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The transition begins

The opposition candidate Alberto Fernández won presidential elections in the first round on October 27. In the eleven weeks following the PASO elections, the increasing uncertainty and high volatility brought about a reduction in the stock of reserves, currency devaluation and rampant inflation, thus leaving the country paralyzed to make decisions in the private sector. Last Sunday's outcome began to clear the uncertainty.

Unlike what happened on previous occasions, the incumbent President admitted defeat and rapidly called on the President-elect to begin the transition. While this is the norm in other countries, Argentina considers it exceptional. In this regard, what appears to be an orderly transition has brought relative calm to the financial markets.

However, these are gestures. Although desirable, just gestures. The short-term challenges the new President will face, which are examined in the Tracking in the current edition, must be met immediately.

As no majority exists in neither of the legislative chambers, there is a balance between Government branches; however, this calls for parliamentary agreements that allow an adequate discussion of key bills to consolidate the country over the long-term.

A handwritten signature in black ink, consisting of a large, stylized 'J' followed by a series of loops and a final flourish.

José María Segura
Chief Economist PwC Argentina



Tracking

The economy the new President will inherit

A new President has been elected for the 2020-2024 period as a result of the elections held on October 27th. The new administration will have to face a complex economic situation, with short- and medium-term challenges.



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Zooming

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The world is facing demographic changes, population ageing and decrease of birth rates, a situation that raises questions about long-term sustainability of social security systems and the fiscal cost that this implies. Argentina is not alien to these problems, as 40% of its fiscal expenditure relates to the payment of social security benefits.



Global Coordinates

Northern Europe and East Asia are the global hotspots for idea creation

At the simplest level, it is ideas that power the global economy. Ideas can lead to the creation of businesses, which generate innovative products and services to sell. The best ones can strengthen competition, increase productivity and, ultimately, raise living standards. From the beginning of the 21st century onwards, the development of new technologies accompanied by governments' investment in research and development, boosted an exponential growth increasing the number of ideas creation.

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Tracking

The economy the new President will inherit

A new President has been elected for the 2020-2024 period after the elections held on October 27th. The new administration will have to face a complex economic situation, with short- and medium-term challenges.

The last quarter of the year has started, and 2020 holds a complex scenario for the new national government administration. Real economy, highly fragile since 2018, worsened in 2019 and promises a challenging future.

The one of the first aspects to address is the monetary and exchange policy. From the primary elections results until October 23rd¹, the Central Bank's stock of reserves decreased USD 20,164 million compared to August 9th (right before the PASO elections); the exchange rate devalued by 30% and the country risk edged above 2,000 basis points (from 871 basis points on August 9th to 2,153 basis points on October 23rd). Given that Argentina is, in fact, an economy with a dual exchange rate system where the population makes transactions in pesos but sets the prices of many of them in dollars, devaluations cause an impact on price levels. This was reflected again in the inflation rate of September, which rose to 5.9%, compared to the previous month, and 53.3% year-on-year.

In this situation, the decision the new administration makes will be key, since a highly inflationary economy produces increasing distortions of relative prices, affects investment/production decisions and raises the number of poor people,

in a context in which around 35% of the population is below the poverty line.

After the PASO elections, the monetary authority imposed exchange restrictions on the purchase of foreign currency, especially for legal entities. However, given the continuous draining of reserves and drop in deposits in US dollars, restrictions were tightened after the result of the presidential elections on the last Sunday in October. In particular, individuals who until October 25th could buy USD 10,000 per month, can only buy USD 200 per month through a bank account and USD 100 in cash from October 28th until the President-elect takes office. Additionally, to withdraw cash abroad, dollars must be deposited previously in a bank account in foreign currency in Argentina.

Another challenge the new administration will face is how to handle the public debt. According to the latest information available published by the Ministry of Finance, and adjusting the values in pesos published in foreign currency at June 2019 at the exchange rates estimated by the IMF for 2020-2024, the maturity profile of principal plus interest (without considering the Treasury bills issued this year and falling due in 2020² and the Central Bank's temporary advances³) is around 8.2%, 7.7%, 9.2% 7.2% and 4.5% of GDP⁴ in dollars for the next five years (2020-2024).

The payments of the debts falling due have, *a priori*, two sources of financing:

fiscal surplus and/or roll-over (i.e., refinancing). However, in a context with no access to the voluntary debt market -as is the case in Argentina-, the second alternative is limited and options must be supported on the first source. The possibility of not reaching a surplus is high, considering a scenario in which 63% of public expenditure consists of welfare payments, 84% of which is indexed to past inflation to ensure a real positive growth when inflation starts to slow down. Another issue that casts doubt as to reaching fiscal surplus is associated to public utility tariffs since, if the accumulated devaluation of peso against the US dollar is not passed on to tariffs, they will have to be subsidized, with a further impact on current expenditure of the public sector.

In this context, it is possible that taxes increase or new taxes are implemented to finance the gap and obtain additional fiscal resources. Some of the alternatives that could easily contribute to such goal are the rise in export duties or a special wealth tax, among others.

If we analyze the period from 2004 to 2015, total withholding tax on exports represented 2.2% of GDP, reaching peaks of 3.1% in 2008. Taking into account the forecast value of GDP published by the IMF for the next years, and the expected level of exports, in order to reach revenue from export duties equivalent to 3.1% of GDP, it would be necessary to levy taxes on total exports at a 18% tax rate (in 2018, they represented 0.78% of GDP).

¹ Latest information available when preparing this report.

² Treasury bills in pesos falling due in 2020: ARS 118,256 million. Treasury bills in dollars falling due in 2020: USD 2,793 million.

³ The temporary advances in pesos valued at the exchange rate estimated for 2020 amount to USD 3,151 million.

⁴ IMF estimate, WEO, October 2019.



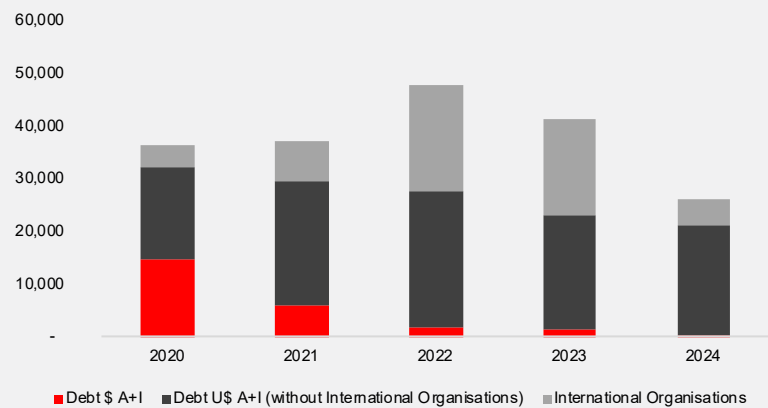
In any case, even under these circumstances, and considering a special wealth tax reported in the last tax settlement plan of 2017⁵, the surplus thus achieved would allow paying interest on the debt in full and only part of principal for the years 2020 to 2023⁶. Therefore, in a context of no access to capital markets, it is necessary to renegotiate the conditions of the public sector debt.

Finally, but not less important, it is real economy. From August 2019, the activity suffered an accumulated 2.3% drop. Most of the sectors that fuel it are seriously affected by devaluation, high inflation, soaring interest rates and downward domestic consumption.

Consumption, representing more than 70% of GDP, plummeted 8.8% in the first half of the year. In addition, leading indicators with more recent information report a continuous fall in the third quarter of the year. In the July-August period, sales in supermarkets, wholesale self-service and shopping centers experienced an accumulated drop of 10.1%, 12.8% and 8.4% in constant terms, respectively. As for durable goods consumption, there are decreases as well: automobile registration contracted 30% in the July-September quarter, compared to the same period in 2018 and accumulated a 45% drop in the first nine months of the year.

GRAPHIC 1

Debt maturity profile in millions of USD



Source: Prepared by the authors based on information from the Social Security Statistics Bulletin (Ministry of Labor, Employment and Social Security)

CHART 1

Indicators as a GDP percentage in US dollars

	2020	2021	2022	2023	2024
Debt maturity/GDP	8.2%	7.7%	9.2%	7.4%	4.5%
Primary balance/GDP ⁷	1.10%	0.52%	0.70%	1.12%	1.16%
Difference to be refinanced	7.14%	7.22%	8.55%	6.30%	3.36%
Primary balance plus export duties at 18%/GDP	3.42%	3.33%	3.13%	3.02%	2.99%
Difference to be refinanced	3.72%	3.89%	5.42%	3.28%	0.37%

Source: Prepared by the authors based on statistics from the Ministry of Finance and IMF WEO, October 2019

⁵ USD 125,000 million approximately.

⁶ Without considering the payment to international credit agencies.

⁷ IMF estimate, WEO October 2019.

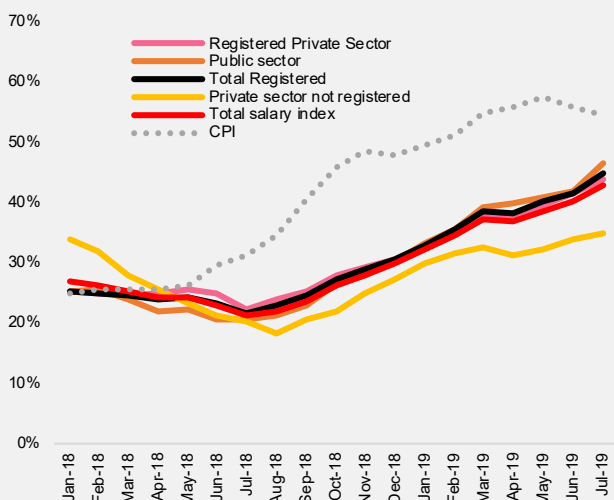
The fall in consumption takes place in an inflationary context in which wages have lost their purchasing power, as shown in graphic 2. Wages have increased below the inflation rate since mid-last year, in addition to the higher unemployment that, according to the last INDEC statistics, reached 10.6%. Additionally, families are increasingly in default, which indicates that consumption recovery will be even slower as they do not have access to credit.

Local production also faces a complex situation. The industry, which is the sector that employs more workforce, experienced a cumulative 8.1% drop in the first nine months of the year, compared to the same period in 2018, with sub-sectors exceeding double-digit decreases. The construction sector is also declining, accumulating an 8% contraction in the same period. The farming sector, which has grown at a year-on-year double-digit rate between March and July, showing a 7% increase in August, is an exception.

Argentina's macroeconomic situation is complex. Now that the political uncertainty has been cleared after the presidential elections, it is necessary to start addressing the most pressing issues. Furthermore, even if it will take a few months, a robust and successful macroeconomic stabilization plan could start showing values of positive growth quite fast, compared to the initial level.

GRAPHIC 2

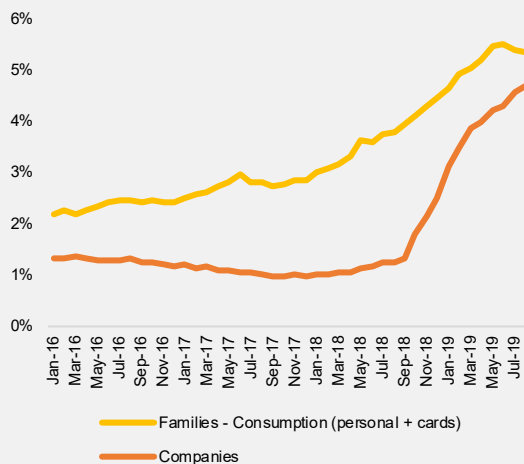
Year-on-year variation in wages index and CPI



Source: Prepared by the authors based on INDEC official statistics

GRAPHIC 3

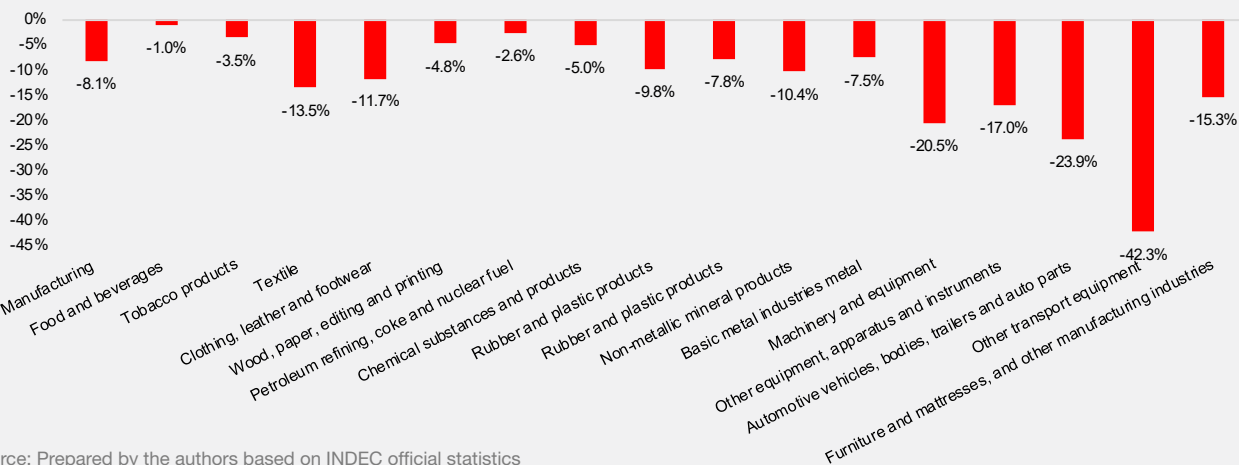
Non-performing loans to the private sector (Non-performing loan portfolio/Total financing (%))



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

GRAPHIC 4

Cumulative year-on-year variation, 8 months of the industrial production index



Source: Prepared by the authors based on INDEC official statistics

Industry Roadmap

Paradigm shift: Deplastifying organizations



Diego López, PwC Argentina partner specialist in sustainability

Plastic has become a very important element in our lives; we use it practically every day, although we are not aware of the impact it causes.

Plastic in general, but especially single-use plastic (produced for its disposal after use), is a material that appeared as a solution to many problems of industry and of daily life, offering simplicity and practicality. It is cheap, easy to produce, light-weight for transportation, and adaptable to packing almost anything. However, it is important to understand that the way in which we use and deal with plastic creates a serious impact on the environment and our health.

To address these concerns in business organizations, it is essential to have a comprehensive plan for reducing/eliminating single-use plastic, underpinned by these pillars:

- Initial diagnosis: knowledge of the company activities and findings about use and disposal of this material. Measurement and assessment is the starting point to plastic waste management.
- Promoting the use of alternative ecologic materials (to replace disposable plastics).
- Improving waste management systems: efficient collection and separation of waste, to ensure recycling whenever possible.
- Measuring and communicating with impact: set performance indicators, measure and communicate the results.
- Awareness-raising about the problem. No such plan could accomplish its objectives unless all the players involved implement it in their daily operation. Here we perceive a growing need for information: everyone of us needs to have data available

to understand the whys and wherefores of the urgency to change our consumption habits. Raising awareness of the issues and presenting alternatives for management will enable further involvement by everyone.

The leaders of developed countries have started to acknowledge the problem and its effects on the environment and our health. At the G20 summit held in Japan last June, there was a call for the international community to share as a common global perspective the "Osaka Blue Ocean Vision", an initiative aimed at reducing additional pollution by marine plastic litter to zero by 2050, through a comprehensive approach that includes implementing improvements to waste management and innovative solutions to avoid plastics usage.

Last March, the European Union approved a ban on single-use plastics as from 2021. As for Argentina, the country is engaged in the search of remedies for this situation: within the City of Buenos Aires, under Resolution No. 341/16 it was decided that as from January 1, 2017 supermarkets, hypermarkets and self-service grocery stores should cease to provide customers with non-biodegradable plastic bags. This Resolution is in line with the purpose of Law No. 1854 on Integrated Management of Urban Solid Waste (known as Zero Waste Law), tending to minimize garbage production in general. Within the framework of this law, it is forbidden to offer single-use plastic drinking straws, or to place them in customers' sight, with a subsequent prohibition of their use, delivery or sale that will become effective in 6 months.

Moreover, there is a bill for discussion at the House of Deputies on minimum budgets for environmental management, that recognizes Extended Producers Responsibility (related to financial management of the waste derived from their products) and provides for the setting up of nation-wide associations that are to prepare and submit a bill on Integral System for Bottling and Packing Waste Management. These bills must ensure the proper mechanisms for collection, storage and transportation of empty containers, as well as adequate techniques for their treatment and final disposal. In addition, the project makes it possible to implement so-called Deposit, Return and Refund systems, as a mechanism to ensure reuse of containers.

Awareness among the various parties involved is growing at increasing speed, and this generates a demand for changes in business and government circles. More and more reasons are encouraging companies to reduce plastic consumption and production and take an active role to confront this problem. Further, the progress in both local and international legislation aimed at regulating or banning utilization of single-use plastics is driving businesses to adopt measures with a view to the future: reducing their plastic consumption, improving their waste management systems and investing in feasible and innovative alternatives to modify their production, packaging and bottling or canning systems, to avoid the cost of fines or penalties.

Zooming

Overview of the structure of the social security system in Argentina

The world is facing demographic changes, population ageing and decrease of birth rates, a situation that raises questions about long-term sustainability of social security systems and the fiscal cost that this implies. Argentina is not alien to these problems, as 40% of its fiscal expenditure relates to the payment of social security benefits.

The phenomenon of population ageing, thanks to advances in medicine and life quality improvements that increase life expectancy, combined with the current

tendency of families to have fewer children, poses the challenge of making a social security system sustainable in the long term. Argentina is currently at an advanced stage of its demographic transition, with its population being one of the most aged in the region. For 2050, it is expected that the population over 60 years of age reaches 23% of total world population, and 34% in 2100¹.

In our country, after the repeal of the individual funded system in 2008, the system in place is a pay-as-you-go

scheme organized on the basis of a mandatory contribution to the SIPA (Argentine Integrated Social Security System) by all active workers, through which a fund is set up to provide for pension and retirement benefits. The overall social security framework includes multiple systems, each covering one or more contingencies; institutions or organizations that may manage more than one system; and national and provincial laws that determine different jurisdictions, among other features.

TABLE 1

Social security system

Social security: covers contingencies relating to old age, disability and death

a. Contributory

i. Systems managed by ANSES (National Social Security Administration)

1. Systems for activities under a labor relationship

- a. General system
- b. Differential systems
- c. Special systems
- d. Provincial Police forces and Prison services transferred to the national sphere
- e. Domestic workers

2. Systems for independent activities

- a. Self-employed workers
- b. Simplified regime (Monotributo)
- c. Social simplified regime

ii. Retirement schemes for Military and Security Forces

iii. Provincial systems for provincial civil servants

iv. Municipal systems for civil servants

v. Provincial systems for independent professionals

vi. Supplementary systems

b. Non-contributory

i. National coverage system: Non-contributory pensions (PNC) and Universal Benefit for Senior Citizens (PUAM)

ii. Provincial coverage systems

Source: Prepared by the authors based on information from the Social Security Statistics Bulletin (Ministry of Labor, Employment and Social Security)

¹ United Nations: World Population Prospects 2019



At present, the Argentine social security system² has a total of 7.9 million beneficiaries³ (6.4 million under the contributory system and 1.5 million under non-contributory system), with an average amount of benefit per person of \$ 20,276⁴.

When we look into the public expenditure on the social security system, we see that in 2018 it reached 41% of current expenditure in the non-financial public sector, while in the case of the provinces that kept their provincial funds it ranged from 11.16% (Entre Ríos) to 23.9% (Santa Cruz). In current values, this means an expense borne by the National Government of \$ 1,291,678 million, 8.8% of GDP, and for the provinces in the aggregate it amounts to \$ 309,431 million, 2% of GDP.



Provincial funds:

Provincial social security systems provide coverage for employees in provincial public administrations and all their agencies. Provincial social security funds operate under the logic of a defined benefit system, with distributions managed and supported financially in full by each provincial government.

Between 1994 and 1997, ten provinces (Catamarca, Jujuy, La Rioja, Mendoza, Río Negro, Salta, San Juan, San Luis, Santiago del Estero and Tucumán) and the City of Buenos Aires transferred their funds for civil servants to the national social security. As for the remaining 13 provincial funds, they are heterogeneous to one another and in respect to the SIPA, as each fund has its own rates for employers' and employees' contributions. In addition, half of these provincial systems have more flexible requirements than the SIPA, such as retirement age and years of contributions.

² Includes systems managed by ANSES, provincial and municipal funds, Military and Security Forces, national security, plus non-contributory pensions and universal child allowance.

³ Note that one person may be included simultaneously in more than one system/sector.

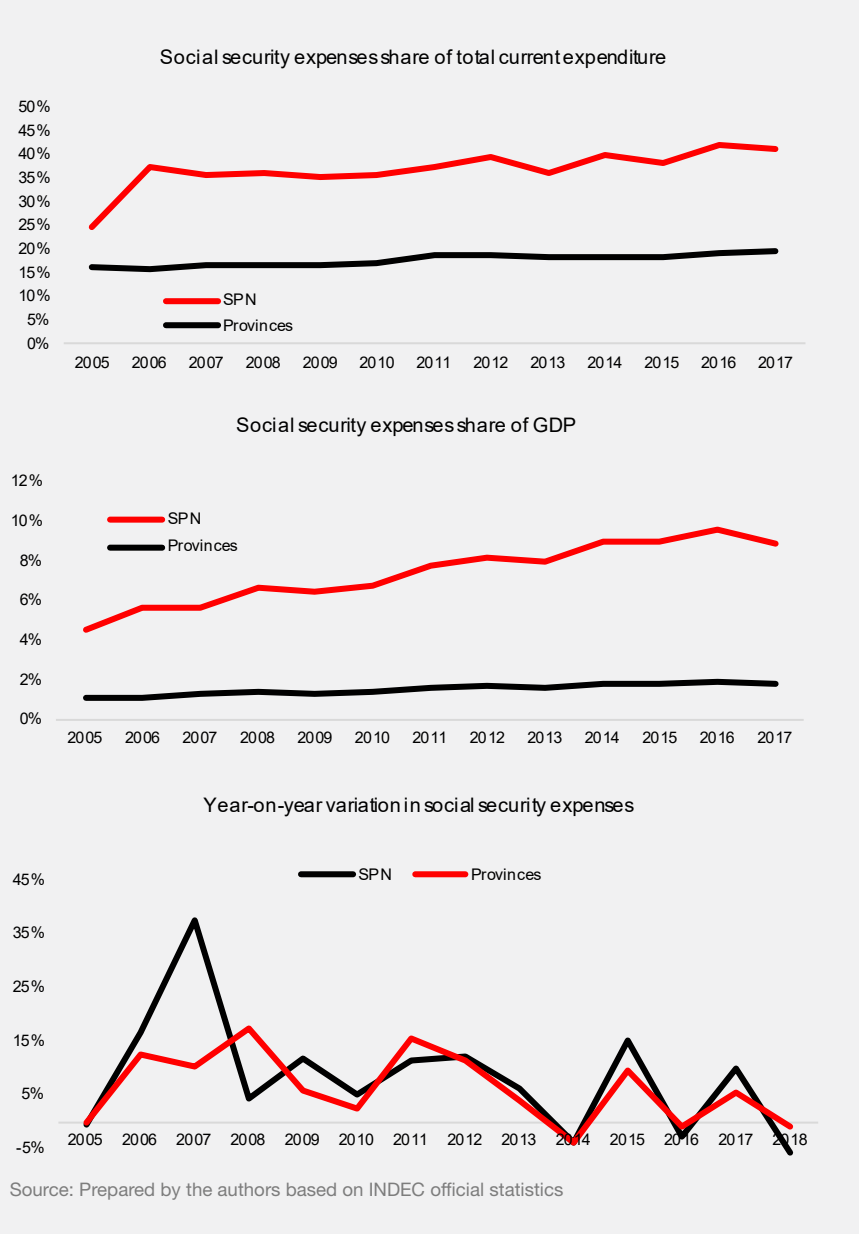
⁴ Social Security Statistics Bulletin, first quarter 2019, Ministry of Labor, Employment and Social Security.

Looking at recent developments, we find that in 2005 and 2014, for the purpose of extending social coverage, a Law on payment-in-installment plan was enacted, so that individuals fulfilling the age requirement for access to retirement benefits could settle their debt with the social security system; further, in 2016 a universal benefit was introduced for individuals that do not comply with the requirements set by regulations to obtain an old-age benefit at the legal retirement age (60 years for women, 65 years for men). The consequence was an increase in the total number of pension and retirement beneficiaries under the SIPA, and of non-contributory pensions. In 2006, 2007 and 2014, social security benefits as per the number of persons increased by 19.57%, 26.24% and 7.41%, respectively. A policy with the objective that more senior citizens could obtain an income is not isolated from the situation elsewhere in the world; nevertheless, there is the question of how can this be sustainable in the long term.



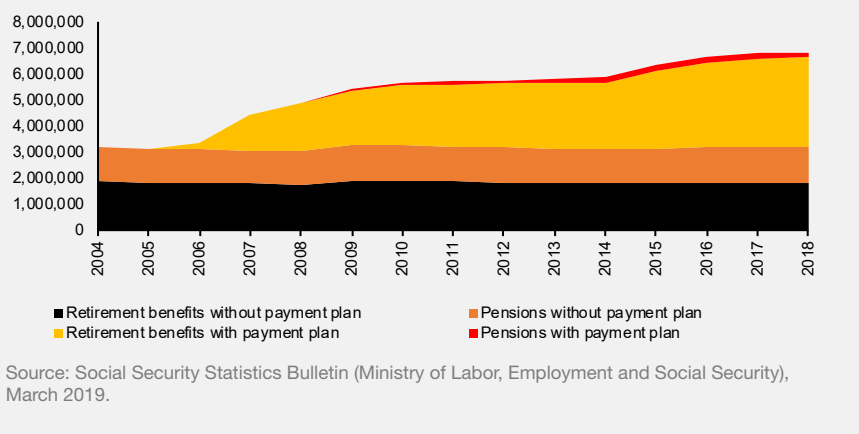
GRAPHIC 1

Indicators of increased share of expenditure in social security benefits



GRAPHIC 2

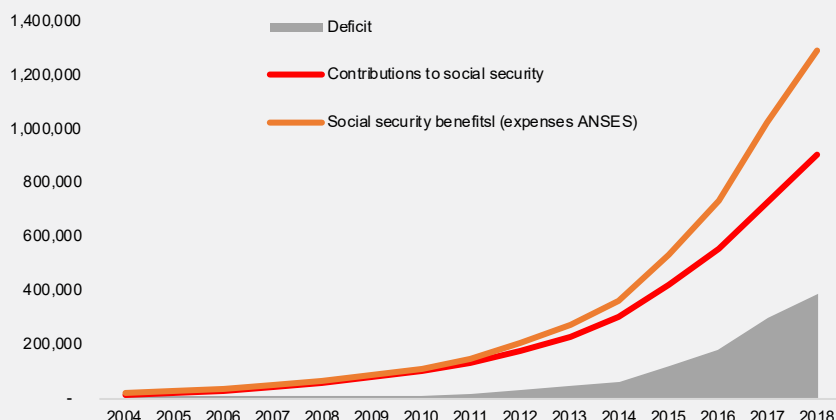
Benefits under the Argentine Integrated Social Security System (2004-2018)





GRAPHIC 3

Income through employees' withholdings and employers' contributions to social security versus social security expenses (National and provincial)



Source: Prepared by the authors based on information from the Social Security Statistics Bulletin (Ministry of Labor, Employment and Social Security) and DNPA Ministry of Economy
 * Starting in 2005 as it is the first year it is available in the source.

As already mentioned, primary financing of social security is based on employees' withholdings and employers' contributions. However, this is not sufficient and thus the system is financed through specific-application taxes and, in the face of deficits, transfers from the National Treasury.

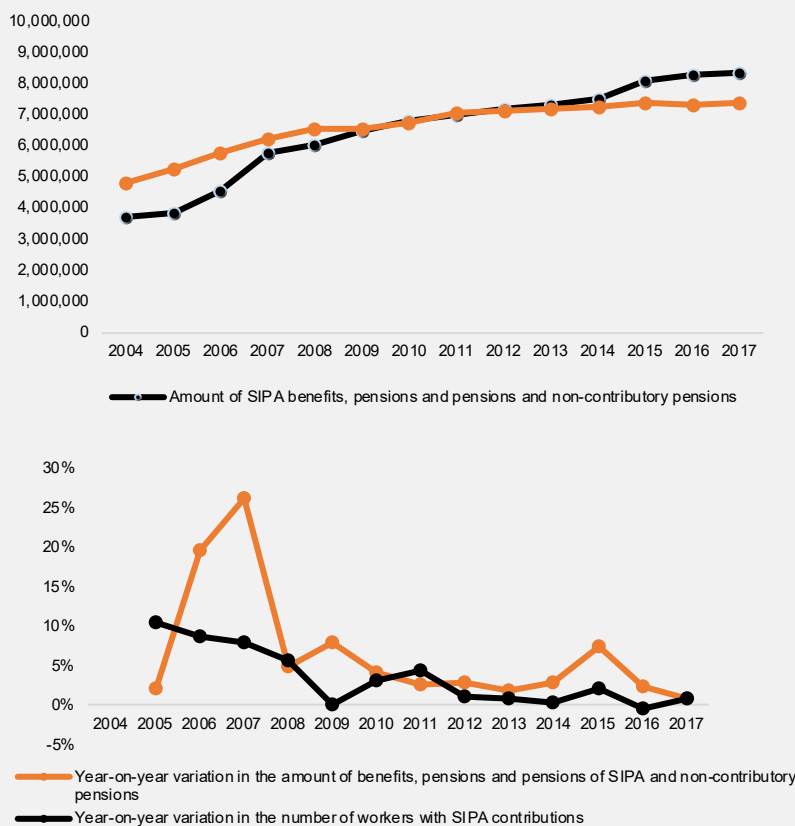
As follows from Graphic 4, the number of non-contributory pensions and retirement benefits shows a greater increase than the number of active workers contributing to the SIPA. This explains one of the reasons of the financing problems of the system, as a lower income from contributions must cover higher benefits.

In a country as Argentina, which one of its main challenges is to find the solution to the chronic primary fiscal deficit, having more than 40% of the expenses intended for social security requires a reform for the system to become sustainable.

In this line, the sustainability problem of the social security system is not of Argentina alone. Not far from here, two of its neighboring countries, Brazil and Chile, even with very different systems (pay-as-you-go system for the first, and fully funded pension plans privately managed, for the second), are discussing social security reforms.

GRAPHIC 4

Number of total retirement benefits and pensions of the SIPA and number of workers contributing to SIPA (2004-2017)⁵



Source: Prepared by the authors based on information from the Social Security Statistics Bulletin (Ministry of Labor, Employment and Social Security)

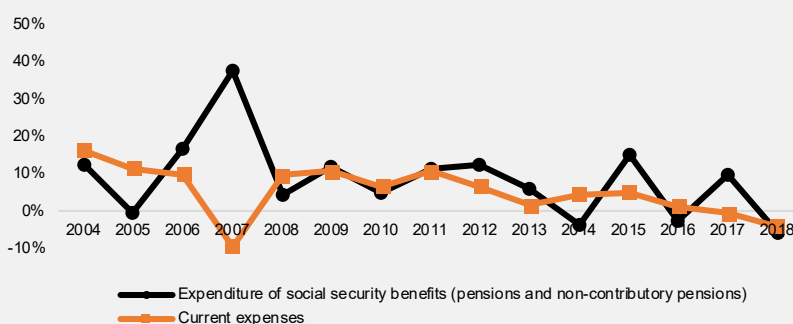
⁵ Lastest information available.

In Brazil, there is a pay-as-you-go system but with two different schemes: one for private sector employees and another for public sector employees. Expenses on pensions amount to approximately one third of total government expenses, with a significant portion attributable to RPPS (Federal Public Officers, including military officers), which account for 4% of GDP on their own, a percentage that covers 1.5% of the population. Furthermore, it is also facing the ageing of population, which combined to the low age of retirement of the current system⁶ generates a growing sustainability issue. The Executive Branch of Brazil submitted early this year a social security reform which was approved by the House of Deputies in July, and the Senate in October. The text approved in this first instance establishes a minimum retirement age of 62 years for women and 65 for men, with a national insurance contribution term of at least 15 and 20 years, respectively.

In turn, in Chile, there is an individual pension fund system, which is mandatory, exclusive and managed by private companies. In that system, deficiencies relating to coverage have been identified as well as a low level of benefits and high tax effects as the proportion of years worked against those recorded is low, therefore, 1 out of 2 members require some type of public financing. In this context, Chile is undergoing a social security reform, where the main changes to be discussed are: an additional social security contribution to be paid by the employer; reincorporation of the Government into the pension system through the creation of a Joint Pension System (SPS, for its acronym in Spanish); a new public institution to guarantee resources to establish universal social security rights; extension of the social security coverage to unprotected groups (young, women and independent workers); and the improvement of the individual pension fund system⁷.

GRÁFICO 5

Year-on-year variation of the Current Expenses and Expenses on Social Security, in real terms (2004-2018)



Source: Prepared by the authors based on the information provided by the Ministry of Economy.

Argentina is experiencing a stage called “demographic bond”, which is the period in which there is more population in the economically active population. The dependency ratio (proportion between dependent population and economically active population) was 54% in 2017 and it will reach its minimum value (52%) in 2030⁸. That is, up to that year the percentage of economically active population will increase until reaching historically high levels, giving rise to increases in savings and aggregate investment. After 2030, the dependent population will grow quicker and the dependency ratio will reach more than 60% by mid 2040. In this line, Argentina has an opportunity to introduce social security and labor reforms relating to this aspect.

Currently, there is consensus as to the need to reform the system, enabling social protection for the elderly population under a system sustainable in time; but not on how this reform should be implemented. Some of the issues to be addressed in this case must necessarily include the discussion as to an increase in the retirement age, especially of women, which could be gradually implemented. Another issue to

be included must be the calculation of the initial pension of future retired people. Given the current fragmentation of the social security system, it is possible to rethink the possibility of eliminating the territorial segmentation as a consequence of the pension funds of provincial civil servants not transferred to the Nation to be able to ensure sustainable systems in time and an equitable treatment throughout the national territory.

Furthermore and closely related to a labor reform, a system must be designed considering contributive benefits proportional to employees’ withholdings and employers’ contributions. Benefits must be adequate to keep incentives, consistent in actuarial terms and sustainable over time, whilst sustaining levels of withholdings and contributions that allow for financing acceptable social security services for the population in the medium and long term.

⁶ The average retirement age for men and women in the system for private employees is 60.3 and 58.3, respectively, whereas in the case of public employees it is lower, as they are governed by special systems. “Summary Note on Pension Reform in Brazil: Why is it Needed and What Will Be its Impact”, World Bank Staff Note, April, 2017.

⁷ “La Reforma Previsional de Chile. Un avance en la Garantía de la Autonomía Económica de las mujeres”, CEPAL, October 2012.

And official website with the changes to the Social Security Reform in Chile <https://www.reformaprevisional.cl/>

⁸ Ageing population and economic challenges for Argentina in the medium and long term. World Bank.

Global Coordinates

Northern Europe and East Asia are the global hotspots for idea creation

At the simplest level, it is ideas that power the global economy. Ideas can lead to the creation of businesses which generate innovative products and services to sell. The best ones can strengthen competition, increase productivity and, ultimately, raise living standards. From the beginning of the 21st century onwards, the development of new technologies accompanied by governments' investment in research and development, boosted an exponential growth increasing the number of ideas creation.

From an early age, children are encouraged to think creatively and come up with new ideas. As adults, these thoughts are fundamental to innovation and productivity, and ultimately raising living standards. Global productivity growth has slowed notably since the 2008 financial crisis, leading to a renewed focus on idea creation among governments. But how successful have these administrations been in fostering innovative economies?

Patent databases are an appropriate proxy for measuring technological innovations, although with some limitations (not all innovations are patentable and not all patentable innovations are patented). According to a report prepared by PwC UK, based on data from the World Intellectual Property Organization, the number of patents granted around the world has more than doubled between 2000 and 2017. Although some of this increase is the result of more stringent recording processes worldwide, it is clear that there has been impressive growth in the creation of patent-worthy ideas.

The world's 20 largest economies recorded over 90% of the patents granted in 2017. China, Japan and the US topped the table in terms of the absolute number of patents granted,

followed by South Korea and a group of European countries. However, we would expect the developed economies with large urban populations to make the largest contribution to idea creation, given economies of scale. A more useful proxy is to compare idea intensity, calculating the number of patents granted per million population. Following the findings of PwC UK, the level of idea intensity is concentrated in two distinct regions: Northern Europe and East Asia. All of the Scandinavian countries (other than Iceland), feature in the list. There is some indication that these regions have specific areas of expertise which may have helped to spur idea intensity.

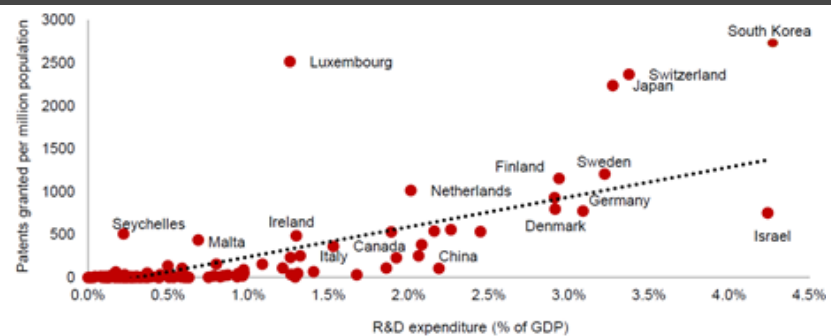
China, South Korea and Japan also rank highly for idea intensity, and there is evidence of specialization here too. Three sectors prevail across the region: computer technology, electrical machinery and digital communication technologies. Growth in the number of patents in these sectors in these three economies has risen rapidly since 2010, averaging 11% a year, compared with 8% in the US. In 2017, China had more patents granted in computer

technologies alone (28,700) than the total number of patents granted to Canada, Australia and Spain combined. How can other economies raise their idea intensity? Higher spending on research and development (R&D) is one potential policy. In fact, there is a strong positive relationship between R&D expenditure and idea intensity, as shown in Figure 1. More than 100 economies are included in this analysis and the resulting correlation coefficient is estimated to be around 0.7, implying that around 70% of a change in a country's idea intensity can be explained by a change in its research and development spending.

A consensus is also beginning to build around the link between innovation and economic growth. For example, Maradana et al (2017) found that for 19 European countries there was a strong long-run relationship between six different indicators of innovation (including patents) and economic growth on a per capita basis. This emphasizes the point that a country's ability to generate new ideas has a meaningful impact on whether it can continue to push up living standards of its residents.

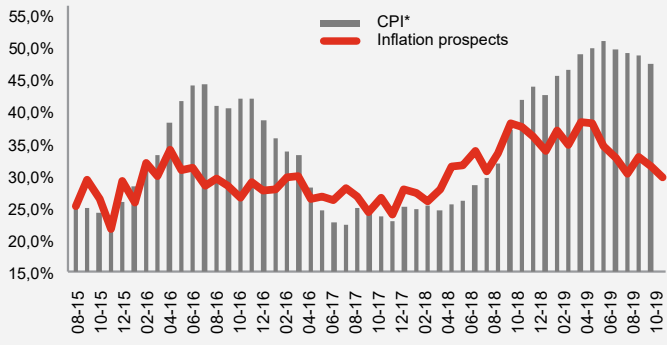
GRAPHIC 1

There is a strong positive correlation between economies that spend a lot on research and development and those that create a wealth of ideas



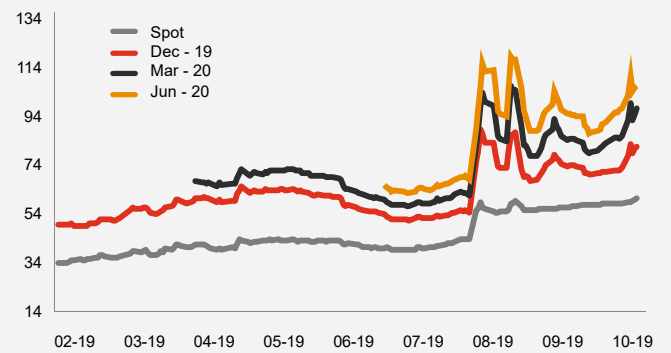
Source: World Intellectual Property Organisation and PwC analysis

Inflation



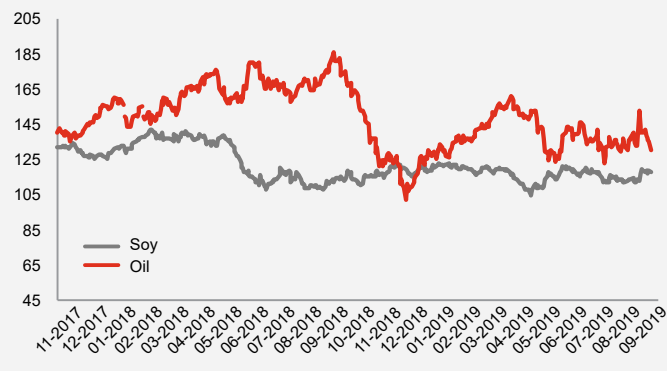
Source: Own calculations based on CPI Congress and UTD
 *CPI Congress. As of November 2016 it is considered CPI City of Buenos Aires

Exchange rate: spot and futures



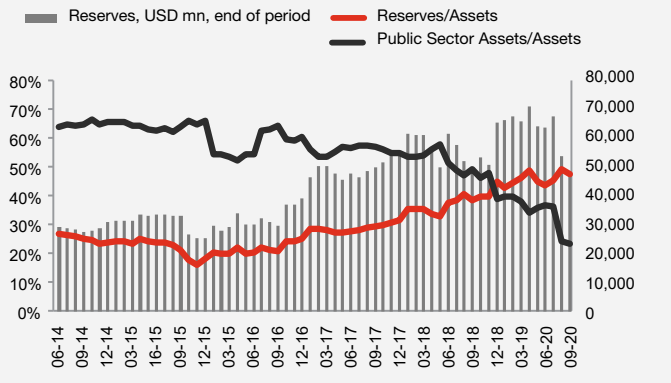
Source: Own calculations based on Rofex

Price of Soy and Oil, index2004=100



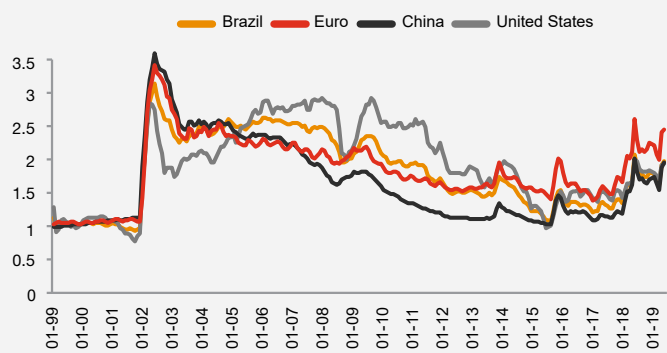
Source: own calculations based on CBOT y WTI NYMEX

Reserves and Central Bank Assets



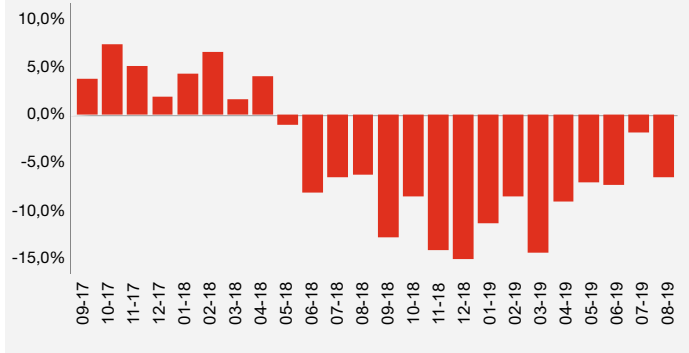
Source: own calculations based on Central Bank of Argentina

Real Exchange Rate Index: base Dec-99=1



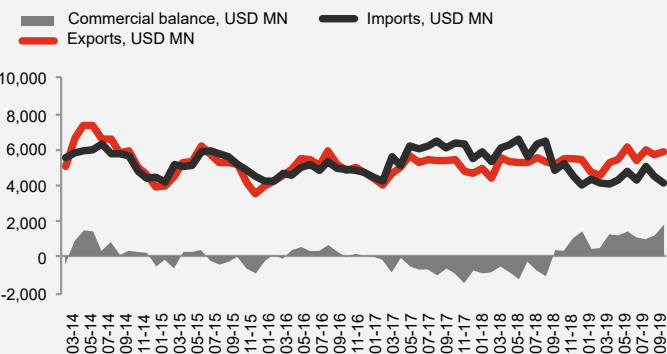
Source: own calculations based on the Central Bank of Argentina

Monthly Industrial Estimator



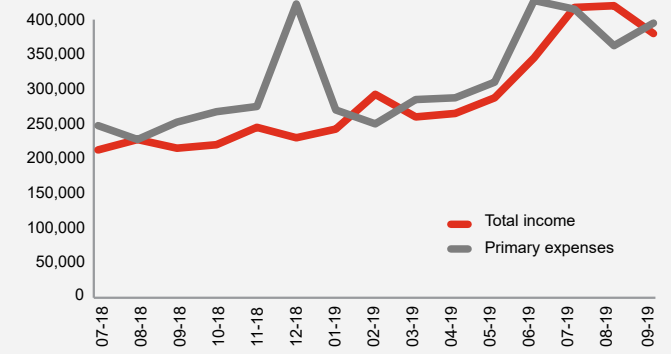
Source: own calculations based on INDEC

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	Jun-19	Jul-19	Aug-19	Sep-19
Real GDP, var % y/y	-1.8%	2.7%	-2.5%	0.6%	-	-	nd
CPI Federal Capital, var % y/y	41.0%	26.1%	45.5%	53.3%	52.6%	52.2%	50.8%
CPI San Luis, var % y/y	31.4%	24.3%	50.0%	58.1%	54.9%	57.1%	54.8%
Industrial Production, var % y/y	nd	2.5%	-5.0%	-7.2%	-1.9%	-1.8%	nd
International Reserves (end period, USD mn)	39,308	55,055	65,806	64,278	67,899	54,100	48,703
Import Cover (month of reserves)	8.44	9.87	12.07	15.40	13.84	12.30	12.17
Implicit exchange rate (M0 / Reserves)	20.81	18.34	21.41	21.40	19.72	23.96	26.90
\$/USD, end period	15.85	18.77	37.81	42.45	43.87	59.08	57.56

External Sector	2016	2017	2018	Jun-19	Jul-19	Aug-19	Sep-19
Exports, USD mn	57,879	58,622	61,620	5,235	5,856	5,568	5,746
Imports, USD mn	55,911	66,930	65,443	4,174	4,905	4,400	4,002
Comercial Balance, USD mn	1,969	-8,308	-3,823	1,061	951	1,168	1,744
Currency liquidation by grain exporters, USD mn	23,910	21,399	20,202	2,219	2,254	2,266	2,094

Labor*	2016	2017	2018	Jun-19	Jul-19	Aug-19	Sep-19
Unemployment, country (%)	7.6	7.2	9.1	10.6	-	-	nd
Unemployment, Greater Buenos Aires (%)	8.5	8.4	10.5	11.9	-	-	nd
Activity rate(%)	45.3	46.4	46.5	47.7	-	-	nd

Fiscal	2016	2017	2018	Jun-19	Jul-19	Aug-19	Sep-19
Income, \$mn	2,070,154	2,578,609	3,382,644	454,442	450,910	458,495	422,012
VAT, \$mn	583,217	765,336	1,104,580	127,408	131,014	141,395	139,170
Income tax, \$mn	432,907	555,023	742,052	136,854	99,001	102,677	83,699
Social Security System, \$mn	536,180	704,177	878,379	92,133	124,561	97,519	88,169
Export Tax, \$mn	71,509	66,121	114,160	28,223	29,326	39,384	32,148
Primary expenses, \$mn	1,790,789	2,194,291	2,729,251	359,095	350,394	308,680	329,076
Primary result, \$mn	-343,526	-404,142	-338,987	-6,598	4,293	13,746	-25,368
Primary result, \$mn	185,253	308,048	513,872	82,480	100,707	30,288	69,973
Fiscal results, \$mn	-474,786	-629,050	-727,927	-67,712	-77,867	-14,798	-76,224

Financial - interest rates***	2016	2017	2018	Jun-19	Jul-19	Aug-19	Sep-19
Badlar - Privates (%)	20.04	23.18	48.57	51.05	48.52	55.17	59.85
Term deposits \$ (30-59d Private banks) (%)	19.51	21.80	46.22	49.15	47.01	52.87	57.71
Mortgages (%)	19.70	18.61	47.70	45.50	52.96	48.39	51.85
Pledge (%)	20.82	17.42	24.88	23.20	23.39	26.73	30.24
Credit Cards (%)	44.45	42.21	61.11	67.35	69.80	70.53	73.17

Commodities****	2016	2017	2018	Jun-19	Jul-19	Aug-19	Sep-19
Soy (USD/Tn)	362.6	358.9	342.3	326.6	325.5	314.6	322.4
Corn (USD/Tn)	141.1	141.4	145.0	171.3	168.1	148.1	142.6
Wheat (USD/Tn)	160.3	160.2	182.1	192.8	186.0	174.7	176.0
Oil (USD/Barrel)	43.3	50.9	64.9	54.7	57.5	54.8	57.0

* 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

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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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