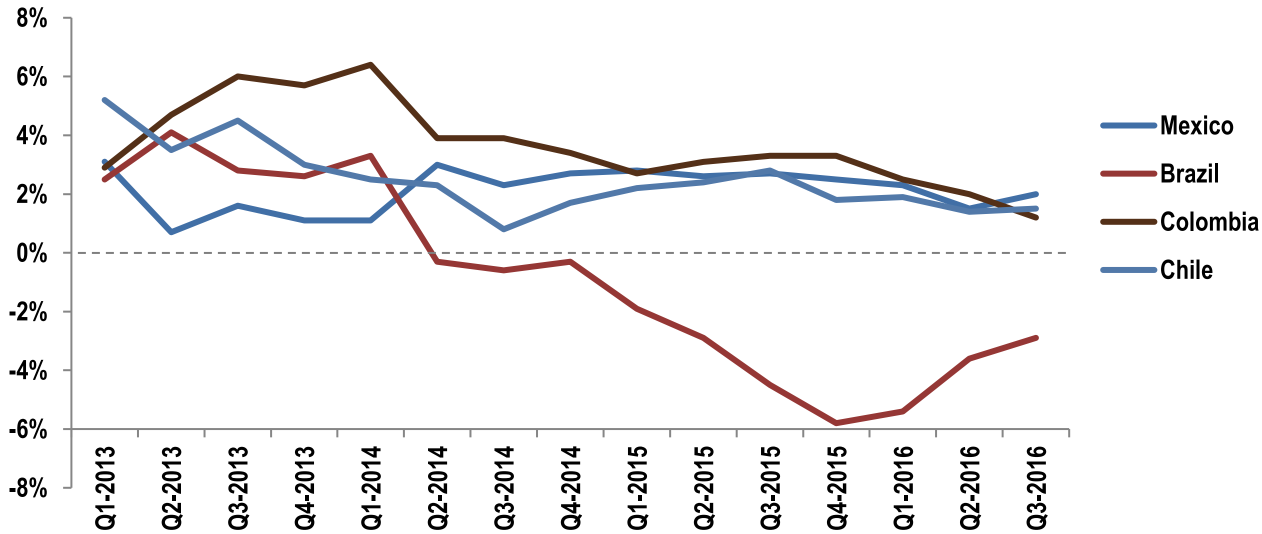


Source: Bloomberg
*Iron ore prices are determined using the standard NYMEX benchmark of China import Iron Ore Fines 62% FE spot (CFR Tianjin port), US Dollars per Dry Metric Ton.

Geopolitical and policy uncertainty are the other wild cards we believe will affect emerging market performance in 2017. Russia, despite being a major energy exporter, may continue to struggle in the face of punitive sanctions. The potential for further Russian aggression in Eastern Europe will add uncertainty to that region's prospects. Southeast Asian economies must contend with ongoing tensions in the South China Sea. Other former emerging market darlings, most notably South Africa and Turkey, face headwinds due to increasingly autocratic leadership and questions regarding central bank independence. While we believe these economies still have potential to grow in 2017, we remain cognizant of the increased geopolitical risks.

We believe Latin America stands out as a clear winner in the current environment. Commodity exporting countries such as Brazil, Chile, Argentina, Colombia, Peru, and Mexico should benefit from rising commodity prices and higher demand from the region's largest trading partners, the US and China. Additionally, in a time when many of the world's democracies are trending towards populism and protectionism, Latin America stands out as a region where capitalism is experiencing a resurgence. Governments across the region have grown increasingly pragmatic and market-friendly with the exception of a few outliers such as Venezuela. Brazil in particular should present attractive investment opportunities as it recovers from a deep recession and implements needed economic reforms. We believe these and other factors will lead to increased foreign investment in Latin America in 2017.

Better Days Ahead – Latin America Annual GDP Growth Rates, Select Countries, Q1 2013-Q3 2016

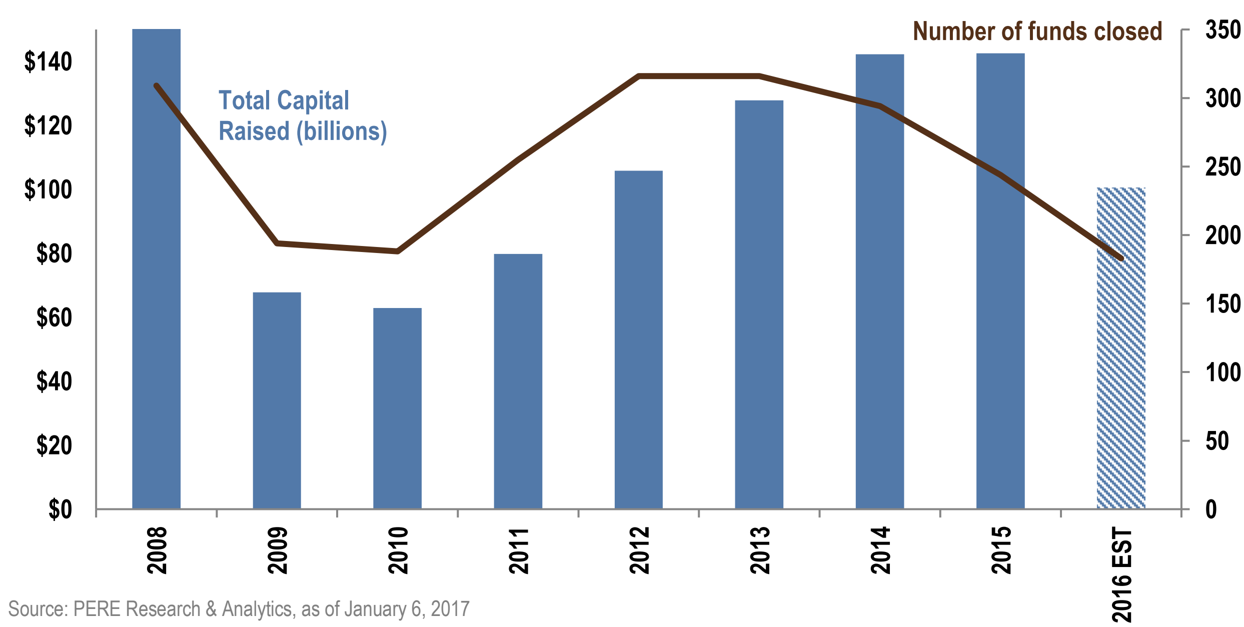


Source: OECD Data

6. Capital flows to real estate will remain healthy

Capital continued to flow into real estate in 2016 as investors benefitted from the asset class' strong performance and diversification benefits. In real estate private equity fundraising, managers raised an estimated $100.5 billion of capital according to PERE's latest tally. While this represents a decline from 2015 and the number of funds closed continues to shrink, empirically we observed that investor appetite remained strong for talented managers with the right strategies. We believe investors will continue to favor real estate strategies and allocate healthy levels of capital to the asset class in 2017.

Ebbs and Flows – Private Real Estate Fundraising, 2008-2016



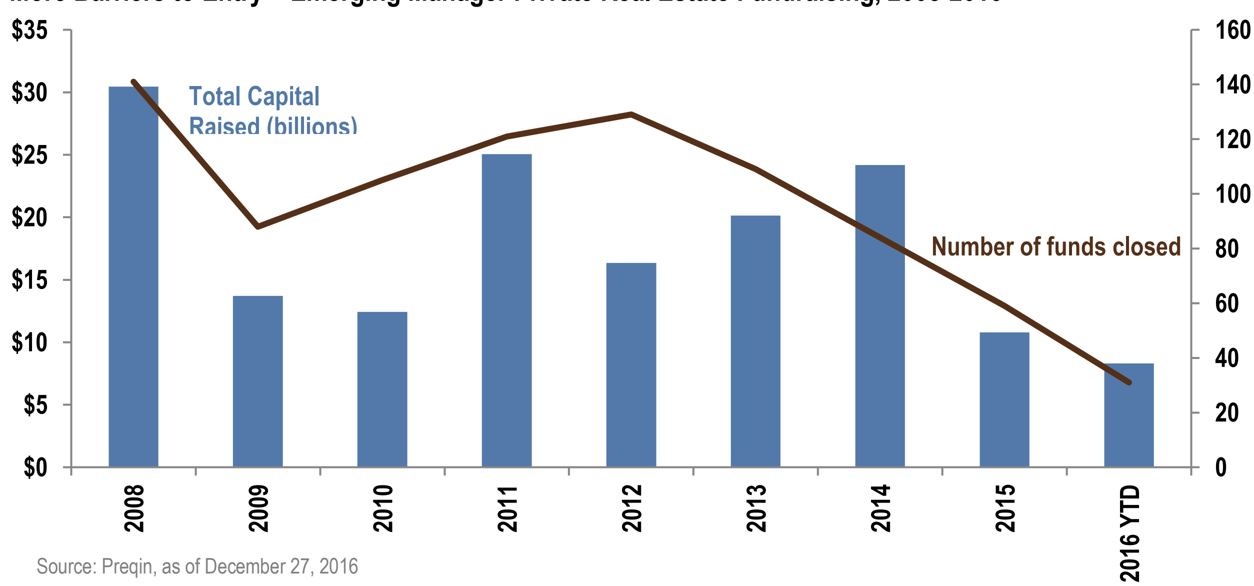
Source: PERE Research & Analytics, as of January 6, 2017

Institutional investors have been steadily raising their allocations to real estate since 2005. Back then the average target allocation to real estate was 5 percent. By 2012 the target allocation had surpassed 7.5 percent and today it stands near 9 percent. While this argues for higher capital flows into real estate, some institutions are reportedly experiencing a high-class problem dubbed the "numerator effect." The trailing 5-year annual return on the NCREIF Property Index was 11.2 percent as of Q3 2016, outpacing stocks and bonds and resulting in real estate portfolios gaining value relative to other asset classes. While this may force some institutions to slow the pace of new commitments in the immediate term, from a long-term perspective recent trends bode well for real estate capital flows.

We also believe that asset allocation models are generally due for a makeover, which should benefit real estate. Low yields and high asset prices are making it difficult for institutions to meet their actuarial return assumptions. Global asset classes are increasingly correlated, making diversification more challenging. Hedge funds have been one of the biggest disappointments in this regard, with many funds underperforming broad market indices for several years in a row. Real estate return profiles, however, remain attractive in both debt and equity, and so we expect that the "real estate bucket" will become more nuanced for the largest, most sophisticated institutional portfolios as it overlaps with other asset classes. For example, real estate private credit strategies could play a larger role within fixed income portfolios due to attractive risk-adjusted yields. Growth equity and special situations portfolios could also incorporate certain real estate strategies, especially in emerging markets. We are already seeing several institutions move in this direction, and we expect more will follow suit in the coming years.

Despite the positive outlook for real estate capital flows, private equity fundraising is likely to remain competitive. Mature investor portfolios make it difficult for managers to attract new sources of capital. Emerging managers in particular have had a difficult time raising capital in recent years, with 2016 shaping up to be the worst year for emerging manager fundraising in at least a decade. But even established managers looking to expand their existing investor bases are likely to face headwinds as the total number of funds closed reached an 8-year low in 2016. The bar for adding a new manager relationship to institutional portfolios is getting higher. We believe managers will need to demonstrate clear competitive advantages and adopt a long-term strategic approach to fundraising in order to be successful in this environment.

More Barriers to Entry – Emerging Manager Private Real Estate Fundraising, 2008-2016



Source: Preqin, as of December 27, 2016

As finding new investors remains challenging, we believe many real estate managers will find firm growth difficult to achieve. Barriers to entry are also likely to increase as the incumbency effect becomes more pronounced. We believe these trends could lead to more M&A among small and mid-size managers as they try to gain operating efficiencies and as key personnel retire. Diversified asset managers looking to enter the real estate space may also elect to acquire existing platforms rather than build their own. We expect to see more M&A transactions resulting from these themes in the coming years.

7. Private credit will continue to offer attractive investment opportunities

Private credit strategies have grown in popularity in recent years as the global hunt for yield continues. Despite a modest rise in developed market interest rates towards the end of 2016, approximately half of global sovereign debt trades at yields ranging from 1 percent to negative. The late 2016 bond sell-off has actually been quite orderly, as there has been no shortage of willing buyers despite historically low rates across the yield curve. Private credit, by contrast, offers attractive opportunities for investors to achieve yields that are substantially higher than those available in public markets, typically ranging from the mid-single digits to low teens.

Private credit managers have exhibited strong underwriting discipline historically, which further enhances the asset class' risk-reward profile. Borrowers tend to be reputable industry players with successful track records. Private lenders tend to have more sophisticated underwriting methodologies, and often have deep backgrounds in the same industries as their borrowers. Delinquency rates appear to reflect this dynamic, as defaults in private credit portfolios currently hover near zero versus over 4 percent in the public CMBS markets. We expect this relatively attractive risk-reward profile to fuel further demand for private credit strategies in 2017.

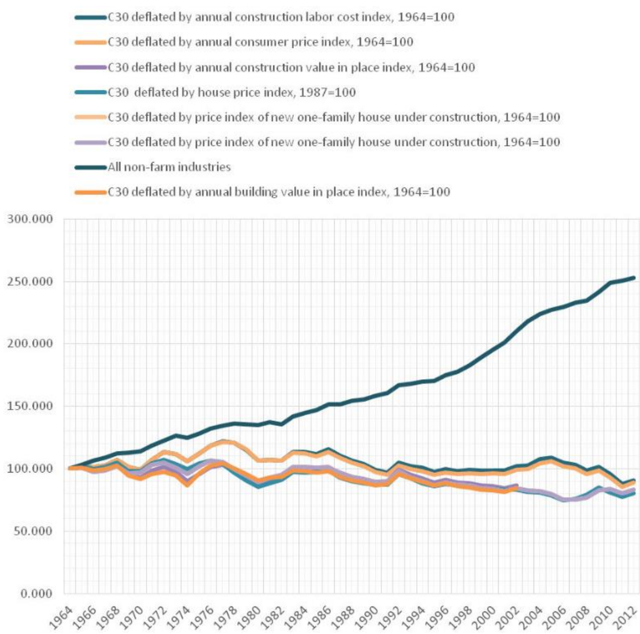
In terms of the market opportunity in 2017, there is growing discussion about what a Trump Administration will mean for private lenders in the US. Trump has vowed to roll back many banking sector regulations, including Dodd-Frank and Basel III. Europe, similarly, appears to be backing away from Basel III as governments seek to boost growth and fend off populism. In both Europe and the US, a rollback of restrictive policies would likely lead to a pick-up in bank lending, especially among regional banks. Tight banking regulations have been a major tailwind for private credit strategies in recent years, and there is a risk that less regulation will lead to higher competition and lower returns for private lenders.

Despite this threat, we still believe the private credit opportunity set will remain attractive. Certain assets and borrowers will continue to struggle to get backing from traditional banking channels regardless of the regulatory environment. Middle sections of the capital stack such as stretch senior loans, mezzanine financing, and preferred equity are unlikely to become much better served due to a sudden revival in regional bank lending. Private lenders tend to have specific advantages over traditional banks, such as speed of execution and certainty around closing timeframes. Many borrowers even prefer private lenders over traditional banks due to their flexibility. As such, we believe the market opportunity for private credit will remain healthy, and institutions investing with experienced managers in underserved market segments should continue to earn attractive risk-adjusted yields.

8. New technology will continue to modernize the construction industry

The real estate industry is traditionally slow to incorporate new technologies or ways of doing business, and the construction sector is no exception. A modern large-scale construction site is a complex network of labor, schedules, processes, budgets, and reporting. As a result, a large amount of important data is generated throughout the life of a construction project, and the sharing and use of that data can help determine the project's efficiency and profitability. Yet, many of the processes used to store and communicate data at a construction site have changed little in several decades, even following the advent of computers and the internet. Various academic and industry studies have shown that labor productivity in the construction industry has been flat or declining for at least four decades. Several start-ups are already attempting to remedy this and other inefficiencies within the construction industry, and we believe the sector is ripe for further disruption in the years ahead.

Room for Improvement – Construction Productivity* vs All Nonfarm Labor Productivity, 1964-2012



Source: Paul Teicholtz, Stanford University, AECBytes Viewpoint
*Professor Teicholtz's findings are based on adjusting the C30 construction spending index by various deflators to arrive at real output put in place per unit of labor.

One of the biggest challenges to introducing new technology to any industry is the learning curve for implementation. The use of a new technology can sometimes become just another step in an already lengthy process and actually makes workers less productive. This has often been the case in the construction industry, which may explain why worker productivity growth in construction has been flat for so many years. Today, however, tools that can be seamlessly integrated into existing worker experiences, such as mobile applications, are modernizing construction sites and making projects more transparent and efficient.

For example, companies like Rhumbix, Procore, and PlanGrid have developed mobile applications to streamline workflows at construction sites. Rather than recording and sharing site data through antiquated clipboards and paper trails, foremen and workers can upload information on their phones or tablets, which is then immediately shared with other site workers as well as base office personnel. The effect of this real time communication is a more efficient "control center" to track items like time keeping, cost coding, and quantity reporting, as well as notable events such as delays due to weather or safety concerns at the worksite. Better syncing between site and office not only makes construction contractors more efficient, but also improves transparency for customers regarding project costs and potential delays.

Supply chains are another area of construction that we believe will experience significant disruption in the coming years. The construction industry is highly fragmented – the largest global construction company accounts for less than 0.5 percent of total global revenues – and supply chains are similarly fragmented despite the trend towards consolidation and globalization in other industries. Construction materials often pass through multiple layers of distributors, intermediaries, and border controls prior to arriving onsite, with costs added at each step along the way. More streamlined supply chains would reduce both costs and delivery times, especially on large projects. Menlo Park-based Katerra is already trying to solve this problem by using a combination of global materials sourcing and demand aggregation to shorten delivery times and remove layers of costs.

In addition to streamlining supply chains, another opportunity we see and which Katerra is working on is making construction more efficient through offsite manufacturing. Construction projects often require the same repetitive assembly tasks irrespective of the project type or location. Indeed, while automation has slowly transformed other industries such as manufacturing, construction still stands out for its heavy reliance on manual human labor. Moving certain assembly operations offsite to more of a factory setting would likely improve product quality and delivery time while also reducing waste.

Due to these and other innovations, we believe the construction industry will undergo dramatic change in the coming years. Certain low-hanging fruit such as the integration of mobile applications are likely to catch on quickly, whereas supply chain disintermediation and offsite manufacturing will take longer. Ultimately, the success of these new innovations and technologies will be driven by economics through cost savings and increased productivity. Both real estate and venture capital investors are likely to see opportunities as a result.

9. Artificial intelligence will start to transform real estate investment processes

Informational asymmetry is a famous hallmark of the real estate industry. Real estate decision-making processes often involve thousands of potential variables, and we mere mortals have limited capacity to collect and analyze them all efficiently. Big data has made this easier, but even knowing which data to study is sometimes a challenge. But what if there was a technology that not only analyzed data, but actually told you which variables to focus on and which decision had the highest likelihood of success? What if this technology could, for instance, study 1500 variables simultaneously and then inform you that sales at a new condo development were almost perfectly correlated to the 6-month lagged performance of the Chinese yuan? Such granular data insights are rare finds in real estate today, but could become commonplace through the growth of artificial intelligence (“AI”).

AI has potential to significantly disrupt the real estate industry through faster information gathering, deeper data analysis, and better decision-making. For instance, while a typical real estate analyst could spend hours crunching numbers and running scenarios on various data sets, AI can process thousands of variables and simulate millions of alternate scenarios at once. By running these scenarios, AI can forecast probability-weighted outcomes based on a given business plan or investment decision. Such capabilities, referred to as “predictive analytics,” would shorten timeframes for major real estate decisions and make companies more agile.

Several start-ups are already using AI and predictive analytics to make real estate decision-making more efficient. Machine Colony, a machine intelligence company based in New York and Dubai, is currently building AI that will assist development, renovation, and investment decisions by determining a property’s highest and best use and future operating potential. Maxwell Rebo, a co-founder of Machine Colony, has likened it to turning the world into SimCity and having AI figure out how to beat the game. Another start-up called Digsy hopes to use predictive analytics to make real estate brokers more effective at connecting properties with potential tenants. The list of potential AI applications within real estate will keep growing over time.

We believe that AI technology, while still nascent in its development, has potential to transform the real estate industry. Imagine if a real estate investment committee could check its decisions against AI predictions; how many mistakes driven by human error or hubris would be avoided? We believe other recent technological innovations could prove to be small by comparison. Big data, for instance, improved real estate data gathering at the margins, but AI has the potential to be a game-changer for the entire decision making process. We believe more companies will invest in such applications in the coming years, and for early adopters the positive feedback loops from AI could lead to a wide range of competitive advantages from investment performance to capital raising.

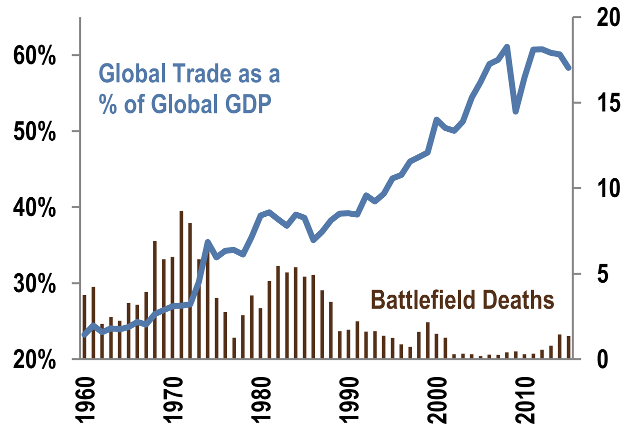
10. Political risk will play a larger role in investment decisions

In the last several years, currency volatility in both developed and emerging markets has caused many institutional investors to rethink how they approach international portfolio construction. Theoretically, an investor expects a certain return premium as compensation for venturing outside of its domestic market, known as the Country Risk Premium (CRP). A litany of potential factors can affect CRP, including politics, sovereign debt rating, legal system, economic structures, and currency. Some of these risks, including currency, are thought to be potentially mitigated through adequate diversification (though opinions on currency are wide-ranging in this regard). Political risk, however, is for the most part country-specific and is not easily diversifiable. We expect political risk will be a hot topic of discussion and debate among international investors in 2017, and will ultimately lead to changes in global investment decision-making.

Political risk has always been a relevant investment consideration, but we believe it will take on more importance in the coming years due to the shifting tides of geopolitics. The postwar liberal world order characterized by market integration, democratic institutions, and rule of law appears to be in retreat or at least stalled. Protectionism and nationalism are on the rise. Global trade, which had been growing steadily since the 1960s, has stagnated. Brexit was perhaps the most powerful indication of this historic inflection point, representing a significant step backward from Europe's postwar goal of "ever closer union." In short, the world order that has formed the base of nearly every investor's career experience is changing, and what will replace it is still a mystery.

While growing income inequality suggests that the world's approach toward globalization should be modernized, the broad challenge to globalism generally should give us all pause. Market integration and economic cooperation have been the principal foundations for the long period of peace and stability following the second world war. For instance, the European Union while economic in nature was largely formed in an attempt to break Europe's destructive cycle of ethnic and national tribalism. The experiment has worked: Europe has not suffered a major cross-border conflict for the last seven decades. Other regions have followed suit with similarly promising results, such as ASEAN and the African Union. Economic integration reinforces peace and vice versa; it's one of the most virtuous positive feedback loops ever devised.

Not Such a Bad Deal – Global Trade as a % of GDP vs Battlefield Deaths* per 100,000, 1960-2015



Source: World Bank, Our World in Data, Uppsala Conflict Data Program
*Battlefield deaths are defined as combat forces killed in action and do not include civilian casualties.

Rising nationalist and protectionist sentiments threaten the durability of this trend, and we believe investors will be mindful of investing in regions that appear more prone to conflagrations. For instance, Vladimir Putin has made no secret of his desire to restore Russian dominion over the former Soviet bloc, which means Russian aggression will remain a threat in Eastern Europe, Central Asia, and the Middle East for the foreseeable future. The Middle East in particular has grown increasingly complicated with Russia's adventures in Syria, adding a Russia-US competition for influence to the region's already potent cocktail of religious, ethnic, and tribal divisions. Turkey, a strategically vital member of NATO and former emerging market star, appears to be gravitating more towards the pro-Russia block at a time when NATO's future is being openly questioned. In the Pacific, China is eager to establish its own sphere of influence and exert its newfound might on the world stage, and has directly challenged international law regarding its claims in the South China Sea. Harsh trade rhetoric from the incoming Trump Administration may compound these concerns by shifting US-China relations away from a spirit of partnership to something more adversarial.

Consider all these factors together and the geopolitical situation seems more unstable today than at any other time in recent memory. Ultimately, we believe that cooler heads will prevail and the nationalist-protectionist wave will eventually recede. Economic self-interest is one of the most powerful forces in nature, and the long-term benefits of integration are simply too compelling to ignore indefinitely. In the meantime, we believe investors seeking the benefits of international diversification should take note of the heightened geopolitical uncertainty by demanding higher risk premiums and being more selective in their allocations.

SCORECARD 2016

In the spirit of staying honest with our readers, below we have provided a short "scorecard" on our 2016 Outlook and what we got right and wrong. Each of our market calls is scored on a scale of 1 to 10, with 10 meaning "nailed it" and 1 meaning "not even close." We also include some brief commentary to explain why we scored ourselves the way we did. We admit that this is a highly subjective exercise, and we have absolutely no problem with that. So let's get to it.

The Fed will hike rates, but slowly

Score: 9/10

Following its initial rate hike in December 2015, markets were expecting three to four Federal Reserve rate hikes in the ensuing year. We argued that the US economy was not yet running at full steam, and in any case the strong US Dollar had already significantly tightened monetary conditions. We were also cognizant of the lessons of other central banks that hiked rates too early, such as the ECB, and were forced to subsequently drop rates even further when economic conditions worsened. We thought this backdrop would result in a slow and steady pace of rate hikes, and indeed we didn't see another one until the following December. While we were right in our dovish assessment, for the second year in a row the Fed completely "out-doved" us and for that we grade ourselves 9/10 rather than a perfect 10/10.

US real estate fundamentals will remain healthy

Score: 10/10

The question on nearly every real estate investor's mind going into 2016 seemed to be "Which inning is this?" Many industry players were worried about the maturity of the cycle and the potential for a correction. We were also cautious, but we did not see a broad correction in the making. Bull market cycles do not die of old age, and supply and demand fundamentals appeared to be well balanced. Investors were rewarded with another year of strong performance in 2016. So we are content to give ourselves a 10/10 on this one.

European real estate will offer interesting opportunities across the risk spectrum

Score: 9/10

Our view was that Europe would continue to experience some uncertainty but would ultimately muddle through and create opportunities for investors willing to stomach some volatility. To a large degree this proved correct. The ECB did its part to keep the sovereign debt crisis from flaring again, and in the meantime events like Brexit led to opportunities for real estate investors on both the debt and equity side. We could point to several anecdotal examples of real estate managers grabbing some good deals due to broken transactions, panicked selling, or lack of an alternative capital source. We also did not discount the probability of Brexit, acknowledging that voters were pretty evenly split on the issue. So on the whole, not bad for a year when many felt blindsided by events. However, we anticipated more investor enthusiasm for Europe in 2016, and clearly Brexit and other political uncertainties have caused many to take a "wait and see" approach. Still, we were happy with our results and grade ourselves 9/10.

Real estate debt strategies will grow in popularity

Score: 10/10

We expected the strict regulatory environment to create opportunities in the debt space in 2016 in both the US and Europe. We further predicted that more investors would begin pursuing such strategies in a hunt for yield. By a broad margin we were right on both counts.

Oil will not rise above $60 per barrel

Score: 10/10

We only scored ourselves 9/10 on this one in 2015 because our bogey of $70 was too generous (prices never came close to $70 in 2015). So we lowered our bogey to $60, and further added that prices would remain range-bound for most of the 2016. We regret that we didn't actually trade on this prediction because we probably would have made some money, but a 10/10 on our annual scorecard is its own reward.

Investors will increasingly target distressed opportunities in Latin America

Score: 9/10

In our 2015 Outlook we prematurely called the bottom in emerging markets, and we punished ourselves accordingly in last year's scorecard. In 2016 we did much better by focusing our call on Latin America specifically. We correctly claimed that economic green shoots were emerging across the region as falling commodity prices become less of a drag. We said Brazil especially would offer interesting opportunities in 2016 as GDP contractions become less severe and the weak Brazilian Real offers attractive entry points for international investors. Indeed, several large institutional investors ventured into Brazilian real estate in 2016, often citing the weak currency as part of the thesis. Brazil's economic outlook also improved, with the country looking poised to return to growth in 2017 after a deep recession. In 2016 the Brazilian Real gained 22 percent against the US Dollar, the iBovespa stock market index gained 69 percent in USD terms, and sovereign debt yields fell from over 16 percent to about 12 percent. The only reason we aren't giving ourselves a perfect 10/10 is because we failed to see Mexico's vulnerabilities to a Trump candidacy and its ensuing negative impact on Mexico's currency and economic outlook.

Real estate fundraising will reach post-2008 highs

Score: 8/10

We are relying on our empirical view in the absence of conclusive data in giving ourselves 8/10 here. We were correct in stating that more capital would go to established managers and that emerging managers would have a harder time raising capital. This is a trend that has been ongoing, and it appears to have become more acute in 2016. However, fundraising does no look like it will reach post-2008 highs in 2016. At the time of writing that particular prediction, what was not yet clear was that 2015 fundraising totals hit post-2008 highs and just barely fell short of prior peak levels. In hindsight, 2015 set up a bogey that would be harder to surpass than we initially realized. However, on the whole 2016 does look like it was a good fundraising year, albeit with a modest slowdown from prior years.

Real estate M&A transactions will gain momentum

Score: 5/10

Our prediction results were a mixed bag here. We saw several notable mergers and acquisitions in the real estate sector throughout the year, such as Colony's acquisition of Northstar and Marriott's merger with Starwood. Smaller brokerage firms also continued to get absorbed by the likes of CBRE, JLL, Colliers, and other large and mid-size brokerage shops. We expected this. However, when factoring in REITs and the rest of the real estate sector, the overall M&A volume in 2016 was down from the previous year. In particular, the much talked about REIT M&A wave of 2016 that we and several others predicted never came to pass, with total volumes shaping up to be the lowest since 2012. We continue to believe that the REIT space is ripe for consolidation, but we may be waiting a while longer to see it.

ESG* considerations will grow in importance

Score: 10/10

This one is difficult to score due to a lack of objective data points to tell just how much ESG "grew in importance" over the past year. However, our observations throughout the year further validated our belief that ESG is a long-term trend that will eventually become an industry norm. Preqin, for example, conducted a survey showing that 85 percent of investors consider ESG factors when making investment decisions. At Park Madison, we also seemed to observe more instances of investors and consultants asking managers about their approach to ESG, as well as more managers exploring the implementation of a formal policy. Many ESG policies in addition to being socially responsible are simply good business, and we think economic self-interest will ultimately lead to more widespread adoption of ESG standards over time. Given our confidence, as well as the total subjectivity of our scoring system, we think we deserve a 10/10 on this one.

**ESG = environmental, social, and governance*

And finally… Someone will be elected President

Score: 7/10

If we only scored ourselves on the headline, we obviously set ourselves up for victory here. But we also score ourselves on the details, and so our results are a little more nuanced. That said, we think we did pretty well in our election forecast. Our expectation that Cruz would win Iowa and set up a showdown between himself and Donald Trump was spot on. We erred, however, in not giving any mention to John Kasich's potential; our instincts said that he should be a strong contender, but at the time of writing he wasn't gaining traction and so we threw him out of our "top contenders" list. We also were fairly convinced that the Republican contest would result in a brokered convention. We came close to seeing that, but ultimately Donald Trump gained enough steam to win the nomination outright.

On the Democratic side, we like everyone else assumed Hillary Clinton would be the nominee. We figured Bernie Sanders would give her a healthy challenge in some of the early states like Iowa and New Hampshire, but we never expected that his campaign would have the resources or the support to go all the way to the finish.

Finally, we were cautious on Hillary Clinton's odds of victory no matter who the Republican challenger was, and that was probably our best call in this section. We said it would be a close contest, and a split Electoral College and popular vote winner is about as close as it gets. So we'll take our 7/10, but we won't be quitting our day jobs to go into political consulting any time soon.

ABOUT PARK MADISON PARTNERS

Park Madison Partners is a New York-based real assets placement and advisory firm focused on the global alternatives and private funds industry. To date, the firm has participated in the placement of over $9 billion of private equity capital globally. Park Madison Partners was founded to offer clients capital raising and strategic consulting services with a high degree of customization, integrity and accountability. The firm provides a relationship-driven approach to structuring and marketing assignments and offers its clients access to global institutional investors. Park Madison Partners is a member of SIPC-FINRA and is certified with the Women's Business Enterprise National Council.

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