Economic Commentary

Macroeconomic effects of increased uncertainty

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Macroeconomic effects of increased uncertainty

Various measures of uncertainty have risen to historically high levels in early 2025. The purpose of this Economic Commentary is to discuss how this increased uncertainty may affect the economy and to examine the conclusions of various empirical studies.[1] In summary, increased uncertainty tends to have negative effects on the real economy and most studies show that increased uncertainty also leads to lower inflation. For example, empirical studies show that, if high uncertainty persists for a long time, the negative effects on the economy can be significantly greater than if uncertainty quickly returns to normal levels.

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Recent political events, not least the US government's various announcements, including those on import tariffs, have created uncertainty about future economic conditions and raised the question of how this uncertainty can be expected to affect the economy. There are a number of studies in the academic literature that analyse how increased uncertainty can affect the economy and that also quantify its effects on the economy. This commentary describes some of these studies, with a particular focus on the likely impact on the Swedish economy.

How can increased uncertainty affect the economy?

Increased uncertainty typically leads companies to postpone investments and hiring due to the risk involved in making long-term decisions. Deferring investment in new technologies, research and skills development also has negative effects on productivity and production capacity in the longer term. Increased uncertainty may also lead households to increase precautionary savings and reduce consumption if they are concerned about their future income or employment. Increased uncertainty may also lead investors to demand higher risk premiums to compensate for the increased risk in their investments. As risk premiums rise, effective interest rates also rise, making it more expensive for companies and households to borrow.

The impact of increased uncertainty on inflation is uncertain. Reduced domestic demand may lead to lower inflation. At the same time, some types of uncertainty, such as geopolitical turmoil or trade conflicts, can create supply shocks, via supply chains

[1] Economic Commentaries are brief analyses of issues with relevance for the Riksbank. They may be written by individual members of the Executive Board or by Riksbank staff. Staff commentaries are approved by the relevant head of department, while Executive Board members are themselves responsible for the content of the commentaries they write.

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for example, which can instead drive up prices. The impact on inflation therefore depends on whether the uncertainty mainly affects demand or supply. In a small open economy, the effect on the exchange rate is also important. Most studies show that increased uncertainty leads to lower inflation as a result of lower demand.[3] To summarise, increased uncertainty may slow growth while the impact on inflation is more uncertain.

Uncertainty cannot be observed

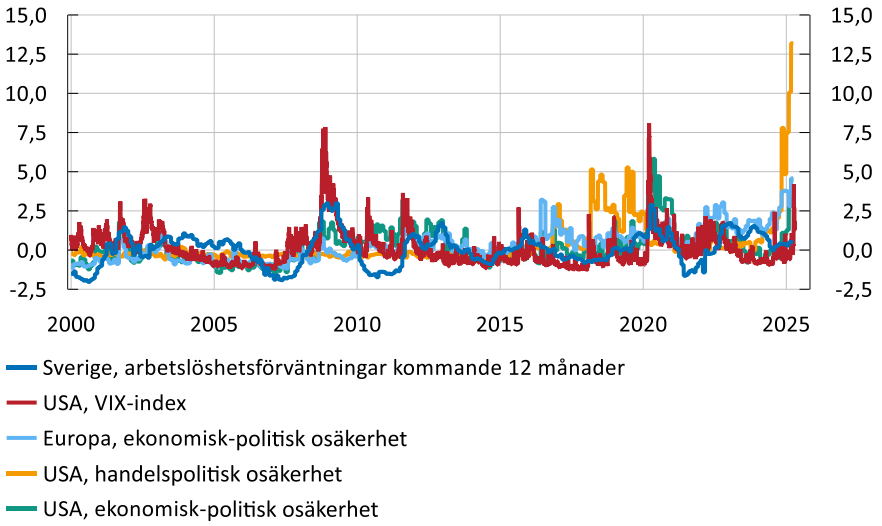
Uncertainty has a number of different sources, such as war and unexpected changes in economic policy. Unlike consumer prices, for example, uncertainty is not directly observable. However, it is possible to observe uncertainty indirectly through various indicators. A commonly used measure of uncertainty in financial markets is the volatility index (VIX) of expected equity prices. Other uncertainty measures are based on measuring the frequency of words suggesting economic policy or trade policy uncertainty in news articles. A further measure of macroeconomic uncertainty is based on the dispersion of economic forecasts. There are also uncertainty measures based on household and business surveys. None of these measures is a perfect indicator of uncertainty but they can give an indication of uncertainty in the economy. Figure 1 below shows some measures of uncertainty, a number of which are currently at historically high levels.[4]

[3] See, for example, Bloom (2009) and Leduc and Liu (2016).

[4] Several studies show that, in most countries, global measures of uncertainty have a greater impact on economic activity than national measures of uncertainty. See, for example, Berger et al. (2016) and Mumtaz and Theodoridis (2015). Uncertainty measures for the United States have been used in a number of studies to estimate the impact on the economies of both the United States and European countries.

Diagram 1. Measure of uncertainty

Standard deviations



Note. The series are standardised. The VIX index measures the expected volatility of the US equity market over the next 30 days. The measures of both economic policy and trade policy uncertainty are mainly based on text analyses from major newspapers.

Sources: Chicago Board Options Exchange, Economic Policy Uncertainty and the European Commission.

What do empirical studies show?

One challenge for empirical studies is to disentangle the effect of increased uncertainty from other factors that also affect the economy. Uncertainty tends to covary with the business cycle and an uncertainty shock is unlikely to occur independently of other shocks to the economy. This raises the question of whether a measure of uncertainty is measuring genuine uncertainty or whether it is the result of changes in other variables. This problem has led most studies of uncertainty to use VAR models to estimate the impact on the economy. In these models, uncertainty and economic activity are allowed to influence each other.

Various measures of uncertainty have been used in the studies conducted, including those shown in Figure 1. Empirical studies show that increased uncertainty has a negative effect on industrial production and GDP, and also, to some extent, on household consumption. But how long the economy is affected differs from study to study. Some studies show that industrial production falls sharply but recovers quickly.[5] Other studies, however, show that the decline in industrial production is more persistent.[6] Some

[5] See, for example, Bloom (2009).

[6] See, for example, Jurado et al. (2016) and Bachmann et al. (2013).

studies show that increased uncertainty leads to lower investment, including in research and development, which hampers productivity and the economy in the longer term too.[7]

Most studies are based on US data and show that an increase in uncertainty of one standard deviation leads to a maximum reduction in industrial production of 0.5–1.5 per cent.[8] The maximum effect occurs after about one year in several studies but the variation between studies is large. Studies conducted for the euro area show that a one standard deviation rise in uncertainty can dampen GDP by 0.3–0.7 per cent, with the maximum effect occurring after 6–12 months.[9]

A study using Swedish data shows that a one standard deviation rise in US economic policy uncertainty leads to industrial production in Sweden being about 0.7 per cent lower after one year.[10] A simple VAR model using Swedish data indicates that a one standard deviation rise in uncertainty could reduce GDP by 0.2 per cent in the next quarter. The model implies that the high uncertainty in March 2025 may dampen Swedish GDP by just under 0.5 per cent in the second quarter of 2025.[11]

However, the effect on the Swedish economy is uncertain. If the high uncertainty is prolonged, the negative effects may be larger than empirical studies show.[12] Resource utilisation in the Swedish economy is currently somewhat lower than normal and studies show that increased uncertainty has greater negative effects when the economy is weak.[13] Something that also suggests that the effects may be greater than normal is that uncertainty is at historically high levels, which means that the effects on the economy may be larger in a non-linear way.[14] However, if uncertainty were to decline in the near future, the negative impact on the economy could be both small and short-lived.

[7] See, for example, Bonciano and Oh (2019).

[8] Many different measures of uncertainty have been used in these studies. It should be noted that trade policy uncertainty in the United States, which is currently at a very high level, has not been used in any of these studies.

[9] See, for example, Girardi and Reuter (2016).

[10] See Stockhammar and Österholm (2014).

[11] The estimate is based on the author's own calculations from a VAR model used at Sveriges Riksbank consisting of Swedish unemployment, industrial production, GDP and a measure of uncertainty that takes into account both the US VIX index and economic policy uncertainty in the United States. The model is estimated up to 2019 and gives results that do not deviate significantly from other empirical studies, including Stockhammar and Österholm (2014).

[12] Haddow et.al. (2013) find that uncertainty of one standard deviation above normal for four years results in larger and more persistent effects on GDP compared with estimates in which uncertainty is temporarily high. Studies that have analysed the impact of Brexit also find that high uncertainty over three years had a clear negative impact on investment and productivity. See, for example, Bloom et al. (2019) and Born et al. (2019).

[13] See, for example, Pellegrino et al. (2021), Cacciatore and Ravenna (2018) and Chatterjee (2018). Studies also show that if the economy were to weaken significantly and the policy rate were to return to zero, increased uncertainty would have greater negative effects than normal; see, for example, Johannsen (2014) and Basu and Bundick (2017).

[14] See Jackson, Kliesen and Owyang (2018), who demonstrate that the effects of low uncertainty on the economy are small and linear. In times of high uncertainty, however, the negative impact on the economy is greater and non-linear.

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