

ECONOMIC ANALYSIS
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Potential Output and Monetary Neutrality in Chile

Based on an update of the economy's structural variables, the Central Bank of Chile relaxed monetary conditions in June. Using statistical methods, we arrived at the same conclusion in terms of Chile's potential output; however, the estimation of monetary neutrality changes significantly with the new methodology to compute inflation and with the change in expectations of the monetary policy rate. The high sensitivity of estimates of nonobservable variables—such as potential output and neutral interest rate—can lead to monetary decisions that may become inconsistent.

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Potential Output and Monetary Neutrality in Chile

Monetary policymaking based on non-observable variables could become inconsistent with time

- *The central bank suddenly reversed the monetary course based on the re-estimation of the economy's structural variables.*
- *Given the sensitivity of the estimates of the structural variables, the previous rate hikes now look like inconsistent decisions.*
- *Monetary policymaking based on estimation of nonobservable variables could lead to decisions that are proven wrong with time.*

Based on an update of the economy's structural variables, the Central Bank of Chile relaxed monetary conditions in June. Using statistical methods, we arrived at the same conclusion in terms of Chile's potential output; however, the estimation of monetary neutrality changes significantly with the new methodology to compute inflation and with the change in expectations of the monetary policy rate. The high sensitivity of estimates of nonobservable variables—such as potential output and neutral interest rate—can lead to monetary decisions that may become inconsistent.

POTENTIAL OUTPUT

The application of statistical filters to economic series allows us to extract the structural component of those series—the part that is not subject to the transitory effects of economic policy. However, even though those filters allow us to incorporate future structural changes in the series, the statistical estimations contain a subjective component that introduces variability with time.

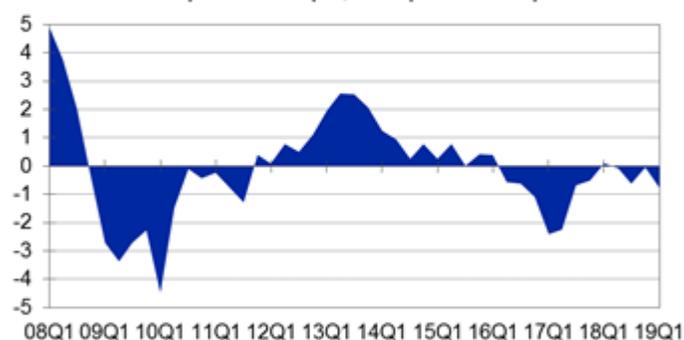
The estimation of Chile's potential output by extracting the structural component of GDP, with tail correction, indicates that potential growth stays around 3% in 2019, similar to the central bank's estimation. Our estimation incorporates the official growth rates for 2020 and 2021 reported in the quarterly Monetary Policy Report: average growth of 3.5% for both years, which includes the potential impact of immigration on the labor force and productivity.

Our results show that Chile's economy was facing a negative output gap of around 0.7% (as a ratio of potential output) during the first quarter of 2019, which indicates that the economy was working at below capacity.

However, results also indicate that the economy's slack will be reduced through the year and will disappear by mid-2020, with the output gap turning positive afterward. This indicates the economy will function beyond capacity by the end of 2020 if the investment-output ratio does not accelerate. Under these conditions, the economy will start to face demand pressures on prices and acceleration of imports in 2021.

Output Gap

Real GDP minus potential output, % of potential output



Source: Moody's Analytics using the HP filter with tail correction

In short, while the central bank estimates that potential growth will increase from 3.1% in 2018 to 3.4% in 2021, our estimations say that will go from 2.7% to 3% in the same period. Even though the two estimations are different, the relevant variable is the size of the economy's slack, which is the same: 0.7%. The estimation of the output gap with observed data up to the first quarter of 2019 is slightly higher than the one obtained with data until the end of 2018, which does not change the conclusion about the existence of the slack.

Therefore, the central bank's decision to cut the interest rate in June was the right move if the estimation of the output gap is accurate, since it will let inflation advance toward the bank's central target. However, estimates of potential output tend to change with time as new historical information is added and when growth expectations are modified. The risk is that, with time, new estimations of the historical output gap could indicate that the June rate cut was either premature or a wrong move in the worst case.

MONETARY NEUTRALITY

To better assess a monetary decision, it is necessary to estimate the position of monetary policy with respect to the neutrality level. To do that, we estimate the structural component of the monetary policy interest rate—a proxy of the neutral interest rate, which is also subject to the kind of variability as in the case of estimates of potential output.

In general, when the economy performs below its potential capacity, monetary policy could turn expansive to contribute to the recovery; but when the economy functions above capacity, a restrictive policy is necessary to help the economy return to its steady state and avoid macroeconomic imbalances.

The estimation of the neutral interest rate is also sensitive to changes in historical information and to expectations about the policy rate, so that monetary conditions could change completely as new information is included. This can make a past monetary decision inconsistent with reality as time passes. It is precisely because of this issue that we find the potential inconsistency between the central bank's rate hikes in October and January and the rate cut this June.

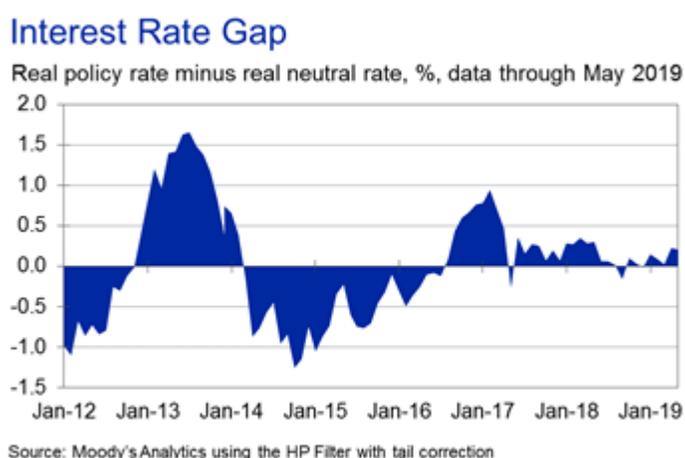
On the one hand, with observed data until December 2018 and expectations of rate hikes consistent with the central bank's rate path for 2019 and 2020, the estimation of the real neutral interest rate was about 0.9% at the end of 2018—the central bank currently establishes it 0.75% to 1.25%. Taken into account the estimation of structural inflation (not the inflation target), the nominal neutral interest rate is around 3%.

As a result, the observed monetary policy rate of 2.75% in December was just below the neutrality level, making October's rate hike, as well as January's hike to 3%, the correct decision. Thus, at the start of 2019 monetary policy was positioned around neutrality, allowing the economy to perform at its steady state after the overexpansion in 2018.

On the other hand, with the introduction of the new methodology to compute the consumer price index in January 2019—which subtracted 0.8 percentage point from annual inflation, according to the central bank—along with policymakers' decision to put monetary conditions in pause in March, the estimation of the neutral interest rate was reduced in real and nominal terms to 0.5% and 2.75%, respectively. Based on these new results, the observed monetary policy rate of 3% in March was clearly above the neutrality level.

The more pronounced economic deceleration in the first quarter and an inflation rate still one-third below the 3% target reinforced among policymakers the idea of providing the economy with monetary stimulus. Putting monetary conditions in expansionary territory required the policy rate to be cut by 50 basis points so it would be below the new 2.75% neutral level. That is exactly what the central bank decided to do during the first week of June; it put the nominal rate at 2.5%.

Thus, with the June rate cut, the monetary policy position changed from restrictive during the first five months of the year to expansionary for the second half of the year, even if the policy rate remains unchanged at 2.5%. Again, the relevant reference is the rate differential between the monetary policy rate and the neutral rate, which puts monetary conditions in expansionary territory as indicated by the negative interest rate gap.



Even though the rate hikes in October and January are justified—based on the available information at that time—and the rate cut in June is also justified by the new conditions, this exercise shows how monetary policymaking based on the estimation of nonobservable variables could lead to monetary decisions taken today turning inconsistent as time goes by. This is the risk already taken by the Central Bank of Chile with its decision to cut the rate based on the re-estimation of the economy's structural variables, which are sensitive to changing information.

ABOUT THE AUTHOR

Alfredo Coutiño is a Director with Moody's Analytics, responsible for analysis, modeling and forecasting for Latin America as well as real-time coverage of the macro economies. He is frequently quoted in media and industry publications and has been a speaker at United Nations conferences and at the American Economic Association. Alfredo has published papers on applied econometrics with Nobel laureate Lawrence Klein. Dr. Coutiño received his PhD in economics from the University of Madrid after completing doctoral studies at Temple University.

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