Forecast

Alternative scenarios linked to the global impact of US fiscal and trade policies

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US economic policy has recently been marked by procyclical fiscal stimulus and a gradual but decisive shift towards protectionism. Concerns have been raised over the global ramifications of such policies coming to a head. This article presents alternative scenarios to illustrate how the global economy might be affected by different US economic policy outcomes. The calculations suggest that even if the United States were to extend its fiscal measures, a simultaneous expansion of the trade war would significantly slow growth, especially in the United States and China. An intensifying trade war may also lead to tighter financial conditions in emerging market economies. The euro area would appear particularly sensitive to a slowdown brought on by tightening financial conditions in emerging economies. If the financial disturbances were to spill over into the entire global economy, the calculations demonstrate a significant decline in global GDP growth, of up to about 2.5 percentage points — or approximately half the impact of the global financial crisis.



Modelling helps illustrate alternative paths for global economy

Expansionary fiscal policy has boosted economic growth in the United States. Yet, as the effects of the stimulus measures dissipate, growth will return to a markedly lower level,[1] leaving behind a substantial rise in general government debt. At the same time, the country's increased protectionism is weighing on global growth by casting uncertainty over the entire world economy, and is thus having detrimental effects even on the US economy itself. Slower growth is anticipated both for the world economy as a whole and for the United States. Yet, what if the United States were to try to avoid the slowdown by extending its fiscal measures while simultaneously increasing its protectionist policies? How would this affect the economic expansion of the euro area, China and the global economy?

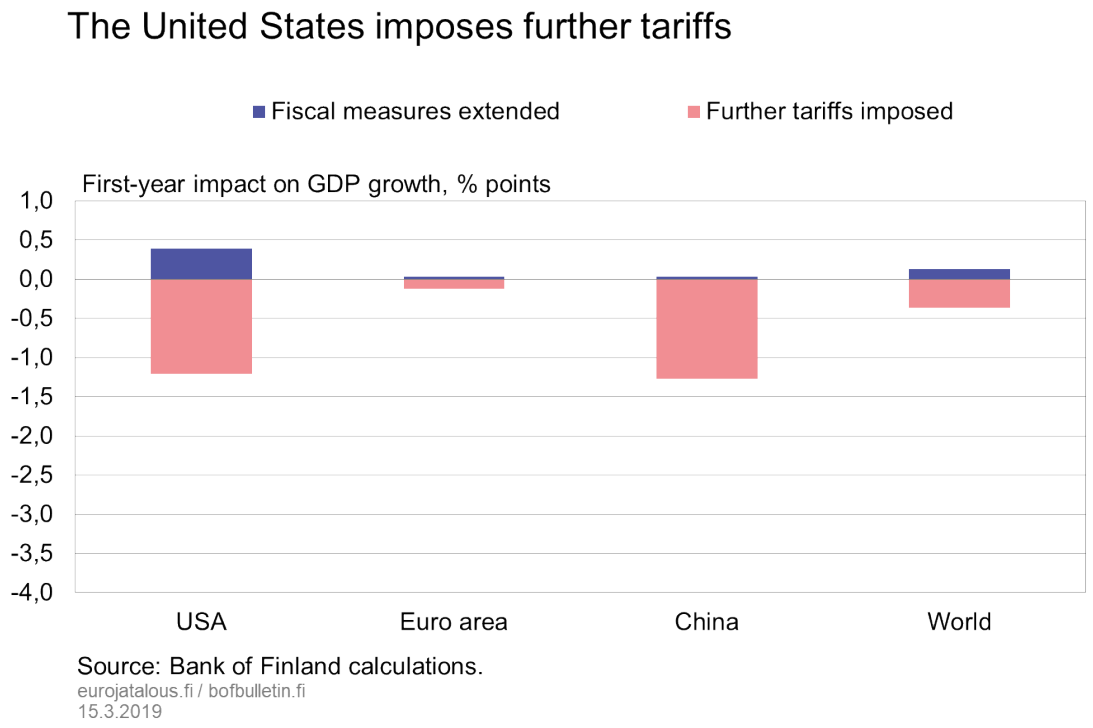
To examine these questions, this article looks at four alternative scenarios for the global economy — each based on different US economic policy outcomes.[2] In scenario 1, the United States extends the duration of its accommodative fiscal measures announced in 2017–2018. In scenario 2, the United States' tariff dispute with the European Union and China intensifies, and the parties impose additional tariffs on each other. In scenario 3, emerging economies see their financial conditions tighten. In scenario 4, the financial shock spills over into the advanced economies as well. The impact of each scenario is assessed in terms of first-year change in GDP compared with the baseline, as the first year is when these effects will be most pronounced. Nevertheless, each scenario would have lasting effects on output for several years.

Scenario 1: The United States extends its fiscal measures

The United States introduced significant cuts to corporate and personal taxation effective from the beginning of 2018.[3] Together, the tax cuts and increased government spending for 2018–2019 have led to a strong fiscal stimulus during an economic upswing. Yet, growth is expected to moderate from about 3% in 2018 to just under 2% in 2020, as the effects of the policy measures dissipate.[4] Scenario 1 assumes that the United States will look to sustain its growth rate and extends the duration of its fiscal measures. Fiscal spending measures planned to expire after a two-year period are assumed to persist beyond 2019.[5] Similarly, the personal tax cuts are assumed to remain in place after 2025.

Chart 1 illustrates how an extension of the US fiscal measures would affect aggregate output in different economies. Each column shows the percentage-point deviation from baseline GDP growth during the first year. The results suggest that output growth in the United States would rise by 0.4 percentage points during the first year: if growth were to decelerate to 1.8% without an extension of the measures (i.e. baseline), then it would stand at 2.2% in scenario 1. However, extending the fiscal measures in the United States would do little to strengthen global economic growth: there is little discernible change in GDP growth in other individual economies or in the global economy as a whole.

Chart 1.

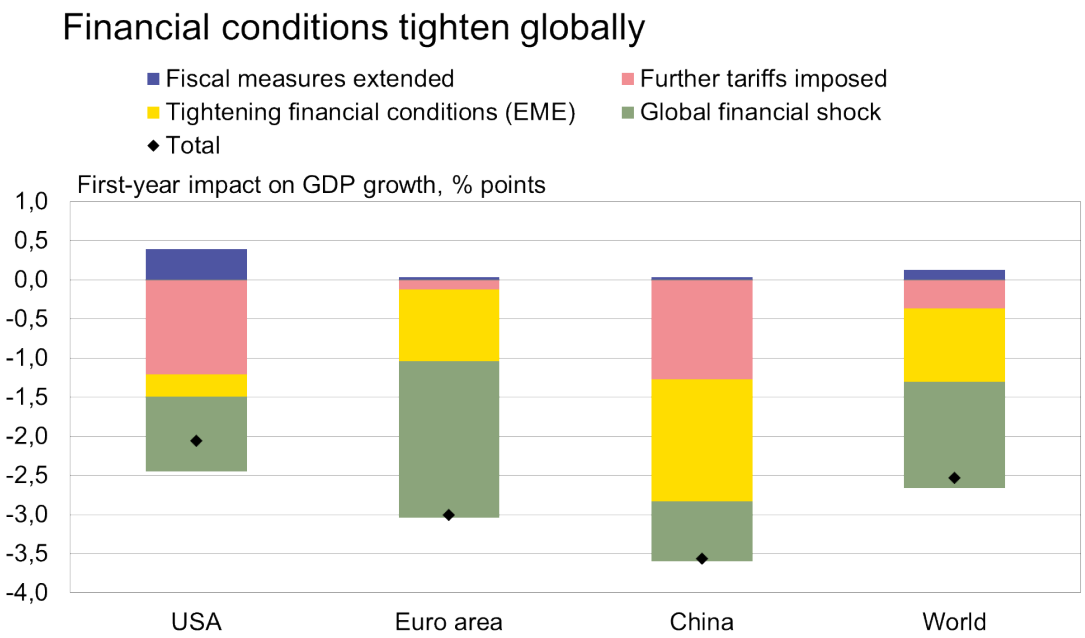


In the United States, an extension of the fiscal measures would accelerate inflation slightly and prompt the central bank to raise its policy rate appropriately. The US dollar would appreciate by about 1%. The United States' current account deficit would widen somewhat, due to import growth. Conversely, the current account surpluses of the euro area and China would grow slightly. The United States' public debt-to-GDP ratio would rise above baseline.

Scenario 2: The United States imposes further tariffs

The United States has so far imposed additional tariffs on about half of its imports from China, as well as on solar panels and washing machines and on aluminium and steel imports.[6] This alternative scenario examines how the global economy might be affected if the United States were to pursue even further tariffs. Scenario 2 assumes an escalation of the US–Chinese trade dispute, with 25% additional duties permanently imposed on all bilateral trade.[7] It is further assumed that the United States will impose permanent additional duties of 25% on all car imports from the European Union, and that the European Union will retaliate with 25% additional import duties on a volume of US goods that matches the dollar value of its car exports. The tariff shock would reach past the direct trade channel and also reduce global investment, as the new tariffs would cast uncertainty over future trade flows and disrupt supply chains.[8] Following these assumptions, scenario 2 yields a similar impact assessment to that published in Bank of Finland Bulletin 4/2018.[9]

Chart 2.



Source: Bank of Finland calculations.
eurojatalous.fi / bofbulletin.fi
15.3.2019

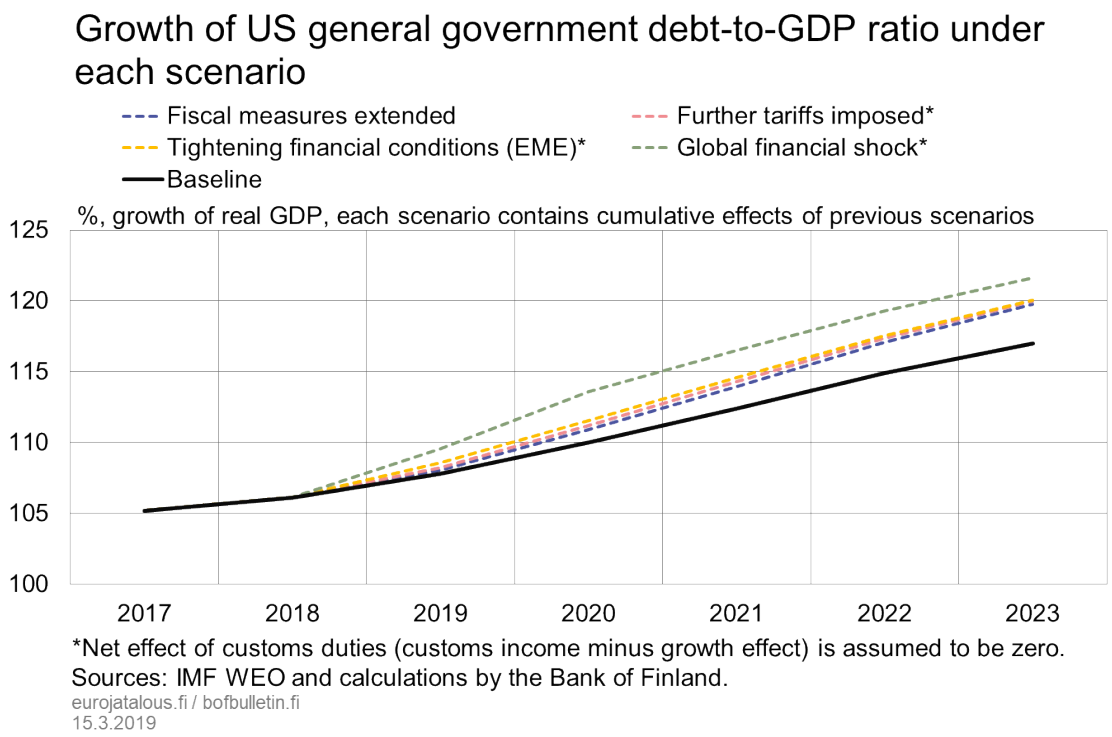
Scenario 2 suggests that further tariffs would isolate the United States from global trade. Investment demand would also be weakened by a higher uncertainty. As a result, GDP growth in the United States would come in just over 1 percentage point below baseline in the first year (red column in Chart 2). Even if the United States were to also extend its fiscal measures, growth would still come in 0.8 percentage points below baseline (blue and red stacked in Chart 2). A trade war escalation would raise global trade costs and have a significant impact on US foreign trade (first-year effects of -7% on exports and -5% on imports). At the same time, the United States' current account deficit would widen. Additional tariffs would also have an adverse impact on consumption (-0.5%). Inflation would be reduced somewhat by the slower pace of growth, and the central bank would pursue a lower policy rate. China would also have to contend with markedly slower growth, with investment, foreign trade and consumption all negatively affected. European growth would only be slightly dampened, as the modelling suggests that the euro area would see its market shares expand. Both the euro and the US dollar would appreciate somewhat, while the Chinese yuan would depreciate.

Scenario 3: Financial conditions tighten in emerging economies

Financial conditions in emerging economies could tighten if the global economic outlook were

dampened, e.g. by the trade war. The cost of corporate borrowing in particular might see a rapid and substantial rise: a diminished outlook anticipates lower earnings and raises firms' risks. Scenario 3 assumes that investors, confronted by an escalating trade war and a diminished global growth outlook, now demand higher compensation for taking on risk. Corporate sector risk premia are raised by 200 basis points.[10] Because firms in emerging market economies are subject to more risk than those in advanced economies, the financial shock in scenario 3 is assumed to be twice as large as in scenario 4, where advanced economies are hit by the shock.[11]

Chart 3.



In scenario 3, where financial conditions are assumed to deteriorate in emerging economies, GDP growth in China would come in 1.5 percentage points below baseline during the first year (yellow column in Chart 3). The results suggest a considerable impact on investment (-7.3%). The slowdown would also reduce China's imports, by about -2.5%. Similarly, consumption and export growth would both dampen. The slowdown would reduce inflation by 0.4 percentage points during the first year, and the central bank would lower its policy rate by 0.9 percentage points. Emerging market currencies would weaken, while the euro and the yen would slightly appreciate. The calculations assume that the fiscal stance in emerging economies is not adjusted.

In the United States only a slight slowdown in growth is discernible under scenario 3 (yellow column in Chart 3). In spite of this, the effect on US exports would be clear in the first year (-2.1%),

and even the country's current account deficit would widen somewhat. For the euro area, growth in the first year would come in almost one percentage point below baseline, with exports (-2.3%) and investment (-1%) most affected. The effect on consumption would be -0.5%. Inflation would decelerate somewhat in the first year. In scenario 3, the euro area looks to be considerably more sensitive to the weakening growth in emerging economies than the United States is. This is both because the euro area sells a larger proportion of its exports to emerging economies (over 40% of total euro area exports in 2017) and because of the assumed more limited monetary policy space in the euro area.

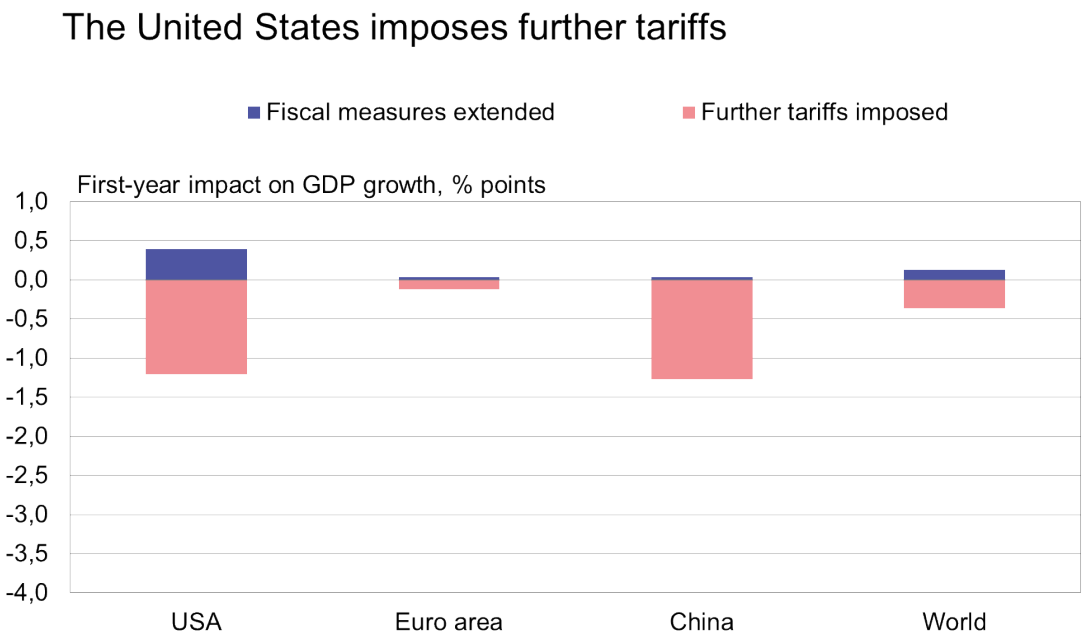
Together, an escalating trade war (scenario 2) and tighter financial conditions in emerging economies (scenario 3) would reduce China's growth rate by almost 3 percentage points in the first year (yellow and red stacked in Chart 3). Even if growth picked up during the second year, the shocks would have a lingering effect on the output level for quite some time. Similarly, global economic growth would come in almost 1.5 percentage points below baseline (yellow and red stacked).

Scenario 4: Financial conditions tighten globally

A weakened global outlook would anticipate lower earnings for and raise the riskiness of businesses in the advanced economies as well. In addition, a more muted outlook would alter the amount of external finance needed by general governments, potentially increasing risk premia on sovereign bonds. Scenario 4 assumes that the financial shock spills over into the global economy: corporate bond markets are affected in advanced economies, and sovereign bond markets are affected in both emerging and advanced economies. Corporate risk premia in the advanced economies are assumed to rise by 100 basis points.[12] Global risk simulations carried out by other institutions typically suggest a 50–100 basis point rise in corporate risk premia in the advanced economies.[13]

The scenario also assumes that risk (term) premia on both emerging market and advanced economy sovereign bonds are subject to a 100 basis point shock. In practice, this shock raises the interest rates on sovereign bonds (i.e. yields) relative to central bank policy rates.[14]

Chart 4.



A widespread financial shock on global markets would have significant economic consequences worldwide (green columns in Chart 4). The results for scenario 4 suggest that GDP growth in the United States would come in about 1 percentage point below baseline during the first year. Similarly, growth in the euro area would come in 2 percentage points below baseline, and it would be more than 0.5 of a percentage point below baseline in China. Significant effects on investment would be seen in the euro area (-8.6%) and China (-4.2%) as well as in the United States (-7.0%). Effects on imports and exports in the major economies would be about -1.5%. In the United States and China, inflation would decelerate by more than 0.2 of a percentage point in the first year, and by almost twice as much in the euro area. The Fed would lower its key interest rate by 0.5 of a percentage point but in the euro area and Japan the responses of monetary policy in scenario 4 are dampened due to the assumed more limited monetary policy space.

The calculations illustrate a course where global growth may slow substantially

These alternative scenarios illustrate a path where trade policy escalations lead to tighter financial conditions in emerging economies, slowing global growth and also raising the risk of a global financial shock. If financial conditions were to deteriorate globally, growth would fall sharply in the euro area and the United States, and especially in China (black diamonds in Chart 4). According to

the calculations, global GDP growth would slow by about 2.5 percentage points in the first year. Put into context, the global financial crisis suppressed world GDP by over 5% compared with its pre-crisis trend in 2010. The slowdown seen under these alternative scenarios corresponds to approximately half the impact of the global financial crisis. The effects would be especially visible in the development of exports, imports and investment. The slowdown would also raise public debt levels. Growth in the euro area would decelerate sharply, by about 3 percentage points during the first year; investment and consumption would see effects of -10.5% and -1.2%, respectively.

A decline in growth would also dampen inflation globally. Inflation in the euro area would decelerate, remaining 0.6 to 1 percentage points lower for several years. The effects on inflation in the United States would be less pronounced. Emerging market currencies would depreciate against the euro and the US dollar.

Scenarios put US public debt growth above baseline expectations

Looking at the impact of each scenario from the perspective of the United States, it becomes clear that the country will not be able to sustain its 2018 growth rate of about 3% even if it supports its economy with fiscal policy. Chart 5 illustrates the cumulative impact of each alternative scenario. For example, the red dotted line represents the cumulative effects of scenarios 1 and 2, where extended fiscal measures are paired with further tariffs. Extending the fiscal measures beyond 2019 would improve growth somewhat (blue dotted line), but a growth rate of, say, 3% would still remain firmly out of reach.

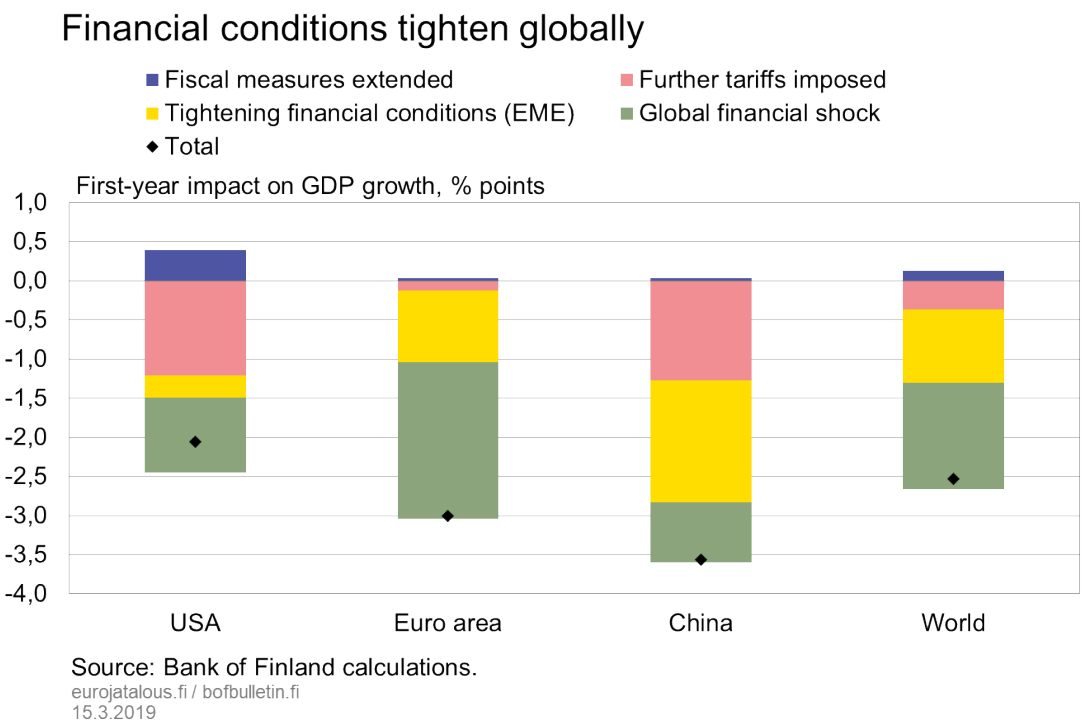
Growth in the United States may also decelerate considerably if the country escalates its trade policies and a resulting global slowdown reflects back on the US economy. In the scenario of a global financial shock (green dotted line), GDP growth in the United States would come in about 2 percentage points below baseline (black line) in 2020. This would entail a slight contraction in aggregate output.

The United States' public debt-to-GDP ratio is already growing on the back of existing fiscal policies (black line in Chart 6). Yet under the conditions presented in this article, an even more rapid accumulation of public debt is indicated, either because of looser fiscal policy or because of weaker-than-baseline GDP growth. While general government debt reaches 117% of GDP (black line) in the baseline scenario by 2023, extending the fiscal measures would push it to about 120% within the same period (blue dotted line). The slight recession observed in the scenario of a global financial shock would push the debt-to-GDP ratio even higher, to about 122% (green dotted line in

Chart 6).

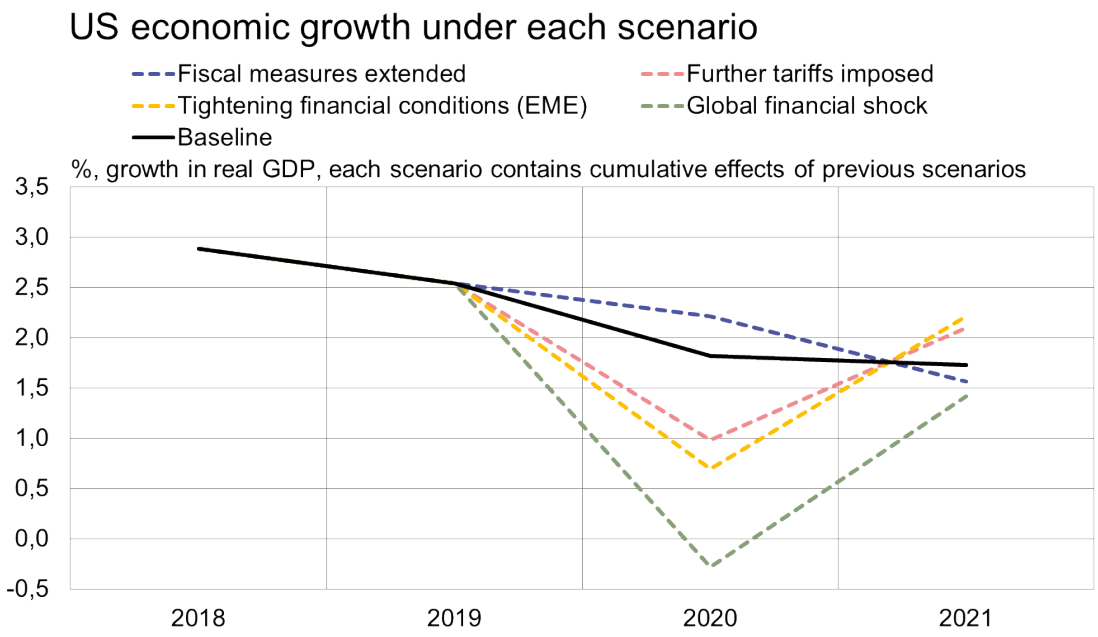
For the United States, fiscal space is limited by a mounting public debt burden. To ensure that this debt burden remains sustainable over the long term, the country will have to raise taxes and/or reduce public expenditure.

Chart 5.



Source: Bank of Finland calculations.
eurojatalous.fi / bofbulletin.fi
15.3.2019

Chart 6.



Sources: IMF WEO October 2018 and calculations by the Bank of Finland.
eurojatalous.fi / bofbulletin.fi
15.3.2019

Economic policy reactions will influence extent of slowdown in global growth

The alternative scenarios presented in this article illustrate how global economic developments are influenced by fiscal and trade policy decisions taken by the United States. These policies are also reflected back on the US economy itself. The scenarios demonstrate that the effects are particularly potent when a policy shock leads to a sequence of events giving rise to a global financial shock. The precise magnitude of these effects may deviate from the calculations; for example, a tightening of financial conditions, when realised, may not follow the scenarios' assumptions. The calculations are also subject to modelling uncertainties. For example, the model's parameters may not fully capture real-world transmission mechanisms, and the persistency of the shocks may deviate from the assumptions. In addition, the calculations do not capture all the potential ramifications of an escalating trade war. For example, the consequences of supply chain disruptions caused by tariffs may prove more severe than assumed.

Further still, the results are influenced by the degree to which monetary and fiscal stimulus are assumed to support the economy. The global financial crisis increased debt-to-GDP ratios in the euro area, the United States and Japan. The calculations, however, assume that general government deficits are allowed to grow in response to declining GDP growth, i.e. that automatic

stabilisers are allowed to operate freely and thus support economic recovery. Similarly, the scenarios assume that monetary policy is allowed to respond to declining growth, also supporting recovery. Despite this, the capacity for monetary stimulus in the euro area and Japan is assumed to be limited, which indeed translates into a stronger negative impact on output growth.

These calculations suggest a significant decline in China's pace of growth, of about 3.5 percentage points, when the effects of the alternative scenarios are taken as a whole. The calculations assume that China will likewise implement monetary stimulus and allow for a higher general government deficit to facilitate the recovery of its output. However, its growth rate demonstrates a significant decline despite these measures. This means that under the assumptions of the scenarios, China won't successfully use stimulus to stave off a significant decline in output growth. This is reasonable, given the significant rise in China's public and private debt levels compared with before the financial crisis. Indeed, the calculations assume China would not implement fiscal stimulus precisely because of its lowered fiscal space. The monetary stimulus is similarly assumed to prove moderate, which, on the upside, does mitigate the risk of excessive growth of private sector debt. All of this, however, stands in contrast to the extensive stimulus measures undertaken by China during the global financial crisis, which lent broad support to the entire global economy. Under these alternative scenarios, Chinese stimulus is held to be subdued, which partly explains the significant slowdown in global growth.

Sources

Banque de France (2018a) Costs and consequences of a trade war: a structural analysis. Rue de la Banque No. 72.

Banque de France (2018b) Quantifying the losses from a global trade war. Banque de France 7/2018.

BoF Bulletin (4/2018) Monetary policy to be normalised gradually and in a predictable manner. Bank of Finland Bulletin. Published 4.10.2018.

CPB (2018) Trade wars: economic impacts of US tariff increases and retaliations: An international perspective. Background Document (November 2018).

EKP (2018) Implications of rising trade tensions for the global economy. EKP Bulletin 3/2018.

ESRB (2018) Adverse macro-financial scenario for the 2018 EU-wide banking sector stress test.

IMF (2017) Global Financial Stability Report, October 2017.

IMF (2018a) Impact of Tighter Global Financial Conditions. World Economic Outlook, April 2018.

IMF (2018b ja 2019) World Economic Outlook, October 2018 ja January 2019.

Kumhof et al. (2010) The Global Integrated Monetary and Fiscal Model (GIMF) – Theoretical Structure. IMF Working Paper 10/34.

Obstfeld, M. (2016) Tariffs do more harm than good at home. IMF-blogi, September 2016.

OECD (2018) OECD Economic Outlook, November 2018 (2).

Notes

1. This baseline is shared by the major forecasts, e.g. IMF (2019). ↑
2. These scenarios describe alternative growth paths for the global economy; they are not forecasts; nor do they represent most probable outcomes. The calculations are based on the IMF's Global Integrated Monetary and Fiscal model (GIMF). See, for example, Kumhof et al. (2010). ↑
3. Most importantly as regards corporate taxation, the corporate income tax rate was permanently lowered, from 35% to 21%. As a counterbalance, corporate tax deductibles were eliminated or limited. Since the tax reforms, the average wage income tax rate is about 1 percentage point lower and marginal tax rate about 2.5 percentage points lower. The cuts to personal taxation are set to expire after 2025. ↑
4. See e.g. IMF (2018b and 2019). ↑
5. A similar assumption seems to have been made in the OECD's (2018) forecast published in November 2018. ↑
6. So far the United States has imposed additional 25% and 10% duties on USD 50 billion worth and USD 200 billion worth of Chinese imports, respectively. The latter is subject to a potential 15 percentage point increase, also to 25%, if the countries' trade negotiations don't progress. In addition, the United States has proposed further duties on effectively its entire volume of imports from China, worth some USD 500 billion, as well as on car imports and car parts. ↑
7. Here the protectionist measures are assumed to be permanent; the earlier impact assessment published in Bank of Finland Bulletin (2018) looks at the effects of tariffs imposed for two years. However, there is little discernible difference in their effects during the first years. ↑
8. A shock has been brought into the model that reduces investment by 1.25% in countries who impose tariffs. This shock is assumed to gradually dissipate at a persistence parameter of 0.6. ↑
9. For further analysis of the tariffs' impact, see: Bank of Finland Bulletin (2018), ECB (2018), Obstfeldt (2016), Banque de France (2018b) and CPB (2018). ↑
10. The growth in emerging economy risk premia is fed into the model by raising borrowers' riskiness until corporate risk premiums see an immediate and direct rise of about 200 basis points. The shock is assumed to gradually dissipate at a 0.6 persistence parameter. ↑

According to the IMF (2017), risk premiums on dollar-denominated emerging market corporate debt increased by approximately 450 basis points at the height of the financial crisis.

11. Based on IMF (2017), risk premia on dollar-denominated corporate loans in emerging economies increased almost twofold compared with investment grade corporate loans in advanced economies at the height of the financial crisis. ↑

12. The growth in advanced economy risk premia is fed into the model by raising borrowers' riskiness until corporate risk premia see an immediate and direct rise of about 100 basis points. The shock is assumed to gradually dissipate at a 0.6 persistence parameter. Based on IMF (2017), risk premia on dollar-denominated investment-grade corporate bonds rose by about 250 basis points in the advanced economies, at the height of the financial crisis. For the United States, 100 basis points corresponds with approximately one standard deviation (data from 1996 onwards) based on the spread between ten-year BBB-rated corporate and sovereign bonds. Measured like this, corporate bond spreads rose by about 400 basis points in the United States at the height of the financial crisis. ↑

13. IMF (2018a) about 50 basis points and Banque de France (2018a) 50–100 basis points. ↑

14. US sovereign bonds are widely considered risk-free and are thought to only have a 'term premium'. Thus, the risk premium on emerging market sovereign bonds is often seen as their yield spread against US bonds. The shock is assumed to gradually dissipate at a 0.6 persistence parameter. An IMF (2018a) simulation of the impact of tighter global financial conditions placed a 100 basis point shock on US sovereign bond yields that spills over into other countries. In the ESRB risk scenario (2018), yields on long-term sovereign bonds issued by EU countries increase by almost 100 basis points on average. ↑

Keywords

alternative scenario, tightening financial conditions, trade war, US economy policy