The IMF to the rescue: did Greece benefit from the fund's experience in dealing with highly indebted countries?

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Abstract

The paper analyses how the IMF brought its experience concerning the distinction between liquidity and solvency crises and their adequate handling gained during earlier crises into the troika's approach to Greece. We link multiple equilibria models with the IMF's experience gained in Latin America in the 2000s and subsequent changes in the IMF's policy guidelines. We show that the IMF changed its approach after the Argentinian crisis but ignored some of these insights in the case of Greece. Hence, we argue that the inclusion of the IMF in Europe's crisis-fighting did not completely deliver what had been hoped for.

Key words: Greek crisis, emerging market debt crisis, IMF, multiple equilibria, sovereign debt resolution mechanism.

Introduction

It was a novelty few observers would have expected: when Greece experienced problems financing its public deficit in 2010, the IMF was called in to tackle the problem jointly with the European Commission and the European Central Bank (which together formed the so-called "troika"). The IMF's inclusion in the bail-out packages in Greece (and in other Euro member countries) was not primarily motivated by the need for funds. It was rather the idea to draw upon the IMF's wide experience with rescue packages and adjustment programs in times of crisis (Pisani-Ferry, Sapir, and Wolff 2013) even though these experiences had been almost exclusively collected in developing countries and emerging markets.

In policy circles, this decision has widely been defended and seen as a success. As the former ECB director Jörg Asmussen put it, "It proved right to bring in the IMF. The Fund has unique experience in the design of such programmes" (Asmussen, Interview FTD 20.2. 2012).

In this paper, we ask how far the IMF brought in such unique experience through from assisting economically less advanced economies. Due to space constraints, we focus on the question of the basic design of the packages with regard to haircuts on public debts and the provision of funds, leaving aside the questions of conditionality and monitoring of the implementation, as these are extensively treated in the literature (see i.e. Ban and Gallagher 2015; Dreher 2005; Kentikelenis *et al.* 2016). We thus analyse three aspects. First, given the theoretical knowledge of financial crises, what would have been ideal design elements of a rescue package? Second, how were IMF policy guidelines redesigned and to what extent did the IMF incorporate these elements in emerging market programs in the early 2000s? Third, to what extent did the IMF manage to transfer this experience to the case of Greece? We analyse these questions by deducing crucial insights for the management of liquidity and solvency crises from theoretical approaches and compare this knowledge with the IMF's policy frameworks and applied approaches in Latin America and Greece. Again, due to space constraints, we do not aim to analyse the institutional changes or decision-making processes inside the IMF that may have contributed to policy changes.

As mentioned above, the IMF did not act alone in designing the Greek program but in the context of the troika. There has been a broad discussion about whether the European actors might have had additional objectives beyond stabilising the Greek economy.[5] Yet, as the stated intention of including the IMF in this set-up was to transfer knowledge about the most efficient design of adjustment packages, this specific troika set-up does not challenge our approach of inquiring into whether the lessons drawn internally from former debt crises actually have been transmitted to the dealings with Greece.

The remainder of this paper is organised as follows. In the second section, we briefly discuss to what extend the situation in Greece in 2010 has been comparable to that in Latin America in the early 2000s. In the second section, we review the development of theoretical models on financial crises and summarise what policy conclusions these models yield. In the third section, we compare these policy conclusions with the IMF's policy stance in the most prominent emerging market crises of the past two decades, namely the Argentinian crisis of

[5] See, for example, a number of the contributions in Magone, Laffan and Schweiger (2016).

2001/2 and the Brazilian crisis of 2002, and we explore the insights that the IMF has explicitly drawn from its experiences in these crises. In the fourth section, we subsequently contrast the new policy guidelines based on the IMF's insights taken from emerging market crises with the approach taken by the troika when dealing with Greece.

Comparability between the Greek Case and the Cases of Argentina and Brazil

Argentina and Brazil have, together, been chosen as a benchmark for the IMF's dealing in Greece as they have had the most prominent and most recent large emerging market crises (prior to the global Great Recession of 2008/9) in which the distinction between a liquidity and a solvency crisis, and thus the design of the loan package by the IMF, played a decisive role. As such, they have led to a rethinking of the fund's strategy in the 2000s and feature strongly in the IMF's internal documents on crisis-fighting approaches. Other recent cases of debt restructuring under IMF programs have not been included as they are usually concerned with very small countries that are difficult to compare and from which the IMF has not drawn fundamental lessons.[6]

Putting the Greek crisis into the context of these crises raises the question of comparability. A series of authors analyse the structural similarities between Greece and Argentina in the context of a possible exit of Greece from the euro area (i.e. Alcidi and Gros 2015; Dullien, Rapetti and Schiaffino 2016; Vegh and Vuletin 2014), and they generally agree that the two cases are comparable in many dimensions. For our purpose, however, the question of comparability is even simpler. We only ask whether the distinction between insolvency and illiquidity discussed in the theoretical literature also applied to Greece. This clearly is the case: in Argentina and Brazil, the government had large amounts of debts. What in fact is different, beyond a series of relevant institutional aspects, is that in the former case public debt was either in foreign currency or linked to the exchange rate. However, even if public debt in Greece is not in foreign currency but in euros, the indebtedness is very similar to debt in foreign currency as Greece is legally prevented from printing euros to finance its borrowing.

One often-mentioned key difference is that Greece is a member of a currency union. While this does not help with liquidity and solvency issues for the government, it bolsters the impact of capital flights and of a balance of payment crisis for the economy at large: through the provision of Emergency Liquidity Assistance (ELA) by the Bank of Greece (subject to consent of the ECB) and given the possibility that the Greek central bank can run deficits in the Target2 system, capital flight and a balance of payment crisis is not as severe as in a country with a highly dollarized banking system (as was the case in Argentina in 2001) as banks can access ample liquidity in the case of bank runs (at least until the further provision of ELA is questioned as it was in the summer of 2015).[7] Yet, the issue of distinguishing between illiquidity and insolvency for governments receiving rescue loans (a central element also in the Argentinian and the Brazilian case) remains the same.

[6] These countries include Belize (2007, 2013), Jamaica (2010, 2013), St. Kitts and Nevis (2012). See IMF (2013b).

[7] For details on the economics of Target2, see, for example, Bindseil/König (2011).

Liquidity vs. Solvency Problems and Three Generations of Theorising Financial Crises

The increased turmoil in financial markets since the 1970s has stimulated interest in theorising financial crisis events, resulting in the development of several generations of models for balance-of-payment crises. While it is still debated which types of crises (fiscal, banking, competitiveness, etc.) have interacted in the euro area (Shambaugh 2012; Fratzscher 2013) and the classification of past emerging market crises is far from trivial (Kaminsky and Reinhart 1999 or Laeven and Valencia 2012), some lessons from these models can be applied regardless.

Central to the models of balance-of-payment crises is the idea that the stock of a certain asset (foreign reserves in the case of pure balance-of-payment crisis and government revenue in the case of sovereign debt crises) is limited and that this stock is depleted by either policy errors, investors' flight or a combination of both.

While the first generation of models explains attacks on a currency with a fixed exchange rate by rational expectations, due to domestic policy errors (Krugman 1979), the mechanism is different in second-generation models (i.e. Obstfeld 1996). Here, the possibility of multiple equilibria allows for self-fulfilling debt crises (Cole and Kehoe 1996): for a country with a moderate, yet not extremely high, level of debt, the ability to service its liabilities depends on market participants' expectations. If investors believe that a country is able to service its debt, they accept lower interest rates and the debt will be sustainable. If investors believe that the government in question might be unable to service the debt, they demand higher interest rates and the debt becomes unbearable, thus leading to a default. The catch in these models is that if a third party can guarantee continued access to loans at moderate interest rates, expectations will return to the "good" equilibrium and a self-fulfilling crisis is stopped. Two conditions need to be fulfilled so that such a liquidity provision can be successful: first, this third party has to be capable of providing liquidity in a sufficient amount, and second, the actor receiving the loan must not be insolvent but only illiquid.

While the logic of liquidity provision of national currency by a central bank to national banks to defuse investors' panic has already been pointed out by Bagehot's (1873) seminal work, the issue is less simple in the case of debt denominated in foreign currency (which can usually be observed in emerging markets). Here, the domestic central bank is unable to serve as lender-of-last-resort, and the major provider of emergency liquidity provision is the IMF. While the ECB could in principle provide liquidity to national governments, it is constrained to do so by the EU treaties' rules. In this respect, the euro area's national governments' outstanding debt has features of foreign currency-denominated debt.[8]

Second, it is key for the third actor to distinguish between problems of liquidity and solvency. Insolvent entities are defined as being unable to serve their obligations in the medium and long term, even if provided with short-term liquidity. Providing liquidity for an insolvent entity just postpones the inevitable insolvency and leads to increased costs, as economic growth will remain depressed due to the unresolved debt overhang (IMF 2013b).

[8]Albeit that one can argue that this constraint has been loosened by the ECB's announcement of the Outright Monetary Transactions (OMT) policies under which the ECB is now allowed to buy government bonds of countries being subject to an ESM program.

How the IMF brought in the Distinction between Liquidity and Solvency Crises

The models of financial crises, due to multiple equilibria, had an impact on the IMF's internal debate especially as the fund had been harshly criticised after the emerging market crises of the 1990s (e.g. Stiglitz 2002) and was facing a threefold theoretical, managerial and financial challenge.

From a theoretical perspective, it was a challenge that most of these currency crises occurred in a context of market-friendly reforms, especially regarding trade and financial liberalisation. This could not be easily explained as the consequence of mere and crude policy failures (as the first-generation currency crisis models had done). Against this background, IMF economists started to reflect on the relevance of multiple equilibria models for this new type of crisis. Among others, Flood and Marion (1996) directly linked these models to the Mexican peso crisis of 1994. These reflections not only regarded exchange rate issues but also the question of the conditions under which the IMF should act as a third actor injecting liquidity to re-establish the "good equilibrium" of market expectations.

Not least due to the experience in Argentina, where the Fund received heavy critique for its intervention (see part 3.1), the institution started to develop a clear-cut framework to distinguish between illiquid and insolvent entities, taking on board the above-discussed theoretical insights. In a programmatic paper based on the "Prague Framework" (Köhler 2000), the IMF established a new guideline: liquidity crises should be solved by the rapid and sufficient provision of liquidity, while solvency problems should be tackled by debt restructuring.

In a subsequent institutional guideline titled "Assessing Sustainability" (IMF 2002a), the IMF delivered an operational definition of the concepts of liquidity and solvency:

> "An entity is solvent if the present discounted value (PDV) of its current and future primary expenditure is no greater than the PDV of its current and future path of income, net of any initial indebtedness. […] An entity is illiquid if, regardless of whether it satisfies the solvency condition, its liquid assets and available financing are insufficient to meet or roll over its maturing liabilities" (IMF 2002a: 5)

In the same document, the IMF recognised that the distinction between liquidity and solvency crises is rather vague. Therefore, the IMF started applying the concept of debt sustainability, which means compliance with both liquidity and solvency criteria: "Sustainability thus incorporates the concepts of solvency and liquidity, without making a sharp demarcation between them" (IMF 2002a, 4). Second, it was acknowledged that this concept was far from easy to empirically assess so that "assessments of sustainability are thus inherently probabilistic and no framework can dispense with their need for making judgements" (IMF 2002a, 6).

Private international capital flows had grown strongly until the early 2000s. Thus, the hitherto-applied IMF quota (based on a country's share in the IMF) that determined the volume of liquidity that a country may draw from the institution was deemed to be insufficient by far. At the end of 2002, the IMF hence established the "Exceptional Access Policy" to be applied to "any lending in which access is above 100 per cent of quota on an

annual basis or above 300 per cent of quota cumulative irrespective of the facility used" (IMF 2003, 5).

Based on the considerations of liquidity and solvency issues, this access to large funds was linked to exceptionally strict rules (IMF 2003, 3–4): First, it should be applied only to exceptional balance of payments pressures; second, and most important, "[a] rigorous and systematic analysis [should indicate] that there is a high probability that debt will remain sustainable" (IMF 2003, 4; highlight by the authors); third, the country should have good prospects for regaining access to private capital markets; fourth, liquidity provision should be backed by a strong program design and implementation in terms of adjustment policies.

The insights that the IMF took away from these crisis experiences can thus be summarised in three points: first, make an assessment of whether there is a liquidity or a solvency problem, whereby loans should only be allowed if there is a liquidity problem; second, if there is a liquidity problem, stand-by arrangements should be large enough to dispel any doubts about its volume's sufficiency; third, only ask for policy adjustments if necessary for regaining market access, and only ask for as much needed.

Based on IMF documents on the cases of Argentina and Brazil, we first argue that the experiences sketched out in this section had relevant roots in the Argentinian crises of the early 2000s and the Fund's highly criticised involvement. Second, we interpret the case of swift liquidity provision for Brazil in 2002 as an immediate application of the newly gained insights.

Argentina

The IMF had been involved in Argentina since the mid-1990s and saw itself drawn into a deepening crisis in the late 1990s. After the crisis, the IMF's response in the country was seen as highly problematic by both the Fund itself and external observers. Hence, the IMF's involvement in Argentina led to an intensive reflection and posterior redefinition of its policies.

The background of the crisis was a currency board regime of fixed exchange rates, which Argentina's government had introduced in the early 1990s to fight inflation. Under this regime, the Argentinian central bank was only allowed to issue domestic currency in exchange against US dollars.

While this regime had brought down inflation to single digits in the early 1990s and had increased investors' confidence and hence capital inflows, from the onset of the Asian crisis, Argentina started to experience substantial capital outflows. At this point, a continuing inflation differential with the United States eroded Argentina's competitiveness. As the central bank could not create money, the capital outflows led to a severe credit contraction.

From 1999 onwards, the Argentinian economy continuously shrank, losing about a quarter of its output (see Table 1). The combination of falling GDP and falling tax revenue led to a strong increase in the debt-to-GDP ratio. At the beginning of 2002, the country declared default on its external debt.

Between 1996 and 2001, the IMF had three financing arrangements with Argentina. These were conditioned to harsh austerity, which was intensified together with the widening economic crisis. The 2000 agreement set, in the midst of an economic crisis, an increase in the public sector primary surplus (which excludes interest rate payments) of four percentage points from 2001 to 2005 (IMF 2000). At the same time, in a last and desperate attempt, the Argentinian government conducted a broad restructuring of domestic public bonds that prolonged bond maturities and should have reduced public refinancing costs. In the autumn of 2001, the aforementioned program was augmented again. However, international risk premia rose in parallel and capital flight continued. Finally, by the end of 2001, the IMF cut off its support to Argentina due to missing compliance with the agreed fiscal program and a lack of market confidence (IEO 2004, 9).

Some voices within the IMF continued to argue that Argentina's unsustainable fiscal policy had been the main problem, most prominently Michael Mussa, head of the IMF's research department until 2001 (Mussa 2002, 10–12). However, fiscal data tells a different story. Argentina's primary balance was not only positive (with a minor deviation in 1999) but even increased from 0.43% to 2.99% of GDP between 1998 and 2004 (see Table 1). The overall budget balance, which only in one year reported a deficit higher than 3% (in 2001), turned positive in the following year.

A major problem was certainly the rigidity of the currency board arrangement, which provided no orderly exit. This rigid exchange rate peg - among other factors – had produced a substantial appreciation of the real exchange rate sustained by major capital inflows in the pre-crisis period. Consequently, the country had accumulated increasing current account deficits and external debt in foreign currency, which became unbearable and made a change of the currency regime without debt default all but impossible (Damill, Frenkel, and Rapetti 2012, 4).

Thus, Argentina must be seen as having been insolvent already in the late 1990s. The IMF reached a similar conclusion rather early. Flemming Larsen (2003), then IMF Director Offices in Europe, stated that "The IMF should have insisted on the conclusion we reached by 1998 that the fixed exchange rate regime was unsustainable and that the authorities seemed either unwilling or unable to adjust their policies sufficiently to avoid the eventual meltdown". Nonetheless, he blames national authorities for the continuation of the IMF programs on this unsustainable course: "Those concerns [of an eventual financial meltdown] were expressed repeatedly but the authorities refused to consider an exit from the currency board arrangement until the change was forced by markets."

However, even if the national authorities insisted on sticking with this regime, it would have been the IMF's role to stop new lending to a clearly insolvent country much earlier instead of treating it as a case of illiquidity due to erroneous fiscal policies.

Insert here: Table 1

Brazil

In contrast to its handling of the crisis in Argentina, the IMF's crisis reaction in Brazil in 2002 is correctly seen as a success. We argue that it is linked to the rethinking of the Fund's approach to crisis-fighting reflected in its new framework "Assessing Sustainability".

Here, according to the current interpretation, the IMF managed to stop a situation of illiquidity from transforming into insolvency by providing timely and sufficient liquidity provision. In line with the theoretical arguments above and the diagnosis of a mainly expectations-driven crisis, the IMF did not force overly harsh austerity measures on Brazil as part of the package.

In the run-up to the presidential elections in October 2002, international investors' fears about economic policy changes in case the leftist candidate Luiz Inácio Lula da Silva would win the elections provoked enormous capital flight out of Brazil.

At that time, Brazil's economic situation was ambiguous. On the one side, since the last financial crisis in 1999 and the subsequent abandoning of the pegged exchange rate regime together with a maxi-devaluation, GDP growth had recovered in 2000, and the stock of both total external debt (private and public) and public debt (domestic and international) was moderate in relative terms (see Table 2). At the same time, public debt demonstrated a high vulnerability due to exchange rate indexation despite substantial austerity policies over the last years:

> "The depreciation of the exchange rate as a result of a confidence shock in the run-up to the presidential election in October led to an increase in the debt-to-GDP ratio as a consequence of the revaluation of outstanding exchange rate-indexed and foreign currency-denominated liabilities. Owing to this, and the concomitant monetary tightening, outlays on interest payments increased substantially, leading to a deterioration of the headline budget balance in 2002-03, despite the maintenance of a robust primary surplus" (DeMello and Moccero 2006, 13).

To worsen the situation, neighbouring Argentina – a major trading partner – had just defaulted on its debt and undergone a huge devaluation.

The IMF did not classify the situation as a case of insolvency but rather as one of temporary illiquidity, with an associated risk of it quickly turning into one of insolvency in case of on-going market mistrust. Consequently, the Fund stepped in in July 2002 with its – at that time largest ever – loan as a stand-by arrangement of 30.4 billion USD (22.8 billion SDR) over a period of 15 months (see also IMF 2002b). As this amount significantly exceeded Brazil's regular quota of 3.04 billion SDR at the IMF, *de facto*, it was a test of the "Exceptional Access Policy" (even if this was fully operationalised only in February 2003) (IMF 2003, 3). In contrast to other programs, the IMF did not ask for harsh additional austerity; in the memoranda of understanding from June 2002 and August 2002, the target for the primary surplus in the budget for 2002 and 2003 was only marginally increased from 3.5% of GDP to 3.75% of GDP, reflecting a marginal tightening from the 3.6% achieved in 2001 (IMF 2002a, 2002b).

Yet, the decision to provide liquidity to Brazil was not a uniform shift of the IMF towards large loans without conditions of fiscal austerity and/or restructuring. In other cases of that time, the IMF insisted on debt restructuring prior to loan disbursement such as in the case of Uruguay, when in the end, public debt was reprofiled (Steneri 2004). Hence, the IMF seems to have taken the lesson to heart that a differentiated treatment of countries was necessary depending on the initial assessment.

The case of Brazil demonstrates the difficulties of a proper assessment of a situation of illiquidity with a high probability of debt sustainability. Barry Eichengreen, who had served as a key policy advisor to the IMF the years before, publicly argued in defence of the highly criticised institution:

> "Brazil in 2002 is a better gamble for the IMF than was Argentina in 2001. It provides the Fund an opportunity to demonstrate that it helps well-managed economies like Brazil while offering only tough love to delinquents like Argentina." (Eichengreen 2002, 3)

Insert here: Table 2

How the Troika Handled the Greek Crisis

Nevertheless, these conclusions drawn by the IMF in Argentina and Brazil were not taken fully on board when it came to Greece. Instead, Greece was first given liquidity provision without debt restructuring even though it was clearly insolvent. A haircut was applied only later, which arguably was too small to really get Greece back to a sustainable level of debt.

The Greek crisis began in early 2010 when the newly elected Greek government saw itself forced to revise deficit figures upwards. Given the already high level of public debt, market participants started to doubt Greece's debt sustainability, and yields on Greek bonds started to increase. As recommended by the European Commission, Greece started implementing harsh austerity packages in March 2010 to the magnitude of 2% of GDP (Pisani-Ferry, Sapir and Wolff 2013, 139). However, it quickly became clear that Greece would still miss its deficit target by a wide margin. In late April 2010, Greece requested assistance from the euro area member states and the IMF. By early May 2010, the troika put together a 110 billion EUR rescue package despite warnings that Greece might have serious solvency problems that could not be resolved by the associated structural adjustment programs.

Not only were academics at that time already expressing doubts about these assumptions, claiming that these were unrealistically optimistic (i.e. Dullien and Schwarzer 2010). As leaked documents by the Wall Street Journal (2013) show, a number of IMF's executive directors also internally voiced concerns about the program. The Swiss executive director, Rene Weber, is quoted from a board meeting on May 9, 2010:

> "[We have] considerable doubts about the feasibility of the program […] We have doubts on the growth assumptions, which seem to be overly benign. Even a small negative deviation from the baseline growth projections would make the debt level unsustainable […] Why has debt restructuring and the involvement of the private sector in the rescue package not been considered so far?"

Despite the foreseen harsh budget cuts, only a relatively mild recession was assumed in the analysis of the Greek debt sustainability. The staff report supporting the program assumed a reduction of the cyclically adjusted budget deficit from 10% of GDP to close to zero in 2011, with a resulting contraction of GDP of 4% in 2010 and 2.6% in 2011 before the Greek economy would return to growth in 2012 (IMF 2010). Even with this rather optimistic assumption, the Greek debt-to-GDP ratio was set to peak at around 150%.

The package was passed by the relevant bodies of the IMF, but it failed to instil investors' confidence. The Greek economy tumbled much deeper into a recession than projected. Hence, in 2011, discussions began about a second Greek bail-out package. At this point, the feeling was that rescue loans alone would not be sufficient as government debt was now projected to soon approach 200% of GDP. Thus, the EU leaders agreed in October 2011 on a haircut on Greek private sector creditors to be implemented in 2012.

The debt restructuring did not have a large effect on the debt level as official debt (against the IMF and ECB, which had by then bought a substantial amount of Greek bonds) was excluded and the debt restructuring depleted the equity capital of the Greek banking sector, which forced the government to recapitalise the banks. According to the IMF's (2012a, 3-4) own analysis, the Greek debt level through the debt restructuring was only expected to fall from 165 to 160% of GDP:

> "The nature of the PSI [(private sector involvement)] operation […] with the scaling up of official support, […] greatly increases the rigidity of Greece debt, which may have a bearing on Greece's ability to mobilize new private financing in large volumes and on adequate terms even after the economy stabilizes and economic growth has resumed. […] Greece's external debt service burden, particularly on short-term maturities, has increased and remains heavy […]".

The IMF's debt sustainability analysis at that time projected the debt-to-GDP level to hover around 160% until 2014 before only dropping (IMF 2012, 6). According to news reports at the time, the IMF's managing director, Christine Lagarde, voiced concerns to the European institutions that the debt reduction was not sufficient (Financial Times 2012).[9] Nevertheless, the IMF ultimately agreed to extend the program.

Yet, even this projection proved overly optimistic: until 2014, Greece's public debt stock rose again from 130% (2009) to 175% of GDP, and IMF publications from 2017 again question debt sustainability.

It is sometimes argued that the Greek government's lack of willingness or ability to implement structural reforms and additional revisions to past Greek data are to blame for the worse-than-projected debt trajectory rather than mistakes in the initial assessment. Featherstone (2011) points out the traditionally weak technical capabilities of the Greek

[9] One might claim that the drop in bond spreads after debt restructuring in early 2012 indicates that markets also believed in improved debt sustainability. This interpretation is misleading as the yields are on different instruments: the yields prior to the restructuring are computed on the nominal value of original bonds (for which it had already been announced in July 2011 that they would be restructured). Hence, the drop only indicates that the nominal value of the bonds has been reduced.

administration are to blame, while Visvizi (2014) claims that it is the PASOK-led government focused on growth-reducing tax increases in order to protect the government sector from cuts.

While it is true that the Greek administration's ability to implement policies has proved to be poor and that the government's behaviour has increased political uncertainty, it is questionable whether these are the most important factors, as the final outcomes show significant changes in Greek fiscal and economic policies. Visvizi's claim of a protection of state expenditure cannot be substantiated by actual (ex-post) data from Eurostat according to which government expenditure decreased from 2009 to 2010 by 9.8 billion EUR (4% of GDP) while government revenue rose by a mere 800 million EUR (0.3% of GDP).[10] Matthes (2015) shows that from 2008 to 2013, Greece liberalised its product markets more than any other EU country, that it has also been on the top of the league among EU countries in the realm of labour market reforms and that the degree of employment protection in Greece by 2013 had dropped below the euro area average. This implies that "ownership", defined by Bird and Willett (2004) as having a low probability of implementation, might not have been as serious a problem as often claimed (see also Clifton 2014).

Revisions of debt-to-GDP figures happened mainly prior to the first Greek program. The IMF's initial debt-sustainability analysis of early 2010 was based on a debt-to-GDP ratio in 2009 of 115% (IMF 2010, p. 38). While this is roughly 10 percentage points lower than the latest available revised estimate for 2009, this gap is not enough to explain the problematic debt sustainability now.

The IMF's Ex Post Evaluation and its Shifting Positions

There are signals - at least behind closed doors – that the IMF's position within the troika from the beginning on was more flexible regarding the mix of debt restructuring and adjustment policies (see i.e. the European Parliament Report, 2014). In this sense, the IMF's internal position reflects the shift already realised by Lütz and Kranke (2014), which testify the IMF's greater flexibility in comparison to European bodies in terms of tackling financial crises by borrowing members such as the Eastern European countries even before the Greek crisis. The IMF certainly transferred to the European institution's substantial knowledge of how to implement rescue packages. The euro institutions also could gain increasing knowledge in the understanding of the nature of the eurozone crisis.

> "Finance ministers debating in the Eurogroup and high-ranking officials preparing the meetings increasingly acknowledged that changing market expectations themselves can create crises if they take on the nature of a self-fulfilling prophecy […]. The insight derived from 'multiple equilibrium' models, which the ECB and the IMF as well as a number of academics and thinktankers used to explain the development of the crisis." (Schwarzer 2015, 18)

Yet, this transfer of knowledge was limited. According to the experiences that the IMF had gained also in the Latin American crises, Greece should never have received support without a debt restructuring. Rather early in the negotiations on the Greek debt crisis, the IMF

[10] This trend also continued: From 2009 to 2016, Greek government expenditure fell from 128.5 billion EUR to 90.2 billion EUR and revenue fell from 92.5 billion EUR to 85.7 billion EUR.

correctly identified this as a case of insolvency. In 2010, the country's debt was already classified as "not to be sustainable with high probability" (see IMF 2013a, 18).

> "The Fund approved an exceptionally large loan to Greece under an SBA in May 2010 despite having considerable misgivings about Greece's debt sustainability […]. The decision required the Fund to depart from its established rules on exceptional access. […] The euro partners had ruled out debt restructuring and were unwilling to provide additional financing assurances." (IMF 2013a, 32)

Despite this, the IMF agreed with its European troika partners to provide liquidity to Greece. In order to make this step compatible with its own regulation, the Fund consequently changed the EAP in 2010.

> "The chosen course was therefore to amend the policy to create an exception to the requirement of 'high probability' in circumstances where 'there is a high risk of international systemic spill-overs. Eventually, the planned adjustment proved unfeasible and, despite additional official sector financing on supportive terms, private debt restructuring became unavoidable and was launched in February 2012." (IMF 2013b, 20)

With this exception for the lending for Greece despite serious doubts of its fiscal solvency, the IMF clearly contradicted its own approaches, which were redesigned after having managed emerging market crises and translated in rather clear-cut frameworks. The IMF itself explains its behaviour with a multiple set of interests in borrower and creditor countries.

> "Authorities are also concerned about a restructuring's impact on market re-access and spill-over effects on the private sector. In addition, official creditors have sometimes contributed to delays, out of concern that a restructuring would reduce incentives for the debtor country to adjust, force banks located in official lenders' countries to recognize losses, and trigger market turmoil affecting similarly-situated countries, or to preserve flexibility for the future. Private creditors will also naturally wish to avoid a debt restructuring if at all possible, and will therefore press for a bail-out by the official sector." (IMF 2013b, 21)

At the same time, the IMF clearly acknowledges that liquidity provision in a case of insolvency is much costlier than a direct debt-restructuring effort: "[…] when a debt restructuring is the only option to deal with a liquidity shock or to restore solvency, e.g. in situations where available financing and policy adjustment have been exhausted, delays end up amplifying the ultimate costs." (IMF 2013b, 20–21) As the IMF has always been repaid, these "ultimate costs" can only refer to adjustment costs and lost output in the respective country.

Some observers might argue that the IMF willingly took a "gamble", as Eichengreen (2002) argued, in the case of Brazil, hoping that its loan to Greece would coincide with surprisingly good economic developments which would help propel the country out of its debt trap. Yet, such a gamble is only rational if there are relevant odds that the outcome will be positive. Given the strong indications the IMF had about the Greek debt situation, it seems more likely that the IMF ignored these warnings than that it knowingly gambled for a Greek resurrection.

Conclusion

Against the above-described theoretical background of multiple equilibria models that require a differentiated treatment of debt crises depending on the debtor's state of solvency, the troika's dealings with Greece is rather straightforward to interpret: there seems to have been a problem of unsustainable debt levels at the onset of the crisis. Ideally, such situation would have required an immediate and sufficient debt restructuring. A correct distinction between illiquidity and insolvency and corresponding behaviour by the troika could have avoided costly delay.

These theoretical lessons, together with practical and painful experience gained in tackling emerging markets' debt crises, had been included in the IMF's framework by 2002. While in Argentina, the IMF had provided loans until 2001 even though it had severe doubts about debt sustainability, and it then quickly adjusted its policies, and, in contrast, in Brazil in 2002, tailored the program carefully to the (correct) analysis that debt was sustainable, yet liquidity was a problem; the Fund also correctly advocated for a debt restructuration in the case of Uruguay. In Greece, it again made a similar mistake as in Argentina, namely providing loans even though its staff doubted the debt sustainability.

One can thus say that the Europeans' hopes that they could benefit from several decades of IMF crisis management experience in the case of Greece have only been partially fulfilled. In particular, fundamental insights into the design of assistance packages have been neglected despite evidence that the IMF staff was well aware that the design of the eurozone troika programs was against better institutional knowledge.

Yet, one should be careful to put the blame for this on the IMF alone: the IMF was not entirely free in making its decision to join or not to join the program in 2010.[11] There were serious concerns among European policy makers that a debt restructuring for Greece would lead to contagion of other euro-area countries (IMF 2013a, p. 8). EU countries as major shareholders had a disproportionate weight in IMF decision making. While this helps us understand why the IMF acted as it did, the outcome remains a suboptimal adjustment package with significant costs. Later in the crisis, the lack of progress in Greece in overhauling the public administration certainly reduced the political will of the other euro-member countries to offer substantial debt release as they feared to produce a moral hazard effect on other debtor countries, regardless the fact that Greece was undertaking substantial labour and product market-related reforms.

Nonetheless, what we can conclude is that based on its own and institutionally accumulated and formalised knowledge, the IMF could have performed better in helping the euro members to tackle this crisis. Returning to the introductory statement of a former ECB director concerning the role assigned to the IMF within the troika, one might say that the IMF performed better regarding the second aspect, namely in terms of the attributed external policeman role rather than in bringing in its own experience. From the IMF's perspective, while it seemed like a great opportunity in 2010 to get involved in lending to Greece as the Fund had been experiencing a dearth of borrowers, with hindsight, the involvement has been

[11] See for example Burns, Clifton and Quaglia (2017) for an analysis how the parts of the troika interacted in pushing for privatizations in Greece.

rather negative: it has made the IMF vulnerable to criticism of either not being at the height of the theoretical debate or, alternatively, having been bullied into a policy approach its staff knew was incorrect.

References

Alcidi, C. and D. Gros. 2015. "The Greek economy is unlikely to benefit from further devaluation", CEPS Commentary, 3 July 2015.

Bagehot, W. 1873. *Lombard Street: A Description of the Money Market*. London: Henry S. King and Co.

Ban, C., and K. Gallagher. 2015. "Recalibrating Policy Orthodoxy: The IMF Since the Great Recession." *Governance* 28 (2): 131–146.

Bindseil, U., and P. J. König. 2011. "The Economics of TARGET2 balances", Humboldt-Universität Berlin SFB 649 Discussion Paper No. 2011-035, Berlin.

Bird, G., and T. D. Willett. 2004. "IMF Conditionality, Implementation and the New Political Economy of Ownership." Comparative Economic Studies 46: 423-450.

Burns, C., J. Clifton, and L. Quaglia. 2017. "Explaining policy change in the EU: financial reform after the crisis." Journal of European Public Policy, DOI:10.1080/13501763.2017.1301535.

Clifton, J. 2014. Beyond Hollowing Out: "Straitjacketing the State". *The Political Quarterly* 85 (4): 437–444

Cole, H., and T. Kehoe. 1996. "A self-fulfilling model of Mexico's 1994-1995 debt crisis." *Journal of International Economics* 41 (3–4): 309–330.

Damill, M., R. Frenkel, and M. Rapetti. 2012. *The Argentine Foreign Debt Default and Restructuring.* Itf Policy Brief 63, Buenos Aires: ITF. UERL: http://www.itf.org.ar/pdf/lecturas/lectura63.pdf.

DeMello, L., and D. Moccero. 2006. *Brazil's Fiscal Stanceduring 1995-2005: The Effect of Indebtedness on Fiscal Policy Over the Business Cycle.* OECD Economics Department Working Papers, No. 485, Paris: OECD. URL: http://dx.doi.org/10.1787/857281763217.

Dreher, A. 2005. "Does the IMF Influence Fiscal and Monetary Policy?" The Journal of Policy Reform 8 (3): 225-238.

Dullien, S., and D. Schwarzer. 2010. *Umgang mit Staatsbankrotten in der Eurozone [Dealing with State Bankruptcies in the Eurozone],* Stiftung Wissenschaft und Politik. URL: http://www.swp-berlin.org/fileadmin/contents/products/studien/2010_S19_dll_swd_ks.pdf

Dullien, S., M. Rapetti, and P. Schiaffino. 2016. "Can Argentina's Experience Help Predict the Effects of a Potential Grexit?", *Intereconomics* 51: 229-236.

Eichengreen, B. 2002. "A Temporary Respite for Brazil". URL: http://eml.berkeley.edu/~eichengr/reviews/swissreview10sep3-02.pdf.

European Parliament. 2014. *On the enquiry on the role and operations of the Troika (ECB, Commission and IMF) with regard to the euro area programme countries.* EP Document 2013/2277(INI), Committee on Economic and Monetary Affairs (Rapporteur: Othmar Karas, Liem Hoang Ngoc), 28 February, accessed at http://www.europarl.europa.eu/sides/getDoc.do?type=REPORT&mode=XML&reference=A7-2014-0149&language=EN, September 2014.

Featherstone, K. 2011. "The JCMS Annual Lecture: The Greek Sovereign Debt Crisis and EMU: A Failing State in a Skewed Regime." *Journal of Common Market Studies,* 49: 193–217.

Financial Times, November 12, 2012. "EU-IMF feud erupts over Greek debt."

Flood, R., and N. Marion. 1996. *Policy Implications of "Second-Generation" Crisis Models.* IMF Working Paper 97/16, Washington, DC: IMF.
Fratzscher, M. 2013. *Es gibt keine Euro-Krise [There is no Euro Crisis],* DIW-Wochenbericht Nr. 15/2013, Berlin: DIW.
IEO (Independent Evaluation Office of the IMF). 2004. *The IMF and Argentina, 1991–2001.* Washington, DC: IMF/Independent Evaluation Office.
IMF. 2000. *Argentina: Argentina Letter of Intent, Memorandum of Economic Policies, and Technical Memorandum of Understanding.* Buenos Aires: IMF. URL: http://www.imf.org/external/np/loi/2000/arg/03/index.htm.
IMF. 2002a. *Assessing Sustainability. Prepared by the Policy Development and Review Department; in consultation with the Fiscal Affairs, International Capital Markets, Monetary and Exchange Rate Affairs, and Research Departments.* Washington, DC: IMF. URL:http://www.imf.org/external/np/pdr/sus/2002/eng/052802.pdf.
IMF. 2002b. *Brazil—Letter of Intent, Memorandum of Economic Policies, and Technical Memorandum of Understanding.* Brasília: IMF. URL: http://www.imf.org/external/np/loi/2002/bra/04/index.htm.
IMF. 2003. *Access Policy in Capital Account Crises – Modifications to the Supplemental Reserve Facility (SRF) and Follow-up Issues Related to Exceptional Access Policy.* Policy Development and Review and Treasurer's Departments, Washington, DC: IMF. URL: https://www.imf.org/external/np/tre/access/2003/011403.htm.
IMF. 2010. *Greece: Staff Report on Request for Stand-By Arrangement.* IMF Country Report No. 10/110, May 2010, Washington, DC: IMF. URL: http://www.imf.org/external/pubs/ft/scr/2010/cr10110.pdf
IMF. 2012. *Greece—Assessment of the Risks to the Fund and the Fund's Liquidity Position.* March 9, 2012, Appendix to the country report, Washington, DC: IMF. URL: http://www.imf.org/external/pubs/ft/scr/2012/cr1257.pdf
IMF. 2013a. *Greece: Ex Post Evaluation of Exceptional Access under the 2010 Stand-By Arrangement.* IMF Country Report No. 13/156, Washington, DC: IMF. URL: http://www.imf.org/external/pubs/ft/scr/2013/cr13156.pdf
IMF. 2013b. *Sovereign Debt Restructuring—Recent Developments and Implications for the Fund's Legal and Policy Framework.* Washington, DC: IMF. URL: https://www.imf.org/external/np/pp/eng/2013/042613.pdf
Kaminsky, G., and C. Reinhart. 1999. "The Twin Crises: The Causes of Banking and Balance-of-Payments Problems." *American Economic Review* 89 (1): 473–500.
Kentikelenis, A., Stubbs, T, and L. King, 2016. "IMF conditionality and development policy space, 1985-2014." *Review of International Political Economy* 23 (4): 543-582.
Köhler, H. 2000. "Address by Horst Köhler, Chairman of the Executive Board and Managing Director of the International Monetary Fund, to the Board of Governors of the Fund", Prague, September 26, 2000. http://www.imf.org/external/np/speeches/2000/092600.htm.
Krugman, P. 1979. "A model of balance of payments crises." *Journal of Money, Credit and Banking* 11 (1): 311–25.
Laeven, L., and F. Valencia. 2012. *Systemic Banking Crises Database: An Update.* Working Paper 12/163, Washington, DC: IMF.
Larsen, F. 2003. "Argentina and the IMF – The Need for Perspective", Address by the Director, Offices in Europe, of the International Monetary Fund, Toulouse, November 18-22. URL: http://www.imf.org/external/np/speeches/2003/111803.htm.
Lütz, S., and M. Kranke. 2014. "The European rescue of the Washington Consensus? EU and IMF lending to Central and Eastern European countries", *Review of International Political Economy.* URL: http://www.tandfonline.com/doi/full/10.1080/09692290.2012.747104

Magone, J. M., B. Laffan, and C. Schweiger (eds.). 2016. *Core-periphery Relations in the European Union*, London and New York: Routledge.
Matthes, J. 2015. An assessment of structural reforms in the stressed euro area countries and their relevance for growth and for EMU, IW policy paper 5/2015, Cologne.
Mussa, M. 2002. *Argentina and the Fund – from triumph to tragedy.* Washington, DC: Institute for International Economics.
Obstfeld, M. 1996. "Models of Currency Crises with Self-fulfilling Features." *European Economic Review* 40 (1): 1037–1047.
Pisani-Ferry, J., A. Sapir, and A. Wolff. 2013. *EU-IMF assistance to euro-area countries: an early assessment.* Brussels: Bruegel Blueprint Series.
Rogoff, K. 2006. "Who Needs the IMF?" *Newsweek International,* 25 September. http://www.brookings.edu/research/opinions/2006/09/25macroeconomics-rogoff.
Schwarzer, D. 2015. "Building the euro area's debt crisis management capacity with the IMF," *Review of International Political Economy,* DOI: 10.1080/09692290.2014.965263
Shambaugh, J. 2012. "The Euro's three crises." *Brookings Papers on Economic Activity* 44 (1): 157–231.
Steneri, C. 2004. "Uruguay Debt Reprofiling: Lessons from Experience", *Georgetown Journal of International Law* 35 (4): 731-754.
Stiglitz, J. 2002. *Globalization and its discontents,* New York: Norton.
Vegh, C., and G. Vuletin. 2014. "The Road to Redemption: Policy Response to Crises in Latin America." *NBER WP 20675*
Visvizi, A. 2014. "From Grexit to Grecovery: The Paradox of the Troika's Engagement with Greece," *Perspectives on European Politics and Society,* 15 (3): 335-345.
Wall Street Journal, October 7, 2013. "IMF Document Excerpts: Disagreements Revealed." URL: http://blogs.wsj.com/economics/2013/10/07/imf-document-excerpts-disagreements-revealed/?mod=wsj_streaming_stream.

Tables

Table 1. Argentina: Selected Economic Indicators

	1998	1999	2000	2001	2002	2003	2004
GDP growth (annual %) (1)	3,85	-3,39	-0,79	-4,41	-10,89	8,84	9,03
External debt stock (% of GNI) (1)	48,06	54,34	53,15	57,37	153,84	132,46	114,36
General gov. gross debt (% of GDP) (2a)	31,87	36,30	38,08	44,76	137,72	116,39	106,03
Overall fiscal result (% of GDP) (3)	0,43	-0,18	1,17	0,02	1,39	1,94	2,99
primary							
nominal	-1,62	-2,84	-1,96	-3,68	-0,55	0,23	1,82
Official exchange rate (period average) (1)	1,00	1,00	1,00	1,00	3,06	2,90	2,92
Real interest rate (%) (1)	12,55	13,12	9,95	29,12	16,18	7,83	-1,06
Inflation, average consumer prices (% change) (2a)	0,93	-1,17	-0,94	-1,07	25,87	13,44	4,42
Current account balance (% of GDP) (2a)	-4,04	-3,50	-2,63	-1,17	7,25	5,29	1,69

Source: (1) World Development Indicators, 2013; (2) World Economic Outlook, (a) April 2016, (b) March 2017; (3) CEPALSTAT, March 2017.

Table 2. Brazil: Selected Economic Indicators

	1999	2000	2001	2002	2003	2004	2005
GDP growth (annual %) (1)	0,26	4,31	1,31	2,66	1,15	5,71	3,16
External debt stock (% of GNI) (1)	43,15	38,68	43,04	47,68	44,13	34,28	21,98
Internal public net debt (% of GDP) (2)	35,16	36,54	38,85	37,48	41,66	40,18	44,13
External public net debt (% of GDP) (2)	9,38	9,00	9,59	12,99	10,69	6,82	2,33
General gov. net debt (% of GDP) (3)	n/a	47,00	51,49	59,93	54,26	50,19	47,92
General gov. gross debt (% of GDP) (3)	n/a	65,56	70,05	78,80	73,82	70,08	68,59
Overall fiscal result (3)							
primary	2,92	3,24	3,38	3,55	3,89	4,18	4,35
nominal	-5,28	-3,37	-3,29	-4,17	-4,65	-2,43	-2,96
SELIC rate (% p.y., end of year) (4)	19,04	15,84	19,05	24,90	16,33	17,75	18,04
Inflation, average consumer prices (% change) (2)	4,86	7,04	6,84	8,45	14,71	6,60	6,87
Current account balance (% of GDP) (2)	-4,32	-3,76	-4,19	-1,51	0,76	1,76	1,59

Source: (1) World Development Indicators, 2013; (2) Ipea Data, 2014; (3) World Economic Outlook, April 2016; (4) Banco Central do Brasil, 2014.