HEITMAN

Perspective

Certainties Amid Uncertainty

February 2017

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In 2016, many got caught repeatedly confusing the "probable" with the "certain." The US election was a vivid example of this. On the morning of November 9, fingers wagged at the political pollsters and pundits: How could they have gotten the outcome of the US presidential election so wrong? Nate Silver, founder of FiveThirtyEight.com, had earned acclaim for calling nearly every state correctly in 2008 and 2012. But like every major pollster, he predicted a Clinton victory in 2016. Silver received flak for his apparent error.

Was this fair? On the eve of the election, Nate Silver's model ascribed a 71.4% probability to a Clinton victory. This figure sounds high, but it also implied, of course, a nearly 30% chance of a Trump win. Coincidentally, five days before the "shock" of Brexit, the probability of a leave vote as implied by bookies' odds was also around 30%. Events with a 30% chance of occurring happen all the time. Indeed, on average they should occur about a third of the time!

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The widespread surprise at the US election and UK referendum results has reminded us of the importance of clear thinking about risk and probabilities. Investor's expectations of outcomes should include the possibility of scenarios that do not represent the most likely case, but that still carry a meaningful chance of coming to pass. In that sense, there should have been less shock at the election result. Nate Silver's own maligned analysis explicitly indicated much greater uncertainty in 2016 compared to prior years: 71.4% is a lot lower than the 90.9% chance of an Obama victory he predicted immediately before the 2012 vote, and his 98.9% probability in favor of Obama in 2008.

How Much Uncertainty?

By the outset of 2017, the major global financial markets had already turned markedly positive, in part due to expected policy changes by a Republican-controlled US government and their implications for global growth. But there is also recognition of a heightened degree of global uncertainty and of a widening range of risks. Big questions faced by investors in 2017 include:

- How much will inflation rise, how will global Central Banks respond, and what will be the impact on real estate?
- Will the protectionist rhetoric of politicians across the world translate into greater barriers to global trade?
- What will political transitions—from the US presidency to the 19th Chinese Communist Party Congress—mean for the already fragile state of geopolitics? What will be the outcome of elections in key countries such as Germany, France, and Italy?
- What changes will be made to the US tax system and fiscal policy and how will these changes affect the growth trajectory of the US economy?
- What form of Brexit will the UK achieve and what will the impacts be?

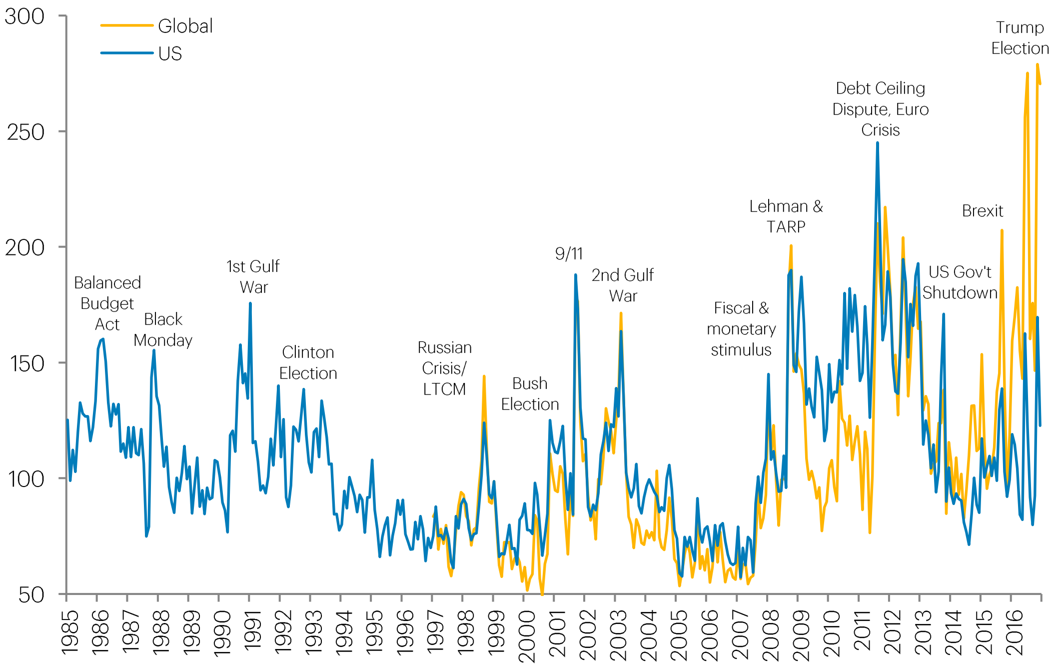
It is not unusual to hear claims that uncertainty is high. A quick glance through industry conference programs over the years reveals a long history of panels with titles along the lines of, "Investing in an Age of Uncertainty," regardless of how sanguine the market environment appears in retrospect. But uncertainty in early 2017 truly appears to be elevated, at least according to the Economic Policy Uncertainty Index (EPUI), which seeks to quantify it.

> Uncertainty in early 2017 truly appears to be elevated

The EPUI was devised in 2012 by three economists, Scott Baker, Nick Bloom, and Steven Davis, of Kellogg School of Management, Stanford, and Chicago Booth, respectively. They publish a separate index for 19 countries; a global index is constructed from a weighted average of these. The US version of the index is constructed from three different underlying components: a measure of newspaper coverage of policy-related economic uncertainty, the number of tax code provisions set to expire in coming years, and the degree of dispersion in the forecasts from leading economists. The indices for other countries are based exclusively on the news coverage component.

The EPUI indices have become a widely accepted measure of uncertainty. They have been used in more than 60 academic papers, cited in numerous speeches by central bankers, and employed by investment banks and economic forecasters in their analyses. The data is freely downloadable from the US Federal Reserve's FRED database.

ECONOMIC POLICY UNCERTAINTY INDICES (GLOBAL & US)



Source: FRED; Baker, Bloom & Davis; Heitman Research

> Uncertainty indices tend to spike upward around episodes such as elections, economic shocks, and legislative crises

As the chart shows, the uncertainty indices tend to spike upward around episodes such as elections, economic shocks, and legislative crises. Following the November 2016 presidential election, the global uncertainty measure hit an all-time high, and the US version reached a level not seen since the US government shutdown in 2013. The elevated level of both indices is driven in part by uncertainty as to the policy direction of the new US presidential administration and its implications for monetary policy, trade, and geopolitics. Upcoming elections in other parts of the world and the impending start of Brexit negotiations further boost these measures of uncertainty, especially the global index. (Indeed, as the chart shows, while the global and the US indices are both high, the gap between the US and global index has widened out to a record level.)

What does elevated uncertainty mean for the economy and asset values? The creation of the EPUI has allowed researchers to draw some conclusions. High values on the uncertainty index have been found to be correlated with cutbacks in firms' investment spending[1] and hiring.[2] Higher uncertainty has also been historically linked to lower stock market returns,[3] higher risk premia,[4] higher credit default swaps (CDS) spreads[5], and stock market volatility[6] . With that said, it is important to draw a distinction between uncertainty and volatility. Despite elevated measures of uncertainty today, market measures of volatility such as the VIX remain relatively low. This suggests that uncertainty and market volatility do not always go hand in hand, especially in environments where the underlying consensus view is relatively sanguine and market liquidity is ample.

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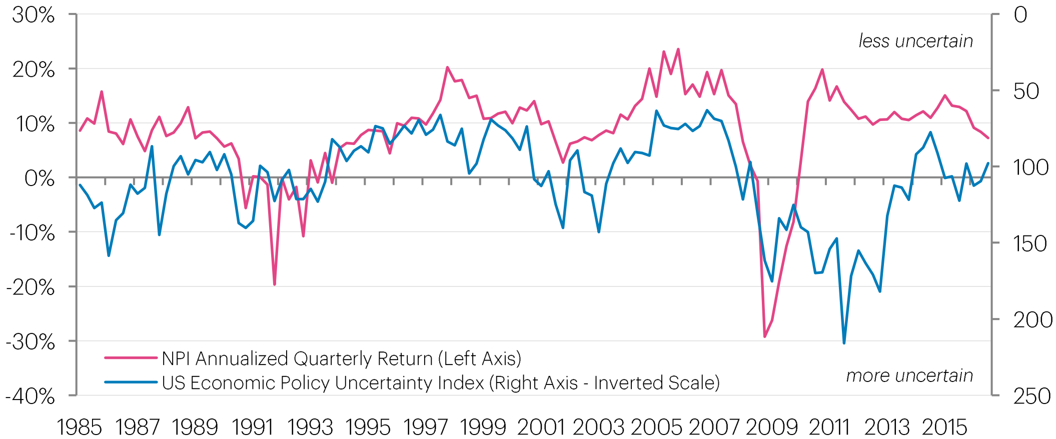
2. Baker, Scott, Nick Bloom, and Steven Davis. 4 January 2015. "What Triggers Stock Market Jumps?". Presentation to ASSA Meetings, Boston.
3. Antonakakis, Nikolaos; Chatziantoniou, Ioannis and Filis, George. 28 November 2012. "Dynamic Co-movements between Stock Market Returns and Policy Uncertainty". Available at at http://mpra.ub.uni-muenchen.de/42905/. Also Kang, Wensheng and Ronald A. Ratti. October 2013. "Oil Shocks, Policy Uncertainty and Stock Market Return" in *Journal of International Financial Markets, Institutions and Money*. 26: 305-318.
4. Pastor, Lubos and Veronesi, Pietro. 7 September 2011. "Political Uncertainty and Risk Premia". Available at http://www.istfin.eco.usi.ch/p-veronesi2011-167790.pdf
5. Wisniewski, Tomasz Piotr and Lambe, Brendan John. October 28, 2014. "Does Economic Policy Uncertainty Drive CDS Spreads?" Available at SSRN: https://ssrn.com/abstract=2515769
6. Amengual, Dante and Dacheng Xiu. 2013. "Resolution of Policy Uncertainty and Sudden Declines in Volatility". Available at http://faculty.chicagobooth.edu/dacheng.xiu/research/VOLJUMP.pdf

Uncertainty and Real Estate

While the index's relationship with real estate returns has not featured in any academic study to our knowledge, we found that changes in the uncertainty index exhibit a statistically significant negative correlation with real estate returns, both in the US and UK. The chart below shows that real estate returns exhibit a clear relationship with an inverted index of uncertainty. This means that returns tend to fall when uncertainty increases, and vice versa. The correlation coefficient is -0.34, which is statistically significant at the 0.01% level.

ECONOMIC POLICY UNCERTAINTY INDEX (US) VS. NCREIF TOTAL RETURNS

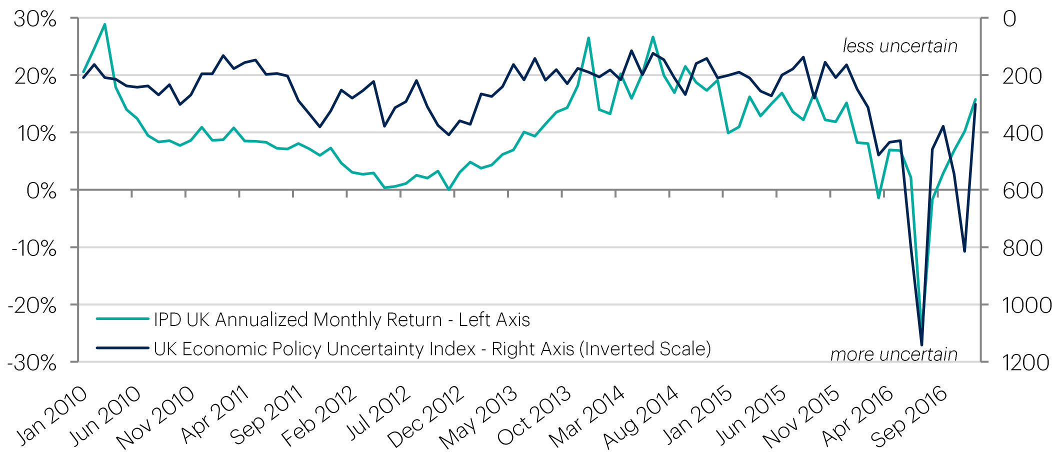


Source: FRED; NCREIF; Heitman Research

Changes in the uncertainty index exhibit a statistically significant negative correlation with real estate returns

We also find a similar result to the above in the UK. Since the UK index began in 1997, the correlation between it and monthly UK IPD returns has been -0.24. The relationship has been particularly strong in recent years, with the correlation deepening to -0.63 for the period starting in 2010. Both are highly statistically significant. As the chart below shows, the IPD UK index has been especially responsive to the uncertainty surrounding Brexit.

ECONOMIC POLICY UNCERTAINTY INDEX (UK) VS. IPD UK TOTAL RETURNS 2010-2016



Source: Baker, Bloom & Davis; MSCI; Heitman Research

Some caveats are in order. These correlations do not imply direct causation, and economic policy uncertainty is by no means the only driver of real estate returns. Indeed, many examples exist of periods where real estate has been stronger or weaker than what might be predicted by the uncertainty index alone. For example, US real estate, supported by monetary policy, performed very strongly in the 2011-13 period even as uncertainty from US fiscal standoffs and the euro crisis sustained the uncertainty index at a high level. Nevertheless, it is certainly prudent to be conscious of the economic and market implications of uncertainty.

The Probable vs. The Certain

In 2017, heightened uncertainty is likely to represent the main headwind for a global economy that, thankfully, also enjoys numerous tailwinds. The implications for real estate will depend on a host of uncertain outcomes, many of which are difficult to predict. Our base case prediction is that rising inflation and interest rates will not cause significant price declines for real estate, as stronger economic growth, unleashed by regulatory and fiscal reform, feeds through to fundamentals. Moreover, we do not expect far-right or other populist leaders to prevail in the major upcoming European elections, reducing the risk of further fragmentation in Europe.

But as 2016 reminded the world, the most probable outcome is not the same thing as a certain outcome. As of February 2017, betting odds suggest a 29% chance of Marine LePen becoming the next President of France. They also imply a 45% probability that Angela Merkel will not remain as Germany's chancellor. These figures are in the same range as pre-election polls for Brexit and the US presidential election.

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In today's environment of heightened uncertainty, we seek to identify investment strategies supported by certainties and near-certainties, not mere probabilities. What circumstances are likely to remain in place even if base-case predictions about economic and political events are proven wrong? We lay out five predictions we consider near-certainties, along with real estate investment strategies we believe are supported by them.

– **Demographic changes continue:** Most big demographic shifts happen at a glacial pace and don't hit sudden inflection points; they are likely to continue whatever the broader environment. From the aging of developed-country populations to the shrinking of household sizes, long-term, secular demographic changes tend to occur steadily. For example, we can quite accurately estimate the size of age cohorts well in advance because generational aging is so predictable. From a quantitative perspective, we observe that demographic variables tend to be highly serially correlated, which means the best predictor of the future value is the trend from the past.

  Of course, not all demographic trends are easy to forecast. Ageing and birth rates move slowly and predictably, while migration trends are far more dynamic. For example, Germany was handed an unexpected demographic gift (and a political and social challenge) in 2015 when net migration reached 1.2 million after averaging 193,000 for the prior 15 years. This was driven by large inflows of refugees from Syria and elsewhere. While this surge of migration will have a long-lasting positive impact on the stock of Germany's population and housing demand, it doesn't herald a permanent change in the rate of flow. Migration is expected to fall to half of this surge level in 2017.

  Investment strategies that are supported by the slower moving demographic changes should be resilient no matter the broader environment. Housing strategies that target older adults are a great example of this. Many countries have an insufficient stock of assisted living and skilled nursing properties. This applies to many developed and developing countries in Asia-Pacific as well as Europe. While the US has seen considerable development of housing targeted toward older adults, provision has been greatest in the 20 largest US metropolitan areas. Opportunities still exist to build in the next tier of markets or underserved pockets within major markets.

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– **Infrastructure reshapes submarkets:** Like slow-moving demographic changes, long-term infrastructure projects, especially those already underway, tend to have considerable momentum and will shape real estate markets despite uncertainty in the broader environment. For example, the Crossrail line, a new subterranean railway under Central London, has been in planning since 1974 and under construction since 2009. When it opens in 2018, it will slash travel times overnight and remake commuting patterns in multiple pockets of London. Investment strategies targeting its beneficiary submarkets are likely to perform well. Multiple examples exist in the US, including the impact of the development of Millennium Park in Chicago: the creation of park space on top of submerged rail lines and a giant subterranean parking garage sparked significant development of hotels and residential space in the immediate vicinity. Similarly, the creation of a multi-modal transportation hub inside the historic Union Station in what had been the northern fringe of Denver's central business district (CBD) accelerated change already underway.

  Of course, there is a degree of uncertainty in all infrastructure projects. Those in the early stages can be cancelled or deferred, and even projects in the later stages may encounter difficulties. Case in point is the new Berlin-Brandenburg Airport, which was scheduled to open in 2012 but has since been delayed at least five times due to construction defects. But the facility will eventually open, permitting an expanded degree of connectivity for Berlin, especially in terms of nonstop, long-haul flights. While the real estate investor who built a hotel adjacent to the airport has likely struggled, the CBD office investor continues to benefit from Berlin's rising stature among European business locations.

– **Some sectors are more isolated from policy uncertainty:** Even if the general direction of US government policy seems apparent, the details remain particularly uncertain. Benjamin Franklin wrote that "in this world nothing can be said to be certain, except death and taxes." This year, however, even the general structure of the tax system remains the subject of what are likely to be extended negotiations between the President and Congressional leaders. The eventual form of tax reform could have lasting impacts on businesses, although these should vary greatly among locations and companies. Several of the academic studies referenced earlier found that the sensitivity of equity markets to the uncertainty index varied greatly across sectors. Firms involved in segments of the economy in which government policy makes a bigger difference in business operations tend to see, not surprisingly, a larger impact on their share prices when the uncertainty index rises. The property market can be segmented in a similar way.

  For example, intuition suggests that demand for Central London office space serving financial services companies will be far more dependent on the outcome of Brexit negotiations than the demand for logistics assets in the UK Midlands. Passporting of EU bank licenses is important for the former, whereas the latter is driven more by domestic consumption and macro trends in e-commerce. Similarly, warehouses close to the US border with Mexico will be far more exposed to possible changes in NAFTA and other trade policies than properties in the US's e-commerce heartland. Investors are wise to gauge the relative exposure of sectors and assets to policy uncertainty, seeking to build a balanced portfolio of risk that is not too exposed to any one strain of uncertainty. While we have long been advocates for diversification across a wide range of economic drivers, and that approach continues to be valid, special care should be exercised to calibrate exposure to sectors and locations that are most subject to uncertainty today.

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– **Overreaction and mispricing amid uncertainty:** In a sense, this observation is a counterpoint to those before it. While we have described ways to gain access to investments whose drivers are characterized by less uncertainty, it may be advantageous to embrace uncertainty on occasion. From our experience, overreactions by capital market participants are likely during periods of uncertainty, creating opportunities to provide liquidity and secure attractive entry pricing at a time when concerns about a market or sector is running high. Investors ready with capital to invest in such circumstances, and willing to look through short-term ambiguity, may generate strong results. This is particularly relevant for value-added strategies, for which the hold period is typically shorter and leverage higher than with core, and are therefore more sensitive to the entry pricing point.

– **The next recession will not look like the last:** A final prediction that we can embrace with some certainty is that the next downturn will not be the same as the one that preceded it. Given that the GFC remains burned into the memories of many market participants, they can be forgiven for fearing circumstances that look like those dark days. Conversely, when today's circumstances differ from the GFC, investors may draw false comfort. Many have concluded that Brexit will have only a minor economic impact on the UK, as evidenced by the lack of a steep market reaction in terms of a stock market crash or spike in borrowing costs. But the lack of a "Lehman moment" is not proof that Brexit is a non-event. On the contrary, Brexit is a slow-burn process. Essentially nothing has yet changed in the way that Britain interfaces with the EU and it will be some time before changes occur. It is entirely possible that the onset of the next recession will be insidious rather than sudden, and investors must be on the lookout for it.

Much is uncertain as we enter 2017. Indeed, indices designed to measure uncertainty have reached all-time highs. Academic studies, as well as intuitive reasoning, indicate that uncertainty is, all else equal, a drag on markets and economies in general. But all else is not equal. Many expect a great reflation of the US economy and markets have moved accordingly. Our base case expectation is consistent with a reasonably upbeat prognosis for the global economy. However, what is probable is not certain. We suggest anchoring investment strategies in themes that can be labelled near-certainties.

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