

N° 52 - August 2019

# Economic GPS

## Tracking

Post-PASO uncertainty

04

## Industry Roadmap

What is the change in the automotive industry about?

09

## Zooming

Provincial revenue

10

## Global Coordinates

The global economy has become much more energy efficient. But is there room for further improvements?

15



# Uncertainty as the one certainty

The unexpected results in the primary elections held last August 11 disturbed Argentina's precarious monetary balance. The peso recorded a strong depreciation, the sovereign risk

reached levels of a default economy and the stock exchange crashed.

Under these circumstances, the great difference in votes obtained by the opposing candidate to presidency (not forecast by most of the surveys prior to August 11) strongly reduced the current president's reelection chances and, therefore, even before his being elected, the gestures and words of the opposing candidate have great incidence in the behavior of the economic agents.

Until the general elections (a short period, but that given the adrenaline generated might appear to take an eternity), the political environment of uncertainty might cause financial variables to lose their ability to explain the situation and project scenarios in the short-term. They would follow the pace of actions, gestures and messages from one candidate and the reactions of the other. Not until then can we catch sight of the future of Argentina in terms of politics and economy.

However, it is possible to imagine certain general scenarios and how the future government will play with the economy, if the final results of the PASO (primary elections) are finally confirmed. The probabilities of one and another will not only depend upon the political interaction but also upon how the path to December 10 is trodden.

One of the scenarios we could refer to as market friendly could include a stability plan (with possible agreements and/or price controls), some type of re-ordering of interest-bearing liabilities of the Central Bank of Argentina (depending on how much they have diluted, if any, with the prevailing exchange rate), exchange controls and/or splitting and some type of

control on the transfer of capitals, especially short-term financial activity. These measures could be accompanied by increases in taxes, mainly for individuals, and greater drawbacks on exports. In terms of debt, negotiations with the IMF to finance Argentina's debt would continue and thus obtain financial support for a voluntary debt restructuring with private parties.

As mentioned in the article written last month, without structural reforms (social security, labor, tax, capital markets and logistics cost reduction, etc.) the balance of the external sector should be maintained with a more depreciated exchange rate.

A second and more populist scenario would include greater public spending which, in the absence of financing mechanisms, would lead to quick acceleration of inflation, with stringent price controls, exchange restrictions and limitations to the transfer of capitals. It would probably come along with increases in taxes levying a greater tax burden on individuals' property and higher drawbacks on exports. There would be no access to voluntary financing in the international debt market under this scenario, which could lead to a return to public financing with monetary issue, thus inflation rates would dramatically increase with the related social consequences and/or some kind of alternate financing (direct country-to-country lending?).

Finally, a third scenario would be a balance in between these two scenarios. If there was collaboration between the current and the new administration, it is possible to foresee a more or less balanced combination of the policies of the two previously described scenarios until the parity of the two political forces is resolved. Otherwise, tension could have a very negative impact on the economy.

We have still two months until the elections take place and almost another month if a ballotage was needed. Until then, the one certainty is uncertainty.

A handwritten signature in black ink, appearing to read 'José María Segura'. The signature is stylized and somewhat abstract, with a large loop at the end.

**José María Segura**  
Chief Economist PwC Argentina



## Tracking

### Post-PASO uncertainty

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### What is the change in the automotive industry about?

Like many other things in this era, the automotive industry is constantly changing and evolving, which apply both to technological advances intended for vehicles, and to cultural issues of users.



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## Global Coordinates

### The global economy has become much more energy efficient. But is there room for further improvements?

Energy is a fundamental input for economic growth. However, over time the relationship between energy needs and economic growth have diverged as economies mature. With governments and companies under pressure to promote sustainable development, greater energy efficiency will be essential to maintain economic growth while reducing climate change. But can this downward trend in energy intensity continue?

## Contents

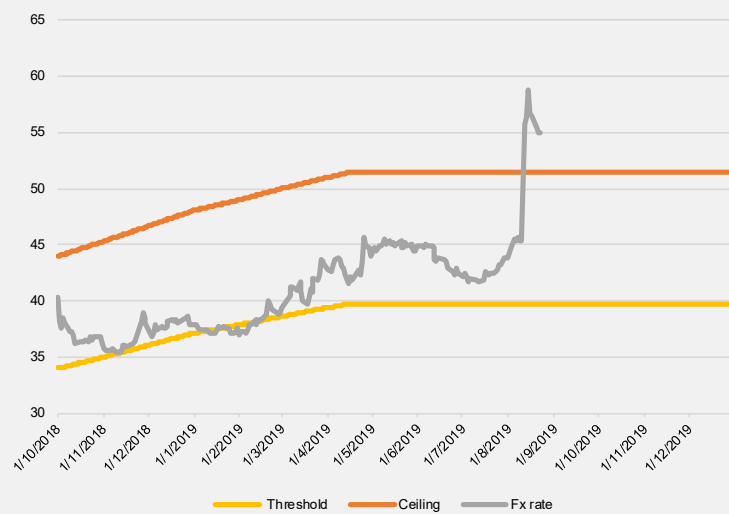
Post-PASO uncertainty	04
What is the change in the automotive industry about?	09
Provincial revenue	10
The global economy has become much more energy efficient. But is there room for further improvements?	15
Monitors	16
Table of indicators	17
Our services. Contacts	18

# Tracking

## Post-PASO uncertainty



GRAPHIC 1  
Nominal exchange rate



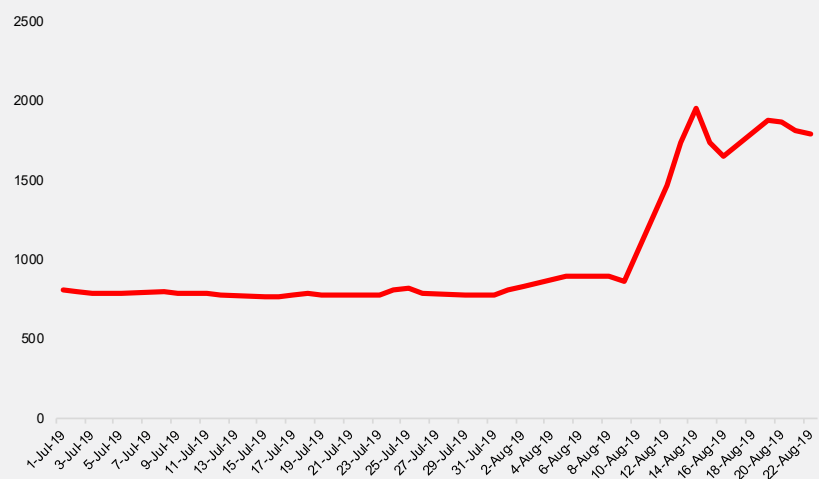
Source: Prepared by the authors based on the Central Bank of Argentina statistics

The outcome of the primary elections held on August 11 was unexpected due to the large difference of votes between the two main candidates. This unexpected outcome has heavily hit Argentina's weak macroeconomic balances, generating more devaluation and uncertainty.

Until Friday, August 9, publicly known polls had predicted certain parity between the candidate of the opposition, led by Frente de Todos, and the official party's candidate, although with a slight edge of the former. This was the most likely outcome regarding the main candidates. Based upon this premise, it was expected that after the weekend of the primary elections, the weak macroeconomic balances and the consecutive months of deceleration in inflation rate would continue, and in September, and especially, October, variables would change (facing the elections in the last week of October).

However, the unannounced outcome of the PASO has triggered the contained volatility of Argentina's economic balance. In a single day, the peso devaluated by 22.7%, the S&P Merval index in pesos dropped 37.93% and the country risk grew from 872 basis points to 1,467 basis points.

GRAPHIC 2  
Country Risk - EMBI



Source: Prepared by the authors based on financial information sources

In this context, strong devaluation and exchange rate volatility were denoted mainly by political uncertainty and less so by economic variables' foundations, which might not correspond to such developments.

Against this backdrop of increasing uncertainty, the picture of monetary variables at July, which can be observed in Table 1, provides us with a general idea of the potential stock of assets in pesos that might put pressure on the exchange rate, in the event of a significant change in portfolio, and modify the current variable levels.

First, in the face of greater uncertainty as to a further devaluation of the peso not covered by interest rates, a portion of the time deposits in pesos of the private sector may take refuge in the

US dollar, thus generating an additional pressure on the foreign exchange market. It must be considered that 70% of time deposits have maturity dates from 30 to 59 days. Further, in a more adverse scenario, certain part of the amount of Argentine currency in circulation, as well as the pesos deposited in current accounts or savings accounts, may take refuge in the US dollar.

As for interest of the public debt in pesos owned by the private sector, which are due in the next months, together with the maturity of treasury bills in pesos that may turn to the foreign exchange market seeking US dollars, on Wednesday 28, the Ministry of Finance announced negotiations of new time periods for these instruments, as investors intentions not to renew

these balances in other instruments are evident. In this way, the government seeks to dispel certain doubts regarding the non-payment of such instruments in the short and medium term, while reducing part of the pressure that the exchange rate may withstand in the case of a change in portfolio.

In turn, private supply has contracted, and would arise mainly from the Central Bank reserves, net of the deposits in dollars of the private sector, Argentina's Swap with China and the maturity date of treasury bills in dollars, whose holders are individuals (i.e., no institutional investors). In this sense, given the stock of reserves, the exchange rate could reach a limit that would be subject to the Central Bank's response in terms of monetary policy regarding the use of such reserves.

TABLE 1

The stock of monetary balances at July, in millions of pesos

MB	Monetary Base Breakdown		Current account + Savings account in pesos			Time deposits and other deposits in pesos			
	Monetary circulation	BCRA's current account	Total	Private Sector	Public Sector	Total	Private Sector	Public Sector	
	1,381,539	906,458	475,081	1,262,248	1,024,603	237,645	1,678,623	1,329,218	349,405

Deposits in US dollars		
Total	Private sector	Public sector
34,378	31,644	2,734

Reserves in dollars 12/8		
Gross	Swap with China	Net
65,736	18,600	47,136

Reserves in US dollars at 8/12
Gross reserves
65,736

Maturity dates of treasury bills at August 14, 2019	Aug-19	Sept-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Jul-20
Millions of pesos	60,648	118,149	-	42,982	-	-	12,031	24,118
Millions of US dollars	2,000	3,104	2,949	2,690	726	1,517	-	-

Source: Prepared by the authors based on statistics from the Central Bank of Argentina and the Ministry of Finance

Taking into account Argentina's recent and past history, which evidences an increasing passing devaluation on to prices, inflation is expected to rise in the following months, thus stopping the deceleration process that had been taking place since March.

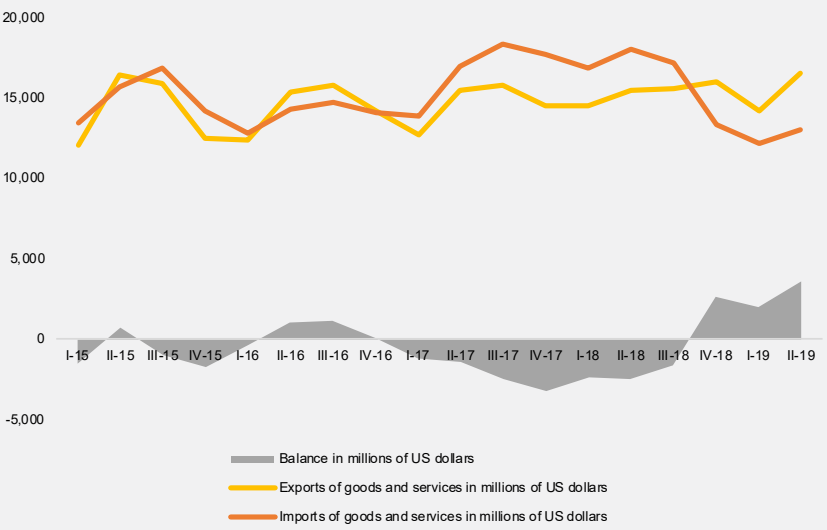
In this adverse context (in which, also, the Ministry of Finance resigned), the government has undertaken short-term measures aiming to reduce exchange rate volatility, control price rises and, at the same time, improve the citizens' available income to limit the drop in consumption.



Measures		Description
Income Tax	<ul style="list-style-type: none"> <li>20% increase in the floor for income tax payments on earnings and special deductions (pensioners and salaried employees - 2 million people).</li> <li>Refund of tax payments already paid in the year.</li> <li>New income tax floor for gross salaries.</li> <li>Self-employed workers will also receive a 50% reduction in payments to AFIP they must pay for the rest of the year.</li> </ul>	<ul style="list-style-type: none"> <li>Some workers will enjoy an extra ARS 2000 pay per month.</li> <li>ARS 12,000 for a married family with two children, with a gross salary of ARS 80,000 per month.</li> <li>It has been raised to ARS 55,376 for a single worker and ARS 70,274 for a worker with a spouse and two children.</li> </ul>
Salaried employees	<ul style="list-style-type: none"> <li>They will not pay workers' contribution (11% of gross income) during September and October.</li> </ul>	<ul style="list-style-type: none"> <li>With a benefit ceiling of ARS 2000. It benefits 6.5 million people and applies to gross incomes lower than ARS 60,000. Government will assume these payments.</li> </ul>
Self-employed workers	<ul style="list-style-type: none"> <li>They will not pay the tax component of September installment, single requirement of paying in due time. 3.1 million people will benefit from it.</li> </ul>	
Informal and unemployed workers	<ul style="list-style-type: none"> <li>ARS 1000 benefit bonuses per child in September and October. It includes 2.2 million fathers and mothers with children under the Universal Child Allowance (AUH).</li> </ul>	
State employees, Armed Forces and other members of the security forces	<ul style="list-style-type: none"> <li>They will receive a ARS 5000 bonus at the end of the month. It benefits 400,000 people.</li> </ul>	
Rise in minimum wage	<ul style="list-style-type: none"> <li>New rise in the minimum wage (final percentage to be defined) 2 million people will benefit from it.</li> </ul>	
SMEs	<ul style="list-style-type: none"> <li>AFIP will launch a plan to help them regularize tax and social security obligations over 10 years (SMEs and self-employed workers).</li> <li>The amount of simultaneous permanent plans for SMEs will be increased (6 to 10).</li> </ul>	<ul style="list-style-type: none"> <li>Overdue debts accrued through August 15 are included, and registration is possible until the end of October.</li> </ul>
Progresar scholarship program	<ul style="list-style-type: none"> <li>40% rise as from September.</li> </ul>	<ul style="list-style-type: none"> <li>First-year student of tertiary or university level will obtain ARS 2,520, and senior students ARS 6,440. Benefit for half million teenagers.</li> </ul>
Oil and Fuel	<ul style="list-style-type: none"> <li>90-days freeze.</li> </ul>	
0% VAT on basic food products	<ul style="list-style-type: none"> <li>Effective as from August 16 for 13 food products (Sunflower, corn and mixed oil, rice, sugar, canned fruit, canned vegetables and pulses, cornmeal and wheat flour, eggs, whole and skimmed milk with additives, bread, breadcrumbs and batter, dried pasta, yerba mate, tea and mate tea, whole and skimmed yogurt).</li> </ul>	



**GRAPHIC 3**  
Foreign trade sector



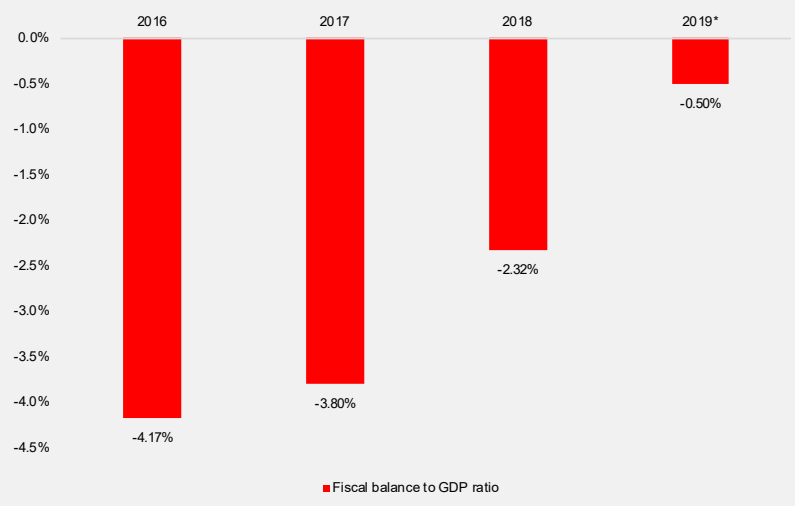
Source: Prepared by the authors based on INDEC official statistics

Apart from this situation of high uncertainty in the short term, by 2020 the real economy will show that part of the fiscal imbalance adjustment (subject to the events of the following months) and the relative prices correction will have been applied (looking ahead, one aspect to consider is the administration of welfare payments that represent more than 50% of primary expenditure and are adjusted based on past inflation). In turn, last-year devaluation allowed the partial adjustment of the foreign trade sector imbalance, and 2019 devaluation will contribute likewise. This has boosted exports to some extent. However, there are still some aspects to be dealt with:

- Prices: August devaluation will have an impact on inflation. Year 2019 will end with higher values than those of 2018. Exchange rate behavior may (or may not) contribute to drive inflation even more. The answer to this question will be known after the new presidential term begins and the fiscal and monetary policies are explained.
- Monetary issues: The increased stock of LELIQs entails a risk of future issuance that will have to be properly managed.
- Fiscal issues: A large portion of current expenditure is indexed, thus making it difficult to obtain fiscal balance, while the financial subsidies are still relatively high (approximately USD 5.0 billion in 2018) and the freeze on some prices, such as fuel, will roll back/ retrace part of the adjustment made to relative prices. It is still uncertain how financing will be obtained onwards.

Debt: While 2020 maturities in foreign currency owned by the private sector reach USD 4.0 billion (without including treasury bills), the repayment of the loan with the IMF should be renegotiated.

**GRAPHIC 4**  
Fiscal sector



Source: Prepared by the authors based on INDEC official statistics  
\*2019 estimate

On August 28, the government stated that it would initiate a voluntary renegotiation process of the short-term maturities of public debt, as well as conversations with the IMF to reach a new agreement (that will be continued by the next administration after the elections).



In view of this situation, and after the PASO outcome, this administration's chances of winning re-election in October have reduced significantly. The measures implemented by the Ministry of Finance to negotiate new time periods of the debt in the short term, as well as to extend the payment of treasury bills, leave some room for the Central Bank's intervention, as it does not erode the stock of reserves. However, as we mentioned above, the decisions that economic agents make and the values the monetary variables will take are almost completely influenced by the high level of uncertainty. In this context, the prospects of navigating through the coming months until general elections take place will depend mostly on the posture adopted by the opposition candidate and the messages he sends as to which the main changes will be in terms of economic policy.



# Industry Roadmap

## What is the change in the automotive industry about?



By Jorge Zabaleta, partner in charge of the automotive industry area at PwC Argentina

**Like many other things in this era, the automotive industry is constantly changing and evolving, which apply both to technological advances intended for vehicles, and to cultural issues of users.**

Today, the automotive industry discusses CASE VEHICLES, which are those that fall into one or more of the following categories:

C	ONNECTED	Connected to the Internet on a reliable and permanent basis
A	UTONOMOUS	Work without a driver
S	HARED	Used by several users who do not know each other
E	LECTRIC	Do not use traditional fuel

All these notions, with varying degrees of evolution, are present in the developments of the automotive industry today, and are constantly redefining themselves.

The notion with the highest degree of development is that of electric vehicles (powered by rechargeable batteries) and hybrid vehicles (powered by 2 engines that work combining a battery powered electric motor and a traditional fuel engine). Vehicle manufacturers have made rapid progress in this development. This technological change must necessarily be accompanied by a change in infrastructure. In addition to filling stations that sell traditional fuel, charging stations for batteries will be necessary. Each country will make progress in this change of infrastructure depending on the number of electric vehicles it has.



Another highly developed notion is that of connectivity. Today we can see countless household utensils that work connected to each other, or all connected to the Internet. The IoT (Internet of Things) has changed life in many aspects. 10 years ago, people who had a StarTac mobile were ahead of their time. Today, any smartphone infinitely exceeds the benefits that StarTac used to offer. The technology used to manufacture vehicles is progressing as well, and in some more developed countries, it is more and more frequent. Soon, this evolution will be present in our vehicles.

Perhaps, the most controversial notion is autonomous vehicles, which are still at the development and testing stage. At present, we must wait a little longer to see as something natural vehicles without a driver in the streets. However, if we think that instrument flying is possible, it is only inevitable to anticipate that this change will also materialize in the short term.

Finally, the notion of car sharing has also evolved rapidly, despite implying a very important cultural change. This same notion has evolved permanently. Everything starts from understanding the very high cost of having a car for private use, considering how much time we use it, and how long it stays parked at home, unused. If we consider the tied-up capital, plus insurance, registration and maintenance costs, among others, it is very likely that we question whether having a car of our own is a good decision compared to using any shared-vehicle alternative (taxi, Uber, public transport, rented car, etc.). Today, in Buenos Aires we can see bikes and scooters for shared use, which we access through an app. That same notion, in other countries, is used to share small vehicles. Shared mobility is growing very rapidly, and will force car manufacturers to focus on lower cost and faster replacement vehicles, and this will lead us, users, to rethink how we will react to this change.

# Zooming

## Provincial revenue

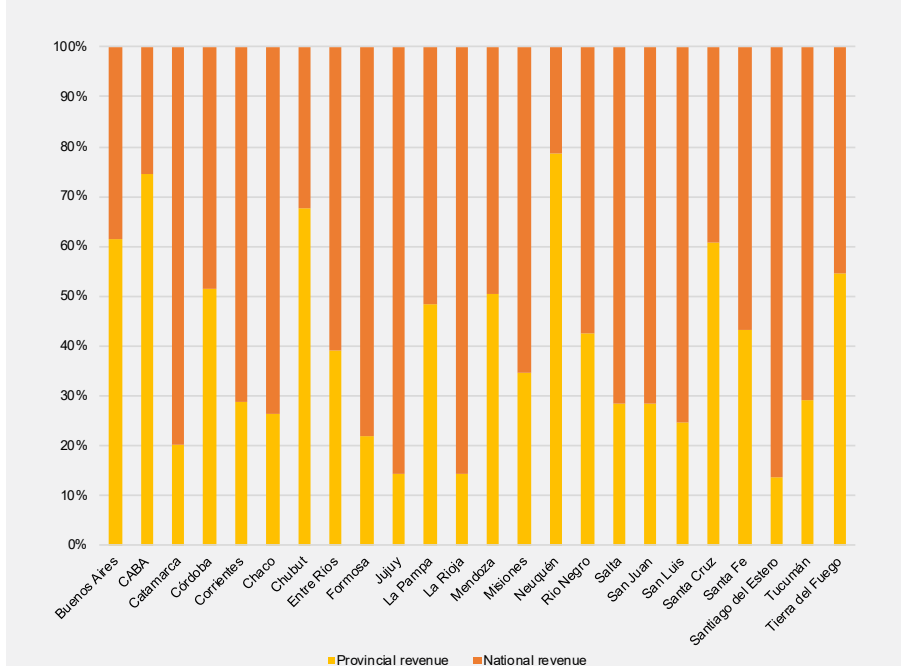


**Argentina has three levels of authority: national, provincial and municipal. The national and provincial authorities have the power to collect revenue, mainly through taxes applied to income, property and consumption. A portion of the taxes collected by the National Government is distributed among the provinces in accordance with the Federal Tax Revenue Sharing Law. This portion makes up the difference between local expenses and local revenue collection, with a great disparity between the provinces.**

In general terms, current public revenue from Argentine provinces is mainly sourced from the collection of revenue at a national level, that is, shared taxes. The national tax structure has a preponderance of indirect taxes, mainly taxes on consumption; and, to a lesser extent, taxes levied on the factors of production, focused on labor income. This generates a regressive tax system. The most common shared taxes are income tax and value added tax. The Nation and the Provinces share 100% and 89%, respectively, of total tax revenue.

GRAPHIC 1

Breakdown of revenue according to source - 2018



Source: Prepared by the authors based on statistics from the Ministry of Finance and the National Bureau of Provincial Affairs

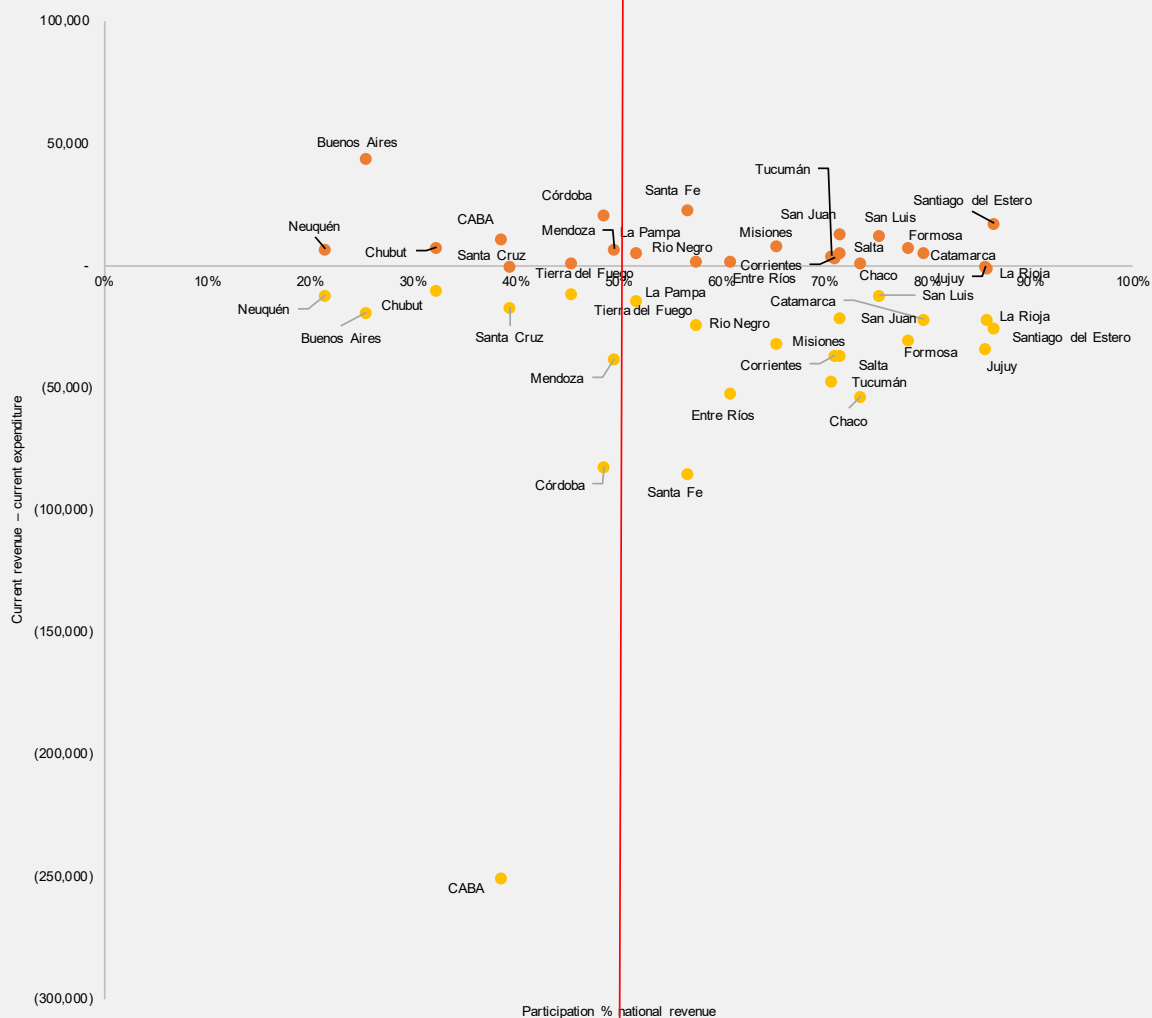
As we can see, for 2018 (and this has been recurrent in prior years) there is a visible disparity in the breakdown of current shared tax revenue among the provinces. For example, La Rioja province receives almost 86% of current national tax revenue, followed by Neuquén with only 21%<sup>1</sup>.

Based on these proportions, it is expected that a great portion of provincial expenses is paid with resources from the national tax sharing. Graphic 2, for example, shows the decisive relevance of shared revenue in the fiscal balance of the provinces. Thus, without considering the shared tax revenue, none of the provinces could defray the current expenses of their administration. Although this can be

expected in a tax sharing system, the provinces should make efforts to collect their own local taxes. As the Provinces have autonomy to make decisions about expenditure, it would be coherent that they devote a similar effort in the funding of those decisions through local taxes, despite the fact that revenue from the tax sharing system make up their differences.

GRAPHIC 2

National revenue share of current total revenue per province, % and proxy for the primary fiscal balance<sup>2</sup> 2018



Source: Prepared by the authors based on statistics from the Ministry of Finance and the National Bureau of Provincial Affairs

<sup>1</sup> A relevant portion of the provincial non-tax revenue comes from royalties. This situation is also present in Chubut, La Pampa, Río Negro, Santa Cruz and Tierra del Fuego.

<sup>2</sup> Excludes capital revenue and expenditure. Only revenue and current expenses.

As noted above, the weight of provincial taxes on total revenue of the provinces varies significantly. These resources come from various sources, and they mainly comprise turnover tax, stamp tax, tax on property and on vehicles.

In the case of the provinces, one of the taxes that carries more weight to collections is turnover tax. On average, it represents almost 75% of provincial revenue, compared to total revenue collected.<sup>3</sup>

As noted, the strong participation of this tax is present in the set of provinces analyzed. Except for Entre Ríos, in which the participation is around 55%, being the province with the lowest quota of this tax compared with total tax revenue.

The contribution of the remaining taxes is similar in all provinces. The contribution of the tax on property ranges from 1.26% in Salta to 9.46% in CABA (City of Buenos Aires), without considering Entre Ríos. The average participation of tax on property of Entre Ríos in the total provincial revenue exceeds 20%.

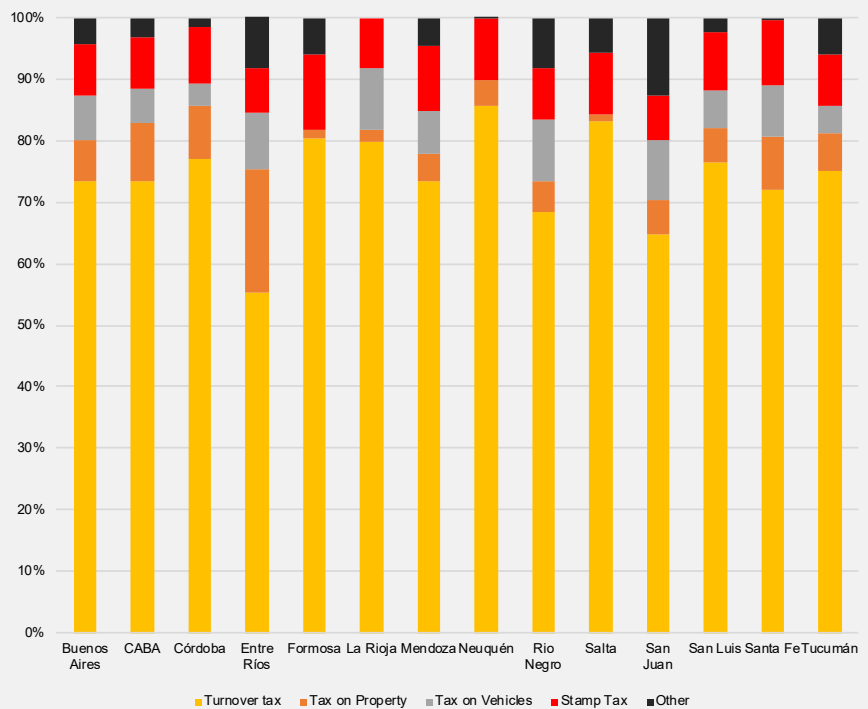
Collection of the tax on vehicles accounts for approximately 6% on average, ranging from 3.5% in Córdoba to 10% in Río Negro. The provinces maintain a similar tax on vehicles contribution. The same happens with the stamp tax, for which the average is around 9%, ranging from 7.04% in San Juan to 12.01% in Formosa.

In addition to these four main taxes, the provinces generate revenue from other sources that are specific to each of them. In general, the participation of these “other taxes” is minimum on the total, although in some of them their contribution is slightly higher. San Juan shares more than 10% of other tax revenue, which includes the Social Welfare (Caja de Acción Social) item, aimed at improving population welfare<sup>4</sup>.



GRAPHIC 3

Average tax revenue share of total revenue, % (2010-2018)



Source: Prepared by the authors based on statistics from tax agencies in each of the provinces.

<sup>3</sup>Taking as reference the 14 provinces that present disaggregated and updated information of the provincial revenue.

<sup>4</sup><http://cas.gob.ar/>

Entre Ríos and Río Negro share around 8%. In Entre Ríos, there is a Social Assistance Integration Fund (Law No. 4035). This Fund is intended for the elderly, mothers and the disabled, and is financed by employers' contributions and withholdings from accrued monthly salaries of employees, workers and other people under an employment contract<sup>5</sup>.

A less noted aspect is that relating to the volatility of provincial tax revenue. If we consider the annual percentage variation (in real terms), turnover tax presents the lower volatility while tax on property is the most volatile. The first one is linked to the economic activity, while the second is mostly associated with wealth, which is somewhat paradoxical. A possible reason for the lower volatility in the turnover tax revenue compared with tax on property is due to the fact that the first one is closely inspected by provincial tax authorities.

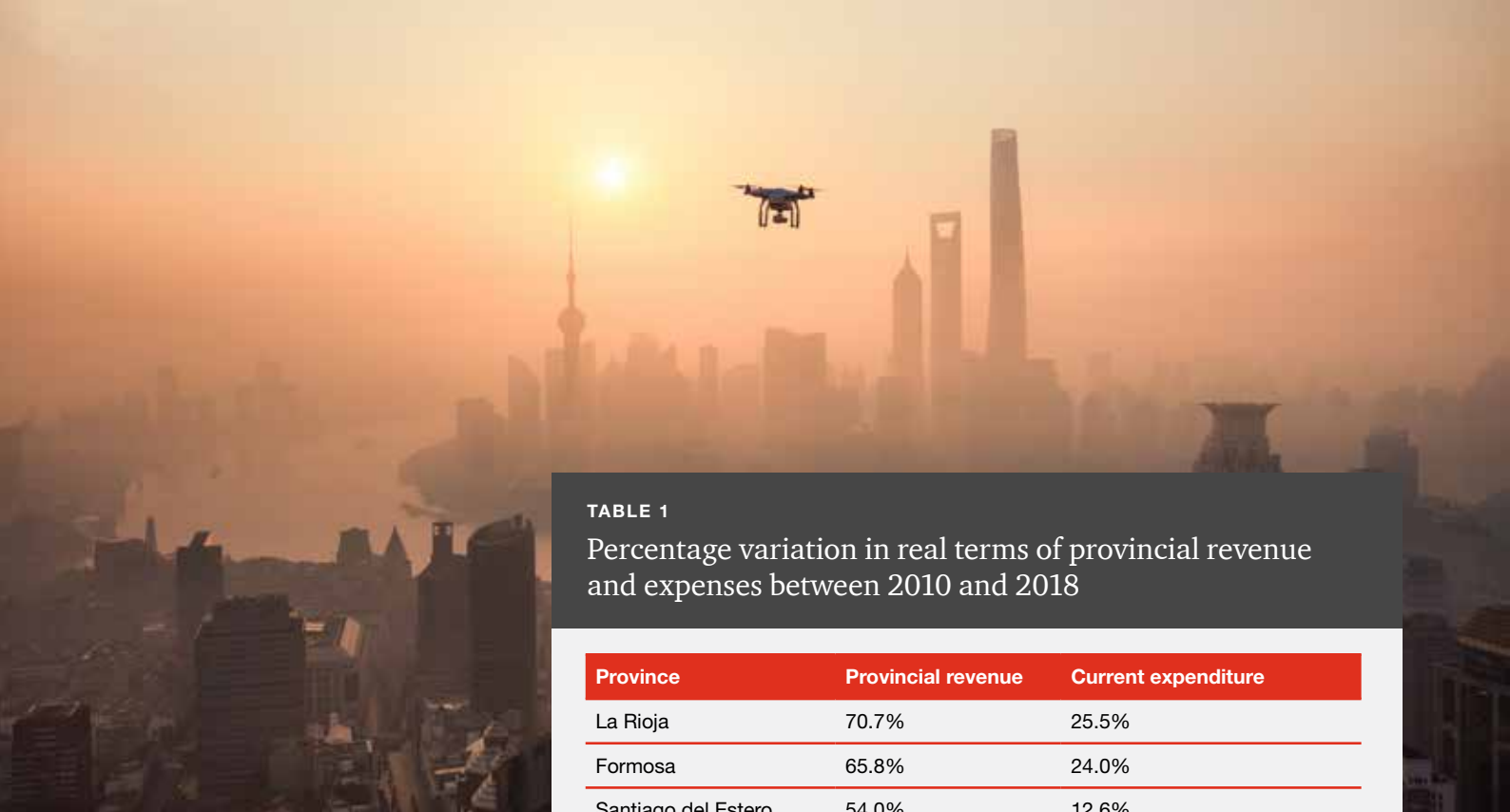
As for tax on vehicles and stamp tax, the average volatility is between the average volatility of turnover tax and tax on property.

As the provinces are heavily dependent on the resources collected by the National Government, having highly volatile local taxes limits the possibility of reducing their dependence on national cash flows and generates uncertainty for the provincial administrations to estimate their flow of income and, therefore, their level of expenditure. However, over the last few years, we may note that, in most cases, this dependence has tended to be reduced as provincial revenue grew faster than public sector expenditure of provinces (measured in relative terms). In this way, in 21 out of 24 Argentine provinces the level of expenditure grew less than the level of local income in the period 2010-2018.

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<sup>5</sup> <http://www.ater.gov.ar/ater2/InfoImpuestos/InfoLey4035.asp>





**TABLE 1**

**Percentage variation in real terms of provincial revenue and expenses between 2010 and 2018**

Province	Provincial revenue	Current expenditure
La Rioja	70.7%	25.5%
Formosa	65.8%	24.0%
Santiago del Estero	54.0%	12.6%
Mendoza	60.8%	31.6%
Río Negro	61.4%	33.7%
San Juan	53.4%	30.3%
Jujuy	54.7%	33.1%
Misiones	62.9%	44.2%
Entre Ríos	46.0%	30.0%
San Luis	40.5%	25.0%
Neuquén	59.7%	45.3%
Chaco	42.9%	30.2%
Córdoba	29.2%	17.4%
CABA	31.2%	19.5%
Tucumán	40.7%	29.2%
Tierra del Fuego	32.6%	21.7%
Corrientes	46.2%	39.9%
La Pampa	20.2%	14.2%
Santa Fe	25.8%	19.9%
Salta	45.4%	39.9%
Santa Cruz	4.7%	4.5%
Catamarca	-1.0%	17.4%
Buenos Aires	32.0%	51.9%
Chubut	7.0%	31.8%

The aforementioned, together with the increase in revenue from shared taxes, has allowed most of the provinces to keep a fiscal balance or obtain surpluses in 2018.

The national public sector has made a significant tax effort over the past years to cut their tax deficit, applying at the same time a tax reform that reduces the total tax burden. In turn, provincial administrations have also tried to improve their fiscal accounts, mainly through an increase in provincial revenue rather than through a reduction of expenditure (which has grown in real terms).

Source: Prepared by the authors based on statistics from the Ministry of Finance and the National Bureau of Provincial Affairs

# Global Coordinates

## The global economy has become much more energy efficient. But is there room for further improvements?

**Energy is a fundamental input for economic growth. However, over time the relationship between energy needs and economic growth have diverged as economies mature. With governments and companies under pressure to promote sustainable development, greater energy efficiency will be essential to maintain economic growth while reducing climate change. But can this downward trend in energy intensity continue?**

Energy intensity is a measure of how much energy is needed to create a unit of GDP. It has been declining over the years. In 1990, it required 181 kg of oil equivalent to produce 1,000 dollars of world GDP in terms of purchasing power parity, while 123 kg were needed in 2015. This means an efficiency improvement of more than a third.

Using projections of total global primary energy demand and those prepared by PwC UK on economic growth, in its report *The world in 2050*, we analyze the trend of energy intensity.

While global energy demand could increase by almost a third between 2017 and 2040, driven by greater prosperity and an increase in population in developing countries, in terms of world GDP it is expected to increase at a faster rate. Compared to the average annual growth of 1% of global energy demand, world GDP would grow by 2.5% annually. As a result, for PwC UK it is possible that the world's energy intensity will be reduced further, reaching a GDP of USD 1,000 with 78 kg of oil equivalent by 2040.

In this sense, governments and companies could reach or exceed this potential, thanks to two key factors: structural economic change and technological progress. When economies mature, they usually move away from the manufacturing of goods and become more service-oriented, typically more energy efficient. Likewise, the development of electronic devices, combined with the increase in electrification, has limited the rise in energy demand that accompanies the growth of the world middle class, allowing efficiency improvements.

Based on evidence, around 85% of the economies have improved their energy efficiency since 1990, with an average drop of around 20%, the greatest improvements taking place in Eastern Europe and Central Asia. Consequently, PwC analyzed the composition of a country's economy and its energy intensity to understand if structural economic change was driving these trends; it turned out that, in general, countries with a great drop in energy intensity also experienced an increase in the significance of services for their economy.

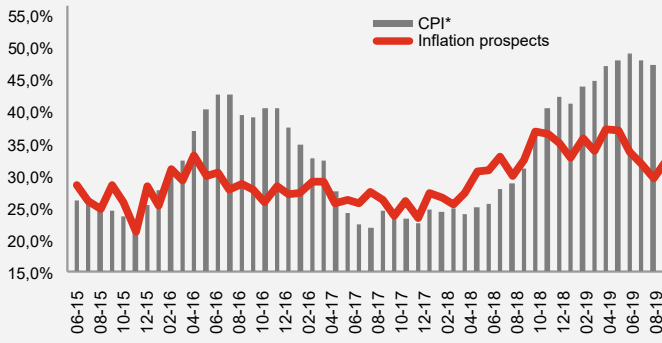
However, a strong relationship between structural economic change and energy intensity would not exist at global level. On the contrary, when we look at regions, there was a relatively strong negative correlation between services as a proportion of GDP and energy intensity in regions of high and middle income. This means that in the richest countries the shift towards services is associated with a lower energy intensity. On the other hand, the negative correlation in emerging countries was very weak.

This income-dependent relationship suggests that structural economic change only has the potential to reduce energy intensity if combined with progress in energy efficiency from another source, such as technology. The richest countries have a greater tendency to invest in technology, and education on climate change is usually more widespread, which means that consumers are more likely to save on energy use. So the performance of these economies in terms of energy intensity is probably explained by a combination of structural change, technological progress and government measures.

The PwC UK analysis also found a positive relationship between manufacturing production as a percentage of GDP and energy intensity. The strength of the correlation varies by region; while in North America and Europe it was high, in Asia it was nonexistent. This implies that manufacturing production is associated with greater energy intensity in countries that no longer have a comparative edge. Conversely, Asia has gained a comparative edge over time and now uses economies of scale to manufacture more efficiently in terms of energy.

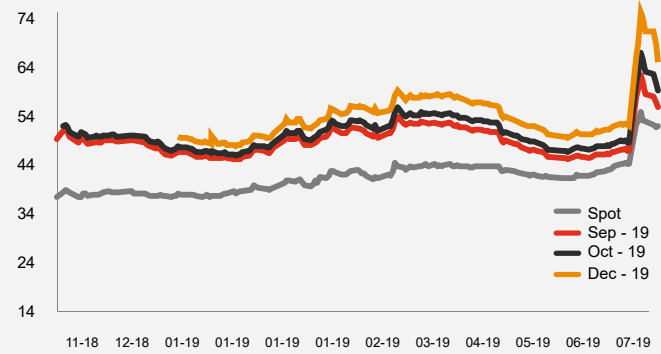
It is also observed that economic growth and energy consumption could diverge even more. This is a positive fact for the world economy, since it indicates that governments and companies may continue applying policies to reduce climate change with a view to limiting energy consumption without hindering economic growth.

## Inflation



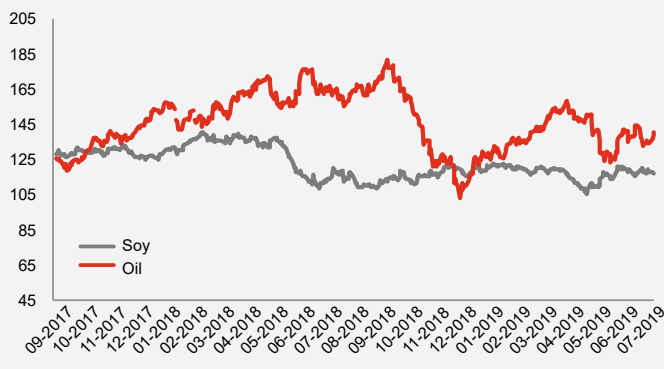
Source: Own calculations based on CPI Congress and UTD  
\*CPI Congress. As of November 2016 it is considered CPI City of Buenos Aires

## Exchange rate: spot and futures



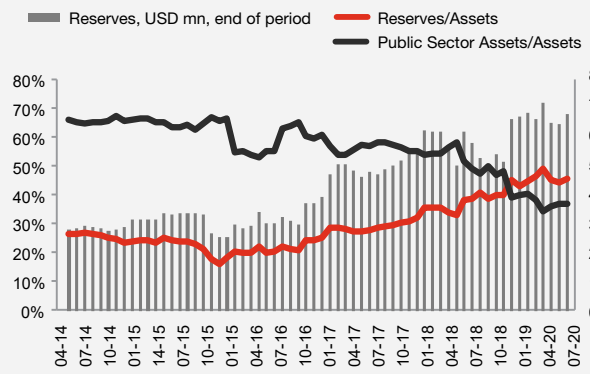
Source: Own calculations based on Refox

## Price of Soy and Oil, index2004=100



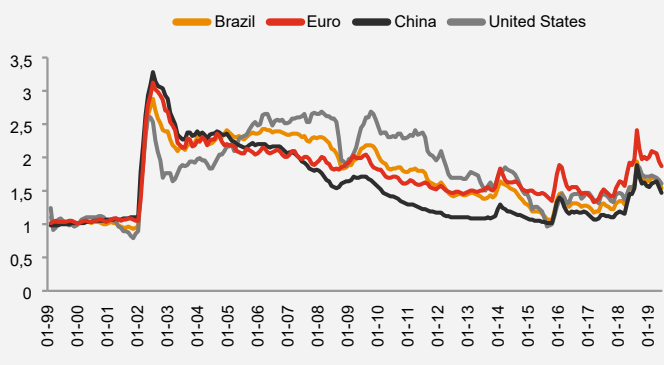
Source: own calculations based on CBOT y WTI NYMEX

## Reserves and Central Bank Assets



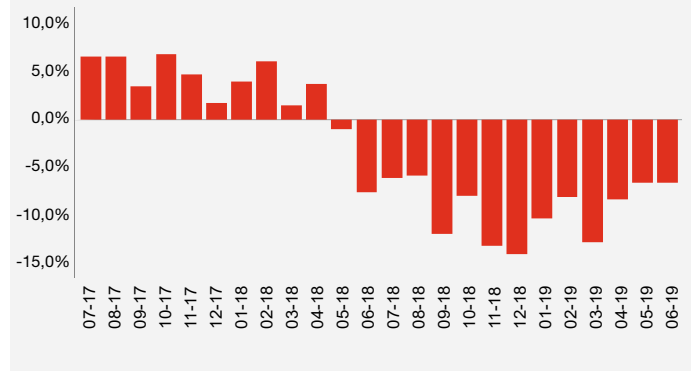
Source: own calculations based on Central Bank

## Real Exchange Rate Index: base Dec-99=1



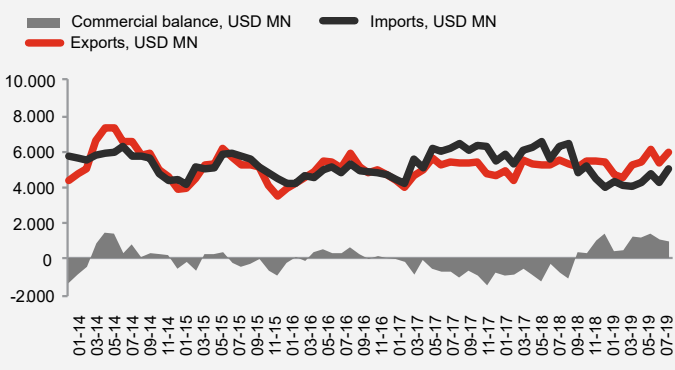
Source: own calculations based on the Argentine Central Bank

## Monthly Industrial Estimator



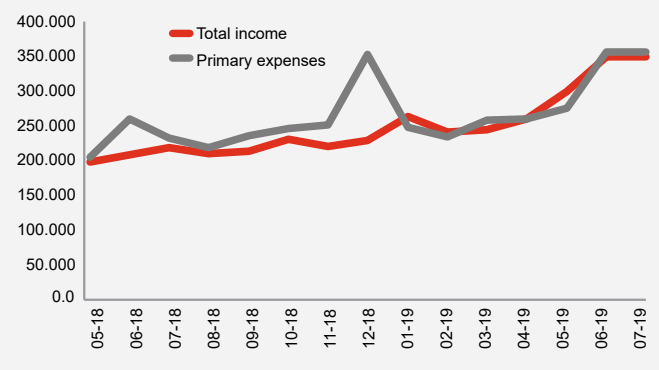
Source: own calculations based on INDEC

## Foreign Trade



Source: own calculations based on INDEC

## Income and Expenses of the National Non-Financial Public Sector



Source: own calculations based on Secretary of Finance



Activity and Prices	2016	2017	2018	Apr-19	May-19	Jun-19	Jul-19
Real GDP, var % y/y	-1.8%	2.7%	-2.5%	-	-	nd	-
CPI Federal Capital, var % y/y	41.0%	26.1%	45.5%	53.4%	54.7%	53.3%	52.6%
CPI San Luis, var % y/y	31.4%	24.3%	50.0%	59.4%	60.9%	58.1%	54.9%
Industrial Production, var % y/y	nd	2.5%	-5.0%	-8.8%	-6.9%	-6.9%	nd
International Reserves (end period, USD mn)	39,308	55,055	65,806	71,663	64,779	64,278	67,899
Import Cover (month of reserves)	8.44	9.87	12.07	17.17	13.95	15.40	13.84
Implicit exchange rate (M0 / Reserves)	20.81	18.34	21.41	19.58	20.94	21.40	19.72
\$/USD, end period	15.85	18.77	37.81	44.01	44.87	42.45	43.87

External Sector	2016	2017	2018	Apr-19	May-19	Jun-19	Jul-19
Exports, USD mn	57,879	58,622	61,620	5,313	6,017	5,235	5,856
Imports, USD mn	55,911	66,930	65,443	4,174	4,644	4,174	4,905
Comercial Balance, USD mn	1,969	-8,308	-3,823	1,139	1,373	1,061	951
Currency liquidation by grain exporters, USD mn	23,910	21,399	20,202	1,915	2,395	2,219	2,254

Labor*	2016	2017	2018	Apr-19	May-19	Jun-19	Jul-19
Unemployment, country (%)	7.6	7.2	9.1	-	-	nd	-
Unemployment, Greater Buenos Aires (%)	8.5	8.4	10.5	-	-	nd	-
Activity rate(%)	45.3	46.4	46.5	-	-	nd	-

Fiscal	2016	2017	2018	Apr-19	May-19	Jun-19	Jul-19
Income, \$mn	2,070,154	2,578,609	3,382,644	357,362	444,250	454,442	450,910
VAT, \$mn	583,217	765,336	1,104,580	117,200	126,173	127,408	131,014
Income tax, \$mn	432,907	555,023	742,052	72,783	129,056	136,854	99,001
Social Security System, \$mn	536,180	704,177	878,379	91,289	90,691	92,133	124,561
Export Tax, \$mn	71,509	66,121	114,160	23,820	38,425	28,223	29,326
Primary expenses, \$mn	1,790,789	2,194,291	2,729,251	260,669	274,649	359,095	350,394
Primary result, \$mn	-343,526	-404,142	-338,987	499	25,974	-6,598	4,293
Primary result, \$mn	185,253	308,048	513,872	78,173	74,473	82,450	100,707
Fiscal results, \$mn	-474,786	-629,050	-727,927	-66,073	-38,634	-67,712	-77,867

Financial - interest rates***	2016	2017	2018	Apr-19	May-19	Jun-19	Jul-19
Badlar - Privates (%)	20.04	23.18	48.57	48.50	52.44	51.05	48.52
Term deposits \$ (30-59d Private banks) (%)	19.51	21.80	46.22	46.18	50.35	49.15	47.01
Mortgages (%)	19.70	18.61	47.70	43.81	56.55	45.50	52.96
Pledge (%)	20.82	17.42	24.88	22.97	23.67	23.19	23.36
Credit Cards (%)	44.45	42.21	61.11	63.29	66.13	67.35	71.64

Commodities****	2016	2017	2018	Apr-19	May-19	Jun-19	Jul-19
Soy (USD/Tn)	362.6	358.9	342.3	324.2	305.3	326.6	325.5
Corn (USD/Tn)	141.1	141.4	145.0	140.8	149.5	171.3	168.1
Wheat (USD/Tn)	160.3	160.2	182.1	165.5	168.2	192.8	186.0
Oil (USD/Barrel)	43.3	50.9	64.9	63.9	60.9	54.7	57.5

\* Quarterly figure. The year corresponds to Q4

\*\* includes intrasector public interest

\*\*\* data 2012/13/14 corresponds to the daily weighted average of December

\*\*\*\* One moth Future contracts, period average

p: provisional

Source: INDEC, Secretary of Finance, Ministry of Economy, BCRA, AFIP, Unión por Todos, CIARA, CBOT, NYMEX

# Our services

Macroeconomic analysis	Sectorial/Quantitative	Litigation	Regulatory
Monthly/quarterly report	Follow up and projection by sector	Support of experts' reports relating to economic matters	Tax benefits
Conferences	Quantification of demand	Dumping	Benefit/price structure
Projections and data	Applied econometrics	Antitrust	Quantification of impacts
	Revenue forecast		
	Surveys		

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