

The US Phillips Curve is Still Alive

- Our re-estimated Phillips curve captures well broad movements in core PCE inflation once temporary idiosyncratic factors are taken into account. The output gap remains an important driver of US inflation.
- We expect a very gradual increase in inflation due to offsetting cross-currents from weak cost inflation and the remaining accumulated excess demand.
- The Federal Reserve can achieve higher inflation by lowering rates. The key is identifying to what level it wants to bring inflation, and how fast it wants to achieve that.
- Rate cuts of 50 bps are required to bring inflation to target gradually, and cuts of up to 150 bps are required to bring inflation above 2 and achieve the inflation overshoot some members of the Board of Governors might find desirable.

WHAT DRIVES INFLATION? A NEWLY ESTIMATED PHILLIPS CURVE

The debate about inflation determinants continues to rage due to the seemingly incongruous behaviour of inflation compared to available measures of economic slack. On the basis of most such measures—the unemployment rate, or the broader measure of the output gap—the US economy is in significant excess demand, partly induced by the expansionary fiscal policy. In this context inflation should be pushing higher, but the total PCE inflation — the focus of the Federal Reserve — is currently languishing far below 2.0%.

The reasons for low inflation can include temporary factors, but weak cost inflation, in particular on the labour side, is part of the explanation as well. To conduct our policy experiments in the next section we estimated a Phillips Curve that takes into account various drivers of inflation: from the output gap and unit labour cost inflation, to oil prices and the US dollar, to some of the temporary factors that helped inflation undershoot in 2017 and 2019.

Table 1 shows the specification of our newly estimated Phillips Curve, which fits the actual inflation behaviour relatively well since 2016 (see chart 1). The dynamic simulation shows that the fall of inflation in 2017 and the subsequent rise are explained by the temporary impact of a one-off fall in the telephone services prices, while the most recent

deceleration is due to both the temporary factors and weaker fundamentals such as a weak unit labour cost inflation (see chart 2 which shows the decomposition of the dynamic simulation coming from the new Phillips Curve). Note that the only factor that has a positive effect on inflation is the output gap.

Table 1. Core PCE determinants, Phillips Curve

	Estimated coefficient
Core PCE, lag	0.537
Core PCE, lead	0.345
Target, 2% (rule of thumb)	0.118
Output gap	0.035
Real WTI oil price	0.003
Trade-weighted real exchange rate	0.003
Unit labour cost	0.020
Phone services price inflation	0.016
Transportation services price inflation	0.020

Source: Scotiabank Economics.

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Chart 1

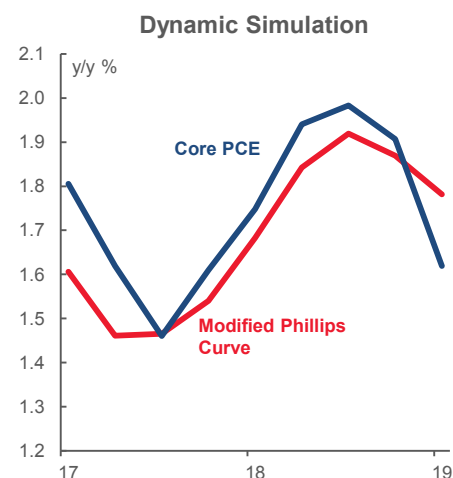
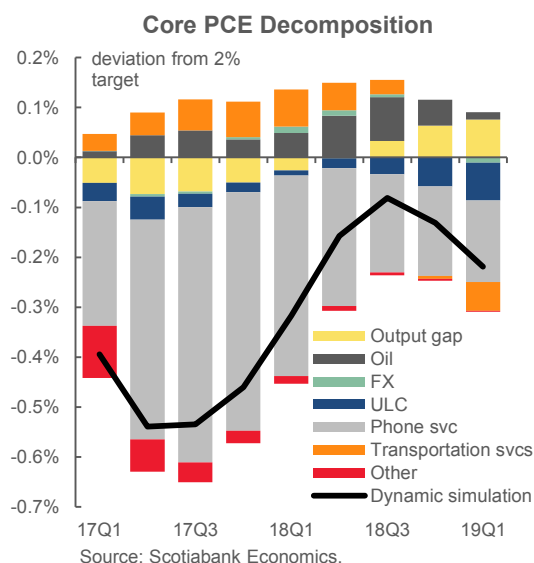


Chart 2



HOW CAN THE FED ACHIEVE OR OVERSHOOT ITS INFLATION TARGET?

Using our new Phillips Curve and the Scotiabank Global Macroeconomic Model (SGMM) we generated three scenarios of policy rates going forward. In each of the scenarios the Fed Funds rate is lower until the end of 2021. Since this path is fully expected by households and firms, there is an element of forward guidance built into the scenario.

SCENARIO 1: The first scenario assumes that the Fed will drop the Fed Funds rate by 50bps by the end of 2019 and holds it at that level until the end of 2021 (chart 3). Therefore, the policy rate stays at 2.0% from 2019Q4 until 2021Q4. Since the market is expecting around 100bps in cuts and the Fed only delivers 50bps, we assume that it will generate a 2% appreciation of the US effective exchange rate. This exchange rate shock slightly decreases the effect of the cuts on inflation.

SCENARIO 2: The second scenario assumes that the Fed will cut interest rates by 100bps by the end of 2019. Since the profile of real GDP is stronger in the scenario than in scenario 1 above, we assume that the stock market will react somewhat positively. Given that the market expects around 100bps, which is exactly the hypothesis of this scenario, we assume no additional shock on the US effective exchange rate.

SCENARIO 3: The last scenario is very aggressive and assumes that the Fed Funds rate will fall by 150bps by year end. Since the profile of real GDP in Scenario 3 is stronger compared to Scenario 2, we assume a positive stock market reaction. Since the market is expecting around 100bps and the Fed cuts more, we assume that it will generate a 2% depreciation of the US effective exchange rate. This exchange rate shock slightly increases the effect of the cuts on inflation.

Charts 3, 4 and 5 show the profiles of the Fed Funds rate, the output gap and the core PCE inflation rate (Y/Y%) for the 3 scenarios. Despite the fact that the Phillips curve is relatively flat (the effect of the output gap on inflation is small), as the Fed moves its policy rate lower and lower it generates a larger and more persistent excess demand in the economy, which feeds inflation expectations and moves inflation upward. In Scenario 1 the inflation rate reaches the 2% target only in 2021Q3. For comparison, in Scenario 2 the core PCE inflation rate reaches its target one year earlier than Scenario 1. Finally, in the very aggressive Scenario 3 the target is reached in 2020Q2 and the Fed is able to overshoot slightly its target by 0.1 percentage points for more than 2 years.

Consequently:

- In all scenarios the inflation target is reached, but if the Fed drops the policy rate by only 50bps for about 2 years the core PCE inflation rate only hits the target in 2021Q3.
- If the Fed wants to achieve the target faster and not overshoot the target it should drop the Fed Funds rate by 100bps for 2 years.
- If the Fed wants to overshoot the inflation target for a persistent period, rates need to fall to 1% for 2 years.
- Finally, the faster the Fed acts, the more efficient it will be in reaching or overshooting the inflation target.

Chart 3

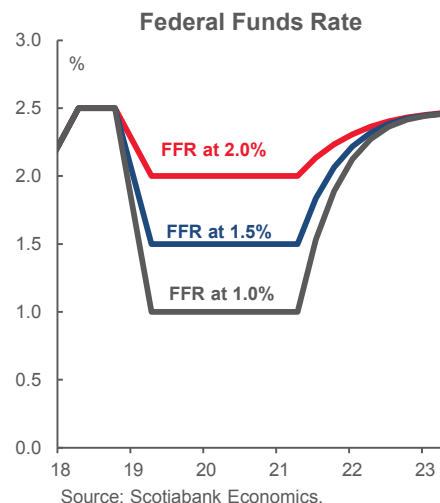


Chart 4

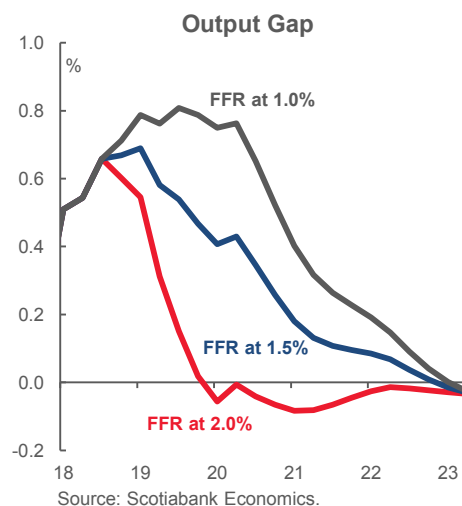
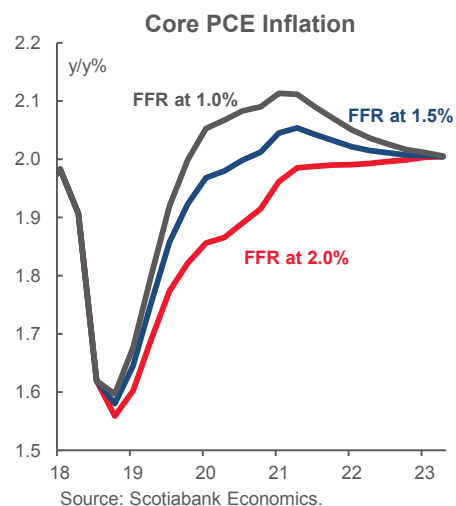


Chart 5



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