

Policy Uncertainty in Japan & Its Effects

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Economic policy uncertainty has taken center stage in recent years. According to an aggregation of newspaper-based indices for 21 countries by Steven J. Davis (“An Index of Global Economic Policy Uncertainty”, *Macroeconomic Review*, 2016), global economic policy uncertainty has increased considerably since 2015 and reached historically high levels. A variety of factors were at play, including the European immigration crisis, the Brexit referendum and ensuing uncertainty around the United Kingdom’s negotiations with the European Union, the 2016 US presidential election outcome, the withdrawal of the US from the Trans-Pacific Partnership (TPP), political turmoil in Turkey, France and Italy, and, since 2018, the intensification of US-China trade tensions, which led to several rounds of tariff hikes and threats (*Chart 1*).

The IMF in its most recent World Economic Outlook in October 2019 noted the considerable slowdown in global manufacturing activity and wrote that “rising trade and geopolitical tensions have increased uncertainty about the future of the global trading system and international cooperation more generally, taking a toll on business confidence, investment decisions, and global trade.” Potential effects of rising trade tensions and the associated policy uncertainty have also raised concerns about economic activity in Japan. Japan’s exports to China declined considerably and there are signs that Japanese companies, especially in the manufacturing sector, have started to reduce capital spending. In a recent Reuters survey of 252 Japanese companies conducted between August and September 2019, 64% of manufacturing companies and 47% of non-manufacturing firms report that they have put on hold capital investment projects slated for the business year to March 2020.

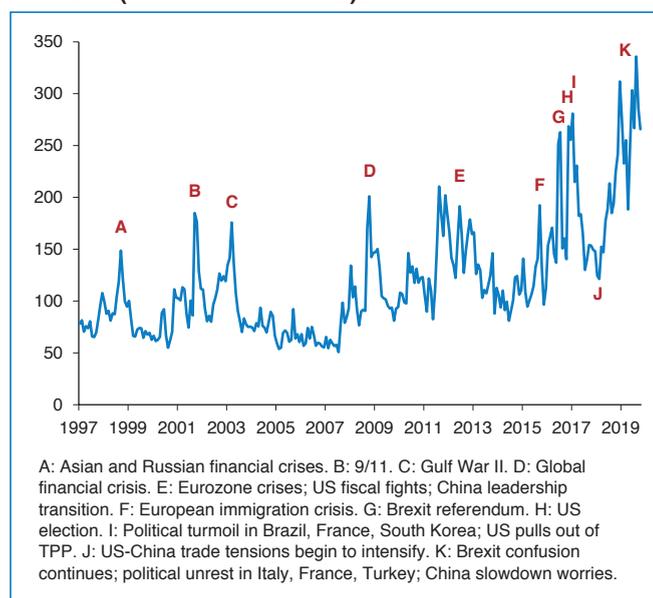
While the recent increase in trade policy uncertainty has attracted much attention, uncertainty can be traced to a host of different policies (e.g. government tax and spending policies, financial sector and monetary policies) and can reflect not only uncertainty related to *what* type of policies are adopted but also uncertainty about *who* takes policy decisions (e.g., who wins elections) and *when*, as well

as *what effects* these policies have on the economy (e.g. uncertainty around the effects of quantitative easing or negative policy rates).

Theoretical work identifies several channels through which uncertainty can affect economic outcomes. First, heightened uncertainty provides an incentive to delay or forgo investments that are costly to reverse. High uncertainty also encourages households to postpone costly-to-reverse purchases of durable goods. Second, when there are fixed costs of hiring and firing, uncertainty can retard hiring or induce firms to adjust on flexible margins such as part-time employment. Related to these channels, uncertainty can slow the

CHART 1

Global Economic Policy Uncertainty Index (Jan. 1997-Oct. 2019)



Sources: Davis (2016)

growth of productivity and output by discouraging the reallocation of capital and labor inputs. Third, uncertainty can depress investment by raising risk premiums, as stressed by several models with financial frictions. Fourth, greater uncertainty raises precautionary savings by households, which can reduce output in the presence of nominal rigidities, especially under constraints on monetary policy.

Against this backdrop, we focus on how policy uncertainty in Japan has evolved over time, the main drivers of policy uncertainty, and what effects policy uncertainty has on Japan's economy. In doing so, we draw upon our recent paper "Policy Uncertainty in Japan" which addresses these questions.

Measuring Economic Policy Uncertainty in Japan

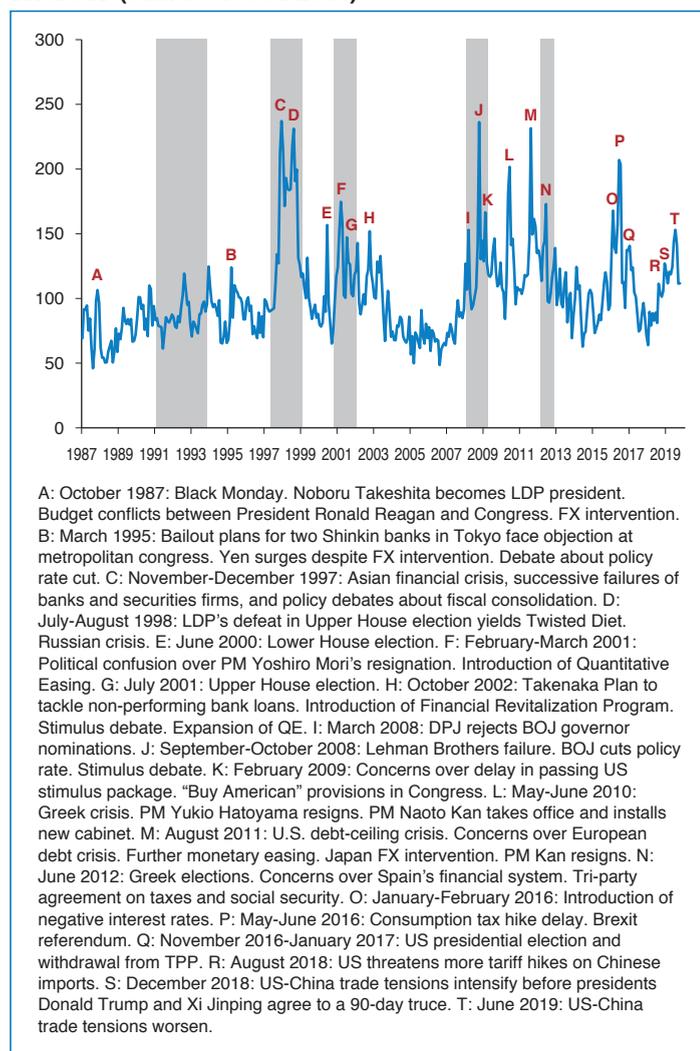
Measuring policy uncertainty is important but challenging. While it is possible to quantify some types of policy uncertainty – for example, by using data on election outcome probabilities – we aimed to construct a more comprehensive measure of policy uncertainty.

In our paper, we follow a novel methodology developed by Steven J. Davis and his colleagues Scott Baker and Nicholas Bloom ("Measuring Economic Policy Uncertainty", *Quarterly Journal of Economics*, November 2016) where policy uncertainty is measured by tracking the frequency of certain terms related to "economy", "policy" and "uncertainty" in major newspapers. To construct the Japan EPU index we count articles in four major Japanese newspapers (*Yomiuri*, *Asahi*, *Mainichi* and *Nikkei*) that contain at least one term in each of three categories: (E) 経済 or 景気 ("economic" or "economy" in English); (P) 税 ("tax"), 歳出 ("government spending"), 規制 ("regulation"), "中央銀行" ("central bank") or certain other policy-related terms; and (U) 不透明, 不確定 ("uncertain" or "uncertainty") or 不安 ("concern"). For the P category, we sought to cover major policymaking institutions (e.g., "lower" and "upper house", "Diet", "central bank" and "prime minister") and major policy areas (e.g., "taxes", "government deficit", "government debt", "(de)regulation" and "structural reform"). We conducted a series of small-scale audits and other investigations to help select and refine the E, P and U term sets. The goal is to ensure that our EPU index moves over time in line with actual newspaper coverage of economic policy uncertainty. The terms we use for the different categories, the construction of the indices and the nature of the audits we have conducted are discussed in detail in our paper.

For our EPU index to reflect economic policy uncertainty, it must also be the case that the coverage of these terms in major media outlets well captures the policy-related economic uncertainty perceived by households and firms. To address this requirement, we compared our newspaper-based EPU measures to other measures of economic and political uncertainty for Japan. We also conducted a descriptive assessment of the key economic and policy developments associated with heightened levels of policy uncertainty according to our index.

CHART 2

Japan Economic Policy Uncertainty Index (Jan. 1987-Oct. 2019)



A: October 1987: Black Monday. Noboru Takeshita becomes LDP president. Budget conflicts between President Ronald Reagan and Congress. FX intervention. B: March 1995: Bailout plans for two Shinkin banks in Tokyo face objection at metropolitan congress. Yen surges despite FX intervention. Debate about policy rate cut. C: November-December 1997: Asian financial crisis, successive failures of banks and securities firms, and policy debates about fiscal consolidation. D: July-August 1998: LDP's defeat in Upper House election yields Twisted Diet. Russian crisis. E: June 2000: Lower House election. F: February-March 2001: Political confusion over PM Yoshiro Mori's resignation. Introduction of Quantitative Easing. G: July 2001: Upper House election. H: October 2002: Takenaka Plan to tackle non-performing bank loans. Introduction of Financial Revitalization Program. Stimulus debate. Expansion of QE. I: March 2008: DPJ rejects BOJ governor nominations. J: September-October 2008: Lehman Brothers failure. BOJ cuts policy rate. Stimulus debate. K: February 2009: Concerns over delay in passing US stimulus package. "Buy American" provisions in Congress. L: May-June 2010: Greek crisis. PM Yukio Hatoyama resigns. PM Naoto Kan takes office and installs new cabinet. M: August 2011: U.S. debt-ceiling crisis. Concerns over European debt crisis. Further monetary easing. Japan FX intervention. PM Kan resigns. N: June 2012: Greek elections. Concerns over Spain's financial system. Tri-party agreement on taxes and social security. O: January-February 2016: Introduction of negative interest rates. P: May-June 2016: Consumption tax hike delay. Brexit referendum. Q: November 2016-January 2017: US presidential election and withdrawal from TPP. R: August 2018: US threatens more tariff hikes on Chinese imports. S: December 2018: US-China trade tensions intensify before presidents Donald Trump and Xi Jinping agree to a 90-day truce. T: June 2019: US-China trade tensions worsen.

Note: Shaded areas indicate recession periods.
Sources: Arbatli, Davis, Ito and Miake (2017)

How Has Policy Uncertainty in Japan Evolved Over Time?

Our economic policy uncertainty (EPU) index (*Chart 2*) peaks during the Asian and global financial crises and the US debt-ceiling crisis in the summer of 2011. It also spikes in reaction to the "Twisted Diet" election outcome in 1998, the introduction of Quantitative Easing (QE) in 2001, the Takenaka Plan for tackling longstanding problems with non-performing loans at Japanese banks, the Greek Crisis and Twisted Diet election outcome in 2010, the introduction of negative interest rates in early 2016, and the consumption tax hike delay a few months later.

The Japan EPU index tends to increase during downturns, when policies become more uncertain and policymakers are more inclined to experiment with new policies. It also displays important movements not tied directly to cyclical conditions. For example, the index shows a clear tendency to rise around contested national

elections and major leadership transitions as in the “Twisted Diet election outcome in 1998. The EPU index also shows a tendency to decline during periods of political continuity. In April 2001, Junichiro Koizumi became prime minister, a position he held until 2006, making him one of the longest serving premiers in Japan’s history. The EPU index drifts down during this period and reaches some of its lowest values in our sample period.

Policy uncertainty in Japan increased considerably during the global financial crisis and fluctuated around higher levels after the crisis than before. The EPU index exhibits a period of gradual decline starting in 2013, coinciding with the launch of “Abenomics” and an improvement in confidence indicators. Since 2015, policy uncertainty has risen again amid concerns about developments in China, a new negative interest rate policy, the Brexit referendum, the US withdrawal from the TPP, consumption tax hike delays, and intensifying trade policy tensions in 2018 and 2019.

What Drives Economic Policy Uncertainty in Japan?

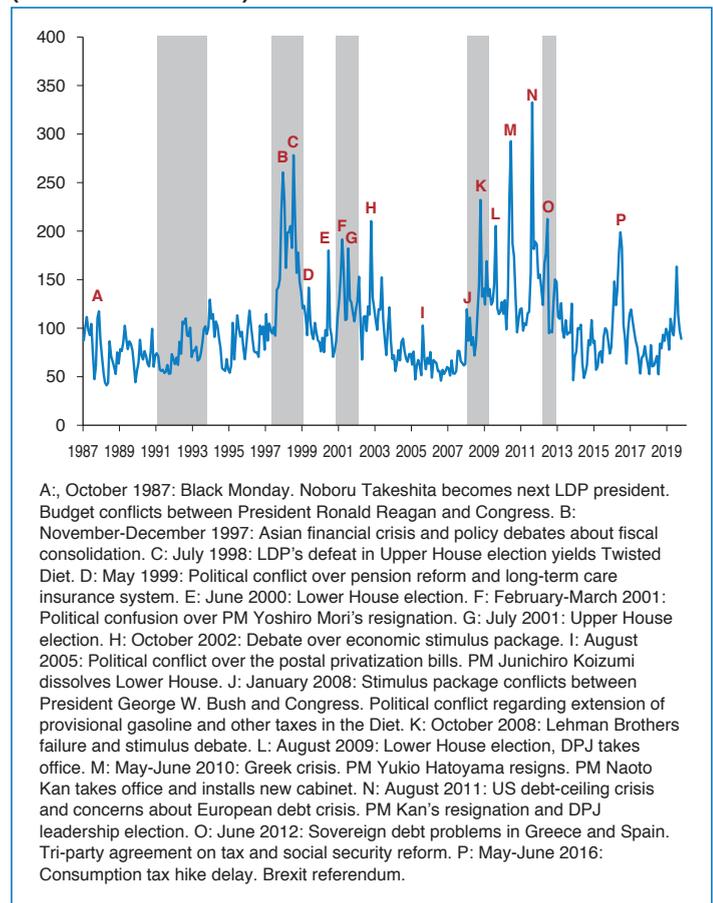
To assess how different types of policies have contributed to overall policy uncertainty in Japan, we also construct uncertainty indices for monetary policy, fiscal policy, trade policy and exchange rate policy. To do so, we count articles that contain terms related to specific policy areas in addition to our triple terms about the economy, policy and uncertainty.

While our measures of uncertainty for different types of policies are correlated, they also display distinct movements. For example, the fiscal policy uncertainty index (*Chart 3*) responds (more) to contested elections, Twisted Diet episodes, political confusion surrounding Prime Minister Yoshiro Mori’s resignation, debates over stimulus packages in 2002 and 2008, and the ruling Democratic Party of Japan’s talks with the opposition Liberal Democratic Party and Komeito party in 2012 about social security and tax bills. The fiscal policy uncertainty index also picks up major external developments such as the US government debt downgrade and the European debt crisis. In contrast, the monetary policy uncertainty index (not shown) spikes around the introduction of QE in 2001, uncertainty over its expansion in 2001-2002 and 2010-2011, and the introduction of negative rates in 2016. It also peaks in March 2008 amid concerns surrounding a vacancy in the Bank of Japan’s governor position, which arose because the ruling parties could not secure Diet approval for the proposed appointee.

Chart 4 shows our Japan trade policy uncertainty index. It spikes in late 1993 amidst GATT deliberations and a relaxation of Japan’s import barriers on rice and beef. Trade tensions with the United States leave clear marks on the index in 1987, 1988 and 1994. The index has fluctuated at much higher levels since 2010, often in reaction to developments related to the TPP agreement: whether Japan would join the TPP talks, whether an agreement could be reached with all parties, and whether the agreement would be ratified. More recently, the June 2016 Brexit referendum and the 2016 US elections brought a wave of uncertainty about Japan’s future trade arrangements. President Donald Trump’s decision to withdraw the US from the TPP in January 2017 pushed the index to

CHART 3

Fiscal Policy Uncertainty Index (Jan. 1987-Oct. 2019)



nearly 700 – seven times its average level from 1987 to 2015. Intensifying trade tensions between the US and its major trading partners – especially China, but including Japan – have again pushed our trade policy uncertainty index to extraordinarily high levels in 2018 and 2019.

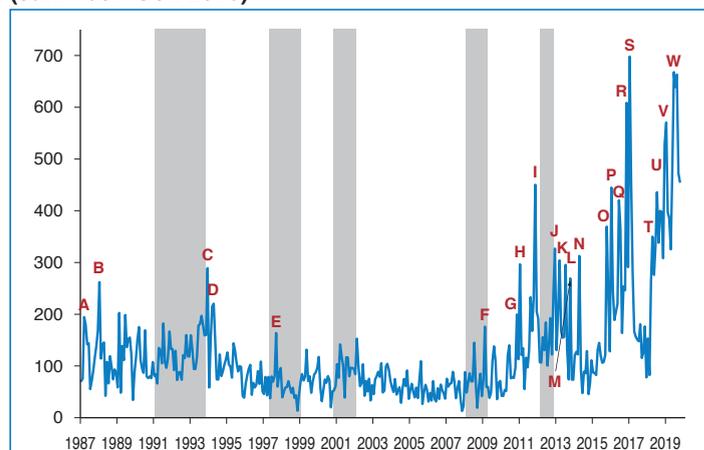
Among all articles that satisfy our E, P and U criteria, 56% reference fiscal policy matters, 24% reference monetary policy, 9% reference trade policy, and only 2% reference exchange rate policy. This finding strongly suggests that fiscal matters are the most important source of policy uncertainty in Japan, at least in the perception of journalists and their editors and, presumably, typical newspaper readers as well. Since May 2018, trade policy matters have become the second most cited source of economic policy uncertainty in Japanese newspapers. In October 2019, trade policy matters received attention in 30% of Japan EPU articles, its highest share in the history of our sample.

Interplay Between Economic Policy Uncertainty & Economic Performance

Political decision-making is often messy and fraught with uncertainty about outcomes and consequences. Recent examples

CHART 4

Trade Policy Uncertainty Index (Jan. 1987-Oct. 2019)



A: March 1987: US sanctions on Japanese semi-conductors. B: January 1988: Deliberation on Omnibus trade bill in US Congress. C: December 1993: GATT Uruguay Round of multilateral trade talks. Partial opening of rice market and tariff cut on imported beef. D: March 1994: Revival of Super 301 provision in U.S. Omnibus Trade Act of 1988. E: September 1997: Asian financial crisis. F: February 2009: Deliberation on “Buy American” provision in US Congress. G: November 2010: PM Naoto Kan announces, after political tensions, that Japan will begin consultations on participating in TPP talks. H: January 2011: PM Kan’s statement on TPP. Cabinet reshuffle. I: November 2011: Ongoing political conflicts over Japan’s participation in TPP talks. J: November-December 2012: Uncertainty over Japan’s participation in TPP talks. PM Yoshihiko Noda decides not to announce participation and dissolves the Lower House. LDP returns to power, intensifying uncertainty around Japan’s participation in TPP. K: March 2013: PM Shinzo Abe announces Japan’s participation in TPP talks. L: July 2013: Upper House election. M: October 2013: TPP summit ends without broad agreement. N: April 2014: Uncertainty about whether Japan and the US would reach agreement on TPP, and concerns whether US Congress would grant President Barack Obama trade promotion authority. O: October 2015: Uncertainty over TPP ratification in Japan, Canada and the US despite broad agreement at ministerial meeting. P: January 2016: Uncertainty over TPP ratification by US amid upcoming presidential elections. Resignation of Minister Akira Amari in charge of TPP negotiations due to corruption allegations. Q: June 2016: Brexit referendum. R: November 2016: US presidential election. S: January 2017: US withdraws from TPP. T: March-April 2018: US hikes tariffs on steel and aluminum imports, and China retaliates. U, July 2018: US raises tariff rates to 25% on \$50 billion of Chinese imports, and China retaliates. V: December 2018: After rising tensions, presidents Donald Trump and Xi Jinping agree to a 90-day truce on further tariff hikes. W: June 2019: US-China trade tensions worsen.

Note: Shaded areas indicate recession periods.
Sources: Arbatli, Davis, Ito and Miake (2017)

include the US debt-ceiling crisis in 2011, Brexit and its irresolution, and the sharp escalation of US-China trade policy tensions since 2018. These examples illustrate the role of governments and political processes as sources of uncertainty. That uncertainty weighs negatively on economic performance. At least in a proximate sense, causality runs from policy uncertainty (or political processes) to aggregate economic performance in these examples.

In contrast, the global financial crisis of 2007-2009 arose from the workings of the economy. It confronted policymakers with extraordinary and complex challenges, especially in the immediate wake of the financial panic in September 2008. There was great uncertainty about how policymakers should and would respond, and what would be the economic consequences. In short, the crisis drove a rise in policy uncertainty. In turn, high policy uncertainty contributed to the severity of the crisis and the weakness of the ensuing recovery.

There is also evidence to support the proposition that major financial crises lead to higher levels of policy uncertainty for many years. A study by Manual Funke, Moritz Schularick, and Christoph Trebesch (“Going to Extremes: Politics after Financial Crises, 1870-2014”, *European Economic Review*, 2016) draws on data for many countries over 140 years to document a pattern of rising political polarization in the years following systemic financial crises, contributing to higher levels of policy uncertainty. Atif Mian, Amir Sufi and Francesco Trebbi (“Resolving Debt Overhang: Political Constraints in the Aftermath of Financial Crises”, *American Economic Journal: Macroeconomics*, 2014) also find evidence that financial crises breed political polarization, which sometimes results in political gridlock and policy uncertainty.

The potential for negative shocks to raise policy uncertainty depends on the underlying environment, which is partly shaped by past policy decisions. Consider again the global financial crisis. It was precipitated by a collapse in US housing prices and mortgage-backed security values. The shock was large, and many banks were highly exposed to it. The shock led to a systemic financial crisis, because banks were poorly capitalized and heavily dependent on flight-prone forms of debt to fund their investments. If policymakers had required banks to rely more heavily on run-proof funding, the crisis would have been less severe – or perhaps avoided altogether. In this and other respects, the pre-crisis regulatory regime set the stage for a major financial crisis and the ensuing uncertainty.

As another example, there is less need for discretionary fiscal stimulus in response to negative shocks when robust automatic fiscal stabilizers are in place. In this way, automatic fiscal stabilizers lessen the political conflicts, decision delays, implementation lags and policy uncertainty that come with efforts to deploy discretionary fiscal tools.

The complex interplay between policy uncertainty and economic performance is evident in the behavior of our indices for Japan. Contested elections, major political transitions and Twisted Diet outcomes are often associated with higher levels of overall policy uncertainty and fiscal policy uncertainty. Prime Minister Shinzo Abe’s election at the end of 2012 brought greater political stability, a clearer policy direction, and several years of declining or low policy uncertainty. In turn, low and declining policy uncertainty contributed to a positive outlook and a favorable economic performance. A similar circle of reinforcing positive effects held during Koizumi’s long tenure. Political stability during these periods moderated policy uncertainty, which helped support an optimistic outlook and good economic performance.

Leadership transitions and policy shifts at the Bank of Japan (BOJ) sometimes brought spikes in monetary policy uncertainty. While leadership changes are inevitable and major developments may require policy shifts, their impact on economic uncertainty depends on previously established institutions and policy frameworks. Clear communications about the objectives of monetary policy, backed by strong analytical and empirical underpinnings, are likely to bring more continuity in the conduct of monetary policy, less anxiety and uncertainty about its future direction, and greater confidence about economic performance.

To appreciate how the past conduct of monetary policy shapes the

current policy environment – and the scope for negative shocks to trigger a rise in policy uncertainty – consider recent proposals to raise the target rate of inflation by Olivier Blanchard, among others. The logic behind these proposals is straightforward: raising the underlying rate of inflation reduces the likelihood that monetary policy becomes constrained by the zero lower bound on nominal interest rates during future downturns. In this way, a higher target rate enlarges the scope for using traditional monetary policy tools to stabilize economic activity and lessens the need for QE, forward guidance, direct credit market interventions and discretionary fiscal stimulus. Because less is known about the impact of unconventional policy tools, their use involves greater uncertainty about effects. Heavy reliance on unconventional tools may also erode political support for the central bank, undermining sound monetary policy in the future.

Several episodes in recent decades illustrate the potential for negative economic shocks to create high levels of economic uncertainty. Examples include the Asian financial crisis, the downturn of 2001-2002 and the global financial crisis of 2008-2009, all of which led to spikes in our measures of fiscal and monetary policy uncertainty (*Charts 3 & 4*). Experiences during the Asian financial crisis also illustrate how past policy decisions shape the current response of policy uncertainty to negative shocks. The build-up of financial excesses in the 1990s, funded through large dollar-denominated debts in the banking system and the private sector, made some Asian economies highly vulnerable to exchange rate adjustments. This vulnerability accentuated policy uncertainty during the Asian financial crisis. In contrast, stronger policy frameworks, better financial supervision and larger reserve buffers helped many Asian economies weather the global financial crisis under much better terms.

Does Policy-related Uncertainty Have Any Predictive Power for Japan's Economy?

We use statistical methods to study the dynamic relationship of our EPU index to macroeconomic variables in both monthly and quarterly data. According to our results, an upward innovation in EPU foreshadows statistically significant declines in output, investment, employment and industrial production. A 50-point upward EPU innovation yields a peak estimated fall in industrial production of 2% and in real GDP of about 0.75% after about a year. The employment response is smaller, more delayed, and highly persistent. The 50-point increase in the EPU index is the same size as the actual EPU change from its average 2014 value to its average 2016 value.

As expected, the EPU innovations have larger effects on investment activity than on consumption activity. Depending on the measure, investment activity falls by 1.0% to 3.9% in response to a 50-point upward innovation in our Japan EPU measure. We also find larger estimated industrial production responses in sectors that produce investment goods as compared to those that produce consumption goods.

The basic pattern, whereby upward EPU innovations foreshadow future activity declines, is robust to alternative model specifications

and to the inclusion of a range of control variables. Discarding data after 2006 yields somewhat smaller responses. If we instead restrict attention to the post-1995 period when the BOJ was up against the zero lower bound, we obtain slightly larger responses, consistent with our priors and theoretical predictions.

Broadly speaking, we see three ways to interpret our statistical evidence. Under the first interpretation, an upward EPU innovation corresponds to an unforeseen policy uncertainty shock that causes the worsening of macroeconomic performance through the various mechanisms mentioned above. Under the second interpretation, an upward EPU innovation captures bad news about the economic outlook that is not (fully) captured by the other variables in our statistical models, and that bad news triggers a rise in EPU that has harmful effects on the economy. Under this interpretation, EPU amplifies and propagates a causal impulse that originates elsewhere – for example, due to a crisis in the financial system. Third, EPU has no role as either an impulse or an amplification-and-propagation mechanism; instead, it simply acts as a useful summary statistic for information missing from the other variables in our system. This third interpretation is hard to reconcile with other types of evidence that clearly point to causal effects of policy uncertainty on economic outcomes.

Policies to Mitigate Economic Policy Uncertainty

Our evidence and discussion suggest that credible policy plans and strong policy frameworks can favorably influence macroeconomic performance by, in part, reducing policy uncertainty. In the Japanese context, credible plans to follow through on trade reforms would promote trade-creating investments. Credible medium-term budget plans would foster confidence about Japan's fiscal trajectory. Further efforts to improve the BOJ's communications framework would lessen uncertainty about the direction of monetary policy. In short, while uncertainty is an inescapable aspect of the economic environment, sound policy can lessen uncertainty and mitigate its potentially harmful effects.

Disclaimer: The views expressed in this article are those of the authors and do not necessarily represent the views of Norges Bank, the IMF, its Executive Board, or IMF management. **JS**

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