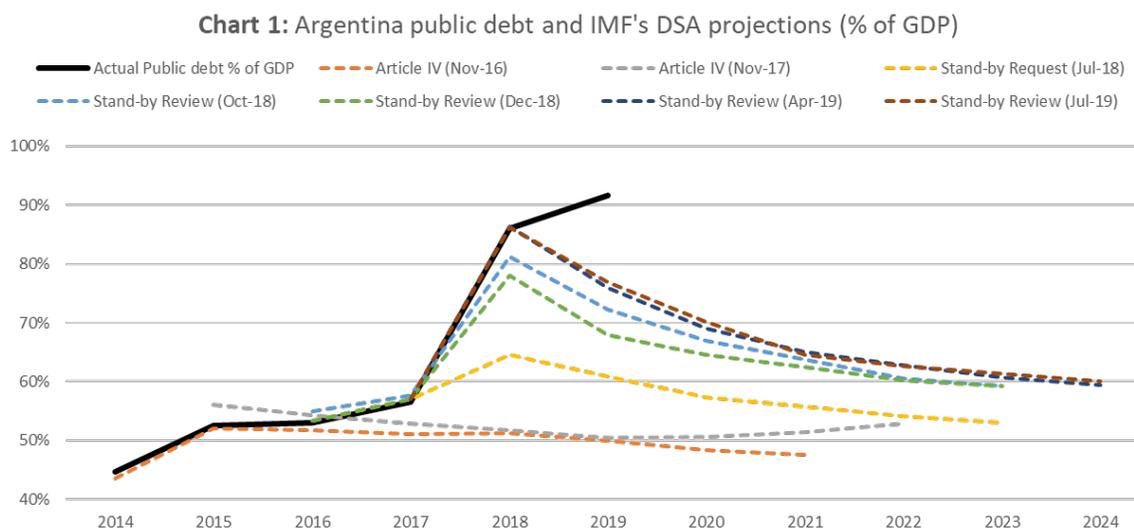


Restructuring under Radical Uncertainty: The Case of Argentina

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One of the key questions facing the Alberto Fernández administration will be what to do with the country's debt. Gross government debt rose to 93% of GDP in 2019, the highest level since its last debt crisis in 2004. Markets have already begun to price in a high probability of a restructuring, with the price of most Argentinian sovereign bonds falling to less than 50 cents on the dollar. At first sight, these numbers suggest an over-indebted economy that will need to pursue an aggressive debt restructuring and extract significant haircuts from creditors in order to restore debt sustainability and have a shot at reestablishing growth. But is this the correct way to think about it? Perhaps not.

Any serious assessment of Argentina's debt sustainability must grapple with the enormous uncertainty that exists regarding the assessment of the economy's capacity to service its debt. Perhaps this uncertainty is nowhere best captured than in the evolution over time of the debt forecasts published as part of the IMF's debt sustainability analysis (Chart 1). Back in 2016, IMF staff expected the debt to GDP ratio to decline from 52% that year to 50% by 2019. Two years later, in 2018, the ratio had risen to 86%. In its last reviews of the stand-by agreement published in July of last year, Fund staff saw the ratio falling to 77% by the end of this year. Yet only three months later, when the 3Q19 statistics came out, it had risen to 92% of GDP. The latest published IMF forecast, published in October of last year, reckons it closed the year at 93%.

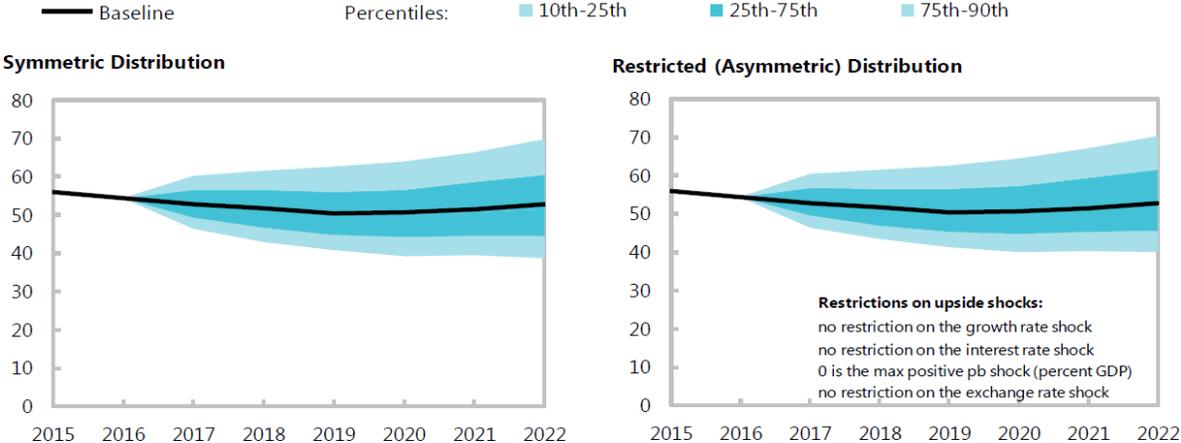


Source: Ministry of Finance and IMF

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Perhaps more strikingly, the deterioration was much worse than anything that had been foreseen in the battery of “stress tests” performed by the organism up to two years ago and used to make a diagnosis of whether there is a high probability that the country’s debt is sustainable. Exhibit 1 shows the probability distributions published by the IMF for the expected evolution of Argentina’s debt to GDP ratio in its 2017 Article IV report. The simulations attributed a less than 10% probability to debt rising above 70% of GDP by 2019. While the IMF does not publish broader confidence intervals than those for the 90th and 10th percentile, the figures suggest that given standard conditions², the estimated probability of ending in a scenario of debt higher than 90% of GDP (where we are now) must have been so low in the estimates of IMF staff so as to be considered negligible.

Exhibit 1: Predictive Densities of Public Debt, 2017 DSA (Gross public debt as % of GDP)



Source: IMF Article IV 2017

The point of this exercise is not to show that the IMF is a bad forecaster, but that there are cases where even teams of very good economists can end up getting forecasts of the debt to GDP ratio of an economy grossly wrong. Although staff reports at the time warned that the economy’s high exposure to foreign currency debt made it sensitive to shocks in the real exchange rate, they also considered a shock of the magnitude that eventually occurred highly improbable. One of the reasons for this was that they considered the real exchange rate to be only modestly overvalued and predicted a continued real appreciation.³

Argentina has not become more indebted over the past two years. It has become poorer. The rise in Argentina’s debt ratio since 2017 has been completely driven by the decline in its GDP measured in foreign currency. Remarkably, Argentina’s total debt has actually fallen from USD 321bn to USD 311bn in this period (foreign currency debt has declined only slightly, going from USD 252bn to USD 250bn). But the country’s GDP in foreign currency has lost nearly half of its value, falling from USD 643bn to USD 340bn in

² Namely, normality of shocks and absence of strong non-linearities.

³ Using a current account regression model, the report estimated overvaluation of 12-15% and cited alternative PPP-based estimates ranging from 5 to 20 percent. The bilateral real exchange rate has depreciated by 33% over the past two years.

the same period. The collapse in GDP is in turn completely driven by a huge depreciation of the real exchange rate, which has lost a third of its value in the past two years.

This large depreciation is not obviously driven by any change in external conditions. Both exports and the country's terms of trade have risen slightly over this period. And while the currency was deemed to be moderately overvalued two years ago, the correction that we saw was much greater than can be accounted for as a correction of that overvaluation. Even more importantly, there is no obvious reason why the moderate overvaluation had to be corrected by a depreciation at this time as opposed to persisting for longer or being corrected by an appreciation of the equilibrium real exchange rate, as the IMF expected two years ago.

The reality, of course, is that changes in the real exchange rate are remarkably hard to predict. Many countries see moderate levels of over- or undervaluation sustained for long periods of time. A scenario in which the country's real exchange rate remained close to its overvalued level for a long period of time would have seemed as probable two years ago as a scenario in which it remains close to its current, presumably undervalued, level for coming years seems to us today.

Argentina's descent into crisis began during two turbulent weeks two years ago. When the Central Bank started seeing unusually high demand for dollars, observers initially explained away as a result of a strengthening of the dollar that caused a weakening of virtually all emerging market economies at the time, as well as the introduction of a new tax on non-resident holdings of short-term notes.⁴ But buying continued even after world markets had stabilized. The central bank ended up selling USD 4bn in five days, reaching its highest level of intervention in 15 years.⁵ It then let the currency slide, seeing it fall by 18%; ultimately, it was forced to raise interest rates by nearly 1300 basis points to stem pressure on the currency.

As most currency crises do, the timing of the sell-off took most analysts by surprise. But, in contrast to the "classic" model of balance of payments crises, the economy had shown none of the key markers of unsustainability in the months running up to the crisis. The country was not running down its international reserves nor was the currency even pegged (except, arguably, for a short interval of time), there were no signs of trouble in the banking sector and while the economy had a high current account deficit, it was not out of line with what is common in Latin American economies during investment booms. As Chilean economist Andrés Velasco wrote at the time, the fact that Argentina's current account deficit was higher than Brazil's "only shows that Argentina's private sector is investing what it saves, while Brazil's private firms are deleveraging fast and investing very little, if at all."⁶

Therefore, when searching for an explanation of what went wrong in the crisis, analysts did not point to growing structural imbalances or signs that market prices were out of line with fundamentals but resorted instead to interpreting it as a crisis of confidence. Most accounts looked back to a December 2017 central bank press conference at which the inflation targets were loosened after recognizing that the original targets had simply not been realistic. The fact that Macri's chief of staff had been seated alongside the

⁴ Currencies Post Worst Rout Since Trump's Election: Inside EM. (2018)

⁵ Argentine Central Bank Is Said to Sell Most Dollars in 15 Years. (2018)

⁶ Velasco, A. (2018)

economic team at that press conference raised concerns about political interference.⁷ “Fairly or not,” *The Economist* wrote “the change in the targets hurt the credibility of the central bank.”⁸

Bringing down inflation is no easy task. First, you have to lay out a credible plan to address the underlying factors causing the high inflation – for example, the monetization of budget deficits. Then, you have to get people to believe that you will hold to that plan. If people trust you, it can be smooth sailing. But if they start to doubt your willingness or capacity to hold to your commitment, then things can get quite rocky. For starters, they will start buying dollars because they expect the local currency to lose its value once you resort to money printing. To convince them that you are serious, you will have to adopt contractionary policies, such as cutting expenditures or raising interest rates, to re-establish your credibility.

Such policies are socially painful and politically costly. Ultimately, they may enable you to re-establish your credibility as a hawkish policymaker. But if their social and political cost is so high that you get voted out of office, then your personal commitment to low inflation becomes irrelevant. What markets care about is not whether you have a solid personal commitment to price stability, but whether a promise that the institutions of the state will act accordingly to that commitment is credible. And sometimes the normal working of the democratic political process can wreak havoc with those promises.

In sum, the most plausible explanation to date of the Argentinean currency crisis appears to be that it was triggered by a weakening in the confidence that economic actors had in the state’s ability to maintain a commitment to a path of fiscal consolidation and disinflation. Surely, there may have been objective causes that led to the initial lack of confidence (revision of inflation targets, a loosening of monetary policy, the signals of lack of central bank independence and the weakness of the soybean harvest), but even after all of these factors were corrected or reverted, the damage was already done. It was simply not possible to put Humpty-Dumpty together again.

The literature has for some time recognized the ability of models of multiple equilibria in the generation of currency and debt crises (see, e.g., Calvo, 1988 or Miller and Zhang, 2004). In these models, there are three types of economies: those whose fundamentals are so strong that they will always manage to avoid crises and thus are not subject to speculative attacks, those whose fundamentals are so weak that they will inevitably fall into a crisis, and those with intermediate levels of fundamentals, in which the ability to escape crisis will reflect the ability of actors to coordinate on the good rather than the bad equilibrium.

If these models give us the correct interpretation for Argentina’s 2018 currency crisis, then a key question for policymakers is whether they can do something to get the economy back to the good equilibrium. Of course, restoring credibility after you have lost it can be very hard, and no government would be wise to base its policy plans on the premise that it will be able to do so. But it nevertheless makes sense for them to ask whether there are policy paths that will make it more likely that they be able to restore confidence and return to the good equilibrium.

This brings us back to the issue of debt restructuring. Creditors have an inherent interest in having the economy be richer, because such an economy will have greater capacity to pay them back. So there is a potential Pareto-improving deal in a multiple equilibrium setting where creditors accept to take relatively

⁷ Meaños, F. (2018)

⁸ Bello (2018)

low payments in the near-term in order to give the economy its best chance to converge to the positive equilibrium, while the government commits to repaying a higher amount of the debt in case the positive equilibrium materializes. Debt reprofiling can offer a mechanism whereby the economy can gain time to try to converge back to the good equilibrium, and investors can be incentivized to accompany this proposal by the prospect of getting paid back if it materializes.

In other words, there are gains for all actors from creditors and the government attempting to coordinate in generating a positive credibility shock. By accepting a lower up-front payment, creditors signal that they believe that the economy is capable of jumping back to the positive equilibrium in which they can get paid closer to their full face value (otherwise it would make no sense for them to accept it). At the same time, such a deal helps reduce debt service in the near-term, making it easier for the government to reach fiscal targets and avoid excessive austerity. From the standpoint of the government, the signal is trickier because opting for reprofiling instead of face-value haircuts can be interpreted as a sign of policymakers' high discount rates. For that reason, it is fundamental that the government simultaneously make a firm commitment to undertake the long-run policy reforms necessary to increase productivity and address underlying fiscal problems.

One way to think of this idea is as a state-contingent agreement in which debtors agree to recognize the face value of the debt in case that the economy moves to the positive equilibrium within a certain amount of time and creditors accept to take a substantial face-value haircut if it doesn't. Once that agreement is reached, it is in the interest of creditors – as well as of the government – to do everything possible to bring the positive equilibrium about.⁹

THE ROLE OF THE IMF

In principle, a reprofiling solution is compatible with the guidelines for exceptional access to IMF resources, as long as the Fund's sustainability analysis finds that the debt is sustainable (even if not with a high probability). And this is the Fund's current – or, more precisely, most recent view – as expressed in its most recent review of the stand-by agreement with Argentina, published in July of 2019.

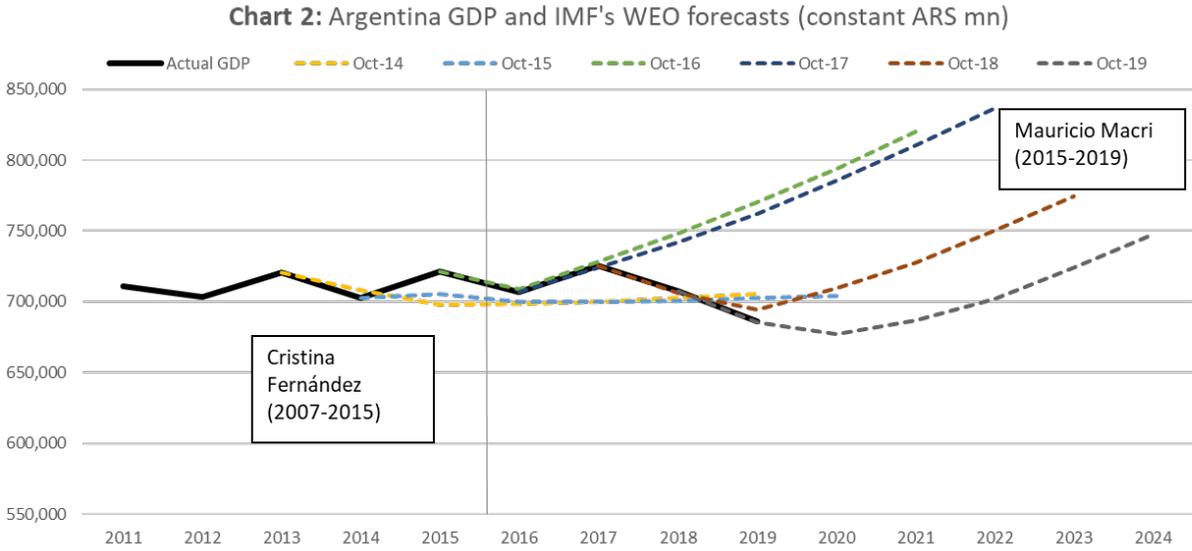
The risk to this solution is that the Fund will conclude that Argentina's debt is unsustainable with a high probability. We have already argued that some of the key debt indicators have gotten markedly worse since the publication of that assessment. Thus, we should not rule out that once the numbers are crunched once more, the Fund comes out with an assessment of an unsustainable debt stock requiring deeper private-sector involvement.

Regrettably, sustainability analyses are not independent of market conditions. If the market is convinced that an economy will not be able to pay its debts, then it will charge very high yields on its bonds, making it impossible for the economy to indefinitely continue servicing it. Lack of confidence in an economy will also be reflected in its foreign exchange markets, which can lead to a weakening of the real exchange rate and of the economy's assessed payment capacity.

⁹ In theory, this solution could be implemented with a warrant instrument that is linked to the dollar value of the economy's GDP. In practice, warrants remain an unsatisfactory financial instrument to deal with state-contingent contracts, given deep concerns about data reliability. These concerns are particularly prevalent in Argentina, where they fueled a long-running dispute over data between the IMF and the Kirchner administration.

Furthermore, these problems may be exacerbated by the feedback effects generated by the market impacts of the Fund’s assessments. Using IMF data, Guzmán and Heymann (2015) argue that the IMF systematically overestimated growth and underestimated debt increases in a sample of countries that saw large debt rises.¹⁰ The fund’s own overoptimistic assessments may have driven market expectations for these economies, making their debt appear more sustainable than it actually was.

As we show in Chart 2 (as well as Chart 1 above), Argentina’s case since 2016 is largely in line with this story, with forecasts systematically overestimating growth during the Macri administration. But if you go back to the Kirchner years, the story is different. Here the chart shows the opposite bias, with the IMF systematically underestimating growth in its forecasts.¹¹ So while Argentina may have been subject to the curse of the over-optimistic analyst during the Macri administration, it may also have suffered from a potentially equally damaging curse of the over-pessimistic analyst during the previous Peronist governments.



Source: INDEC and IMF

This opens up the interesting question of whether there is a systematic bias in Fund forecasts against left-wing or non-orthodox governments. While we will not try to answer that question here (which would require looking at data on many other countries over time), it is a danger that the Fernández administration should be alert to. In the same way in which over-optimism can lead the Fund to have recommended too little restructuring, over-pessimism may make it try to push the Fernández administration into an avoidable and costly confrontation with creditors.

¹⁰ Guzmán, M. and Heymann, D. (2015)

¹¹ We use only post-2014 data. Prior to 2014, the IMF had levied strong objections to the methodology used by Argentina’s INDEC to calculate GDP and prices, leading it to publish its forecasts with disclaimers. This ultimately led to a declaration of censure by the IMF on February 2013 and INDEC revising its indicators to accord with IMF requirements. Since pre-2014 forecasts refer to the old series, which stopped being published, they cannot be used to gauge forecasts of the new series.

The inherent dependence of the IMF's sustainability analyses on market conditions and the danger that confidence crises can be exacerbated by over-pessimistic analysts generates a complex problem for the institution's capacity to carry out its mission. If what the Fund's sustainability analyses do is simply validate or amplify market confidence crises, then they could end up undermining the institution's capacity to help countries overcome the temporary balance of payments problems caused by these crises, which is what its articles of agreement task it with doing.

It is very interesting that while the literature on explaining currency crises as failures of confidence is relatively new in the mainstream economics literature, the Articles of Agreement explicitly consider the concept of confidence when describing the objectives of the Fund:

“to **give confidence** to members by making the general resources of the Fund temporarily available to them under adequate safeguards, thus providing them with opportunity to correct maladjustments in their balance of payments without resorting to measures destructive of national or international prosperity.” (Article I, par (v), emphasis added).

Years before the idea of multiple equilibria made it into the textbooks of open-economy macroeconomics, the framers of the Bretton Woods accords had understood that the main role of such an entity would be to deal with confidence crises.

DEBT SUSTAINABILITY UNDER RADICAL UNCERTAINTY

The IMF's DSA framework, even after its considerable revisions and overhaul in 2014, is fundamentally wedded to the idea of quantifiable risk. Implementation of the framework proceeds by subjecting the economy to various simulated shocks whose likelihood is ascertained from the historical probability distributions of key determinants using methods such as vector autoregressions. The result is a probability distribution of paths in the debt stock that can be used to calculate the probability that the economy's debt will prove to be unsustainable.

Yet many currency crises appear to be a different animal, at least if the multiple equilibrium paradigm is correct. The concept of multiple equilibria implies that there is more than one outcome that can result from the same fundamentals. This implies that it is impossible to predict which equilibrium the economy will end up in, or even the probability of it ending up in each equilibrium, despite having a complete description of the economy's fundamentals.

Perhaps for this reason, confidence crises are not easy to track to fundamentals, and often reflect unpredictable processes through which fears and concerns about reality are transmitted among agents. If we take seriously the multiple equilibrium paradigm for understanding them, then we have to accept that this variety of crises cannot be dealt with within the quantifiable risk framework of the DSA.

The view of confidence crises as emerging from shifts between equilibria is much closer to the concept of radical uncertainty originated in the work of American economist Frank Knight (1921),¹² which distinguishes between the events that we can put probabilities on (risk) and those that we can't (uncertainty). While this distinction was largely ignored by mainstream economists for a long time, it has regained relevance in recent attempts to understand financial crises.¹³

¹² Knight, F. (1921)

¹³ See, for example, Caballero, R. and Krishnamurthy, A. (2006) and Caballero, R. (2010)

This also explains why the concept of confidence may have made it into the Fund's Articles of Agreement. One of the architects of these articles was John Maynard Keynes, who developed a similar idea about uncertainty in chapter 12 of his *General Theory*. It was there that Keynes argued for the role of "animal spirits" driving investment booms and warned that changes in optimism could be the most important drivers of business cycles. Changes in government, Keynes argued, could provoke market crashes not because they led to bad policies, but simply because they ushered in the unknown.¹⁴

The idea of radical uncertainty can nevertheless be remarkably disturbing to many modern economists. If "anything goes" and social phenomena are inherently unpredictable, then what is the role of economic analyses? And how can Fund staff comply with that other requirement of the articles of agreement - that of ensuring "adequate safeguards" when enabling access to Fund resources? If fundamentals are not to be used in forecasting future outcomes, then how is the organism supposed to decide how to allocate its resources among prospective users?

Such fears are excessive. Taking the uncertainty paradigm seriously does not require the Fund to shed its sustainability framework. There are many crises whose origin can clearly be traced to deteriorating fundamentals, and many cases in which the economy's fundamentals are the best predictors of its future capacity to service its debt. The task of improving a country's fundamentals continues to be extremely relevant in a multiple equilibria setting, particularly as theory predicts that only countries with some weaknesses in their fundamentals are vulnerable to self-fulfilling crises. And even if you live in a world of multiple equilibria, it is still of fundamental importance to understand whether the equilibrium that you are in is sustainable or not.

Taking radical uncertainty seriously does require the DSA paradigm to be made flexible enough to incorporate an assessment of whether the economy in question is undergoing a confidence crisis and whether current levels of key variables that impact the analysis of sustainability reflect the existence of such a crisis. Countries whose debt would be sustainable with high probability if they faced market yields and a real exchange rate similar to what they have seen in the recent past and where there was no *prima facie* evidence that their finances were unsustainable at that moment would qualify for a closer look and more flexibility in the interpretation of the conditions for exceptional access.

Certainly, an economy like Argentina's that has seen the dollar value of its GDP drop by half as a result of a run on the currency that was not only hard to predict *ex ante* but also hard to explain *ex post* is a strong candidate for a diagnosis of confidence crisis. In that case, it makes most sense for an organism like the IMF to do its most to help the economy address that crisis and restore its previous sustainability, rather than trying to force it into the traumatic process of adjusting to permanently lower levels of income. Doing so would certainly be in line with what the framers of the Articles of Agreement had in mind when they set out to design an institution whose main mission was to address balance of payments crises by restoring confidence.

¹⁴ Keynes, J. (1936)

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