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Impact of the Corporate Tax Cut

US Special

Summary

- Simulations with a macro-econometric model show that a reduction in the US corporate tax rate will boost GDP growth once the tax cut is implemented. In case of delayed implementation GDP growth will slow down initially because longer-term interest rates rise well before the tax cut is implemented.
- After a two year boost GDP growth will fall back again to the baseline path. While the level of GDP will remain higher, the debt to GDP ratio will follow a steeper trajectory than in the baseline. There is a trade-off between GDP and the public debt.
- The announcement of a corporate tax cut will lead to higher long-term interest rates and a stronger US dollar. The latter will temporarily push down inflation and initially constrain the Fed, but once inflation rebounds due to higher GDP the Fed will hike more aggressively.

Introduction

Now that the House of Representatives has passed a tax reform bill, it is up to the Senate to vote on its own tax bill when Congress returns from its Thanksgiving recess. If the Senate passes its tax bill, Republican lawmakers will have to negotiate a uniform tax bill that can be sent to the White House to be signed into law. However, both plans include a reduction of the corporate tax rate to 20% from the current 35%. Therefore, the corporate tax cut will be the focus of our preliminary analysis of the tax plans¹. We use the NiGEM macro-econometric model to assess what the impact of a corporate tax rate cut would be on interest rates, exchange rates, inflation, GDP, and the public debt. In terms of the timing of the tax cut, we consider two scenarios: immediate implementation in 2018Q1 (as in the House tax bill) and delayed implementation in 2019Q1 (as in the Senate proposal). While the implementation of the tax cut can be delayed, financial markets will react immediately when a deal is reached. In case of the Senate tax proposal this would mean that markets will react a year before the tax cut hits the economy. This will cause different dynamics than the House bill that would effectively – if we think of time in terms of quarters, as the NiGEM model does – let tax cuts reach the economy at the same time that financial markets react².

Impact on financial markets

Financial markets will react immediately to the announcement of a deal on tax cuts. As tax cuts are expected to boost GDP growth and consequently inflation, markets will anticipate that the Fed will shift to a higher policy rate trajectory. These expectations will immediately push up longer-term interest rates by about 50 to 90 basis points³. However, the expectations of a more hawkish Fed will also lead to a short run appreciation of the US dollar of about 3-5%⁴. Note that the

¹ In practice, the corporate tax cut will be accompanied by changes to other taxes and federal government spending, which will also affect the outcome of the simulations.

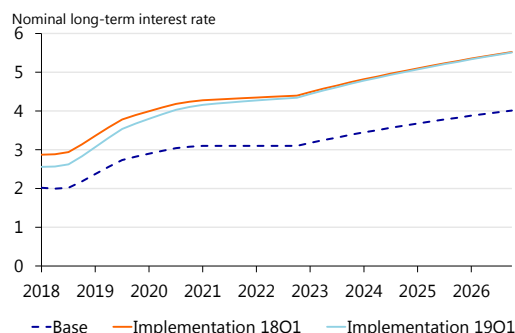
² Given the fact that 2017Q4 is well underway, for modelling purposes we assume that the announcement and implementation take place in 2018Q1.

³ In the long run longer-term interest rates will be about 168 bps higher than in the baseline.

⁴ In the long run the nominal effective exchange rate will remain 1% above the baseline.

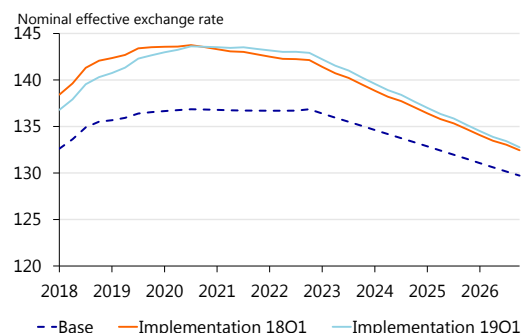
financial market impact of the tax cut announcement is immediate, independent of the timing of the implementation of the tax cut. This means that in case of an implementation lag the economy first experiences the consequences of reactions in interest rates and exchange rates, before it actually feels the tax cut itself. We will show that this could have a perverse effect on GDP growth in the very short run.

Figure 1: Long-term nominal interest rate



Source: Rabobank/NiGEM

Figure 2: Nominal effective exchange rate



Source: Rabobank/NiGEM

Impact on GDP growth and inflation

The simulations show that a reduction in the corporate tax rate boosts GDP growth, however the implementation lag of the tax cut may have a perverse effect. In case of an immediate implementation of the tax cut (in 2018Q1) we get an immediate boost to GDP growth. The quarter-on-quarter growth rate peaks at about 4.5% annualized during the course of 2018, but slows down again to the baseline by 2020. So the growth boost lasts two years. However, in case of a delayed tax cut (in 2019Q1) the boost to GDP growth does not take place until 2019. In fact, in 2018 a growth slowdown occurs because the economy faces higher long-term interest rates while it still has to wait for a tax cut⁵. Because of this slowdown, once the tax cut hits the economy the GDP growth rate peaks well over 6% (quarter-on-quarter, at an annualized rate) in 2019. In 2021 this growth boost fades as well. So in both scenarios the GDP growth boost lasts two years and then returns to the baseline growth rate⁶.

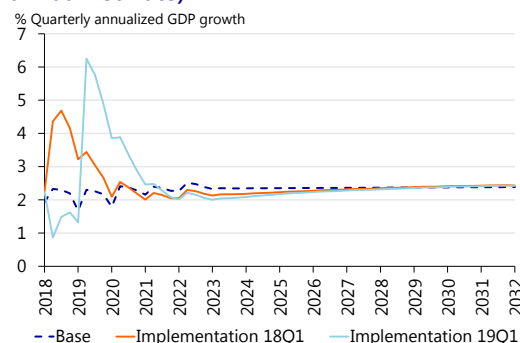
Inflation will face two opposing forces in case of an immediate tax cut: higher GDP growth caused by the tax cut has an upward impact on inflation, while the dollar appreciation has a downward impact on inflation. The model simulations show that in equilibrium, the latter effect will dominate in 2018, with inflation temporarily falling slightly below 0% in year-on-year terms. By 2019 inflation is in positive territory again and continues to rise and reaches elevated levels (between 2.5% and 3.5%) in 2021-2022. Subsequently, inflation slides back again but will remain slightly higher than in the baseline scenario (= no tax cuts) and stabilize somewhat above 2%. In case of a delayed tax cut, inflation is initially pushed downward because of the dollar appreciation. Once the tax cut is implemented the boost to GDP will push up inflation. Note that the initial inflation dip follows about the same time path whether tax cuts are implemented immediately or with a one year delay. This shows the overwhelming effect of the immediate dollar appreciation.

⁵ This perverse effect is caused by the implementation lag of the tax cut. Note that the model does not capture possible confidence effects from the announcement of the tax cut or incentives to bring investment forward to benefit from the delayed tax cut. Both effects could soften the slowdown in GDP growth.

⁶ In practice the size of the boost to business investment and GDP from the tax cut could be smaller, similar to the somewhat disappointing impact of low interest rates in recent years.

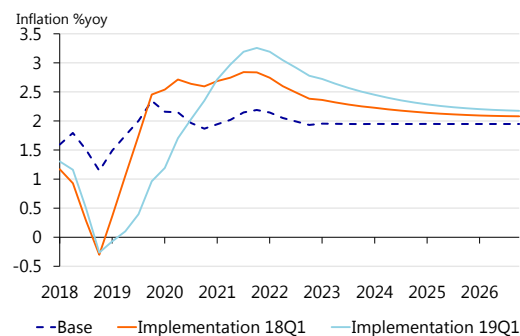
However, the rebound in inflation will take longer if tax cuts are delayed because in that case the GDP growth will also kick in later.

Figure 3: GDP growth (quarter-on-quarter, annualized rate)



Source: Rabobank/NiGEM

Figure 4: Inflation (year-on-year)

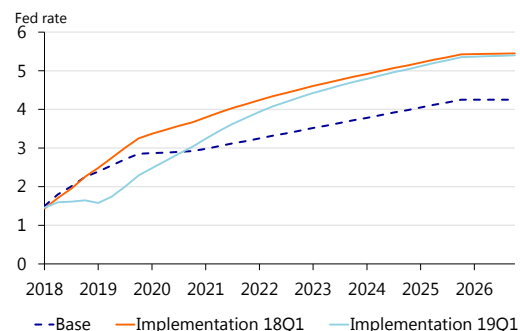


Source: Rabobank/NiGEM

Impact on the Fed

How does the Fed in the NiGEM-model⁷ react to all these developments? The initial drop in inflation would make the Fed more hesitant to continue its hiking cycle, but the immediate boost to GDP growth in case of an immediate tax cut will keep the Fed on course in 2018 and move to a higher trajectory in 2019 as inflation rebounds and reaches higher levels than in the baseline⁸. In contrast, if the tax cut is delayed until 2019, GDP growth is initially slowed down because of higher longer term interest rates. Consequently, the Fed keeps its policy rate unchanged in 2018, before resuming its hiking cycle in 2019 and overtaking the baseline hiking path by 2021 as inflation continues to rise⁹. In the long run the two scenarios converge with the Fed's policy rate stabilizing at a higher level (about 6 hikes of 25 bps) than in the baseline.

Figure 5: Fed policy rate



Source: Rabobank/NiGEM

⁷ We assume that the Fed's monetary policy rule is nominal GDP targeting, instead of a standard Taylor rule, in order to avoid an overreaction in the initial phase that would lead to the Fed cutting rates because of the temporary decline in inflation.

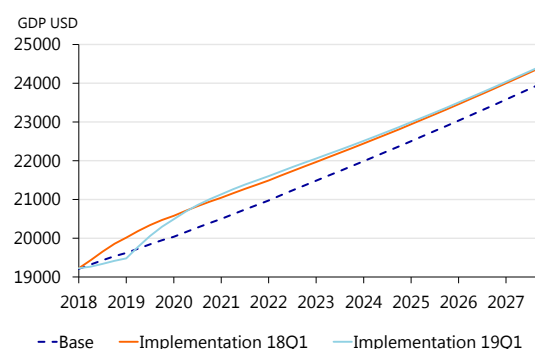
⁸ In case of an immediate tax cut, the Fed would - compared to the baseline - implement one additional hike of 25bps in 2019, two in 2020, and one in 2021. One additional hike would follow somewhere in 2022-2028 and another in 2028-2031.

⁹ In case of a delayed tax cut, the Fed would- compared to the baseline - implement two extra hikes in 2021, one in 2022, one in 2023, one in 2024-2028, and one in 2029-2031.

Impact on the debt/GDP ratio

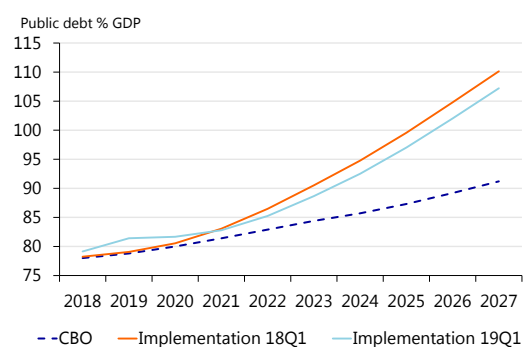
So far we have looked at the impact of a corporate tax rate cut on inflation, GDP growth, interest rates and exchange rates. We focused on the dynamics in the short run and showed that GDP growth gets a boost once the tax cut is implemented but after two years it returns to the baseline growth rate. But what is the long-term impact on the level of GDP and the ratio of debt to GDP? The reduction in the corporate tax rate to 20% is a fiscal stimulus to business investment which leads to a higher stock of physical capital than in the baseline where the corporate tax rate remains 35%. While the GDP growth rate falls back again after a two year boost, the level of GDP remains higher than in the baseline because the capital stock has reached a higher trajectory. So there is a clear long run benefit to the economy from the corporate tax cut.

Figure 6: GDP level



Source: Rabobank/NiGEM

Figure 7: Public debt to GDP ratio



Source: Rabobank/NiGEM

However, at same time the reduction in the corporate tax rate reduces tax income for the government, hence it increases the budget deficit and pushes up the public debt. Note that the higher GDP level expands the tax base, but this is not enough to offset the decline in tax income caused by the lower rate at which corporations are taxed. In fact, the public debt grows faster than the GDP level. The public debt to GDP ratio increases to about 110% in 2027 compared to the CBO baseline projection of 91%. This is the long run drawback from the corporate tax cut.

Conclusion

While a corporate tax cut is only one of several measures that are included in the Republican tax plans, on its own it would give a substantial boost to GDP growth in the short run and bring the level of GDP to a higher trajectory in the long run. However, it would also raise the debt to GDP ratio in the long run. Therefore, the corporate tax cut is not self-financing. There is a trade-off between GDP and the public debt. Even without tax cuts, the US public debt trajectory is cause for concern. The existing entitlement programs are unsustainable and will continue to push up the debt to GDP ratio as shown by the CBO baseline¹⁰ in Figure 7. However, the much needed reform of entitlements – until recently a Republican priority – does not appear to be high on the political agenda.

¹⁰ Congressional Budget Office, June 2017: An Update to the Budget and Economic Outlook: 2017 to 2027.

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