How do macroeconomic variables look post-devaluation?

Wheat - Heading toward a record in production....What is next?

Debt Sustainability

Initiatives and limitations of the Blockchain Technology
If there was any doubt, the new agreement with IMF and the change of chairman at the Central Bank are the upshot of an attempt to gradually adjust macroeconomic imbalances. As mentioned, it is not worth it to do a counterfactual analysis as to whether a gradual adjustment is feasible in Argentina, if Argentine society was or was not willing to put up with a shock economic plan under a different international scenario and without the (mandatory) intervention of government due to market reasons, etc...

The truth is that, at this point, we have a pretty orthodox economic program against inflation: contractive fiscal policy (primary deficit 0%) and a controlling and restrictive monetary policy (nominal growth zero, which due to the inflationary inertia, it will imply a strong real contraction).

Yet, a not so minor task is pending: details of implementation, how to close budget negotiations in Congress, for example, and an issue that is essential considering Argentina’s history: how will this be sustained over time. The coming months will not be easy in terms of the level of activity and likely social conflict, despite having containment programs.

However, let’s not lose our cautious optimism. In recent weeks, with a high degree of volatility, the exchange rate has shown a certain stability and the news should not have a negative impact on it. As long as no one is tempted to artificially speed up the reduction of inflation and increase the level of activity, thus delaying the exchange rate (i.e. maintaining an interest rate level more compatible with the floor cap announced by the BCRA to intervene rather than the ceiling cap), the exchange correction (which has to a large extent already liquefied the excess pesos of the economy) should start to impact not only the export sectors, but the domestic market where they see increased protection against imported production (in this case, as long as the level of activity gradually starts a recovery).

In turn, the financing of the fiscal imbalance by the IMF, together with a greater consistency in the monetary and tax policies (provided that their implementation is ensured) should lead the country risk at the levels prior to the crisis, similar to those of countries in the region, and thus, the private sector could access financing from international markets.

This said, in the summer season, the level of activity could start to benefit from the exchange rate effects on internal tourism and, there being no extraordinary natural events, towards the second quarter of 2019, evidence of a higher level of activity in the agricultural sector should be seen.

Most likely, as mentioned, towards the second or third quarter of 2019, the economy will have returned to a path of recovery of the level of activity, but with a set of relative prices much more favorable for exports and investments.

However, the cost of the crisis will be the postponement or dilation of progress over a series of structural reforms (fiscal, labor and the cost of financing) which enables the economy to gain competitiveness due to genuine increases of productivity -which is what is translated into wealth-, not cyclically have to resort to the crutch of devaluation to get there.

Finally, sooner rather than later we ask ourselves as a society, if in addition to resolving our own urgent matters we think about sustained growth for the years to come. Technological change is extraordinary in magnitude and speed. Blockchain (addressed in the section Global Coordinates) is reframing the context of business and trade. Further, new technologies have given room to the development of new ways of working which are rapidly changing the production processes around the globe, generating opportunities, but also posing challenges that exert pressure on the employment, social protection and education agendas. Argentina ought to start looking in this direction.

José María Segura
Economista Jefe de PwC Argentina
Tracking
How do macroeconomic variables look post-devaluation?

As of August, the exchange rate has devaluated 70% compared with December 2017 and the inflation rate rests at 24.3%. Although it is not possible to know if the sudden correction of the exchange rate is enough or excessive to lead the real exchange rate to a value enabling sustainable balance among financial and external sector variables, given the current scenario, it is possible to measure certain macroeconomic variables in terms of their recent past.

Industry Roadmap
Wheat - Heading toward a record in production...What is next?

In the next harvest, Argentina will attain the biggest wheat harvest in history, with a production that will exceed 20 million tons.

Zooming
Debt Sustainability

We will analyze various sources of financing for the public sector, focusing on the concept of public debt sustainability. After a model proposed by the IMF, we discuss later some hypothetical sustainability scenarios.

Global Coordinates
Initiatives and limitations of the Blockchain Technology

Blockchain is reframing the context of business. However, the lack of trust might hinder any progress in reframing.
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Argentina poses two structural problems regarding sustainability: its fiscal deficit and current account deficit. From a historical viewpoint, over the past 57 years (1961-2017), a financial deficit\(^1\) was recorded for 51 years, primary deficit\(^2\) for 45 and current account deficit for 39. One of the main objectives pursued by the current administration since it took office in December 2015 was that of gradually reducing the fiscal deficit. Obtaining the financing was necessary to be able to attain this progressive decline and cover the surplus of expenses over income. 2017 ended with a primary deficit of 3.8% of the GDP (0.4 percentage points below the initial expected goal) and a financial deficit of 6.7%. The balance of the current account, however, went down another path and grew until it reached 4.9% of the GDP in 2017.

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1 Source: Non-Financial Argentine Public Sector Savings accounts - Investment - Financing 1961 - 2004 Ministry of Economy and Production. Secretary of the Treasury. Undersecretary of Budget National Bureau of Budget Argentine Republic. For the years subsequent to 2004, it related to data prepared by the authors based on the data of the Secretary of the Treasury.

2 Source: Eclac until 2008 and INDEC from that date onwards.
This balance of the current account in 2017 is explained primarily by not only the recovery process of the economy that year and which drove the demand for imports, but was also due to the fact that in 2017 the real exchange rate showed one of the two years with higher appreciation since the exit from Convertibility, (2015 was the other). This path towards appreciation of last year was driven by the dynamics of the inflow of US Dollars through financing to cover financial needs of the tax authorities in its goal of gradual reduction of the tax deficit, which maintained a relatively stable nominal exchange rate in a context of high inflation although with a downward trend.

As mentioned in prior publications, in the first six months of the year 2018 certain external factors occurred (an increase in US interest rates with the consequent global appreciation of the US Dollar, followed by the crisis in Turkey, which led to the outflow of funds of emerging economies) as well as internal factors (strong loss of the soy and corn harvest with impact on the generation of currency, enforcement of the financial income tax for foreign investors and growing doubts as to the sustainability of LEBAC stock of the BCRA) which led to a crisis of trust as regards sustainability of the exchange rate quotation implying a strong devaluation, which in only 8 months from August 2018 -December 2017 accumulated 70%.

This leap in the exchange rate caused us to reach a level of competitiveness, by the end of August1, of a real exchange rate similar to those at the end of 2011 and early 2012. As reference, as at that time the unbalance mentioned was also present, although with other incidence: primary deficit was 1.1% of GDP, financial 3.1% and current account reached 0.24% It is clear that the international context was quite different to the current one, in which the price of soy in 2011/2012 exceeded USD 500 per ton on average, and the existence of export duties represented 10% of the tax income of the federal government.

The counterpart of the real exchange rate is the salary measured in US Dollars. If we consider the average remuneration of stable workers (RIPT) in US Dollars, we may observe that the path of this variable from the exit of convertibility was growing until it reached its first maximum levels in 2012. Then in line with the path of GDP, it started to range showing growth in uneven years and falling in even years (as a result of devaluations in 2014, 2016 and 2018).

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Graphic 3: RIPTE salaries measured in US Dollars and real exchange rate.

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1 Considered an average daily wholesale exchange rate of BCRA, of $ 30.12 per US Dollar.
Up to August, the value of salaries in US Dollars is on average at levels similar to those of early 2011, period prior to that of the balance of the current account starting to show persistent deficit, as seen in graphic 5. Of course, the relationship of these two variables is neither direct nor unique, but when the salary in US dollars recorded its maximum levels towards 2011/2012, the balance of the current account turned negative. This is more evidence of the high-income elasticity of imports in Argentina.

In the light of this new exchange rate, it would be expected that Argentine assets, would become more attractive for investors, as their valuation in foreign currency fell significantly.

If we consider the Merval index, measuring a nominal fixed number of shares of different listed companies (commonly known as "leading companies") measured in US Dollars, it has dropped 48% between January and August 2018. This value, however, must be considered as a reference, as the relationship cannot be considered unequivocal5.

If Argentina would effectively stabilize the financial variables, an issue that seems close at hand, given the level of competitiveness from real devaluation, a new path for the economic recovery within a sustainable framework of the external sector might be possible.

As long as an increase in prices is maintained, avoiding the repeated temptation of achieving it through a monetary policy which lags behind the real exchange rate, the level in US Dollars of assets and salaries in Argentina could give rise to a recovery process based on investments and exports. For this reason, it is essential to attain and maintain a tax balance to avoid the collateral effects of financing through emission (inflation) or debt (insolvency or exchange rate appreciation).

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5 Devaluation may have a very different impact on each listing company, depending on whether it is oriented to exports or not, elasticity of assets produced and, therefore, the net effects of the decline in internal consumption vis-à-vis increasing protection generated by the exchange rate, regulatory framework, etc. In addition, to all these variables, add to this the small local market volume, as well as the impact on the volatility of prices.
In the next harvest, Argentina will attain the biggest wheat harvest in history, with a production that will exceed 20 million tons. Largely due to the rapid response of agricultural producers who, in light of new prices, after the removal of export duties and limitations to exports, increased by more than two million hectares the areas intended for wheat in turn, increasing investment in technology, which -in turn- resulted in a growth of the average yield per hectare.

As for the crop year 2015/16 - the last (one) under the previous regulations, the wheat chain saw a:

- 50% increase in the area sowed.
- 70% growth in the volume produced.
- 43% up in the volume of wheat exported.
- 132% rise in the GDP in the wheat chain - with more than USD 3.6 billion.
- Contribution of more than USD 2 billion of added value to the economy.
- 29% increment in tax revenue, despite the removal of export duties.

The data arise from the Report of the Contribution of the Wheat Chain to the Argentine economy, published by the Grain Exchange, which clearly mentioned favorable changes to the value chain of wheat, after the change of administration with new market regulations.

A prime example of how the implementation of public policies impact development of economic activity, a path taken by almost all developed economies of the world in whatever activity to generate revenue. The role of any Government must be precisely that of identifying bottlenecks in the economy and boost productivity of each sector so that economic players can develop and generate employment, pay taxes and, what is more reach profitability.

This is what happened with the agricultural policy for the wheat chain until the recent exchange crisis, which led the Government to redefine the sector’s rules with the reinstatement of export duties for all production sectors. Nobody doubts that the tax balance must be a priority in any budget of a country like ours to rebuild the trust of creditors and its own inhabitants.

Our country presently faces this dilemma. Attaining a tax balance in the short-term is an urgent issue that requires modification despite the evident good results after implementation of the development policy of this sector of production and a large portion of the interior of Argentina; surely, the future will see change in trends for this sector. Once again, the agricultural sector will be burdened with higher taxes – and shared this time with other production sectors of the economy. One day we will understand that by reducing economic activity, no tax pressure will suffice.
We will analyze various sources of financing for the public sector, focusing on the concept of public debt sustainability. After a model proposed by the IMF, we discuss later some hypothetical sustainability scenarios.

**Budget balance restriction, debt and solvency conditions**

Public sector expenditure is borne by tax revenues; when these are insufficient to cover expenses in their entirety (a deficit), the government must resort to some source of financing for the expenses (either the creation of new taxes or the increase of existing ones). Regarding government deficit, then, we can draw a distinction between primary deficit (current government spending minus revenue) and fiscal deficit including as well any interest on existing debt. 

Regarding government deficit, then, we can draw a distinction between primary deficit (current government spending minus revenue) and fiscal deficit including as well any interest on existing debt. Ordinary sources of financing to which a government can typically have access are the issuance of new debt and seigneurage (the difference between the value of money and the cost to produce and distribute it). This access is not, naturally, unrestricted nor is it permanent; in the final analysis, it must keep to the limits imposed by intertemporal budget constraint. To understand this concept in a simple way, look at the government’s budget balance restriction at a certain moment, based on the following equation:

\[
DEF_{t} + D_{t-1} + \sum_{j=0}^{n} SUP_{Prim_{t+j}} \times (1 + i)^j \geq M_{t} - M_{t-1} + D_{t} + D_{t-1}
\]

where \(SUP_{Prim_{t}}\) is the primary surplus, \(i\) is the interest rate, and \(D\) is the stock of public debt. This equation shows that the higher the interest rate and the greater the initial stock of debt, the higher the primary fiscal effort will be. An alternative method for assessing the sustainability relationship between both variables is to consider the debt/GDP ratio. If we assume that government revenue will increase at a rate similar to that of the growth of the economy, with a given level of expenditure while the debt will increase according to its interest rate, inasmuch as the country’s economy grows at a rate higher than the interest rate incurred when going into debt, the fiscal effort measured as a percentage of GDP will be progressively smaller. If both rates are similar, the debt/GDP ratio tends to remain constant. On the contrary, if the interest rate tends to be higher than the rate of economic growth, the fiscal effort in terms of surplus must be greater, to offset the difference in the speed of growth. In a world that has witnessed deceleration of growth rates on the global scale, and with interest rates expected to trend upwards, the latter seems the most probable scenario.

**Chart 1: Dynamics of debt growth**

\[
d_{t} - d_{t-1} = \frac{(i_{t} - g_{t})}{1 + g_{t}} \times d_{t} - sup_{prim_{t}}
\]

**Variables (share of GDP)**

- \(g\): economy growth rate
- \(i\): interest rate
- \(d\): debt
- Sup prim: primary surplus

Source: Prepared by the authors
At a global level, after the world economic crisis of 2008/2009, with a sharp drop in interest rates, governments were encouraged to take debt, given the potential benefits of issuing instruments that could better absorb macroeconomic shocks. Looking closer at data, we find that average public debt of advanced economies grew from a pre-crisis level of approximately 70% of GDP to over 100% of GDP in 2018. At this level, relatively small macroeconomic shocks, such as a recession, may substantially increase the risks of financing through debt.

In practice, however, this debt/GDP ratio must remain within certain limits to be seen as sustainable by lenders. High debt/GDP ratios may be seen as associated to situations in which government could not take on the payment of interest; this raises the risk premium paid, generating more financial fragility, and could eventually trigger a debt crisis.

A recent paper published by the IMF on limits and structure of public debt introduces a structural model of sovereign default, calibrated on data from country groups with differing fundamentals. The model is based on a function of primary balance reaction combined with the automatic drivers of debt, for instance effective interest rate minus GDP growth, to derive a limit to the debt/GDP ratio. If a country’s debt exceeded this debt limit, default would occur. Further, the model incorporates impacts on growth, exchange rates and the primary fiscal balance. Once the parameters of the model are calibrated, simulations are run to find the debt limit for each country group (Chart 2).

In the case of a country like Argentina, which the IMF classifies as an emerging market, the maximum ratio should be 58% for indebtedness fully stated in foreign currency and up to 98% for indebtedness 100% in local currency. By the end of 2015, the ration was at 52.8% and remained almost unchanged for the subsequent two years and a quarter: 59.3% was recorded in the first quarter of 2018, formed by a mix of currencies.

However, there are various cases of countries with a high ratio debt/GDP which have not shown issues as to sustainability of debt (like Japan with more than 200%) and low-indebtedness countries which have shown debt sustainability issues (such as Chad, around 50%). Therefore, in addition to the mentioned ratio debt/GDP, it is useful to consider other indicators ought to be used to evaluate the solvency of a country. Among the most usual alternatives are:

- Interest payment at maturity/GDP service
- (Principal + interest payment at maturity) / GDP
- Interest payment at maturity/public sector revenue
- Debt / public sector revenue

As disclosed in graphics 2 and 3, the emerging Latin American economies present the highest proportion of expenditure in debt interest as regards their tax revenue and GDP. In the case of Argentina, as a result of its impossibility of accessing the capital markets and the default classification up to early 2016, the proportion of expenditure on interest is much lower than the average of its peers. The rise of this indicator is expected in the coming years, as a result of the financing strategy of the deficit through debt taken on since 2016.

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2 Chad, together with other Sub-Sahara African nations, which are undergoing a debt crisis since 2017.

Furthermore, in the countries in which this proportion of external debt within public debt is very significant, the ability of a country to bring in foreign currency that allows for repayment of debt needs to be taken into account. Thus, another three indicators allow the measurement of the capability for repayment of public debt in foreign currency:

- Debt/exports
- (Principal + interest payment at maturity) / exports
- Interest/exports

Source: Prepared by the authors based upon data from IMF, WEO, April 2018.
**Argentine context**

In the case of Argentina, public accounts have recorded primary deficit since 2010, and financial deficit (that is, including debt interest) since 2009. With access restricted to the international loan market, as the Argentine economy was in default, the former administration opted for the financing of the deficit with seigneurage, bringing about high inflation. In December 2015, when the new administration took office, the primary deficit hit 4% of GDP, whereas the tax deficit was at 7% of GDP.

In view of this scenario, the national government decided to gradually adjust fiscal unbalance, by financing through indebtedness, which was possible due to the decision to agree with the holders of default debt and abandon such status in April 2016. Consequently, the indebtedness level grew gradually: the ratio debt/GDP passed from 52.8% in 2015 to 59.3% in the first quarter of 2018. In turn, the entire debt in foreign currency ranged from 66.9% of the total in 2015 to 69.9% in the first quarter of 2018. Due to the devaluation occurred between May and August, in the draft bill for the 2019 National Budget, an estimate of the ratio debt/GDP will rise to 87% by the end of 2018. However, considering only net debt (without intra-public sector debt), the ratio debt/GDP has increased from 29.4% in 2017 to 52% in 2018, which remains at the levels considered as sustainable for emerging countries. However, given that the debt interest rate is above expectations for economic growth for the years ahead, this ratio debt/GDP must be closely monitored to minimize risk situations or send out alerts.

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3 In the calculation, revenue from BCRA and ANSES are excluded which appear in the account of property income.
4 Data of debt obtained from the Finance Secretary.
5 Estimation obtain from draft Bill of 2019 National Budget.

**Graphic 6: Primary deficit, interest and net debt (% of GDP)**

Global Coordinates

Initiatives and limitations of the Blockchain Technology

Blockchain is reframing the context of business. However, the lack of trust might hinder any progress in reframing.

It is evident that, as a distributed and safe ledger, a well-designed blockchain does not only eliminate intermediaries, reduces costs and increases speed and scope, but also offers more transparency and traceability for many business processes.

The recent survey conducted by PwC\(^1\) disclosed that 84% of the executives interviewed have at least one initiative related to blockchain technology, among which 10% reported on the existence of a pilot for blockchain implementation under way; 15% has it fully in operation; almost 32%, one-third, have projects for development; 20%, or one-fifth, is in the investigatory stage; whereas 7% have implementation on hold.

Plenty of hints suggest that blockchain is changing the business scenario. Among the most significant changes are the expansion of tokenization\(^2\) to raw materials, finished products, income-producing securities, membership rights and others; the initial offers of several currencies in which a company sells a pre-defined number of digital tokens to the public is altering the classic alternative of funding through debt/capital; corporate software platforms are the driver of a company’s operations, such as finance, human resources and management of relationships with customers; the appearance of new industry leaders where the surveyed executives - despite recognizing the initial supremacy of the financial services developments in blockchain - see potential in other industrial areas such as energy, public utilities and health care.

However, what refrains them from making progress with blockchain technology implementation? Interviewees refer to a lack of trust among users, regulatory uncertainty, and the ability of connecting the network.

The regulatory framework, in general, is yet to be resolved, although many countries have started to study and discuss these issues, especially financial services.

Although blockchain by definition should build trust, reality indicates that companies face security problems in almost every direction. Users must build credibility in this technology. As with any emerging technology, challenges and doubts as to reliability, celerity, security and the future of blockchain exist.

The lack of standardization is an added concern and a possible absence of interaction with other blockchains. Thus, the challenge for this technology is to build trust in the network from a broad framework. As long as advances generate global opportunities, including reduction of costs, greater speed, transparency and traceability, challenges will need to be met to cover the current uncertainty and achieve the desired development facing the future for blockchain.

\(^1\) PwC’s investigation - “Blockchain is here. What’s your next move?” surveyed around 600 executives in 15 countries (Australia, China, Denmark, France, Germany, Hong Kong, India, Italy, Japan, The Netherlands, Singapore, Sweden, United Arab Emirates, United Kingdom, USA). It was based on blockchain, its developments and opinions on its potential application.

\(^2\) Representation of real or virtual assets in a blockchain.
Activity and Prices

<table>
<thead>
<tr>
<th>Activity and Prices</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>may-18</th>
<th>jun-18</th>
<th>jul-18</th>
<th>aug-18</th>
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<tbody>
<tr>
<td>Real GDP, var % y/y</td>
<td>2.6%</td>
<td>-1.8%</td>
<td>2.9%</td>
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<tr>
<td>CPI Federal Capital, var % y/y</td>
<td>26.9%</td>
<td>41.0%</td>
<td>26.1%</td>
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<td>31.0%</td>
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<tr>
<td>CPI San Luis, var % y/y</td>
<td>31.6%</td>
<td>31.4%</td>
<td>24.3%</td>
<td>26.4%</td>
<td>30.2%</td>
<td>32.9%</td>
<td>35.5%</td>
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<tr>
<td>Industrial Production, var % y/y</td>
<td>nd</td>
<td>-4.6%</td>
<td>1.8%</td>
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<td>-5.7%</td>
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<tr>
<td>International Reserves (end period, USD mn)</td>
<td>25,563</td>
<td>39,308</td>
<td>55,055</td>
<td>50,098</td>
<td>61,881</td>
<td>57,996</td>
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<td>Import Cover (month of reserves)</td>
<td>5.10</td>
<td>8.44</td>
<td>9.88</td>
<td>7.77</td>
<td>11.34</td>
<td>9.39</td>
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<td>Implicit exchange rate (M0 / Reserves)</td>
<td>24.41</td>
<td>20.90</td>
<td>18.18</td>
<td>20.37</td>
<td>16.87</td>
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<td>$/USD, end period</td>
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External Sector

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<tr>
<td>Exports, USD mn</td>
<td>56,784</td>
<td>57,879</td>
<td>58,427</td>
<td>5,133</td>
<td>5,099</td>
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<td>Imports, USD mn</td>
<td>60,203</td>
<td>55,911</td>
<td>66,899</td>
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<td>Comercial Balance, USD mn</td>
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<td>-8,472</td>
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<td>Currency liquidation by grain exporters, USD mn</td>
<td>19,953</td>
<td>23,910</td>
<td>21,399</td>
<td>1,940</td>
<td>3,225</td>
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Labor*

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<td>Unemployment, country (%)</td>
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<td>Unemployment, Greater Buenos Aires (%)</td>
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<td>8.5</td>
<td>8.4</td>
<td>-</td>
<td>11.4</td>
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<td>Activity rate(%)</td>
<td>nd</td>
<td>45.3</td>
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Fiscal

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<tr>
<td>Income, $mn</td>
<td>1,537,948</td>
<td>2,070,154</td>
<td>2,578,609</td>
<td>295,421</td>
<td>298,853</td>
<td>293,894</td>
<td>293,418</td>
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<td>VAT, $mn</td>
<td>433,076</td>
<td>583,217</td>
<td>765,336</td>
<td>87,324</td>
<td>92,127</td>
<td>91,454</td>
<td>98,116</td>
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<td>Income tax, $mn</td>
<td>381,463</td>
<td>432,907</td>
<td>555,023</td>
<td>76,419</td>
<td>90,350</td>
<td>59,703</td>
<td>68,701</td>
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<td>Social Security System, $mn</td>
<td>401,045</td>
<td>536,180</td>
<td>704,177</td>
<td>68,602</td>
<td>69,789</td>
<td>89,033</td>
<td>69,916</td>
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<td>Export Tax, $mn</td>
<td>34,822</td>
<td>55,305</td>
<td>69,259</td>
<td>8,576</td>
<td>8,243</td>
<td>9,767</td>
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<td>Primary expenses, $mn</td>
<td>1,427,990</td>
<td>1,790,789</td>
<td>2,194,291</td>
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<td>264,254</td>
<td>230,113</td>
<td>213,504</td>
</tr>
<tr>
<td>Primary result, $mn</td>
<td>-291,660</td>
<td>-343,526</td>
<td>-404,142</td>
<td>-7,818</td>
<td>-56,664</td>
<td>-14,280</td>
<td>-10,356</td>
</tr>
<tr>
<td>Interest, $mn**</td>
<td>120,840</td>
<td>185,253</td>
<td>308,048</td>
<td>27,799</td>
<td>45,382</td>
<td>60,547</td>
<td>6,504</td>
</tr>
<tr>
<td>Fiscal results, $mn</td>
<td>-282,180</td>
<td>-474,786</td>
<td>-569,050</td>
<td>-27,339</td>
<td>-88,866</td>
<td>-62,380</td>
<td>-14,517</td>
</tr>
</tbody>
</table>

Financial - interest rates***

<table>
<thead>
<tr>
<th>Financial - interest rates***</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>may-18</th>
<th>jun-18</th>
<th>jul-18</th>
<th>aug-18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Badlar - Privates (%)</td>
<td>27.54</td>
<td>20.04</td>
<td>23.18</td>
<td>28.09</td>
<td>30.44</td>
<td>34.39</td>
<td>35.15</td>
</tr>
<tr>
<td>Term deposits $ (30-59d Private banks) (%)</td>
<td>27.95</td>
<td>19.51</td>
<td>21.80</td>
<td>26.34</td>
<td>28.63</td>
<td>32.60</td>
<td>33.42</td>
</tr>
<tr>
<td>Mortgages (%)</td>
<td>22.85</td>
<td>19.70</td>
<td>18.61</td>
<td>19.62</td>
<td>22.92</td>
<td>30.17</td>
<td>33.95</td>
</tr>
<tr>
<td>Pledge (%)</td>
<td>26.03</td>
<td>20.82</td>
<td>17.42</td>
<td>18.63</td>
<td>21.76</td>
<td>23.62</td>
<td>21.32</td>
</tr>
<tr>
<td>Credit Cards (%)</td>
<td>39.97</td>
<td>44.45</td>
<td>42.21</td>
<td>44.08</td>
<td>44.56</td>
<td>47.22</td>
<td>47.33</td>
</tr>
</tbody>
</table>

Commodities****

<table>
<thead>
<tr>
<th>Commodities****</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>may-18</th>
<th>jun-18</th>
<th>jul-18</th>
<th>aug-18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soy (USD/Tn)</td>
<td>347.3</td>
<td>362.6</td>
<td>358.9</td>
<td>374.8</td>
<td>340.0</td>
<td>312.6</td>
<td>316.7</td>
</tr>
<tr>
<td>Corn (USD/Tn)</td>
<td>148.3</td>
<td>141.1</td>
<td>141.4</td>
<td>156.8</td>
<td>143.6</td>
<td>137.5</td>
<td>141.1</td>
</tr>
<tr>
<td>Wheat (USD/Tn)</td>
<td>186.4</td>
<td>160.3</td>
<td>160.2</td>
<td>189.9</td>
<td>184.0</td>
<td>186.4</td>
<td>197.8</td>
</tr>
<tr>
<td>Oil (USD/Barrel)</td>
<td>48.8</td>
<td>43.3</td>
<td>50.9</td>
<td>70.0</td>
<td>67.3</td>
<td>70.6</td>
<td>67.8</td>
</tr>
</tbody>
</table>

* 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
- Monthly/quarterly report
- Conferences
- Projections and data

Sectorial/Quantitative
- Follow up and projection by sector
- Quantification of demand
- Applied econometrics
- Revenue forecast
- Surveys

Litigation
- Support of experts’ reports relating to economic matters
- Dumping
- Antitrust

Regulatory
- Tax benefits
- Benefit/price structure
- Quantification of impacts

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