# How big is the slack in the Mexican Economy?

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- **In recent years, Banxico has expressed in several occasions that there is still slack in the Mexican economy, relying –among other tools– on the output gap, which has remained negative**
- **However, the recent evolution of several economic indicators suggests that Banxico's assessment of the prevailing slack in the economy could be overstated. In particular:**
  **(1) Core inflation has maintained an upward trend, despite the fall in telecommunication services prices;**
  **(2) A basket of economic indicators –including the current account deficit and most of the indicators associated with the labor market– suggest that we will face higher inflationary pressures coming from the upward trend in domestic demand; and**
  **(3) An alternative estimate of Mexico's output gap, –measured by the demand side GDP– is actually positive**
- **We conclude that the current slack in the Mexican economy is nonexistent, or is already very low, and –in such a scenario– we expect inflationary pressures to arise**

**How big is the slack in the Mexican Economy?** In recent years, Banxico has expressed in several occasions that there is still slack in the Mexican economy, relying –among other tools– on the output gap, which has remained negative. However, the recent evolution of several economic indicators suggests that Banxico's assessment of the prevailing slack in the economy could be overstated. Core inflation has maintained an upward trend, despite the fall in telecommunication services prices. Similarly, the current account deficit –which can be interpreted as the difference between an economy's total expenditure relative to the income generated– amounts 3% of GDP, its highest level since the 1994 economic crisis. In addition, the unemployment rate has maintained a downward trend, while most of the economic indicators associated with private consumption –such as family remittances and retail sales–, has sustained a significantly higher growth, compared to the overall Mexican economy.

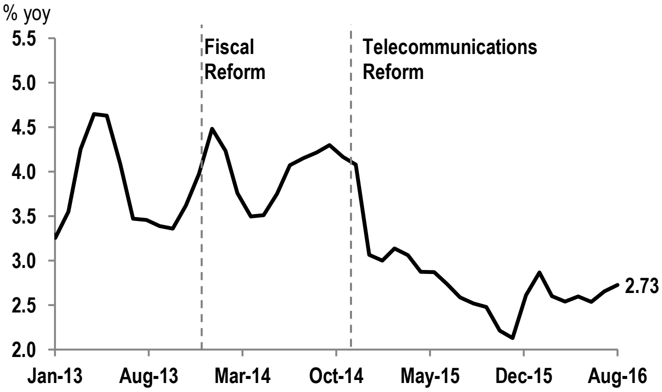
In this context, several board members at the central bank have also expressed some concerns regarding this issue. In particular, the minutes of the last monetary policy statement (11$^{th}$ of August) show that: *"...several members highlighted the uncertainty surrounding the estimation of the potential GDP. In this regard, one member pointed out that in addition to possible measurement errors, other economic indicators within the labor market, such as the lower unemployment rate and the recent trend in labor's unit costs, raises questions about the degree of slack that effectively prevails in the economy."*

In this research note, we analyze the evolution of several economic indicators, and conclude that the slack of the Mexican economy –calculated by the central bank– might be overestimated. First, we analyze the recent behavior of the core price sub-index, excluding the positive impact generated by the telecommunications reform. In addition, we examine a basket of economic indicators that suggest higher inflationary pressures coming from the upward trend in domestic demand. Finally, we present an alternative estimate of Mexico's output gap, where we show that the economic growth –measured by the demand-side GDP– is actually positive.

**Inflation is trending up, despite the telecommunications reform.** In the past two years, Banxico has achieved its objective of maintaining price stability. In fact, by the end of 2015, headline inflation reached its record low of 2.13% yoy, and since then has remained below the central bank's 3% target. In addition, core inflation has fluctuated around this goal. However, we believe that the recent trend in inflation –particularly in the core sub-index– may be attributed to several developments of the Mexican economy.

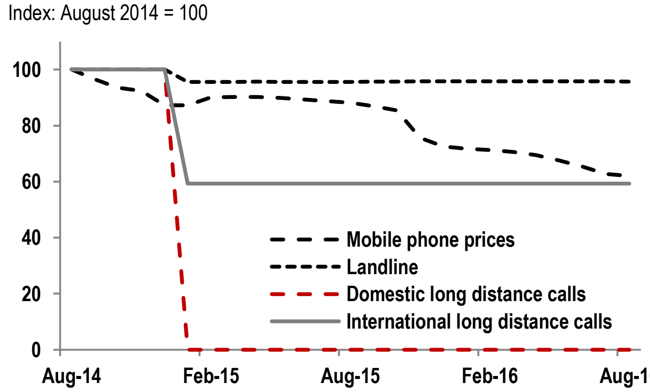
The favorable behavior of core inflation since January 2015 has been partially explained by the base effect of Mexico's fiscal reform, which distorted the behavior of prices in 2014 (refer to the chart on the left). However, it also reflects the implementation of the telecommunications reform, which eliminated domestic long-distance phone call rates in January 2015, and generated a higher competition among market participants, which significantly reduced the prices of these services (refer to the following chart on the right).

**Headline inflation**
% yoy




Source: Banorte-Ixe; INEGI

**Telecommunication services prices**
Index: August 2014 = 100

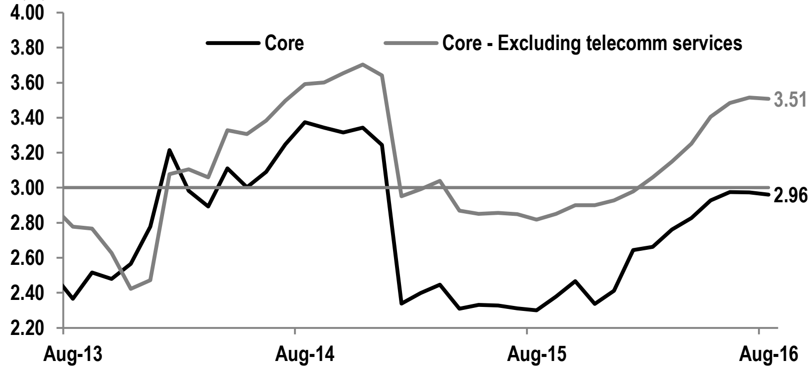



Source: Banorte-Ixe; INEGI

Core inflation remained below 3% in the first seven months of the year. However, core inflation –excluding telecommunication prices– has maintained an upward trend, and currently stands at 3.5% (refer to the chart on the following page). In fact, analyzing the recent behavior of the telecommunication price sub-index, it is likely that the positive effect of this reform has already dissipated. This would imply that the underlying vulnerability of core-inflation to the passthrough effect of the depreciation of the Mexican currency could increase in the following months.

Core inflation: Total and excluding telecommunication prices

% yoy

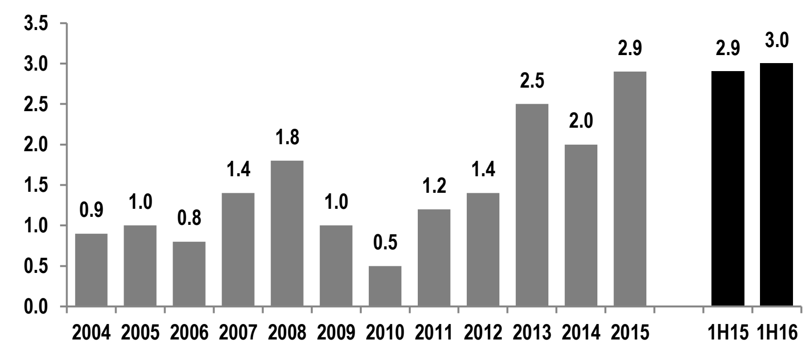



Source: Banorte-Ixe

**Higher inflationary pressures generated by Mexico's domestic demand.** Economic activity grew only 2.5% in 2015, and will probably grow around 2.3% in 2016. However, there are several economic indicators that show that domestic demand's growth has been far superior to the overall economy. In particular, the current account deficit, measured as a share of Mexico's GDP has already reached its highest level since the 1994 economic crisis (refer to chart below).

Current account deficit

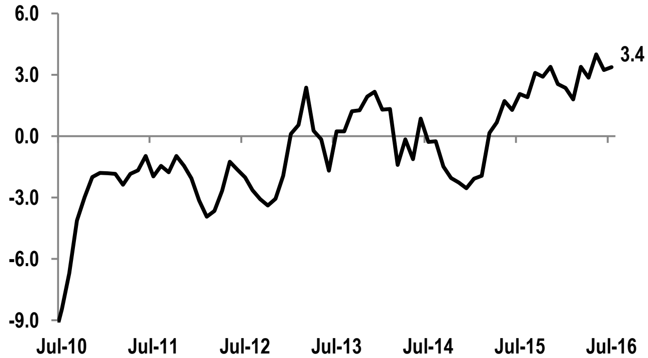
% of GDP




Source: Banxico

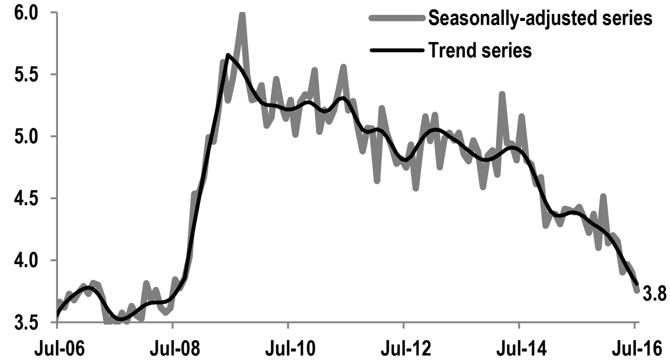
Similarly, the unemployment rate oscillates around the levels observed before the 2009 economic crisis, while the unit costs of labor in the manufacturing industry have maintained an upward trend (refer to the charts on the following page). In addition, the non-farm payroll of the formal economy has averaged growth a 4.8% growth during the first seven months of 2016, while retail sales showed an 8.4% yoy increase within the same period.

**Unit costs of labor in the manufacturing industry**
% yoy, 3-month moving average




Source: Banorte-Ixe

**Unemployment rate**
%, sa and trend




Source: Banorte-Ixe

As we mentioned earlier, the current account deficit can be interpreted as the difference between an economy's total expenditure relative to the income generated. If we consider the upward trend in the current account deficit, coupled with the higher relative growth of most of the economic indicators associated to domestic spending, it is very likely that the recent trajectory in these indicators will eventually lead to higher inflationary pressures.

**Mexico's output gap – An alternative measure.** In different countries, including Mexico, the gap between actual and potential output is widely used by economists and policy makers. The importance of this indicator lies in the fact that it not only measures the current performance of the economy, but also indicates how close it is to achieve its potential growth. In the particular case of Mexico's central bank, the output gap estimation is relevant in order to assess the possibility of inflationary pressures.

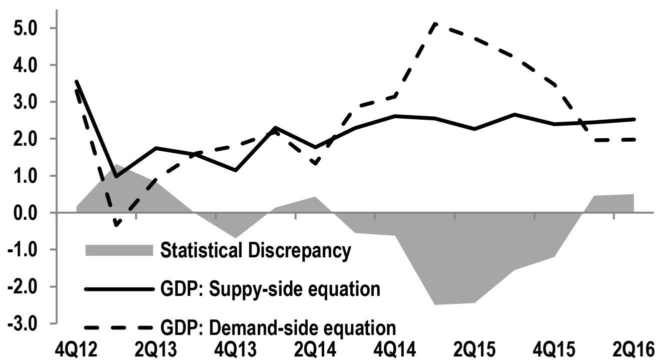
In this research note, we estimate the potential GDP by applying a Hodrick-Prescott (HP) filter to Mexico's GDP series[1]. We use the tail correction method proposed by St-Amant and van Norden (1997); and for the smoothing parameter $\lambda$, we use a value equivalent to 1096, in accordance to the methodology proposed by Marcet and Ravn (2004). For the output gap, we compare the potential GDP to the seasonally adjusted supply-side GDP series[2]. The results are presented in the following chart, where the current growth of the Mexican economy is below its potential. This estimate would suggest that the current monetary policy is consistent with Banxico's assessment of the slack conditions that persist in the Mexican economy.

[1] Measured by the supply-side equation, using the seasonally-adjusted series

[2] $GDP^{supply}$ = Primary Activities + Industrial Production + Services +Net taxes on products

However, although the output gap is negative, the economic indicators discussed earlier suggest that slack conditions in the Mexican economy are significantly lower. Therefore, we conducted a second exercise, where the output gap is calculated by using both, the previously estimated potential GDP series, and the GDP series measured by the demand-side equation[3]. If we consider that the output gap tends to be associated with demand-side shocks (*Banxico's Quarterly Inflation Report: April-June 2009*), the estimation of the output gap using this GDP measurement yields a better diagnosis of the current slack conditions that persist in the Mexican economy. In addition, historically the growth of both GDP measurements (supply and demand) had been similar. However, since 2014 there has been a strong divergence between the two series. In fact, GDP growth through the demand-side has been significantly higher than the supply-side (refer to chart on the left).

**GDP**
% yoy




Source: Banorte-Ixe

**Output gap: GDP measured by the demand-side equation**
% yoy


Source: Banorte-Ixe

As shown in the upper right chart, using the methodology described above yields a positive output gap, not only during the first half of 2016, but over the past two years. In fact, this output gap is consistent with the recent trend of core inflation (excluding telecommunications services prices), as well as the evolution of the current account deficit and the other macroeconomic indicators discussed in the previous section.

However, the positive output gap was marginally lower in the second quarter, as a result of the 2% saar contraction of Mexico's economic activity measured by the demand-side equation. In this context, we highlight that the seasonally adjusted series for most of *INEGI's* economic indicators during the second quarter of 2016 have shown a downward bias, as a result of atypical seasonal factors. In fact, in the minutes of the last monetary policy meeting, a member of the Board referred to the later, mentioning that: *"[...] the information available is insufficient to accurately assess to what extent the recent evolution of GDP responds to factors of a statistical nature or a weakening of economic activity. In particular, the growth figures in the second quarter were affected by factors of a seasonal nature difficult to correct."* Therefore, it is likely that the seasonally adjusted figures for third-quarter series show that the output gap continues in positive territory.

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[3] GDP $^{demand}$ = Private Consumption + Gross Fixed Investment + Public Spending +Inventories + Net Exports of Goods and Services; seasonally-adjusted figures

**Concluding remarks.** In this research note, we analyzed the slack in the Mexican economy. Our analysis was carried out using statistical methods, such as reviewing recent developments in various economic indicators associated to domestic spending. The conclusion of our analysis is that the current slack in the economy is nonexistent or is already very low, and that in such a scenario we would expect inflationary pressures to arise. However, it is worth noting that we are not expecting a significant jump on inflation in the remainder of the year. In this context, we continue to anticipate 12-month CPI inflation to end this year around 3%, but we do expect demand-side pressures to start to build up as soon as the first quarter of 2017.

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