Debt Sustainability Assessments
& Their Role in the Global Financial Architecture

ECONOMY AND FINANCE

The Practice of Sovereign Debt Sustainability Analysis

Martín Guzmán and Joseph E. Stiglitz
August 2024

Jubilee USA NETWORK

FRIEDRICH EBERT STIFTUNG
NEW YORK OFFICE

Summary

Debt Sustainability Analyses (DSAs) have major implications for debt negotiations. The outcomes of these negotiations have distributional consequences between the debtor and its creditors on the one hand, and amongst creditors on the other hand. DSAs are not only technical analyses – they are based also on assumptions that are essentially political – but may also affect the outcomes of debt negotiations. The study of the institutional and political frameworks under which DSAs are performed has been largely overlooked by the literature. This paper analyses the practice of DSAs, with a focus on the frameworks in which it occurs, the implications of the choices of assumptions, and the consequences for debt negotiations.

Table of Contents

1. Introduction

Sovereign debt sustainability refers to the capacity of a sovereign state to meet its scheduled debt commitments, given relevant economic, social, and political constraints. When debt is not sustainable, it needs to be restructured. Failing to restructure unsustainable debts is detrimental both for the debtor and its creditors. Without such restructuring, there will be contractionary economic policies that typically induce recessions in economic activity, many of which are deep, depressing tax revenues and possibly even increasing the burden of debt in relation to output.[1] Unsustainable debt burdens entail efficiency losses, not only as a result of the reduction in aggregate demand, but because of distortions in incentives, especially when the debt overhang is severe (Krugman, 1988). These adverse effects may be so large that even creditors (as a group) can benefit from granting debt relief,[2] as relief under certain circumstances increases both output and the expected payments for creditors. In less technical terms: failing to restructure debt when it is unsustainable shrinks the size of the pie to be distributed between the debtor and the creditors.

The assessment of debt sustainability is done through debt sustainability analyses (DSAs). The practice of sovereign DSA influences debt negotiations and restructuring outcomes, with potentially large economic, social, and political consequences. DSAs influence how much debt restructuring occurs and when it occurs. Because there is inevitably uncertainty about the future evolution of the economy, there is uncertainty about whether the country's debt is sustainable. An overly optimistic DSA may entail more IMF lending and less debt write-down by private parties, with the result that there will be another crisis down the road. By then, some of the private creditors will have taken advantage of the temporary respite to withdraw their funds – making the resolution of the debt crisis even costlier. This, in turn, means that the economy's prospects are diminished from what they otherwise would have been. In short, there are real economic and distributional consequences to a DSA, and that inevitably means that politics and power will matter (cf. Guzman, Colodenco, and Wiedenbrug, 2024).

In the discussion below, we will illustrate how this plays out in the implementation of DSAs – creating quandaries for the staff and board of the IMF. As we shall show, this in turn often leads to intellectual inconsistencies in the practice of DSAs: assumptions, for instance, about interest rates or market access which are not themselves consistent with the hypothesized evolution of the economy. None of this should be a surprise: if the IMF grants loans based on power but is restricted to the fulfilment of certain bureaucratic rules concerning DSAs (such as the rule that states that the IMF can only make a loan if, with the loan and the associated policies, the country's debt is sustainable, with a high probability) the DSAs will bend to power (that is, the assumptions made in the DSA will be those that ensure that the country is eligible for the loan).

A deeper understanding of the practice of DSAs, which this paper attempts to provide, may not only help the IMF develop better lending practices – with a lower probability of one crisis being followed by another – but also help developing countries and emerging countries in crises achieve the deeper restructurings they need to restore long-term economic growth and prosperity.

2. What is a DSA?

[1] See the revision of cases of fiscal adjustment over the recent history (Jayadev and Konczal, 2010, 2015), as well as Guzman and Stiglitz (2020), Stiglitz and Heymann (2014), and Stiglitz (2015) on the mechanisms that relate unsustainable debts to macroeconomic performance.

[2] We emphasize that it is in the interests of the creditors *as a whole*: intra-creditor fights contribute greatly to a delay in restructuring and to restructurings being too small. See Guzman, Ocampo, and Stiglitz (2016).

A DSA is an assessment of the sovereign's capacity to meet its scheduled debt payments. Any DSA is a forward-looking exercise: it requires forming expectations about the future debt-repayment capacity. These expectations will, in turn, depend on the (expectations of) actions of economic agents, which in turn depend on beliefs about the beliefs of those agents. Thus, any DSA entails judgments regarding the evolution of the economy of the country under analysis, including the expectations of others whose behaviours and decisions determine the country's financing capacity (Guzman and Heymann, 2015).

The concept of debt sustainability is intricate, as it depends on heterogenous beliefs about the future and views on the functioning of the economy under analysis over which major conflicts during negotiations among different stakeholders are common.[3] Debtors and different groups of creditors tend to have different views in debt restructuring negotiations. Those differences in views are often not just based on discrepancies over technical criteria but on competing interests, with creditors wanting less restructuring arguing that countries have a greater capacity to repay than they may really have. Generally, they want the DSA to employ assumptions that show that that is the case.

3. Debt sustainability in an environment of incomplete contracts

There are two different literatures regarding why defaults may occur. In one strand, defaults are the consequence of lack of commitment to or enforcement of debt contracts. A default is an optimal decision for a utility maximiser sovereign – and may occur even when there is *capacity* to pay (Eaton and Gersovitz, 1981; Aguiar and Gopinath, 2006; Guzman, 2014). In the other strand, defaults are the consequence of a lack of capacity to pay – a problem of *sustainability* (Guzman and Stiglitz, 2020; Roubini, 2001; Wyplosz, 2007).

However, the distinction between the two perspectives, between commitment and sustainability, is not as clear as this discussion might suggest. Typically, a country could repay more, but with a high *expected* but *uncertain* cost, e.g. the political unrest may be so great that future output will be reduced, and given these uncertain outcomes, the expected repayment actually received by the creditor may be reduced. In other cases, the expected repayment by the creditor might be increased, but the costs borne by the debtor are judged to be unacceptable. Only where there is a "Laffer curve" – where any actions designed to increase repayment actually result in reduced repayments, so that there is an absolute maximum expected repayment – is "capacity" well-defined. Otherwise, the capacity to pay becomes ambiguous.

The feature common to both literatures is that debt contracts are incomplete, as they do not stipulate the transfers between the debtor and its creditors according to the realization of every possible state of the economy. If there were complete debt contracts, there would not be sustainability problems. Each contingency would be considered and implicitly resolved in the debt contract, and it would never be necessary to restructure contracts to satisfy transversality conditions; there would be no insolvencies. In practice, however, with incomplete contracts, expectations about future outcomes determine the sustainability assessment (Guzman and Heymann, 2015).

The incompleteness of sovereign debt contracts is a defining characteristic of sovereign debt. It will always be that way, as it is simply impossible to even know the full space of states, let alone to write contracts that are indexed to every known possible state, especially so because of problems of verification ex-post.

The existence of a positive risk market premium implies that creditors do not expect full repayment according to the schedule of debt payments established in the bonds or loans in every state of nature. However, debt

[3] There are conflicts in views about what the policies should be, what they will be, and what the consequences of alternative policies would be.

contracts do not fully specify the states of nature in which the scheduled payments would not occur according to the ex-ante expectations that justify the compensation for taking risk. Thus, the scenarios in which sovereign debt restructurings are needed are not fully defined in the contracts, and when risks materialize such that a debt restructuring becomes necessary, creditors do not fully "lose" the rights[4] stipulated in those contracts, until they willingly accept an exchange offer, or are forced to do so via super-majority positions (such as those defined in collective action clauses included in the bonds). This opens the door for creditors' litigation against sovereign debtors when the rights stipulated in the contracts are infringed, regardless of the economic circumstances that led to the infringement.[5]

In practice, in situations of debt distress, creditors generally fail to recognize the ex-ante rationale for a risk premium. The usual situation features a delay from every side in recognizing the sustainability problem followed eventually by the start of a debt negotiation featured by disagreements based on competing interests among all stakeholders – the debtor versus the creditors, and among the creditors (Brooks et al., 2015), with creditors often arguing that they should be entitled to receive a high interest rate, *even after a restructuring that allegedly restored sustainability, which would imply that there would be no justification for such a high interest rate*. Conflicts arise whose resolution is generally protracted and highly costly given the absence of an international rule of law. The costs of delay may be very high: the uncertainty associated with unresolved macroeconomic debt crises has aggregate demand and supply effects that lead to underutilization of the factors of production of the economy. There are negative externalities of these aggregate demand effects, hence the social costs of delay are generally larger than the private costs, making a market-based solution inefficient (Stiglitz, 2010). The costs may be so large that both the creditors and the debtor can be worse off as a result. However, the delay may be costlier for one side than the other: typically, the debtor country suffering the crisis is in a bigger rush to stop the escalating social and political unrest than the bondholders that can more patiently wait for a resolution that is more favourable to their interests.

4. The key questions for a DSA

The first question of a DSA is: *Under the current set of policies, is debt sustainable with high probability?*

If the answer to the first question is negative, the next question of the DSA is: *Are there feasible alternative policies that would make debt sustainable with high probability?* The objective at this stage is to assess whether there are *policy adjustments* that would ensure debt sustainability with high probability, such that a debt operation that involves relief can be avoided. As we will see below, the endogenous effects of policies need to be considered when addressing this question– for example, a public spending cut to improve the fiscal balance will likely decrease economic activity; hence it will decrease tax revenues.

If the answer to the previous question is also negative, then the DSA formulates a third question: *What is the size of relief that would take the debt to a sustainable position with high probability?* The DSA at this stage provides guidance for a debt restructuring.

[4] As we have explained, under incomplete contracts that include a compensation for risk, those "rights" are ambiguous. In the case of a debt contract, when the debtor fails to fulfill some term in the contract, even if there was a compensation for the risk of such "failure", the creditor has to decide that the failure is a triggering event. The contract specifies what happens next, but the remedy may not be fully defined in the contract. For corporations, bankruptcy laws are meant to complete the contract. For sovereigns, there is no such mechanism, and judges' discretion often gets larger, as it happened in the dispute between Argentina and the vulture funds following the 2001 country's debt default (Guzman and Stiglitz, 2014; Chodos, 2016).

[5] Debt contracts could, of course, specify certain situations where the creditor is not entitled to full repayment, e.g. acts of war or nature that make it impossible to repay, but typically they do not do so. More recently, some bonds specify conditions, like hurricanes, in which there can be postponement of repayment.

5. Misaligned incentives for timely restructurings

Sovereign debt restructurings generally come in the form of "too little, too late" (Guzman, Ocampo, and Stiglitz, 2016), meaning that restructurings are delayed and when they do occur, the amount of debt relief is not enough to restore debt sustainability, making crises longer lasting and costlier, increasing the risk of a future crisis. This phenomenon is explained by multiple factors, many of which go beyond this paper. One important factor is incentives: in the current environment for sovereign restructurings, both the creditors and the debtor face a structure of incentives that leads to delays in addressing unsustainable debt burdens (Orszag and Stiglitz, 2002; Diwan et al., 2024). With such a delay, they can keep the possibility of the upside in case a positive shock occurs. This incentive on the creditor side is exacerbated by the high return to sovereign debts in default before there is a judgment – an annual rate of 9 per cent under New York law, set in 1981 when the annual inflation rate in the US was close to that figure (see Blackman and Mukhi (2010), Cruces and Samples (2016), Guzman, 2020), a matter that is currently under discussion in the New York legislature. The corporate governance of the creditor institutions also creates principal-agent conflicts of interest within those institutions: those making the decisions in a restructuring process may put their own incentives before the best interest of the institutions they work for. Agency problems on the part of creditors may be especially severe when those who are partially responsible for having granted the loan are also responsible for restructuring: they don't want to "admit" publicly what a bad decision they made just a few short years earlier.

On the other hand, the government of the debtor may have an incentive to pass on the problem (at least partially) to the next government. In fact, the political economy incentives on the debtor side are a large determinant of government's behaviour: there may even be campaign financing coming from creditors, leading to capture. Besides, creditors' lobbying that blames debtor governments for unreasonable demands in restructuring processes and instils the fear that if the government is not willing to reach a softer deal the economy will suffer disastrous consequences may be effective at creating a public perception of pessimism, which is politically costly for governments.

Furthermore, inter-creditor conflicts may result in bargaining problems, where the outcomes result in inefficient delay.

DSAs are an important tool to at least smooth these problems of incentives on all sides of a debt negotiation. If they are properly conducted, they make it more difficult for those on both sides of the bargaining table to pretend the problem is smaller than it is.

6. The elements of a DSA

The assessment of debt payment capacity is based on three main dimensions:

1. The definition of constraints.
2. The determination of the set of feasible policies and their endogenous feedback effects, i.e. the relationship between policies and economic performance.
3. The specification of belief distributions about the economy's trends and shocks and the relationship between policies and those belief distributions.

In the practice of DSA, there are different views regarding the definition of each of those three blocks. Those differences are to a large extent borne from competing interests in the resolution of the conflicts that emerge in

situations of macroeconomic inconsistencies, in which the satisfaction of the constraints imposed by resource availability requires a distribution of losses. We next turn to analyse each of those three blocks.

6.1 The constraints for debt sustainability

The sustainability of the public debt depends, first, on the capacity of the public sector to meet its transversality condition, which states that the expected present discounted value of the primary balance must be equal to the value of the outstanding debt when the analysis is performed.

There are several caveats that must be considered when we refer to the transversality condition of the public sector as the constraint that defines sustainability.

First, at least some of the public debt may be denominated in foreign currency, which implies that the exchange rate is also a determinant of debt sustainability. This in turn means that the transversality condition of the aggregate economy (the sum of the intertemporal budget constraints of the public and the private sector, i.e. the balance of payments constraint, but ultimately the performance of the tradable sector) is also a constraint for debt sustainability.

Second, not every level of primary balance may be feasible for a society given its economic, social, and political environment. For instance, it would be inconceivable that a country would turn over its entire GDP to foreign creditors, leaving its population destitute. How much of a country's GDP can be turned over without setting in motion unacceptable political, social, and/or economic dynamics? World War II is often blamed on the victors of World War I for imposing harsh reparations on Germany – so harsh that the resulting adverse economic conditions set in motion very adverse politics. This means that there may be other non-economic constraints that determine debt sustainability – in the literature they have been dubbed "political constraints" or principles-based constraints (as those defined by the United Nations General Assembly Resolution A/RES/69/319 in 2015; see Guzman and Stiglitz, 2016b; Guzman, 2018). Obviously, there is judgment entailed in deciding where these constraints lie.

Third, there are interactions between fiscal policies and fiscal outcomes, which takes us to another dimension of the debt sustainability analysis – namely, the endogenous feedback effects associated with economic policies, which we will analyse below.

Fourth, the fact that the satisfaction of transversality conditions depends on expectations about variables that will be realized in the future means that the definition of beliefs for the distribution of the variables that enter the budget constraints is also an input for the DSA. For the policy analyst, what matters is their beliefs about the likelihood of various outcomes, but those in turn depend in part on beliefs about the beliefs of the agents in the economy; if they believe that the debt relief is insufficient, then they may not be willing to invest, given that they think the crisis will fester or recur; the policy analyst may think those agents' beliefs are wrong – but she will have to deal with them as they are, and explore the consequences for debt sustainability.

These beliefs (both on the part of agents and of the policy analyst) themselves are endogenous, and there obviously may be disagreements about both what those beliefs are and how they depend on the policies undertaken.

The typical situation in debt negotiations features differences in views about the relevant constraints. Creditors typically claim that the maximum primary fiscal balance or the maximum trade balance that is feasible is larger than what the debtor claims. However, that is not always the case, for multiple reasons: first, there is the possibility of a problem of representation on the debtor side, as a government might favour interests that are

different from the taxpayers' interests[6] (but no government would say so). Second, ideology, such as the belief that being more friendly with creditors (i.e. showing that the government is willing to put immense pain on its people to repay debts) will increase confidence and investment in the economy, may shape debtors' decisions. Third, there may be short-term political economy incentives to side with creditors' common views, when not reaching a deal in a debt restructuring proves too costly for an incumbent government.

Defining the relevant constraints for debt sustainability entails taking a stance not only on how to address the distributional conflict between the debtor and its creditors but also, to some extent, on the inter-creditor conflict, as this part of the analysis also requires determining the debts to be included in the perimeter of debt to be restructured. In restructuring processes, discrepancies may arise over the eligible debt for restructuring based on currency, residency, jurisdiction of issuance (law), and even the type of creditor (Guzman and Stiglitz, 2023). For instance, the inter-creditor conflict will be influenced by the decision of whether to pool local currency and foreign currency debt or just include foreign currency debt in the constraint that will define the universe of debt for which there is rollover risk (in the IMF DSA, this constraint refers to the gross financing needs, as we analyse below), or whether to include or exclude the debt of the state-owned enterprises.

6.2 The endogenous effects of macroeconomic and fiscal policies on debt sustainability

The primary fiscal balance is an endogenous variable. Spending and tax decisions have endogenous feedback effects on economic activity and hence on tax revenues – mathematically, the primary balance is a fixed point, meaning that it depends on economic activity while economic activity depends on both the variables that determine the primary balance, i.e. taxes and public spending. There may also be multiple possible equilibrium policies (including debt repayments) rather than just one fixed point. And there may be, within the set of admissible policies, a maximum feasible repayment.

Similarly, the trade balance, which determines the availability of foreign exchange, is also an endogenous variable. Austerity policies that undermine the productivity of the tradable sector, such as cuts to public spending in knowledge or infrastructure, may decrease exports in the future. On the other hand, austerity policies that depress economic activity also contract imports, and *ceteris paribus*, that leads to more availability of foreign exchange in the short term – which at times creates the seemingly puzzling situation in which the deepening of recessions is associated with both an increase in short-maturity foreign currency bond prices (which reflect the larger probability of repayment in the short term given the larger availability of foreign exchange) and a reduction of the long-maturity foreign currency bond prices (which reflect the lower probability of repayment in the long term given the damage to the productive capacity of the tradable sector of economy).

In debt negotiations, there are often discrepancies between creditors and debtors in views over the size and even sign of the multiplier effects associated with fiscal policies. Typically, creditors claim that the contractionary spending policies will boost confidence and hence investment. On the other hand, the debtor is more concerned about the negative multipliers on economic activity of contractionary policies, and especially in situations where factors of economic production are under-utilized. In several cases over the last couple of decades these discrepancies between perspectives became very prominent. These include Greece in the 2010s (see Varoufakis, 2016), Argentina following the default of 2001 (see Guzman, 2020), or the ongoing case of Puerto Rico (see Gluzmann, Guzman and Stiglitz, 2018). The evidence overwhelmingly supports the prediction that contractionary fiscal policies in such situations is contractionary and that well-financed expansionary policies in recessions contribute to recovery (see Jayadev and Konczal (2010), contrasting Alesina and Ardagna (2010); Blanchard and Leigh (2013); Auerbach and Gorodnichenko, (2012)). Creditors have incentives to overestimate the "confidence effect" or underestimate the fiscal multipliers, to preserve the possibility of higher payments in the upside scenarios – this force may prevail in the creditors' view even if there are efficiency losses associated with unsustainable debts or restructuring processes.

[6] For example, when they have been captured by creditor interests.

6.3 Beliefs

A DSA requires a definition of the distribution of shocks.[7] From the viewpoint of analysts and market participants, those distributions are subjective: no one knows (even if someone pretends to) the true probability density functions of the variables that determine debt sustainability; in other words, we do not live in a world of rational expectations. The market risk premium reflects market expectations, which includes heterogenous expectations of many participants, but even when market participants' expectations are correct on average, there is no simple relationship between the observed market price and the true risk of default. Indeed, it appears that on average market participants in a diversified portfolio of sovereign bonds would have received a high (beta-adjusted) return over the last two centuries (Meyer, Reinhart, and Trebesch, 2022). This is especially problematic given that the most optimistic are the "marginal buyers" of the bonds (Geanakoplos, 2010). It thus appears that rational investors buying sovereign bonds are more than adequately compensated for the risks borne.

The definition of the distribution of shocks is also associated with discrepancies in debt negotiations. Under incomplete contracts, and for the same reasons discussed in relation to preserving the possibility of higher payments in the upside scenarios, creditors will tend to be more optimistic than the debtor about the baseline scenario.

Recent restructurings (for example, Suriname, Sri Lanka, and Zambia) are including contingent clauses in the restructured bonds. While contingent debt such as GDP-linked bonds is supposed to improve debt sustainability, by aligning scheduled debt payments with payment capacity, the model that is emerging in those restructurings is not moving in that direction: Instead, the contingent clauses are asymmetric, implying that in the case of upside scenarios creditors get the benefits, but in the case of downside scenarios payments are not lowered (or not lowered symmetrically, as in Sri Lanka), even though the bonds' coupons include a significant risk-premium.

7. Who performs DSAs?

Sovereigns in debt distress rarely perform DSAs. They rely on the DSA conducted by the IMF or at times also on the work of external advisors, such as the international investments banks that sell sovereign advisory services. This reliance on external actors often means that the interests of the citizens of the country in distress are not adequately represented in the frameworks for debt negotiations, as the incentives of other stakeholders or external advisors are generally different from those of the sovereign whose debt is being restructured. As we have already noted, incentives matter when it comes to some of the critical assumptions in doing a DSA.
Most governments of developing countries do not even have the capacity to do a DSA. Their debt management offices do not develop those institutional capabilities and hiring staff capable of performing these analyses may prove impossible given the discrepancies between salaries offered by governments and those available in the private sector or at international financial institutions. In the very few cases in which a government produces a DSA, creditors have incentives to de-legitimize it. Even if the analysis is sound, creditors generally claim that the government's position is biased, and that it is not acting in good faith. They often have the available resources to succeed in such campaigns.

Private or bilateral creditors do not follow the practice of publishing DSAs, either at the time the loan is made or when it may have to be restructured. If they did, their views at the time of providing financing – including the foreseen circumstances that justified the risk premium – would be clearer. China did publish a "Debt Sustainability Framework for Participating Countries of the Belt and Road Initiative" (Ministry of Finance of

[7] This is only part of the disagreement in probability distribution of outcomes, which is what matters for bonds trading.

People's Republic of China, 2019), but as of the time of writing has not yet published specific DSAs for the countries to which it lends, hence we are still unable to evaluate China's DSA. Given China's growth as a lender, it will not be surprising if it continues developing frameworks for the implementation of its debt policies, just as the IMF does on a regular basis. If China becomes the largest lender of countries in debt distress, Chinese authorities may wonder why their country needs to follow the rules determined by Western nations.

The IMF is the main player for conducting DSAs and it is usually the only actor to do so. The IMF DSA, launched in 2002, is a tool for the Fund's lending policy.[8] The IMF produces DSAs either as part of routine surveillance of its member countries through their Article IV consultations, or in the context of its financing programs. While some define the IMF DSA as a strictly technical tool to mediate over the conflicts that arise in debt crises, in practice it is hard (or virtually impossible) to immunize the IMF DSA from the influence of the interests represented by the Fund's shareholders, which often represent special interests within the creditor countries, such as those of the American financial sector, when those interests benefit from bailouts financed by IMF financing or from the IMF conditionalities in IMF-financed programs.

The IMF has two frameworks for assessing debt sustainability: one for low-income countries, the IMF-WB Low Income Countries (LIC) debt sustainability framework (DSF), which is mostly focused on external debt sustainability (LICs are the countries that usually meet their external financings needs through concessional resources) and is also used by the World Bank. The other DSA framework is for "market-access countries (MAC)." The MAC framework, which applies to the countries that have access to international private credit markets (or have had it in the past, with the IMF-financed program designed to restore access) and is more focused on fiscal (public debt) sustainability. For the IMF, a public debt is sustainable when the government is able to meet all its current and future payment obligations without exceptional financial assistance, e.g. funds from the IMF (Hakura, 2020).

The lines between the two frameworks are at times blurred. The LIC framework has been applied to countries that have had more market access than some other countries covered by the MAC framework. For example, Ghana's latest DSA was done using the LIC framework, and Sri Lanka's latest DSA was done using the MAC framework (Maret and Setser, 2023).

According to its Articles of Agreement, the IMF should not lend to countries whose debt is not sustainable now or whose future sustainability is at high risk. The IMF's disbursements are supposed to be linked to debt restructurings with the country's private or official bilateral creditors if debt is not sustainable. In debt restructuring cases under an IMF arrangement, the IMF's DSA is used to identify the amount of debt relief needed.

8. Five issues with the IMF's DSA practice

8.1 Having an IMF DSA undertaken and published

The common practice is that sovereign debt restructurings occur in the context of a program with the IMF. However, a country might well choose to restructure without having a program with the IMF. In fact, under certain circumstances, a restructuring could provide enough relief to restore the financing conditions for countercyclical macroeconomic policies. An example of this kind was Argentina's 2001 debt crisis resolution (cf. Damill, Frenkel, and Rapetti (2015); Guzman, 2020).

[8] For an analysis of the history of the IMF DSA, see Laskaridis (2021).

If a country is restructuring its debt under a program with the IMF, the IMF staff produces a DSA. However, if the country is not negotiating a debt restructuring under a program with the IMF, it can still request a Technical Assistance on debt sustainability analysis to the IMF (a form of a stand-alone DSA). This is what happened in Argentina's 2020 debt restructuring (IMF, 2020), which set a precedent that other countries could follow. That DSA indicated that there was need for significant relief to restore debt sustainability.

The IMF DSA may influence creditors' expectations and bargaining power – although the influence of the IMF DSA on creditors' expectations depends to some extent on its validation by the IMF's major shareholders. Of course, if the DSA suggests that there will need to be greater restructuring than the creditors believe is justified or are willing to provide, the creditors will attempt to delegitimize the DSA. Regarding the private sector, as a standard practice it demands interest rates and employs discount rates that are inconsistent with debt sustainability, seemingly without regard for the cognitive dissonance. This means that even if most of the assumptions that go into building a DSA (say about investment) are similar, the conclusions of the private sector on debt sustainability and an IMF DSA may differ markedly.

There is another dimension in which the IMF DSA may have influence: domestic political economy dynamics. IMF (2020)'s analysis for Argentina illustrates this point. One of us, Guzman, was the finance minister of Argentina at the time of the debt restructuring with private creditors that was conducted in 2020 and holds the view that even if the IMF DSA were not as effective as it could have been in anchoring foreign private creditors' expectations, it did matter significantly for anchoring expectations domestically. While domestic political economy pressures for a quick agreement were rising, even if the terms that would enable a quick deal would not grant the necessary relief in debt payments to restore sustainability, the IMF's publication eased those domestic pressures. In a country with a long history of trouble with the IMF, where the IMF is seen as one of the culprits of some of the most tragic economic crises in the country (most notably, the economic crisis of 2001), being more lenient to creditors than deemed necessary by the IMF could prove costly to those in the center-left of the political spectrum.

Another concern for stakeholders in debt negotiations focuses on the timing of the IMF DSA and its release. Sri Lanka is a recent case in point: it took seven months from the moment in which there was a "Staff Level Agreement (SLA)" (meaning an agreement on a financing program between the country's government and the IMF Staff) and the approval of that agreement by the IMF Executive Board in October 2023. However, standard practice is that the DSA is not released until an IMF-supported program is approved by the Executive Board, what in turn delayed the release of the DSA. The publication of the IMF DSA may have a larger impact if it does not need to wait until an IMF-supported program is approved by the Executive Board, as it would enable broader societal debate about debt negotiations much sooner.

In fact, if countries had legislation that mandated the approval of a program with the IMF by the National Congress, the documents that constitute the Staff level agreement would need to be submitted to the Congress before they are approved by the IMF Executive Board, meaning that they would become public information earlier. This has been the situation in Argentina since 2021, when Congress approved the "Law for Strengthening the Sustainability of Public Debt", which was applied for the first time in 2022, when the country reached a deal with the IMF to refinance the debt with the Fund borrowed through the Stand-by Arrangement of 2018.

It is precisely because the DSA may be so influential that some parties may not want the IMF to do a DSA, or if it does one, to not publicly release it. For instance, creditors claim that a DSA showing the country can only repay a more limited amount than they would like is tilting the bargaining against them – and they try to have access to the IMF DSA before it is published, to influence it before it is too late. Private creditors might believe that they can push around indebted countries more – persuading them to accept a smaller debt restructuring, one that would, with a high probability, lead to another crisis down the line.

8.2 Dealing with the IMF itself as a large (senior) creditor in DSAs

Under IMF rules, a condition for lending under the "exceptional access policy" (meaning, lending sufficiently large amounts), is that according to the IMF MAC-DSA, the country is likely to regain access to credit markets to roll-over existing debts and repay the Fund at the time the debts come due – the timing of which may depend on the outcome of a debt restructuring.

However, given the IMF preferred creditor status, private creditors may not be willing to provide any financing when they see a large outstanding debt stock with short maturity with the IMF. In fact, large loans from the IMF may decrease the likelihood of regaining access to the private credit markets (Krahnke, 2023). In that scenario, if the IMF staff correctly and realistically assesses the situation and if the lending occurs, there will be an inconsistency between the staff's (realistic) assessment and the IMF lending rules, as under those circumstances the only realistic source of financing for rolling over those debts would be the IMF itself, but the IMF staff is obliged to pretend that that's not the case (if the IMF program is to proceed). Obviously, that means that some unrealistic assumptions go into the analysis, with the objective of making the DSA overly optimistic. Of course, a realistic assessment would entail recognizing a longer exposure to the IMF, which under current IMF policies also entails assuming higher lending rates in the form of surcharge payments. (Stiglitz and Gallagher, 2022; Gallagher et al., 2024).

The implication of assuming (more realistically) no market access for more prolonged periods, when the IMF is a large creditor, is the need for deeper debt restructurings with other creditors, which creates a conflict between the IMF and the other, more junior, creditors – all or most of which may be influential with the IMF shareholders. In extreme cases of too much debt with the IMF and no prospects of access to international credit markets, there might not be a debt operation that restores debt sustainability unless either the debt with the IMF is restructured or the IMF changes its lending terms, for instance by extending maturities. However, neither of those options is a prerogative or decision of the staff, who is responsible for producing the DSAs.

In practice, the way the IMF deals with this quandary is by making heroic assumptions about the prospects of markets access, to create a pretence that it is meeting its own rules. The most notable example in this respect is Argentina's Stand-by-Arrangement of 2018 – a record loan of $50 billion, then increased to $57 billion, out of which almost $45 billion was disbursed (the disbursements were stopped when the government that had signed the deal with the IMF lost the primary elections of 2019 by a large margin).

To grant that loan, the IMF Staff had to determine that the criteria for "exceptional access" were met. The IMF deemed that at that time, in a context of a currency run in which the country had been cut from international credit markets, the country's public debt was sustainable, arguing that there was a liquidity problem rather than a sustainability problem. Argentina's government position was that the reason for the liquidity problem was political: More specifically, financial markets' fear, in the view of the government, that the opposition party would win the next presidential elections. In that view, lending to address the liquidity problem was equivalent to lending to bolster the chances of the incumbent government (Mauricio Macri's administration) of winning the presidential election – essentially, a political loan, which is not consistent with the IMF rules. (That is, the loan would only have made sense if the actual probability of the opposition was negligible; for at any higher probability, the debt would not have been sustainable "at a high probability".)

To justify that Argentina would be able to repay the IMF according to the loan amortization schedule, the IMF staff deemed that Argentina's treasury already had credit market access during the implementation of the program, because it managed to both roll-over a small fraction of the Argentine law USD-denominated debt with short maturity (one year) held by local investors and had access to financing in Argentine pesos through notes with very short maturities. In its first review of the Stand-by Arrangement, from October 2018, the IMF Staff judged that "*despite the recent tightening of financial conditions, Argentina continues to maintain access to domestic financial markets, where residents and non-resident investors have continued to participate in recent peso- and USD-denominated bond placements*" (IMF, 2018).

There are multiple problems with this interpretation made by the IMF staff regarding debt sustainability. First, the staff's interpretation did not reflect that the Argentine peso notes had been subscribed by speculative foreign investment funds and hedge funds that were exploiting *carry trade* opportunities in a context of a policy of high interest rates. This interpretation amounts to a positive assessment of *carry trade*, a behaviour that it is well known that may be destabilizing for countries' exchange rate dynamics, and that in part explains why the IMF has been endorsing the adoption of macro-prudential capital account regulations (capital flows management, in the IMF language) over the last two decades.[9]

Second, the assessment that there was access to credit markets was made in a context in which the country had already been cut off from international credit markets. The interpretation of the IMF staff assumed that being able to roll-over a very small fraction of its USD-debt with residents, written under local law, rolled over into new debts in local currency, meant that the prospects of repaying the IMF when the debts came due were good. There are important differences between USD debt written under local law and the standard foreign debt, and the amount rolled over was a miniscule fraction of the debt that was owed in USD. Success in rolling over a small amount of the former was no real indication of Argentine's ability to roll over the latter. To our knowledge, this interpretation by the IMF staff, justifying that the country would be able to repay the IMF on time because it had access to some domestic financing while the program was in place, has no precedent.

Most importantly, Argentina couldn't repay the loan when it came due, and still can't. The country couldn't then, and can't now, find foreign private creditors to lend it money at reasonable interest rates (at rates that reflect markets' judgment of sustainability) to repay the IMF. Ex post, clearly the IMF was wrong. However, looking back, it is hard to construct a scenario in which the country could have paid the money back. The DSA should have said not that "the debt was sustainable but not with high probability" but instead that there was a small probability that the debt was sustainable – and it should have recommended not lending under those circumstances, as the rules indicate. It might seem a massive failure in analysis; but our discussion above explained why, given the political nature of the loan and the inconsistency in the rules and practices, such a failure was itself almost inevitable.

As this paper goes to press, the IMF Independent Evaluation Office is producing an assessment of the IMF implementation of its exceptional access policy, which will have to judge whether the IMF staff's interpretation of the criteria for exceptional access in the case of Argentina was sound.

8.3 Considering local vs. foreign currency debts in the IMF DSA

The IMF DSA includes constraints that define debt sustainability. The typical constraints refer to thresholds for the debt to GDP ratio, the gross financing needs (GFN) to GDP – with the intention of limiting rollover risks – and the ratio of foreign exchange debt service to GDP or to exports. When those thresholds are exceeded, debt is deemed likely to not be sustainable.

Under the IMF "market access framework", defined above, it has become common practice (urged by holders of foreign currency debt) to pool local and foreign currency debt together for debt sustainability assessments. This methodology is affecting incentives in debt negotiations: holders of foreign currency debt push for domestic currency debt to be the variable of adjustment – even though the sustainability of domestic currency vs foreign currency debt must be assessed under theoretical frameworks that capture marked differences across those disparate kinds of assets (Guzman and Stiglitz, 2023).

[9] The academic literature on macroeconomic externalities that sheds light on the optimality of the adoption of capital account regulations precedes the IMF's adoption of such a stance [see Stiglitz (2000), Korinek (2010, 2011), Farhi and Werning (2014), Erten, Korinek, and Ocampo (2021), Stiglitz and Ostry (2022), Ostry (2023)].

Pooling debts in domestic and foreign currency under the same measure of GFN, when the capacity to rollover different debts is different, is obviously problematic. Sri Lanka's recent restructuring is an example of the perils of that methodology: Sri Lanka's treasury clearly faces a higher rollover risk of its foreign currency debt than of its domestic currency debt, largely debt with the central bank, but the methodology implemented by the IMF does not capture that difference appropriately (see Maret and Setser [2023] for a more comprehensive analysis). Besides, capital account regulations would have a different impact on domestic currency debt held by residents or non-residents, and therefore would provide an additional instrument to deal with external debts in domestic currency that is not available for external debts in foreign currency.[10]

Ultimately, the principles that guide debt restructuring processes may affect the development of domestic capital markets and thus affect their capacity to borrow in domestic currency in the future. In turn, this affects currency mismatches, exchange rate instability, and debt sustainability. DSA are contingent on policies and practice, which are influenced by the stance taken regarding those principles. Thus, the IMF choice of principles for DSA and debt restructuring is a matter with practical consequences both in the short term and long term.

8.4 Choosing the right discount rate in IMF DSAs

While for a debtor what matters in a restructuring is the amount of relief, for a creditor what matters is the value of the security it receives in exchange for the unsustainable bond or loan. Thus, debtors need to frame debt negotiations in terms of sustainability prospects, while creditors usually frame debt negotiations in terms of the "recovery" value of the bonds that are issued in the swap. While the latter is irrelevant from the viewpoint of the restoration of debt sustainability, the exercise may be necessary for the assessment of the different treatment to different classes of creditors – what's been called "comparability of treatment" in the literature (Guzman and Stiglitz, 2023; Diwan et al, 2023).

Assessing the present discounted value of a bond that will be issued in a debt restructuring presents an obvious problem: the choice of a discount factor for a security that has not been issued yet. The choice of such a discount factor is often associated with disagreements between the debtor and its creditor.

In a scenario that assumes that a restructuring is effective for restoring debt sustainability, the discount factor should be close to the risk-free rate. However, this is not what happens in practice. Typically, creditors claim that the discount factor should be much higher than the risk-free rate, using standard credit rating categories. For instance, for Zambia, a CCC rating implied the use of a discount factor of about 10 per cent for measuring haircuts on the restructured debt in its last restructuring. The use of a high discount factor should instead be seen as an indication that the restructuring is not deep enough to restore debt sustainability.

Interestingly, calculations of numbers that economically do not mean much may have political consequences: when creditors' framing prevails, public debates over restructurings are framed in the wrong terms. The country is told that a large fraction of the debt is being written down. In reality, using the correct discount rate, the creditor loss may be nonexistent, and the actual write-down may be smaller than what is needed to restore debt sustainability. At the same time, the financial press abroad often excoriates the government for a presumably large debt write-down.

A DSA is supposed to guide a restructuring so that sustainability is restored and there is a low probability of default ex-post, i.e. after the restructuring. However, the IMF often uses interest rates that assume that the market will still deem the debt as risky even when market access is restored. That way of proceeding entails the

[10] The adoption of capital account regulations eliminates the full arbitrage that leads to the interest rate parities for securities denominated in different currencies, implying that the real returns on domestic currency bonds will not move proportionally with market yields on foreign currency bonds.

recognition that the restructuring will not restore sustainability with a "sufficiently high" probability, which should in turn suggest the need for more relief, which would in turn generate lower discount factors.

Markets, however, are often irrationally pessimistic (on average, as we noted above, there have been excess risk-adjusted returns on sovereign bonds), and so they may demand an interest rate that is significantly higher than the safe interest rate, even when debt would be sustainable if the bonds carried an interest rate appropriate for the risk.[11] The higher interest rate, however, affects the debt sustainability: there are multiple equilibria in the assessment of debt sustainability, such that it is even possible that larger write-downs are associated with higher prices for the new bonds.[12]

8.5 Addressing overoptimism and its deeper causes

Finally, an old concern – but worth revisiting as it is still relevant today – refers to the overoptimism in the IMF baseline growth scenarios in DSAs. Overoptimistic forecasts in IMF DSA, often the consequence of underestimating the contractionary policies of the standard conditionalities in IMF programs, not only contribute to the "too little too late" syndrome in sovereign debt restructuring but also allow for IMF lending in situations in which, under more reasonable and unbiased forecasts, debts would be deemed unsustainable.

On the other hand, creditors, and even financial advisors hired by governments in restructuring processes, focus their complaints on the other side of the problem: if the IMF is not optimistic enough in its baseline assumptions, it may be difficult to strike a deal aligned with the IMF DSA, given creditors' incentives and their demands that there be little write-down of the principal and limited reductions in interest rates. In those situations, the IMF staff finds itself again caught between a rock and a hard place: if they are sound in their analyses and realistic in the assumptions used in the DSA, they will be blamed for the failure to reach a deal (albeit an unsustainable one). They can, of course, be unrealistic and thereby contribute to, or at least facilitate, an unsustainable debt deal – but then they will be blamed when, a few years down the road, another restructuring is required.

The problems we have discussed briefly in this note illustrate the deficiencies of the existing system for sovereign debt restructuring, pointed out in the Stiglitz Report on "Reforming the International Monetary and Financial Systems in the Wake of the 2008 Global Crisis" (Stiglitz et al., 2010).

9. Conclusion

Timely and effective debt crises resolutions are important for economic efficiency and equity, and for this, better debt crises resolution frameworks are needed (Guzman and Stiglitz, 2016a). An important element in any good debt crisis resolution process is a good DSA. This paper has provided insights into how DSAs can be improved, with a focus on the most critical elements in current practice that need more scrutiny.

[11] Sometimes creditors seem to expect the new bonds to have the same high interest rates as the old risky bond. Any reduction in interest rates is viewed as a write-down. This makes no sense: the high premium reflected the risk of default; with sustainable debt restructuring, there is no justification for that premium. And if that premium had not existed in the first place, the probability of a necessary restructuring would have been lower. This is a classic problem of multiple equilibria in the servicing of public debt (Calvo, 1988).

[12] There is some controversy about how appropriate to measure (or even think about) a write-down. In a crisis, a country's debt usually has a low value – a $100 bond might sell for $25. If the exchange bond sells at $25, one could view it as a 75 per cent write down on the face value, but a 0 percent write down on current market value. However, the current market value depends critically on expectations of the terms of the exchange bond. If the exchange bond has a lower value that the current market price, it simply means that the market was overly optimistic about the terms of the exchange bond

Despite the importance of DSAs, debtor countries have limited capabilities for conducting them. In our dialogues around the world with policymakers, government officials, and the civil society organizations in debt-distressed countries, we have found little awareness about either their importance or the multiple subtleties involved in their implementation. Countries' debt management offices and think tanks, especially in countries that are prone to debt crises (where, unfortunately, independent think tanks do not abound) would do well to acquire greater capabilities for conducting their own DSA. We hope this paper makes that endeavour easier for institutions and scholars, especially in countries already in or likely to be in crisis and need debt restructuring. We would also encourage countries undertaking new loans, especially abroad, to undertake a DSA: the question that needs to be asked is "Is this new debt likely to push the country into a situation of lack of debt sustainability?" We suspect many countries facing a debt crisis today might not be in such a situation had they done a well-founded DSA at the time of the borrowing. At the very least, this paper should provide tools for questioning creditors who claim, on the basis of their own judgements and interests, that the country has greater capacity for debt repayment than in fact it has.

References

Aguiar, Mark, and Gita Gopinath. "Defaultable debt, interest rates and the current account." Journal of International Economics 69, no. 1 (2006): 64-83.

Alesina, Alberto, and Silvia Ardagna. "Large changes in fiscal policy: taxes versus spending." Tax Policy and the Economy 24, no. 1 (2010): 35-68.

Auerbach, Alan J., and Yuriy Gorodnichenko. "Measuring the output responses to fiscal policy." American Economic Journal: Economic Policy 4, no. 2 (2012): 1-27.

Blackman, Jonathan I., and Rahul Mukhi. "The evolution of modern sovereign debt litigation: vultures, alter egos, and other legal fauna." Law and Contemporary Problems 73, no. 4 (2010): 47-61.

Blanchard, Olivier J., and Daniel Leigh. "Growth forecast errors and fiscal multipliers." American Economic Review 103, no. 3 (2013): 117-120.

Brooks, Skylar, Martin Guzman, Domenico Lombardi, and Joseph E. Stiglitz. "Identifying and resolving inter-creditor and debtor-creditor equity issues in sovereign debt restructuring." CIGI Policy Brief No.53 (2015).

Calvo, Guillermo A. "Servicing the public debt: The role of expectations." The American Economic Review (1988): 647-661.

Chodos, Sergio. "From the Pari Passu Discussion to the “Illegality” of Making Payments: The Case of Argentina." In Too Little, Too Late: The Quest to Resolve Sovereign Debt Crises, pp. 77-83. Columbia University Press, 2016.

Cruces, Juan J., and Tim R. Samples. "Settling Sovereign Debt's" Trial of the Century"." Emory Int'l L. Rev. 31 (2016): 5.

Damill, Mario, Roberto Frenkel, and Martín Rapetti. "Macroeconomic policy in Argentina during 2002–2013." Comparative Economic Studies 57 (2015): 369-400.

Eaton, Jonathan, and Mark Gersovitz. "Debt with potential repudiation: Theoretical and empirical analysis." The Review of Economic Studies 48, no. 2 (1981): 289-309.

Diwan, Ishac, Martin Guzman, Martin Kessler, Vera Songwe, and Joseph E. Stiglitz (2024). “An Updated Bridge Proposal: Towards A Solution to the Current Sovereign Debt Crises and to Restore Growth”. Paris School of Economics Finance Development Lab, Policy Note.

Erten, Bilge, Anton Korinek, and José Antonio Ocampo. "Capital controls: Theory and evidence." Journal of Economic Literature 59, no. 1 (2021): 45-89.

Farhi, Emmanuel, and Ivan Werning. "Dilemma not trilemma? Capital controls and exchange rates with volatile capital flows." IMF Economic Review 62, no. 4 (2014): 569-605.

Gallagher, Kevin, Martin Guzman, Joseph Stiglitz, and Marilou Uy (2024). “Reforming the IMF Surcharge Rate Policy to Avoid Procyclical Lending”. Paper presented at the T20, Brazil’s G20 Presidency.

Geanakoplos, John. "The leverage cycle." NBER Macroeconomics Annual 24, no. 1 (2010): 1-66.

Gluzmann, Pablo, Martin Guzman, and Joseph E. Stiglitz. "An Analysis of Puerto Rico's Debt Relief Needs to Restore Debt Sustainability." Centro Journal 30, no. 3 (2018): 104-146.

Guzman, Martin. "Understanding the relationship between output growth expectations and financial crises." Columbia University Initiative for Policy Dialogue Working Paper (2014).

Guzman, Martin. "The elements of sovereign debt sustainability analysis." (2018). Center for International Governance Innovation Paper No.196.

Guzman, Martin. "An analysis of Argentina's 2001 default resolution." Comparative Economic Studies 62, no. 4 (2020): 701-738.

Guzman, Martin, Maia Colodenco, and Anahí Wiedenbrug. "Power in sovereign debt markets: debtors' coordination for more competitive outcomes." Industrial and Corporate Change 33, no. 2 (2024): 507-518.

Guzman, Martin, and Daniel Heymann. "The IMF debt sustainability analysis: issues and problems." Journal of Globalization and Development 6, no. 2 (2015): 387-404.

Guzman, Martin, José Antonio Ocampo, and Joseph E. Stiglitz, eds. Too little, too late: The quest to resolve sovereign debt crises. Columbia University Press, 2016.

Guzman, Martin, and Joseph Stiglitz. "Argentina's Griesafault." Project Syndicate (2014).

Guzman, Martin, and Joseph E. Stiglitz. "Creating a framework for sovereign debt restructuring that works." In Too little, too late: the quest to resolve sovereign debt crises, pp. 3-32. Columbia University Press, 2016a.

Guzman, Martin, and Joseph E. Stiglitz. "A soft law mechanism for sovereign debt restructuring based on the UN Principles." FES New York (2016b): 1-11.

Guzman, Martin, and Joseph E. Stiglitz. "Towards a dynamic disequilibrium theory with randomness." Oxford Review of Economic Policy 36, no. 3 (2020): 621-674.

Guzman, Martin, and Stiglitz, Joseph. 2023. "The appropriate treatment of disparate assets in sovereign debt restructurings: Why comparable treatment should mean different treatment for local and foreign currency debt." Presented at the International Monetary Fund's Global Sovereign Debt Roundtable, September 2023.

Hakura, Dalia (2020). "What is Debt Sustainability?" *IMF F&D Finance and Development Magazine.* https://www.imf.org/en/Publications/fandd/issues/2020/09/what-is-debt-sustainability-basics

International Monetary Fund (2018). "Argentina: First Review under the Stand-By Arrangement." IMF Country Report No. 18/297. https://www.imf.org/en/Publications/CR/Issues/2018/10/26/Argentina-First-Review-under-the-Stand-By-Arrangement-Inflation-Consultation-Financing-46309

International Monetary Fund (2020). "Argentina: Staff Technical Note on Public Debt Sustainability." IMF Country Report No. 20/83. https://www.imf.org/en/Publications/CR/Issues/2020/03/20/Argentina-Technical-Assistance-Report-Staff-Technical-Note-on-Public-Debt-Sustainability-49284

Jayadev, Arjun, and Mike Konczal. "The boom not the slump: The right time for austerity." (2010).

Korinek, Anton. "The new economics of prudential capital controls: A research agenda." IMF Economic Review 59, no. 3 (2011): 523-561.

Korinek, Anton. "Regulating capital flows to emerging markets: An externality view." Journal of International Economics 111 (2018): 61-80.

Krahnke, Tobias. "Doing more with less: The catalytic function of IMF lending and the role of program size." Journal of International Money and Finance 135 (2023): 102856.

Krugman, Paul. "Market-based debt-reduction schemes." (1988).

Laskaridis, Christina. "Debt sustainability: towards a history of theory, policy and measurement." PhD diss., SOAS University of London, 2021.

Maret, Theo and Brad Setser. "Is the IMF setting Sri Lanka up for a second car crash?" Financial Times, September (2023).

Meyer, Josefin, Carmen M. Reinhart, and Christoph Trebesch. 2022. "Sovereign Bonds since Waterloo." Quarterly Journal of Economics 137 (3): 1615–80.

Ministry of Finance of People's Republic of China (2019), 'Debt Sustainability Framework for Participating Countries of the Belt and Road Initiative', (https://m.mof.gov.cn/czxw/201904/P020190425513990982189.pdf)

Orszag, P and J. E. Stiglitz, "Optimal Fire Departments: Evaluating Public Policy in the Face of Externalities," The Brookings Institution, Jan. 4, 2002.
Accessible at: https://www.brookings.edu/articles/optimal-fire-departments-evaluating-public-policy-in-the-face-of-externalities/

Ostry, Jonathan. "The IMF's Position on Capital Controls: What is Signal and What is Noise?" Presented at Joseph Stiglitz's Festschrift, Catholic University of Milan, May 2023.

Roubini, Nouriel. "Debt sustainability: How to assess whether a country is insolvent." Stern School of Business, New York University, mimeo (2001).

Stiglitz, Joseph E. "Capital market liberalization, economic growth, and instability." World Development 28, no. 6 (2000): 1075-1086.

Stiglitz, Joseph E. "Sovereign Debt: Notes on Theoretical Frameworks and Policy Analyses," Overcoming Developing Country Debt Crises, B. Herman, J.A. Ocampo, and S. Spiegel, eds., Oxford: Oxford University Press, pp. 35-69 (2010).

Stiglitz, Joseph E. Towards a general theory of deep downturns. IEA Conference Volume, 155-VI, Houndmills, UK and New York: Palgrave Macmillan, 2016. NBER Working Paper 21444, August 2015, accessible at http://www.nber.org/papers/w21444.pdf No. w21444. National Bureau of Economic Research, 2015.

Stiglitz, Joseph E. and Members of the Commission of Experts on Reforms of the International Monetary and Financial System appointed by the President of the United Nations General Assembly, The Stiglitz Report: Reforming the international monetary and financial systems in the wake of the global crisis. The New Press, 2010.

Stiglitz, Joseph, and Daniel Heymann, eds. Life after debt: The origins and resolutions of debt crisis. Springer, 2014.

Stiglitz, Joseph E., and Kevin P. Gallagher. "Understanding the consequences of IMF surcharges: the need for reform." Review of Keynesian Economics 10, no. 3 (2022): 348-354.

Stiglitz, J. E., and J. D. Ostry. "How the IMF is Still Behind the Times on Capital Controls." Project Syndicate (2022).

Varoufakis, Yanis. "Greek Debt Denial: A Modest Debt Restructuring Proposal and Why It Was Ignored." In Too Little, Too Late: The Quest to Resolve Sovereign Debt Crises, pp. 84-106. Columbia University Press, 2016.
Wyplosz, Charles. "Debt sustainability assessment: The IMF approach and alternatives." (2007).

About the authors

Martín Guzmán is a Professor in the Columbia University School of International and Public Affairs (SIPA) and Professor of Money, Credit and Banking at the Universidad Nacional de La Plata (Argentina). Formerly he was Minister of Economy of the Republic of Argentina. Joseph E. Stiglitz is University Professor at Columbia University, founder of the Initiative for Policy Dialogue and a 2001 Nobel laureate in economics. Stiglitz also served as chairman of the U.S. Council of Economic Advisors during the Clinton administration and as chief economist of the World Bank. Martín Guzmán and Joseph E. Stiglitz are co-Presidents of the Initiative for Policy Dialogue.

New York Office

The office of Friedrich-Ebert-Stiftung (FES) in New York serves as the liaison for FES offices worldwide with the United Nations (UN) in New York and the international financial institutions (International Monetary Fund and World Bank) in Washington, D.C. The office addresses peace, justice and economic issues, working closely with academia, civil society, multilateral institutions and their Member State governments to convene multi-stakeholder debates. The formats of our work include international conferences, expert workshops and high-level meetings involving government representatives as well as published policy briefs and analytical studies. Our overarching mission is to bring a special focus to the perspectives of trade unions, women, and developing and emerging-market countries in an effort to forge consensus toward multilateral solutions to international and global challenges.

Jubilee USA Network

Jubilee USA Network is an interfaith alliance of 75 religious, labor, development, and climate organizations and more than 750 faith groups from the United States and around the globe. Jubilee USA addresses the structural causes of poverty, inequality and environmental challenges in our communities and countries. The network's efforts build an economy that serves, protects, and promotes the participation of the most vulnerable.

Acknowledgments

We are grateful to participants of the FES New York-Jubilee USA workshop “Debt Sustainability Analysis: Improving their Role in the Global Financial Architecture” held at Columbia Business School, the IMF SPR workshop held at the 2024 IMF-WB Spring Meetings, a seminar at the Paris School of Economics’ Finance Development Lab, Charles Albinet, Olivier Blanchard, Aldo Caliari, Sergio Chodos, Maia Colodenco, Ishac Diwan, Mark Flanagan, Jayati Ghosh, Daniel Heymann, Martin Kessler, Layna Mosley, and Anahi Wiedenbrug for helpful comments and suggestions, and to Meaghan Winter for excellent editorial assistance.

Imprint

Publisher:
Friedrich-Ebert-Stiftung e. V. | Godesberger Allee 149 | 53175 Bonn | Germany
Email: info@fes.de

Register no.: VR2392 Bonn Register of Associations Bonn Local Court

Issuing Department:
Division for International Cooperation | Global and European Policy

Responsibility for content:
Dr. Michael Bröning |
Executive Director | Friedrich-Ebert-Stiftung |
New York Office | 747 Third Avenue, Suite 34D |
New York, NY 10017 | USA
Phone +1-212-687-0208
https://ny.fes.de

Contact/Order:
Christiane.Heun@fes.de