

A Bad Moon Rising? Uncertainty Shocks and Economic Outcomes

Laura E. Jackson, Assistant Professor, Bentley University
Kevin L. Kliesen, Business Economist and Research Officer
Michael T. Owyang, Economist and Assistant Vice President

The financial crisis instigated a wave of research into the measurement of uncertainty and its effects on economic outcomes and financial market developments. A rise in uncertainty is widely believed to have detrimental effects on macroeconomic, microeconomic, and financial market outcomes and induce responses from monetary, fiscal, and regulatory policymakers. For example, at his press conference following the January 29-30 Federal Open Market Committee meeting, Federal Reserve Chairman Jerome Powell said,

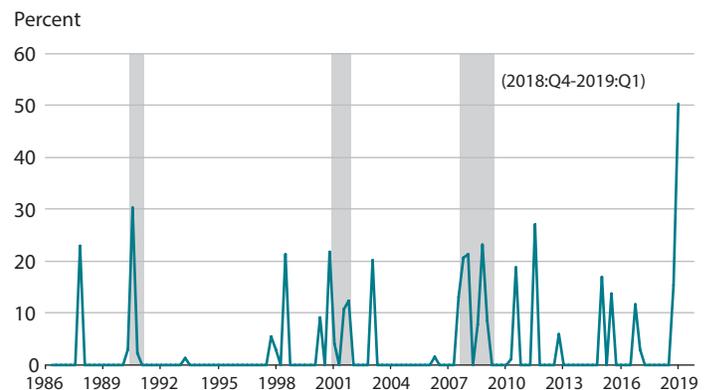
[O]ver the past few months we have seen some cross-currents and conflicting signals about the outlook. Growth has slowed in some major foreign economies, particularly China and Europe. There is elevated uncertainty around several unresolved government policy issues, including Brexit, ongoing trade negotiations, and the effects from the partial government shutdown in the United States.¹

Theoretical models suggest that increasing uncertainty can affect activity and decisionmaking through a number of economic channels. For example, firms may delay investment and hiring during periods of high uncertainty. Households may exercise precautionary reductions in spending by increasing their saving rates in anticipation of possible changes in incomes or wealth. Financing costs may also rise if risk premiums embedded in interest rates increase.

Economic uncertainty is highest in recent decades.

Many people often use the terms risk and uncertainty interchangeably. However, economists are careful to note that these are two different concepts. Risk is a gamble with a well-known, or reasonably well-known, distribution of outcomes. By contrast, uncertainty is typically characterized in theoretical models as Knightian, where the distribution of outcomes is unknown. Because uncertainty is

Shocks to the Economic Policy Uncertainty Index



NOTE: The observation for 2019:Q1 uses the reported value for January 2019. Gray bars indicate recessions as determined by the National Bureau of Economic Research. SOURCE: Authors' calculations.

unobserved, a key challenge is devising a proxy. One well-known and oft-used measure is the Index of Economic Policy Uncertainty (EPU) developed by Baker, Bloom, and Davis (2016).

Most researchers, regardless of the econometric approach, find that uncertainty shocks—which can be thought of as unexpected increases in measured uncertainty—reduce economic activity (e.g., real gross domestic product [GDP] growth), raise unemployment, and lower inflation for several months after the shock. In a recent Federal Reserve Bank of St. Louis working paper,² we use the Baker-Bloom-Davis EPU to identify uncertainty shocks and then study these shocks to see how they affect key economic variables, such as personal consumption expenditures for durable goods and business fixed investment.³

The figure shows our measure of uncertainty shocks since 1986. The series measures the maximum uncertainty over the previous four quarters. That is, the value of the EPU in any current quarter is measured as the percentage increase over the maximum value over the previous four quarters. If the value is negative, then the index value for that quarter is set equal to zero. In this way, we follow the

asymmetric models used in the oil price literature (see Hamilton, 1996). The figure shows that the uncertainty shocks that hit the economy in the fourth quarter of 2018 and in the first quarter of 2019 (January) have been the largest during our sample period. Based on the framework we use, this finding has potentially ominous implications for the U.S. economy.

Still, the economy continues to increase at a healthy pace. Although the final 2018 numbers have yet to be published, it appears that the U.S. economy, as measured by real GDP, registered its strongest growth rate since 2005. This year's growth is expected to be solid, but not as strong, according to the consensus of forecasters and Federal Reserve policymakers. However, the size of the uncertainty shock over the past several months suggests that growth may be appreciably weaker than many believe.

Indeed, we find that contractions in investment and consumption contribute substantially to slower real GDP growth after uncertainty shocks. In particular, business fixed investment and durables consumption exhibit deep, persistent contractions in growth in uncertain environments. Our findings thus support the view that firms and households delay expenditure when faced with spikes in uncertainty. On the bright side, we also find evidence that monetary policy can help mitigate the adverse effects of uncertainty shocks. ■

Notes

¹ Board of Governors of the Federal Reserve System (2019).

² Jackson, Kliesen, and Owyang (2018).

³ In contrast with most of the literature on economic uncertainty, we use a nonlinear framework to study the effects of uncertainty shocks. In this framework, uncertainty shocks have larger economic effects than what is typically found in linear models.

References

Baker, Scott R.; Bloom, Nicholas and Davis, Steven J. "Measuring Economic Policy Uncertainty." *Quarterly Journal of Economics*, November 2016, 131(4), pp. 1593-36; <https://doi.org/10.1093/qje/qjw024>.

Board of Governors of the Federal Reserve System. "Transcript of Chairman Powell's Press Conference." January 20, 2019; <https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20190130.pdf>.

Hamilton, James D. "This Is What Happened to the Oil Price/Macroeconomy Relation." *Journal of Monetary Economics*, October 1996, 38, pp. 215-20; [https://doi.org/10.1016/S0304-3932\(96\)01282-2](https://doi.org/10.1016/S0304-3932(96)01282-2).

Jackson, Laura E.; Kliesen, Kevin L. and Owyang, Michael T. "The Nonlinear Effects of Uncertainty Shocks." Working Paper 2018-035A, Federal Reserve Bank of St. Louis, November 2018; <https://research.stlouisfed.org/wp/more/2018-035>.