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Issues in Restructuring of Domestic Sovereign Debt

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ISSUES IN RESTRUCTURING OF SOVEREIGN DOMESTIC DEBT

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- The **Staff Report** prepared by IMF staff and completed on July 21, 2021
- The **Background Paper** prepared by IMF staff and completed on August 19, 2021

The report prepared by IMF staff has benefited from comments and suggestions by Executive Directors following the informal session on September 8, 2021. Such informal sessions are used to brief Executive Directors on policy issues and to receive feedback from them in preparation for a formal consideration at a future date. No decisions are taken at these informal sessions. The views expressed in this paper are those of the IMF staff and do not necessarily represent the views of the IMF's Executive Board.

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EXECUTIVE SUMMARY

Restructurings of sovereign debt issued under domestic law—*domestic debt* for short—may become more frequent in the future. Prior to the mid-1990s, with underdeveloped financial markets and widespread capital controls, emerging market and developing economies (EMDE) debt distress was often dealt with via inflation, financial repression and, when necessary, an external debt restructuring (EDR). Since then, the share of domestic debt in EMDEs has been rising, most recently as a result of the COVID-19 pandemic. With a high number of countries at risk of debt distress as a result of the pandemic, domestic debt restructurings (DDR) may be needed more often to restore sustainability.

Domestic debt restructurings avoid some of the costs of external debt restructuring, but also pose unique challenges. Sovereigns have considerable flexibility in restructuring domestic debt, including through changes in domestic laws. A DDR can also potentially limit the external reputational costs of a restructuring, supporting efforts to retain access to external financial markets. At the same time, domestic banks and pension funds disproportionally hold domestic rather than external debt. As a result, sovereign stress can easily spread to other parts of the economy, with potentially serious adverse effects on financial stability and economic activity.

The design of a DDR can play an important role in achieving the required debt reduction target while minimizing risks to the domestic financial system and broader economy. Casting the net wide across claims when identifying the perimeter can support participation in the restructuring by lowering the relief sought from each creditor group. Financial stability considerations play an important role in the design of a DDR. Stress tests prior to the restructuring can provide critical information that informs the design of and need for policy support. Depending on the severity of the spillovers of the DDR to the financial system, the policy response may need to include liquidity support, regulatory measures, recapitalization, and the establishment of a financial sector stability fund.

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SECTION I. INTRODUCTION

1. Restructuring domestic law sovereign debt—domestic debt for short—poses a different set of benefits and challenges compared to a restructuring of external sovereign debt.[1] Unlike external debt, the sovereign can restructure its domestic debt through changes in domestic law.[2] Furthermore, restructuring only domestic law debt may offer a way of limiting the external reputational consequences of debt restructuring and perhaps avoiding loss of access to external debt markets. At the same time, a DDR must confront the fact that sovereign exposures of domestic banks and pension funds disproportionally take the form of domestic rather than external debt. This provides a channel for sovereign stress to spread to other parts of the economy, with potentially serious adverse effects on economic activity as the costs of such distress reverberate across creditors and the financial system.[3] The burden of adjustment for domestic residents increases further with fiscal consolidation to restore debt sustainability.

2. Domestic debt restructurings may become more frequent in the future. In tandem with the deepening of domestic capital markets, EMDEs have increasingly relied on domestic debt to finance their fiscal deficits. The share of domestic debt in total debt of EMDEs has risen from 31 to 46 percent from 2000 to 2020 (Figure 1).[4] At the same time, overall public debt has also increased, with a notable spike in debt recently following the economic shock and the policy interventions in response to the COVID-19 pandemic (Figure 1).[5] Among emerging markets (EMs) whose external bonds are currently trading at distressed spread levels, domestic debt at end-2020 represented over 50 percent of public debt. Among low-income countries classified at high risk of or in debt distress under the IMF-World Bank debt sustainability framework for low-income countries (LIC-DSF), domestic debt amounted to 36 percent of public debt at end-2020.[6] In addition, non-EMDE countries issue mostly under domestic law, and any sovereign debt restructurings in these countries are likely to involve domestic debt (as was the case in the 2011–12 and 2013 restructurings in Greece and Cyprus, respectively).

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[1] For the purpose of this paper, Domestic Debt Restructuring (DDR) refers to changes to contractual payment terms of public domestic debt (including amortization, coupons, and any contingent or other payments) to the detriment of the creditors, either through legislative/executive acts or through agreement with creditors, or both. External debt restructurings are discussed in IMF (2013, 2015b, 2020) and Asonuma and Trebesch (2016).

[2] In this paper, domestic sovereign debt (domestic debt for short) is defined as public debt liabilities that are governed by domestic law, and subject to the exclusive jurisdiction of the domestic courts of a sovereign. Debt issued under foreign law is considered "external", even if domestic law may also govern certain aspects of the debt instrument or contract, such as debt authorization or the form of the debt contract. Note that this definition is separate from the currency denomination or the residency of the holders of the debt, although there is a considerable overlap in practice.

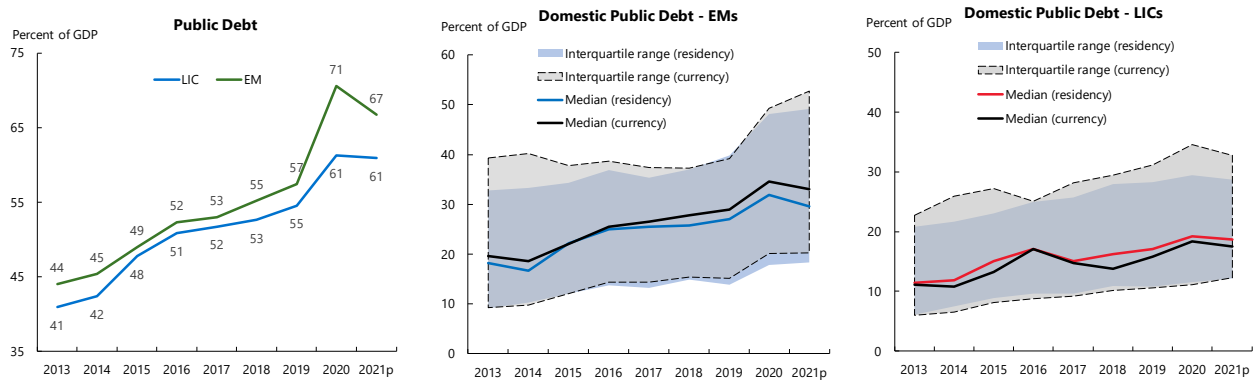
[3] For a discussion of the sovereign-bank nexus see IMF (2015c, 2018).

[4] Domestic debt data is based on residency due to data limitations. The data in this paper covers 86 EMs and 67 LICs. The analysis on domestic debt restructurings in Section II focuses on a smaller sample of 89 countries, all EMDEs except for Greece and Cyprus which experienced at least one debt crisis episode.

[5] IMF (2021b) discusses the worsening of the sovereign-bank nexus in emerging markets as a result of domestic banks absorbing the bulk of increases in domestic debt during the pandemic.

[6] See https://www.imf.org/external/Pubs/ft/dsa/DSAlist.pdf and the accompanying background paper.

Figure 1. EMDEs: Public Debt, 2000s



Sources: World Economic Outlook; and IMF staff estimates.
Note: LIC=Low Income Countries; EM=Emerging Markets; EMDE= Emerging Markets and Developing Economies. The left panel (public debt) covers 153 EMDEs (86 EMs and 67 LICs), and the center and right panels (domestic public debt) cover 117 EMDEs (69 EMs and 48 LICs).

3. The purpose of this paper is to assess the trade-offs between domestic and external debt restructurings and explain how debtor countries can mitigate the economic costs of domestic debt restructurings. The starting point of the discussion is a situation where a sovereign faces unsustainable debt, and wishes to address it through a debt restructuring. In this setting, the paper answers three questions. First, what may be relevant considerations for a debtor that needs to decide whether to restructure domestic debt, external debt, or both? Second, what practical, legal, and procedural issues need to be addressed in the context of a domestic debt restructuring? Third, how can the adverse spillovers of domestic debt restructurings on the domestic economy and the domestic financial system be mitigated?

4. This paper does not discuss alternatives to debt restructuring, such as eroding the real value of debt through inflation or financial repression. While such strategies can reduce debt burdens if they are employed over longer periods, they typically take too long to be of relevance to countries in crisis. Furthermore, they are likely to be costly in terms of the economic dislocation. For both reasons, these strategies are not discussed in this paper except to provide historical context.

5. The paper draws on ongoing analytical work on sovereign debt at the Fund and on recent country experiences and is structured as follows. Section II reviews the evidence of recent domestic debt restructurings and the macrofinancial patterns surrounding those events, drawing on the accompanying background paper. Section III discusses policy and operational aspects of the design and implementation of a domestic debt restructuring that mitigates costs for financial stability and the economy. It aims to provide a framework of considerations relevant to a domestic debt restructuring, including when to undertake it, what types of debt could be restructured, and how the restructuring tools could be employed to help achieve high participation and restore public debt sustainability. Section IV explores the possible spillovers and macro-financial effects from a domestic debt restructuring that the authorities should aim to mitigate. Section V concludes. The accompanying background paper provides an in-depth analysis of the past domestic public debt restructuring episodes in EMDEs using historical data and case studies to inform the assessment of the key considerations for restructuring domestic public debt.

SECTION II. AN OVERVIEW OF RECENT SOVEREIGN DEBT REDUCTION EPISODES

Restructurings of domestic debt have become more frequent since the mid-1990s. Much like external debt restructurings, recent domestic debt restructuring operations were typically carried out through negotiations with creditors but tended to take less time to complete than external debt exchanges. Domestic debt-only restructurings tended to occur in countries with low external debt to private creditors and shallow financial systems, were rarely preceded by banking crises, and typically entailed smaller losses for creditors and milder post-restructuring economic contractions than other debt restructuring operations. Comprehensive debt restructurings (of both domestic and external debt) occurred mostly in EMs, were often triggered, or accompanied by severe shocks, including banking crises, and entailed larger losses for creditors and deeper economic contractions than domestic debt only operations.

A. Debt Reduction Strategies

6. When facing liquidity or solvency pressures sovereigns have employed a range of strategies to reduce the real burden of domestic public debt. These strategies have included financial repression,[7] high inflation, retroactive use of withholding taxes,[8] and overt debt restructurings by law or executive acts or through negotiations with creditors. Based on the type of public debt held by private creditors (foreign law debt, domestic law debt, or both) and the approach to reducing the real burden of domestic debt, the public debt reduction/restructuring episodes generally fall into one of five categories[9]: (i) high inflation/financial repression episodes (IFR)[10]; (ii) standalone EDR events[11]; (iii) standalone DDR events; (iv) EDR events accompanied by high inflation or financial repression (EDR/IFR); and (v) comprehensive restructurings with both EDR and DDR (EDR/DDR).[12] Figure 2 shows the incidence of different types of debt

[7] Financial repression can take many forms, including (i) directing state-owned banks and enterprises or government-controlled entities (e.g., social security fund) to hold government securities, (ii) running interest-free arrears with domestic suppliers for extended periods, and (iii) setting interest rate on government securities below market rates.

[8] The use of tax law measures to reduce debt would need to be reconciled with any applicable legal terms of the domestic debt instrument itself to avoid the possible occurrence of an event of default.

[9] The sample is based on a range of sources (including the survey of country authorities conducted in March-April 2021) and includes all known episodes of restructuring of domestic-law debt held by private creditors (see background paper for details). Apart from addressing an unsustainable debt burden, the purposes of these episodes may have included other objectives (e.g., de-linking contracts from inflation indexation as part of broader macroeconomic reforms, Brazil (1986 and 1990)). Stand-alone restructuring of central bank and public sector holdings of sovereign domestic debt through bilateral arrangements are outside the scope of this paper.

[10] The high inflation/financial repression episodes (IFR) are defined as periods of at least 3 consecutive years of inflation at over 20 percent per annum; accompanied by financial repression (see background paper).

[11] Standalone external debt restructuring events (EDR) include the instances of restructuring of the public debt issued under foreign law and held by private creditors which were not accompanied by either DDR or IFR.

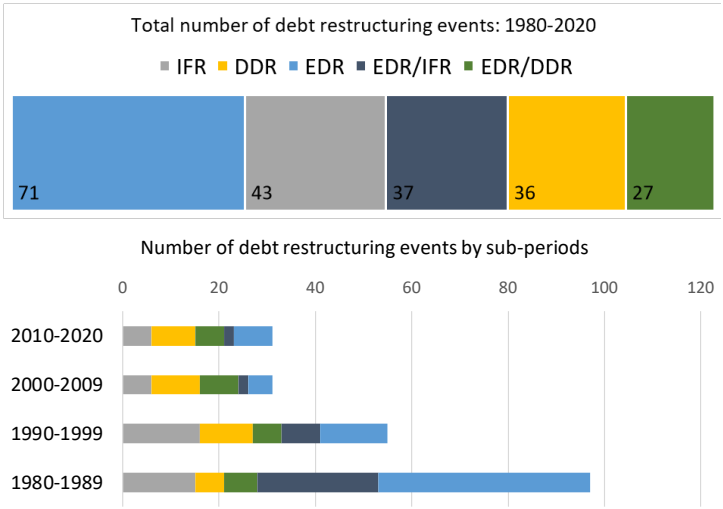
[12] The last two types of debt reduction events involve a comprehensive treatment of public debt, with both foreign and domestic debt included in a debt restructuring process albeit through different mechanisms.

reduction/restructuring during 1980–2020 in around 90 economies, most of which (except Greece and Cyprus) are EMDEs.

7. Domestic debt restructuring events have become more frequent in recent years. During the 1980s and early 1990s, DDRs or EDR/DDRs were rare, compared to EDRs, as most EMDEs tended to resort to a combination of financial repression and high inflation to reduce the real value of excessive domestic debt burdens (Figure 2). This also reflected a wave of sovereign external debt defaults that swept through EMDEs in the 1980s. Many of the external debt restructuring operations of the 1980–90s were accompanied by persistent high inflation.[13] From the mid-1990s onward, many EDMEs liberalized their financial systems and upgraded their policy frameworks, including by adopting inflation targeting. This also entailed a shift away from relying on IFRs. Furthermore, a growing stock of marketable domestic public debt required more structured and transparent approaches to debt restructuring. Reflecting these changes, DDRs have become more common. During 1990–2020, there were roughly as many DDRs (30 episodes) as standalone EDRs (27 episodes). As for most countries inflation or financial repression are unlikely to be viable policy options to erode the real value of debt in crisis conditions, the rest of the paper will focus on DDRs, EDRs and comprehensive debt restructurings (EDR/DDRs).

Figure 2. Public Debt Restructuring Events, 1980–2020

The relative frequency of DDRs compared to IFRs and EDRs has increased over time



Sources: Reinhart and Rogoff (2011), Asonuma and Trebesch (2016), IMF staff reports, credit rating agencies, country authorities and staff calculations.
Notes: IFR=high inflation/financial repression episodes; EDR= external debt restructuring events; DDR= domestic debt restructuring events; EDR/IFR =external debt restructuring accompanied by high inflation/financial repression; EDR/DDR=external debt restructuring accompanied by domestic debt restructuring.

[13] Episodes of high inflation are typically the result of macroeconomic imbalances, external shocks and other underlying problems and are rarely driven by the objective of reducing the real value of domestic debt payments; this, however, is generally a by-product of high inflation.

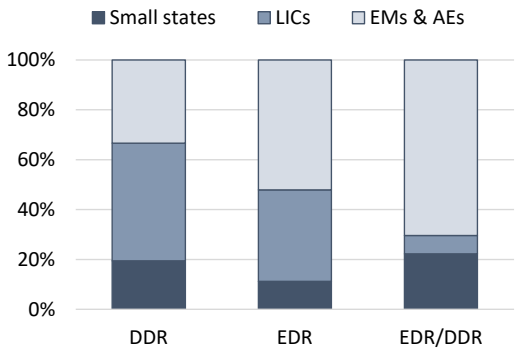
B. Characteristics of Economies Choosing Domestic Debt Restructurings

8. Most standalone DDRs occurred either in LICs or in small states, while most of comprehensive restructurings (EDR/DDR) occurred in EMs (Figure 3). This suggests that restructuring choices were linked to certain structural features of these economies, as well as the types of shocks that they tend to be exposed to. For example, LICs and small states rely more on external official creditors, while both domestic debt levels and reliance on external private creditors tend to be higher in EMs. A probit regression analysis [14] shows that the level and composition of public debt, the state of the banking system, and pre-restructuring economic and fiscal conditions affect the likelihood of different types of debt restructurings. Some of these features are illustrated below and summarized at the end of the section.

Figure 3. Types of Economies that Experienced Public Debt Restructurings, 1980–2020

(number of events, in percent of total)

DDRs have been more common in LICs and small states, and comprehensive restructurings in EMs



Sources: Reinhart and Rogoff (2011), Asonuma and Trebesch (2016), IMF staff reports, credit rating agencies, country authorities, and staff calculations.
Notes: Based on the full sample (Figure 2). EDR= external debt restructuring events; DDR= domestic restructuring events; EDR/DDR=external debt restructuring accompanied by domestic debt restructuring. The country classification is from the WEO. The "EMs&AEs" group includes two AE debt restructurings: Greece (2011–12, EDR/DDR) and Cyprus (2013, DDR).

9. Public debt composition and financial depth matter for the debt restructuring choices:

- *Public debt levels*: The pre-restructuring median public debt levels relative to GDP were 70 percent for DDRs, 79 percent for EDRs and 88 percent for EDR/DDRs (Figure 4.1).
- *The share of domestic public debt*: The pre-restructuring median share of domestic debt in total public debt was notably higher for DDRs (37 percent) than for EDRs (27 percent), suggesting that a larger stock of domestic debt makes its inclusion in a restructuring more likely (Figure 4.2).
- *The share of external public debt held by private creditors*: External public debt held by private creditors was very low prior to DDRs (9 percent of total public debt), compared to 28 percent for EDRs and 65 percent for EDR/DDRs (Figure 4.3). This suggests that sovereigns may have opted for stand-alone DDRs because restructuring external debt would not have resulted in significant debt relief (while imposing costs).
- *Domestic bank credit to private sector*: In countries that experienced DDRs, the degree of financial deepening and the private sector reliance on domestic bank credit were much lower than in EDRs or EDR/DDRs. This suggests that sovereigns opt for DDRs when the capacity of the banking system to transmit shocks to the rest of the economy (if it were to bear losses due to

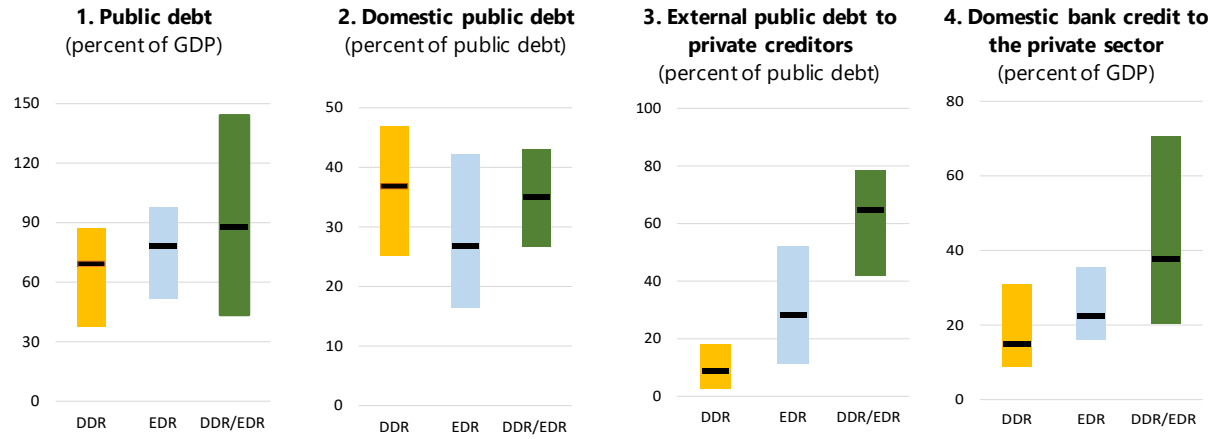
[14] See background paper for details.

restructuring), and hence the domestic output costs of the restructuring are relatively small (Figure 4.4).

Figure 4. Conditions Prior to Public Debt Restructuring Episodes, 1980–2020

(all values are recorded one year before the debt restructuring events)

Compared to other types of debt restructurings, the DDR-countries had relatively higher share of domestic debt, very low share of external public debt to private creditors and relatively low domestic bank credit to the private sector



Sources: Reinhart and Rogoff (2011), Asonuma and Trebesch (2016), IMF staff reports, credit rating agencies, country authorities and staff calculations.

Notes: Based on the full sample (Figure 2). EDR= external debt restructuring events; DDR= domestic restructuring events; EDR/DDR=external debt restructuring accompanied by domestic debt restructuring.

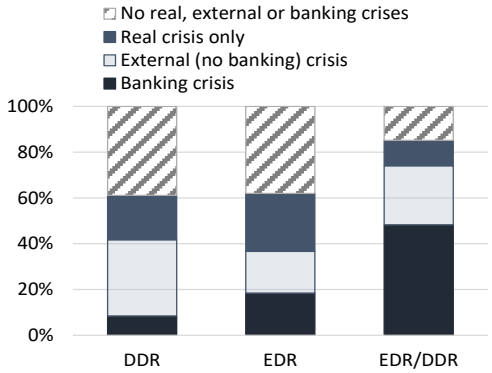
C. Macro-financial Patterns Around Sovereign Debt Restructurings

10. Most sovereign debt restructurings were preceded by economic and fiscal pressures triggered or exacerbated by shocks. On average, roughly 70 percent of all debt restructuring events in EMDEs during 1980–2020 were preceded or accompanied by either real, external, or banking crises, with the rest likely triggered by political upheavals or fiscal pressures (Figure 5). DDRs were often preceded by recessions and/or external shocks, and very rarely by banking crises. In contrast, over half of all comprehensive restructurings were preceded or accompanied by banking crises and about a third were associated with triple (real, external, and banking) crisis events.

Figure 5. Types of Shocks that Preceded Public Debt Restructurings, 1980–2020

(number of events in percent of total)

The most common DDR triggers were external and real shocks, and banking crises for EDR/DDRs



Sources: Reinhart and Rogoff (2011), Asonuma and Trebesch (2016), IMF staff reports, credit rating agencies, country authorities and staff calculations.

Notes: Based on the full sample (Figure 2). A debt restructuring (DR) event is preceded or accompanied by a crisis if a crisis occurs at time t, t-1, t-2, or t-3 where t is the first year of a DR event.

11. Comprehensive restructurings (EDR/DDRs) typically occurred under more stressed economic conditions and were followed by sharper output and credit contractions than stand-alone DDRs or EDRs. A comparison of the macro-financial patterns around different types of debt restructuring events suggests that pre-restructuring growth rates were typically lower for EDR/DDRs than for standalone DDRs and EDRs (Figure 6, 1a–1c). Furthermore, post-restructuring cumulative output declines observed in EDR/DDRs were sharper, on average, than in standalone EDRs and DDRs (Figure 6, 2a–2c).[15] These differences could, in part, be explained by the fact that both domestic and external financing channels became impaired during comprehensive restructurings (as seen in the credit/GDP and capital inflows/GDP patterns in Figure 6). In contrast, the repercussions of DDRs on external financing conditions were limited: Figure 6, 2c shows that capital inflows/GDP tended to *rise* after stand-alone DDRs.[16] The more muted credit contractions in DDRs (Figure 6, 2b) compared to EDR/DDRs could be explained by relatively shallow financial systems in countries that opted for DDRs. Overall, the post-restructuring outcomes tend to be shaped by pre-existing debt problems, shocks and restructuring choices.

12. Public debt restructurings accompanied by banking crises were associated with larger output losses (Figure 6, 1a–1c).[17] A comparison of the real GDP contractions during the year in which an EDR/DDR restructuring took place suggests that the worst outcomes were observed when banking crises occurred in the same year as debt restructurings, followed by debt restructurings that occurred after banking crises, that is, when financial systems were already weak (Figure 7).

13. The differences in macroeconomic outcomes may also reflect the severity of the pre-existing debt problems and hence, the scale of restructuring and creditor losses. More granular information available for more recent debt restructuring operations (Figure 8 and Annex 1) suggests that: (i) pre-emptive operations were more prevalent for DDRs and EDRs than for EDR/DDRs (Figure 8.1),[18] (ii) the share of restructured debt was, on average, lower in DDRs and EDRs than in EDR/DDRs (Figure 8.2), and (iii) DDRs typically took less time to complete than other restructurings (Figures 8.3–8.4), likely due to the pre-emptive nature of these operations and a greater sovereign control over the terms and laws governing domestic debt. In addition, information available for some of the recent episodes suggests that net present value (NPV) losses tended to be lower in DDRs than in other restructurings.[19] Thus, the evidence from this sample shows that stand-alone DDRs took less

[15] While it is not possible to fully address endogeneity issues given the small sample size, controlling for some key economic factors, Erce and Mallucci (2018) conclude that the impacts of standalone domestic and external debt defaults on growth are similar in size and smaller than the impact of combined domestic and external defaults.

[16] For example, Jamaica's decision to undertake a standalone DDR in 2013 was partly based on the desire to maintain access to external markets. As a result, it was able to re-access external markets faster than the domestic market.

[17] The maximum cumulative output loss in an average EDR/DDR that coincided with the banking crisis was about 10 percent (and about 11 percent for similar EDR events). This is somewhat lower than a median loss of nearly 14 percent (cumulative over four years) for low- and middle-income countries that experienced a banking crisis (see Laeven and Valencia (2020)).

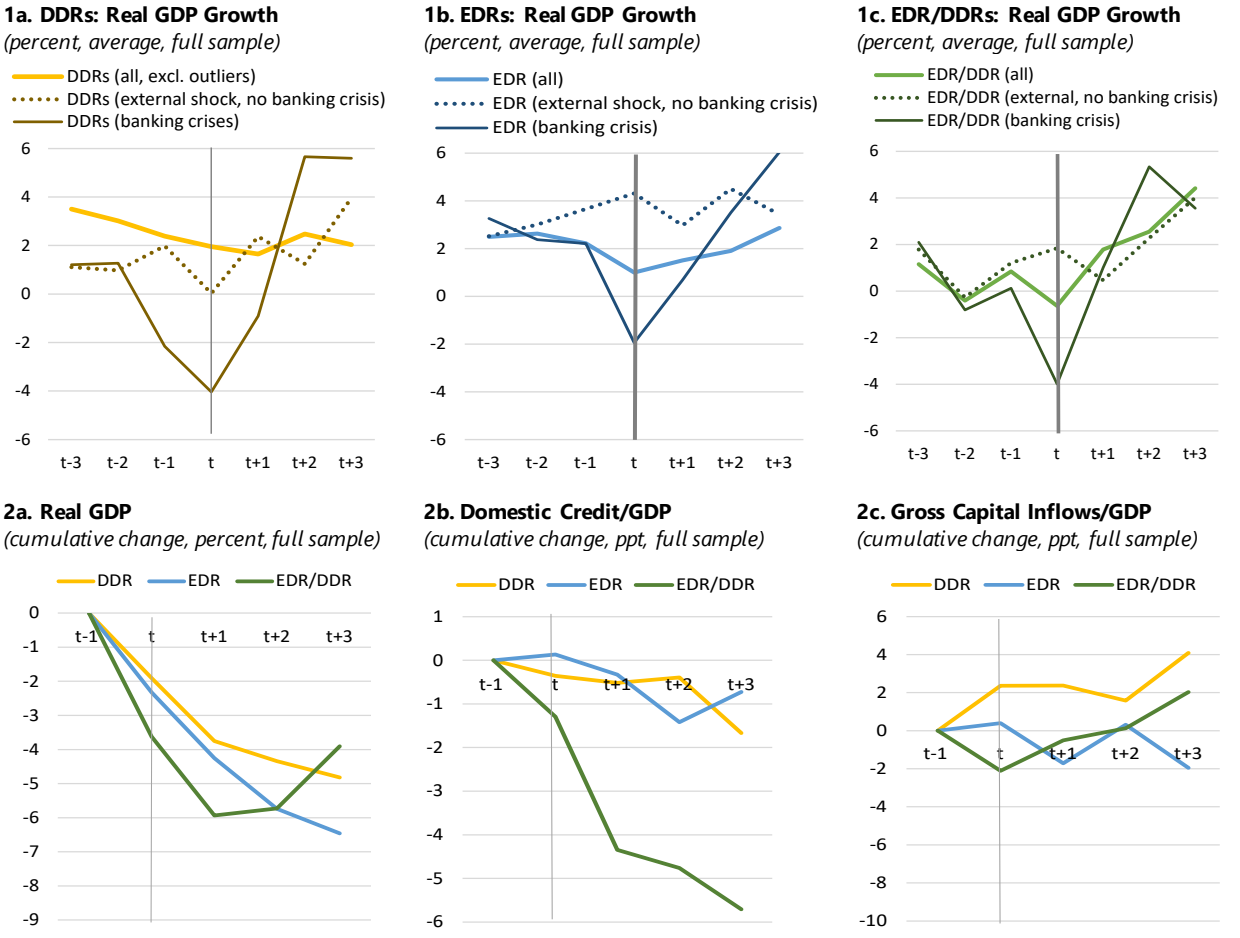
[18] Restructurings are defined as "pre-emptive" if (i) no payments are missed (no default under contractual terms) or (ii) some payments are missed, but only temporarily and after the start of formal or informal negotiations with creditor representatives.

[19] See background paper for details on the case studies.

time to complete, involved restructuring of a lower share of total debt, and were less costly for creditors than other forms of public debt restructuring.

Figure 6. Macro-Financial Patterns Around Public Debt Restructuring Events

(t is the start of a debt restructuring episode)



Sources: Reinhart and Rogoff (2011), Asonuma and Trebesch (2016), IMF staff reports, credit rating agencies, country authorities and staff estimates.

Notes: A debt restructuring (DR) event is preceded or accompanied by a crisis if a crisis occurs at time t, t-1, t-2, or t-3 where t is the first year of a DR event. In Figure 6.1a, DDRs preceded or accompanied by banking crises include only 3 cases – Ghana (1982), Nicaragua (2003), Cyprus (2013); In Figures 2a-2c, all country specific series were detrended and cumulative changes averaged across different types of restructurings.

14. The evidence presented in this section is consistent with the view that the economic costs of DDRs and EDRs arise through different channels:

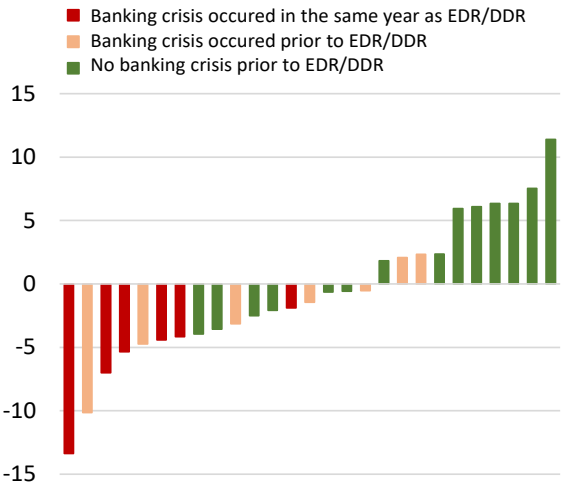
- *First*, stand-alone DDRs were more likely to be chosen when privately held external debt was small and the financial system was either shallow or fairly resilient. This is consistent with the view that governments would opt for a DDR when it is either unavoidable or its likely impact on the domestic financing channel is manageable. This is also consistent with governments' trying

to avoid an EDR if the potential debt relief is too small to offset the external reputational costs and adverse effects on access to external finance.[20]

- *Second*, stand-alone EDRs were more likely to be chosen when the total public debt and the share of external debt to private creditors were relatively high. These are cases where external restructuring was necessary (despite adverse effects on access to external finance), while domestic restructuring was either avoidable or too costly.

- *Third*, comprehensive restructurings (EDR/DDRs) tended to be chosen when both the debt problem and pre-restructuring economic stress were significant, that is, in settings in which a more targeted restructuring was unlikely to have solved the debt problem. In these cases, sharp post-restructuring economic contractions were likely also driven by the simultaneous impairment of domestic and external financing channels.

Figure 7. Real GDP Growth Rates During the Year of a Debt Restructuring in EDR/DDRs: 1980–2020
(in percent)



Sources: Reinhart and Rogoff (2011), Asonuma and Trebesch (2016), IMF staff reports, credit rating agencies, country authorities, and staff calculations.
Notes: based on the sample of 27 EDR/DDRs that occurred during 1980–2020.

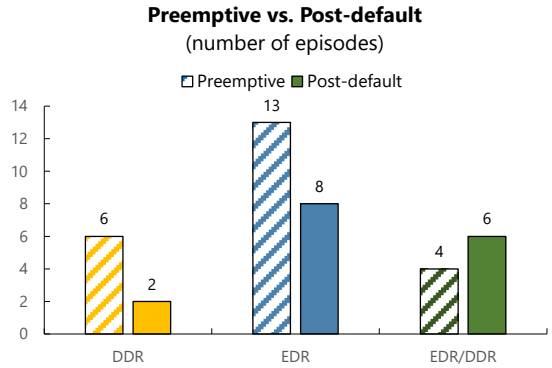
- *Fourth*, public debt restructurings accompanied by banking crises were associated with larger output losses, on average, for any form of public debt restructuring. This is because a combination of a banking crisis and a standalone EDR would likely have similar effects on the domestic and external financing channels as an EDR/DDR. Case studies of restructurings in Argentina (2001), Greece (2012), and Cyprus (2013) show that large-scale domestic debt restructuring can erode the solvency of the banking system (see background paper).

Thus, while each debt restructuring is complex and shaped by many country-specific factors, these considerations derived from past experiences can help guide the design of a restructuring process and the instruments to be included in a restructuring, as discussed in the next section.

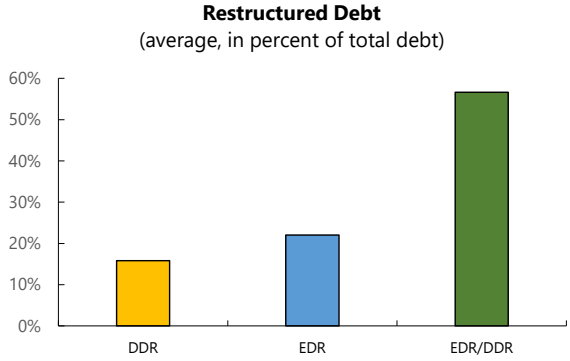
[20] As discussed above the impact of EDRs and EDR/DDRs on capital inflows/GDP is more severe than that of DDRs.

Figure 8. Public Marketable Debt Restructuring Episodes, 1998–2020

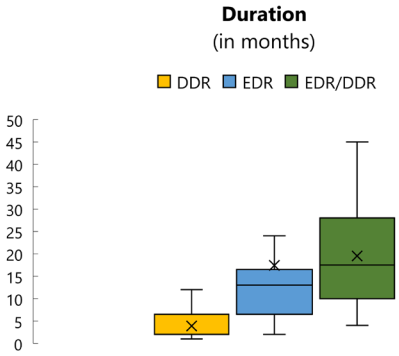
Pre-emptive debt exchanges were more prevalent for DDRs and EDRs than for comprehensive restructurings



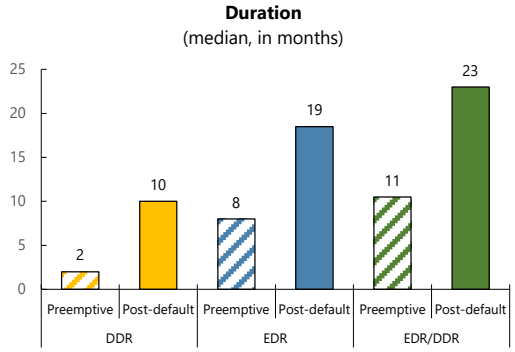
The share of restructured debt was typically higher in comprehensive restructurings than in EDRs or DDRs



DDR episodes concluded more than a year faster than episodes where external debt was restructured



DDRs' reliance on pre-emptive restructurings contributed to shorter durations than EDRs



Sources: Asonuma and Trebesch (2016); IMF (2015b); IMF (2020b); Moody's (2020); IMF country reports; and country authorities' websites.

Notes: FC=Foreign currency; LC=Local currency; Both=Foreign and local currency denominated debt involved in the debt restructuring episode. DDR=Domestic Debt Restructuring; EDR=External Debt Restructuring; DDR + EDR= Both Domestic and External Debt Restructuring. Restructurings are defined as "pre-emptive" if (i) no payments are missed (no legal default) or (ii) some payments are missed, but only temporarily and after the start of formal or informal negotiations with creditor representatives (no unilateral default). "Post-default" restructurings are all other cases, in which payments are missed unilaterally and without the agreement of creditor representatives.

SECTION III. CONSIDERATIONS FOR RESTRUCTURING DOMESTIC DEBT

It is always the sovereign's decision whether to restructure its debt or not, and if so, to choose the perimeter of the debt restructuring. Restructuring public debt is a policy choice that is intended to reduce the economic costs of resolving unsustainable debt. The decision to restructure domestic debt requires weighing the expected debt or debt service relief against the likely impact on the economy and the financial system. Key to deciding whether to undertake a domestic debt restructuring is its net—rather than gross—benefit, after taking into account the fiscal costs (in particular, related to bank recapitalization needs) as well as broader economic costs. A wide definition of the perimeter of the claims to be included in the restructuring supports participation by lowering the debt relief sought from each creditor group. A fair and transparent process that encourages participation is essential for the success of the operation. Offering a menu of instruments—while equivalent in net present value (NPV) reduction—has been shown useful in fostering participation by accommodating creditor preferences to the extent possible.

A. How Should Domestic Debt Be Restructured?

15. The starting point of the analysis in this section is a country that finds itself at a point where its public debt is no longer sustainable and has to decide which obligations to restructure (Figure 9). Alternative mechanisms to ease the debt servicing burden (e.g., sharp increases in inflation, interest rate ceilings, capital controls, etc.) typically take too long to materialize (inflation) and/or entail large costs in terms of the economic dislocation they cause and delay the prospects for resumption of market-based borrowing. Accordingly, the framework focuses on debt restructuring options.

16. The objective of the framework is to identify the type of restructuring that will restore public debt sustainability while minimizing potential economic costs and financial system disruptions. In the Fund's definition, debt sustainability incorporates the concepts of solvency and liquidity without making a sharp demarcation between them.[21] From a liquidity perspective, the sovereign must be able to refinance obligations falling due and to finance new fiscal deficits at interest rates that prevent market stress or aggravate the solvency position.[22] From a solvency perspective, the sovereign must be able to sustain a given debt level without a substantial risk of reverting to explosive debt dynamics or requiring protracted primary surpluses that could undermine growth. These criteria determine the debt relief sought by type of claim (Figure 9, Step 1). While restructurings typically offer the same terms for each type of claim, creditors can end up with differing levels of recovery depending on the distribution of holdings. For a given level of debt relief, defining the perimeter of debt that could be subject to restructuring (the "restructurable"

[21] IMF (2002); and IMF (2021a).

[22] Another macroeconomic consideration resulting from higher interest rates is the possibility of crowding out the real sector with consequences for the growth potential.

debt) as widely as possible helps to reduce the concessions sought from the holders of the claims (Figure 9, Step 2). Section III.B discusses considerations in defining this perimeter in more detail.

17. Having identified the restructurable debt, it is important to estimate the *potential* debt relief that may be obtained given the structure of claims and the composition of their holders (Figure 9, Step 3):

- International experience in external debt restructuring may provide guidance as to the extent of potential debt relief that could be obtained from external debt holders while limiting external reputational costs.

- For domestic debt, the impact of the restructuring on the domestic economy must be taken into account. To contain this impact, the government may need to compensate some creditors—in particular, domestic financial entities, which may need to be recapitalized to safeguard financial stability.[23] The use of fiscal resources for compensation reduces the fiscal relief that can be obtained from the restructuring.[24] Therefore, the relevant metric in domestic debt restructuring cases is the *net* debt relief from the exchange defined as gross fiscal relief less any fiscal costs of, for example, recapitalizing affected banks as a last resort.[25]

18. Once the potential debt relief from each category of creditors is estimated, the next step is to assess the broader *economic costs* associated with restructuring these categories of debt (Figure 9, Step 4). Here, the term economic costs broadly refers to any economic (e.g., credit conditions after the restructuring, prospects for domestic market development,[26] external financing conditions), political economy (e.g., distributional aspects of a restructuring, role of special interests in the process), and reputational (e.g., affecting external market re-entry and domestic market access) considerations that may influence the (relative) desirability of restructuring one category of debt and its creditors relative to another. These broader economic costs will depend on the effectiveness of the debt restructuring and may be attenuated when the ultimate incidence falls on non-residents, such as when they own bank equity (e.g., Barbados 2018) or when their deposits are bailed in (Cyprus 2013). In this step the consequences of an insufficiently deep restructuring also need to be contemplated. In this case, restoration of debt sustainability may require a larger and longer fiscal adjustment.

[23] Erce and Mallucci (2018) present a theoretical model of a government's strategic decision to default on its external debt or to default on domestic debt. They find that the weaker the banking sector balance sheet (and the more important domestic capital is for entrepreneurs), the less likely that the government will choose to default on its domestic debt.

[24] To the extent that some financial institutions could be liquidated and others could be recapitalized using shareholder funds or would be able to absorb losses without a need for recapitalization by the government, the fiscal cost of recapitalizing the financial sector will be less than the total losses imposed on the financial sector. Dobler, Moretti, and Piris (2020) discuss best practice for using public funds for recapitalization purposes.

[25] In practice, this is an iterative process as losses imposed on domestic creditors and the cost of maintaining financial stability may increase disproportionately with the haircut.

[26] In nascent markets, the reform agenda for developing the local currency debt market could suffer a setback along with investor appetite, which could result in prolonged reliance on foreign borrowings and prolong vulnerability to future debt sustainability concerns.

Figure 9. An Illustrative Decision Framework

Step 1: Estimate the debt relief target (DRT)[1] necessary to restore public debt sustainability.

Step 2: Identify the perimeter of claims (i.e. instrument type) and categories of creditors holding "restructurable debt".

Step 3: For each category of creditors determine the potential contribution to DRT:

	Types of Claims	
Types of creditors	**DOMESTIC LAW PUBLIC DEBT**	**FOREIGN LAW PUBLIC DEBT**
Domestic Banks Domestic NBFIs Public Sector Entities Other Domestic Non-Financial Institutions	*Estimate the net contribution to DRT as the difference between gross debt relief and fiscal costs associated with the restructuring (e.g. recapitalization, subsidies, etc.)*	
Foreign private creditors	*Determine potential contribution to DRT in negotiations*	

Step 4: Assess the economic costs associated with obtaining relief:

	Types of Claims	
Types of creditors	**DOMESTIC LAW PUBLIC DEBT**	**FOREIGN LAW PUBLIC DEBT**
Domestic Banks Domestic NBFIs Public Sector Entities Other Domestic Non-Financial Institutions	*Assess potential costs of mitigating:* *1. macro-financial implications* *2. adverse effects on market access* *3. creditor coordination and holdout risks* *4. political economy considerations*	
Foreign private creditors	*Assess potential costs of:* *1. capital outflows, exchange rate pressures* *2. macro-financial disruptions* *3. adverse external reputational effects on market access* *4. creditor holdouts and collective action issues/litigation risk* *5. spillovers from unresolved debt*	

Step 5: Central Bank: Ensure the normal operation, including of the payments system and assess the need for any immediate (or future) recapitalization(s) needs.

Step 6: Determine which claims to restructure in order to minimize overall costs while also achieving the DRT and supporting broader macroeconomic reforms.

[1] Anchored in a comprehensive, medium-term macroeconomic adjustment plan, and under plausible assumptions, the DRT is the amount of debt relief required to shift from the current debt profile to a path for which financing sources are expected to be available and that is expected to be sustainable with a high probability.

19. The feasibility of a domestic restructuring and the debt relief sought may be constrained by the leverage that some creditors might have in the political process.[27] Public debt securities are commonly held by pension funds, insurance companies, banks and other financial institutions, and in some cases retail bondholders. Thus, undertaking a domestic debt restructuring is likely to have political repercussions from the affected parties. Some constituencies are likely to use their political influence to protect themselves from burden-sharing in a debt reduction required to secure debt sustainability, thereby shifting the burden of the adjustment onto other creditors.[28] Casting the perimeter as wide as possible supports participation by reducing the relief sought from each creditor group. At the same time, domestic debt restructurings undertaken by governments that have strong political support are more likely to achieve their objectives (see Borensztein and Panizza, 2011). This may be of particular importance in cases where external creditors make their participation in the exchange contingent on burden sharing with domestic creditors.

20. Any domestic debt restructuring must consider its impact on the functioning of the central bank (Figure 9, Step 5). The central bank has to be able to continue its monetary policy and regulatory functions in spite of the debt restructuring. The central bank also needs to be in a position to continue its other functions, such as operating payments systems, providing liquidity backstop for the financial system or conducting foreign exchange operations. Depending on its *ex-ante* equity position, any losses on the central bank balance sheet that may result from the DDR would have to be addressed, including through recapitalization.

21. Taking all these considerations into account, the sovereign will choose the modalities of the debt restructuring that allow it to achieve the debt relief target while minimizing the overall economic costs the operation (Figure 9, Step 6). Depending on the circumstances, the outcome could be an "interior solution" (a combination of DDR and EDR) or a "corner solution" (only a DDR or only an EDR).

B. Deciding the Perimeter of a Domestic Debt Restructuring

22. The scope of claims that may be included in a DDR will depend on the degree of debt relief needed. Determining the perimeter of a DDR in Step 2, as outlined above, requires decisions on which public sector borrower institutions and instrument and creditor types should be included. In principle, all domestic debt liabilities of the government could be part of the restructuring package, subject to potential financial and economic costs (Figure 10). Central government securities and in some cases bank loans are the most common instruments to be treated in debt

[27] Reinhart, Rogoff, and Savastano (2003) emphasize the role of political and institutional conditions in explaining why many emerging markets are more "debt intolerant" than advanced economies.

[28] Political influence may also be a reason why—if domestic arrears are involved in a restructuring—the government may choose to audit those arrears to avoid unduly favoring politically connected groups.

restructurings.[29] However, public debt beyond that issued by the central government can sometimes be subject to restructuring (Box 1).

Figure 10. Outlining the Perimeter

Type of Borrowers	Type of Claims	Type of Creditors
Central government	*Currency:* Foreign *vs* Local	*Residency:* Resident *vs* non-resident
State-owned enterprises	*Marketability:* Marketable *vs* Non-marketable debt	*Relationship with Borrower:* Private creditor *vs* public sector
Sub-national government	*Placement type:* Wholesale *vs* retail	*Institutions:* Banks *vs* other non-bank institutions (pension funds)
Government guarantees	*Securities type:* Bonds *vs* T-bills	*Entity:* Entities *vs* individuals

Types of Debt

23. Claims that can potentially be subject to a domestic restructuring include government bonds (both local- and foreign-currency denominated), short-term government paper (T-bills), payment arrears, and financial derivatives. Including T-bills in the restructuring carries risks, but may be unavoidable in some cases. Changing the terms of T-bills can have adverse effects on interbank liquidity, the central bank's ability to conduct monetary policy operations, and the sovereign's capacity to manage its short-term payments. That said, when the share of T-bills in domestic debt is high, the sovereign may have no alternative but to include them in a debt restructuring (e.g., Barbados, 2018 and Russia, 2000) so as to reduce its short-term financing needs and rollover risk. Where T-bills do not create large refinancing pressures, it is generally advisable to exclude them from the DDR.

24. Loans and advances from domestic financial institutions may be included in a domestic debt restructuring or renegotiated separately on a bilateral basis. Such non-marketable instruments can either be restructured in a securitization or restructured into a new loan.[30] For example, most bank loans to the Greek sovereign were converted into bonds in the 2012 restructuring. In other cases, non-secured debts from the government have been converted into a non-securitized asset (e.g., land in St. Kitts and Nevis or SOE assets in Greece). While the illiquid nature of such assets and the lack of an income stream is not appropriate for most financial

[29] The existence of an efficient and safe central securities depository (CSD) facilitates an effective debt restructuring by enabling old and new securities to be transferred and settled on securities accounts accordingly at the time of the restructuring settlement.

[30] Loans that are backed by collateral or other collateral-like features would generally be afforded protection outside of the domestic jurisdiction, notably by subjecting them to foreign law. However, to the extent such types of arrangements were to be governed by domestic law, they could be approached with the same legislative discretion by the government in a severe debt crisis as unsecured ones.

institutions in view of their business model, it could be acceptable for some investors with longer term horizons (e.g., pension funds).[31]

Box 1. Scope of Public Sector Debt

Broadening the perimeter of a debt exchange (by including liabilities beyond those directly owed by the central government) may be considered if it enhances the prospects of restoring public debt sustainability (e.g., by reducing contingent liabilities).[1] For restructuring claims beyond the central government level, the national legal framework governing public sector bodies, notably insolvency regimes for state-owned enterprises (SOEs) and subnational governments, will determine the scope of debt to be restructured. Due to separate legal personalities of various borrowers and relevant debt resolution frameworks there could be different restructuring treatments given to their outstanding claims. Creditors of the central government may, however, insist that lenders to other parts of the government also bear a proportional burden of the restructuring (e.g., Grenada, 2005; see Buchheit and Gulati, 2014).

The debt of SOEs may need to be included in the perimeter of a DDR in certain circumstances. Past DDR episodes suggest that it may be more appropriate to include SOE debt in restructurings when the SOE struggles to service its debt and receives government support to avoid a default. In Barbados, 2018, for instance, government guaranteed SOE debt was included in the DDR perimeter. However, the restructuring of SOE debt may also be subject to additional complications, as SOEs are separate legal entities governed by their own decision-making bodies and objectives, and SOEs' creditors are possibly different from the creditors of the sovereign.

Subnational governments' (SNG) debt may also need to be restructured. One approach is to undertake SNG debt restructuring through a national government-led approach by providing budgetary support and putting in place a transparent legal framework, such as in Brazil, China, India, and Mexico (see Canuto and Liu, 2013). Alternatively, to the extent that SNGs are subject to a special insolvency regime, restructuring of their debt would be undertaken through such framework. Akin to SOEs, SNGs are usually independent legal entities governed by their own decision-making bodies, which may pose obstacles when including them in the DDR perimeter even if they are dependent on state support. However, an uncoordinated approach can be costly.

Government guaranteed debt can be included in sovereign debt restructuring when the guarantee is at a risk of being called. The sovereign can seek to proactively restructure certain guarantees if it sees the risk of their materialization. The sovereign can do so by adopting a voluntary approach when it may declare that the underlying debt instrument covered by the guarantee will be eligible to be tendered in the restructuring (e.g., Greece, 2012). Alternatively, the sovereign can unilaterally inform the beneficiaries that all future claims related to those guarantees will receive a treatment comparable to the one received by other creditors in the exchange.

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[1] While the discussion on the implications of heightened sovereign risk for economic activity falls outside of the scope of this paper, there is a growing body of empirical literature, which demonstrates the costs associated with living in an economy with heightened sovereign risk, measured in terms of foregone investment, financial intermediation, growth, and employment (e.g., Bocola, 2016; Gennaioli, Martin, and Rossi, 2018; Grigorian and Manole, 2017; Balke, 2018; Arellano, Bai, and Mihalache, 2020; Roldan, 2020; and Asonuma *et al*., 2016 and 2019).

[31] This could be also done by making shares in the land holding company tradable to allow the financial institutions in need of liquidity to sell them.

25. The decision of whether to include payment arrears to suppliers in a domestic debt restructuring is not straightforward because they need to be validated and their legal basis verified. An independent and comprehensive audit that clarifies the origins and types of payment arrears is generally advisable, though it takes time to complete (see IMF, 2019).[32] In cases where the government's repayment capacity is severely constrained, a restructuring of arrears to suppliers may become necessary, which may include a reprofiling or a haircut on these claims.[33]

26. The currency denomination of the domestic debt should not influence the inclusion or exclusion of certain securities from the restructuring. Including both local and foreign currency debt issued under domestic law in the restructuring will set *ex ante* equal conditions for both types of instruments and allow to achieve greater savings (e.g., Jamaica, 2010 and 2013).[34] For a highly dollarized economy, where the share of local currency debt is very small, there may be a case for excluding local debt from the restructuring, for example when those instruments are important for the operation of the domestic payments system and development of the local currency bond market (e.g., Uruguay, 2003 and Argentina, 2019).

27. Financial derivatives are often fully collateralized and governed by foreign law and may thus be challenging to be included in a domestic debt restructuring.[35] To mitigate credit risk, a counterparty (the sovereign) which is "out-of-the-money" is contractually required to post collateral based on mark-to-market valuation. However, sovereigns can unwind or terminate their derivatives exposures, the consideration for which would depend on their scale and the net position for the sovereign. Under the close-out netting provision of an ISDA Master Agreement, outstanding transactions could be terminated following a credit event wherein the settlement amount is determined by the valuation of the outstanding transactions and any unpaid amount.

Categories of Domestic Creditors

28. The central bank's holdings of government debt are typically afforded particular consideration in a restructuring. As noted, a restructuring of government bonds held by the central bank can adversely affect its income, capital, and pool of marketable instruments to conduct

[32] However, a comprehensive audit of arrears could be time consuming, especially when the public financial management systems are underdeveloped. In addition, restructuring of some types of arrears (e.g., public sector wages and pension benefits, employer social security contributions, and tax refunds) may raise legal issues in some countries.

[33] Options for clearing domestic arrears include (i) cash payment (e.g., Lesotho); (ii) restructuring either by converting into contractual debt or by announcing a new repayment schedule (e.g., Gabon and Liberia); (iii) securitization into marketable government securities (e.g., Madagascar). In countries where the debt market is not developed and secondary market trading is constrained, this could result in a deep discount for such securities.

[34] However, to balance the discrepancy in losses between foreign- (FX) and local currency- (LC) denominated instruments, a larger haircut could be built in for FX-to-FX exchanges (between old and new instruments) compared to LC-to-LC exchanges.

[35] Derivatives contracts are frequently undertaken under International Swaps and Derivatives Association (ISDA) master agreement, which are typically governed by foreign law.

open market operations.[36] In the past, different solutions have been found, including: (i) rolling over existing debt, (ii) altering the maturity and interest rate of central bank holdings without reducing the face value (for example, Russia, 1998), or (iii) swapping central bank holdings for a new type of security that is then excluded from the restructuring (e.g., Greece, 2012). If the central bank holding of government marketable debt is significant, it may be difficult to avoid a haircut which can impact its capital (e.g., Barbados, 2018).[37]

29. The scope for restructuring the debt held by other public sector entities may be limited by their balance sheet strength, their linkages with the government budget, and their systemic importance. A distinction in the treatment is usually made between debt held by non-financial state-owned entities (including autonomous bodies) and financial institutions. Public sector entities which operate on commercial principles and do not rely on budgetary support may have a higher capacity to bear the burden of debt restructuring. In Barbados, 2018, for example, a nominal haircut was applied to public sector creditors (the central bank and the National Insurance Scheme) to obtain targeted debt relief while private creditors were spared from a nominal haircut.

30. A DDR could also lower the wealth and income of individual households, directly through retail holdings or indirectly through shares in mutual funds and pension entitlements. In addition, a DDR may affect availability of bank credit and cost of borrowing for corporations and households, with potential indirect distributional effects. This calls for a thorough assessment and mitigation of the distributional implications of the restructuring on case-by-case basis.[38] It is due to these distributional considerations that—in contrast to wholesale government securities—retail debt instruments have generally been left out of the scope of domestic debt restructuring.[39]

C. Legal Toolkit for Debt Restructurings

31. A sovereign's control over the domestic legal and regulatory framework affords it a considerable degree of influence over the DDR process. Specifically, the sovereign debtor could change the terms of its domestic debt obligations by virtue of legislation or, in some legal systems, through executive acts, without the consent of creditors (so called "local law advantage"), although such a change may be constrained by the sovereign's constitution or its international obligations. In addition, disputes against the sovereign are typically adjudicated in the sovereign's jurisdiction and thus resolution of these disputes would depend on the capacity, efficiency, and impartiality of the

[36] While new instruments offered to central banks are usually marketable instruments, this may differ in certain cases (for example, in 2012 the central bank in Greece was temporarily provided with physical assets of SOEs in exchange for the bonds it held).

[37] As the holdings of the central bank was subjected to significant haircut in Barbados, upfront recognition of losses from IFRS9 regulations resulted in a negative capital for which a recapitalization package is being worked out.

[38] D'Erasmo and Mendoza (2020) and Morelli and Roldán (2018) discuss the distributional consequences of domestic sovereign default.

[39] In Russia (1998), for example, individual bondholders were excluded from the restructuring.

judicial system in the debtor country.[40] Further, by the nature of its (captive) investor base—itself a function of the potential for moral suasion, regulatory requirements, and investment guidelines—the fiscal and supervisory authorities have more leeway with domestic investors, whom they can keep engaged longer, including after a debt exchange. This has made the creditor coordination (holdout) problem less pressing in DDR cases so far.[41]

32. Some sovereign debtors have used the local law advantage as a legal device to restructure their domestic debt. In past cases, sovereigns introduced retroactively through legislation statutory majority restructuring mechanisms akin to collective action clauses (CACs), often seen in international sovereign bonds. Under this mechanism, domestic law has been adopted or changed to provide that the affirmative votes of a qualified majority of affected debtholders in an exchange offer could amend the payment terms of any untendered domestic bonds to match those of one of the new instruments being issued in the exchange (Buchheit and Gulati, 2010; see Box 2). The sovereign debtor was able to, in this way, overcome the opposition of holdout creditors (e.g., Greece, 2012 and Barbados, 2018). Sovereigns have also chosen to directly impose financial terms of the restructuring through its legislative or executive acts, such as by reprofiling its domestic debt by extending the maturity of its short-term local bonds through a governmental decree (e.g., Argentina, 2019). Unlike the use of the retrofitted majority restructuring mechanism, this latter type applies to all targeted creditors without allowing these affected creditors to vote on the restructuring terms.

33. Although sovereigns have the authority to amend their domestic law to alter the terms of debt contracts, they should carefully evaluate the potential adverse consequences of this option. Retroactive measures tend to undermine the fundamental premise of contracts and could erode investors' confidence. Overreliance on such measures may encourage investors to insist on the use of foreign law for debt contracts or impose a premium on their investment in the sovereign's domestic debt. This measure can also increase the risk of potentially costly and disruptive legal challenges (Box 2). Overall, such measures should be applied only when it is absolutely necessary and with strict limits (Buchheit and Gulati, 2018).[42]

[40] Domestic debt holders may successfully bring up their disputes in foreign courts. When no explicit choice has been made, as is often the case in domestic debt, a foreign court may well take jurisdiction after finding a reasonable connection between the transaction and the forum (Gelpern, 2008). However, in Argentine courts bondholders were generally unsuccessful in challenging the government's debt restructuring measures (Manzo, 2018).

[41] Although a high share of non-resident investors in domestic debt may potentially lead to greater holdout problems, the presence of such foreign investors could also reduce the cost imposed by debt restructuring on domestic financial institutions and other bondholders.

[42] Similarly, retroactive tax measures should generally be avoided due to their negative impact on fairness and certainty, and their susceptibility to potential legal challenges for inconsistency with any guaranteed rights relating to due process, property preservation, and equal protection. Such measures could also trigger an event of default under the domestic debt instrument, depending on its legal terms.

Box 2. Retrofitted Collective Action Mechanism

The retrofitted collective action mechanism adopted in past domestic debt restructurings has some notable features. First, this mechanism was imposed unilaterally and retroactively by the sovereign debtor to apply to all previously issued bonds. Second, this mechanism has been structured as a single limb aggregated voting procedure, without protections for a minority of creditors that are included in enhanced CACs (e.g., the "uniformly applicable" requirement).[1, 2] Third, in certain cases (e.g., Barbados, 2018), this mechanism did not include a disenfranchisement provision which excludes bonds owned or controlled directly or indirectly by the sovereign debtor for voting and quorum purposes under this mechanism.[3]

The sovereign debtor's use of the retrofitted collective action mechanism could be subject to certain limits under the sovereign's constitutional or other domestic law as well as international treaty provisions that guarantee and protect property and investment rights. For example, creditors had litigated against Greece's use of such retrofitted mechanism in its 2012 DDR in domestic, foreign, international courts, and (investment) arbitration tribunals. All of these challenges have, however, been unsuccessful on the grounds of Greece's sovereign immunity or lack of jurisdiction by courts, or due to Greece's affirmative defense that the restructuring served a legitimate public interest and, was necessary to avert imminent insolvency, and proportionate to the debtor's aim as well as the present value of creditors' claims.[4]

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[1] The single limb aggregated voting procedure under enhanced CACs requires only a single vote calculated on an aggregated basis across all affected bond series, removing the possibility of obtaining a controlling position within a series to block the restructuring of that series.

[2] Under the "uniformly applicable" feature of the single limb aggregated CAC as promulgated by ICMA, the sovereign needs to offer all affected bondholders (i) the same new instruments or other consideration or (ii) new instruments or other consideration from an identical menu.

[3] CACs typically include disenfranchisement provisions excluding for voting and quorum purposes all bonds owned or controlled directly or indirectly by the issuer (i.e., reducing the risk that a sovereign manipulates the voting process by influencing the votes of entities it control). See IMF, 2014b (paragraphs 33–34 and 46).

[4] See Buchheit and Gulati (2010), and Grund (2017).

34. CACs in domestic bonds can offer an alternative—and potentially superior—mechanism to support effective DDRs. Compared to the retrofitted collection action mechanism, the use of CACs could increase legal certainty and predictability for investors and reduce the risk of legal challenges to the restructuring. Since 2013, all new sovereign bonds issued by euro area members are required to include CACs in domestic and foreign law bonds with a maturity of more than one year to facilitate debt restructurings based on majority creditor voting. Outside the euro area, however, no country has so far adopted this approach in its domestically issued bonds. As domestic bonds in EMDEs typically have shorter maturities than external bonds, it would take relatively less time for CACs to be included in a substantial portion of the domestic debt stock than for external bonds. Given the lack of the established practices, the potential benefits and costs of including CACs in its domestic bonds require further exploration (Box 3).[43]

[43] Similar to the potential inclusion of CACs in domestic bonds, staff has recommended developing model majority restructuring clauses for inclusion in loan contracts (IMF 2020).

Box 3. Potential Benefits and Issues of Including CACs in Domestic Bonds

Since 2003, the Fund has promoted the inclusion of CACs in international sovereign bonds given the greater legal leverage of holdouts. When the Fund reviewed the potential reform to address the collective action problems in sovereign debt restructuring in 2014, Fund staff held extensive consultations on whether bonds governed by domestic law should also be covered by enhanced CACs. During this consultation, some investors noted that "relying on the contractual approach for the restructuring of all forms of debt would help better protect creditors' rights and support the attractiveness of sovereign debt as an asset class." However, some other investors were "worried that aggregating foreign and domestic law bonds could give the issuer the ability to use its influence over local investors to force an undesirable outcome on the holders of the foreign law bonds", underlying the key concern of the sovereign issuer's control and influence over domestic creditors' voting. At the end, the Fund decided to endorse key features of enhanced CACs for inclusion in international sovereign bonds given the greater legal leverage possessed by holdouts under such bonds, while there is usually much less of a holdout problem involving the restructuring of domestic bonds (IMF, 2014b, paragraph 39).

Following the same approach for enhanced CACs in 2014 for international sovereign bonds, sovereigns' decision on introducing CACs into domestic bonds could be informed by the following considerations:

- *Market acceptability:* The decision on whether to include CACs in domestic bonds would warrant discussion with a sovereign's creditor base as to implications for pricing and investor demand. Such considerations would depend on many factors, including the composition and expected evolution of the sovereign domestic debt portfolio, impact on borrowing costs, attractiveness to creditors, the risks of holdout behavior in its potential DDR, design of such clauses and currently available legal mechanisms for restructuring. The design, in particular, would presumably need to address investors' concern about the sovereign's influence over creditors' voting under the terms of domestic bonds.
- *Potential changes to domestic legal framework and bond issuance practice:* A sovereign would need to carefully analyze its applicable legal and regulatory framework. A sovereign's inclusion of CACs in its domestic bonds may likely require changes to its legal framework and bond issuance practice. For example, the sovereign's public debt management law may need to be rewritten to allow CACs in domestic bonds. Further, the inclusion of CACs in domestic bonds would need to overcome the current practice of limited documentation and disclosure relating to domestic bond issuance. In that regard, the model enhanced CACs in international sovereign bonds contain not only voting procedures, but also key investor protection features such as information covenants, disenfranchisement provisions, and minority protections (e.g., "uniform applicability" in the single-limb voting procedure).

35. In addition, sovereigns should adopt robust public debt management legal and regulatory frameworks to ensure due authorization, accurate recording and reporting of its public debt (Awadzi, 2015). A key challenge for a sovereign in a restructuring of its domestic (or external) debt is to verify the amount of total public sector debt including arrears owed to suppliers and debt of those public entities outside the central government. Such laws and regulations should, for example, stipulate a clear and comprehensive definition and coverage of public debt and government guaranteed debt, and appropriate reporting requirements (i.e., who needs to report data, to whom and how frequently). Robust securities holding laws that ensure the dematerialized circulation of the debt instruments are also helpful in this regard (Bossu et al., 2020)

D. Process of Restructuring Domestic Debt

36. After defining the debt restructuring perimeter, the government has to develop a strategy to replace the existing obligations for new ones. One way to do this would be for the sovereign to unilaterally modify the terms of the debt making use of its "local law advantage." As noted above, while this option always exists and has been used in many instances, the sovereign's use of this option may carry significant adverse consequences. Strategies that rely on market-based incentives and penalties and that leave room for negotiation and recalibration are preferable. Those strategies will typically involve three steps: (i) negotiating the terms and conditions of the debt exchange, including the choice and design of the new debt instruments offered, (ii) liaising with domestic creditors, and (iii) presenting the exchange as part of a consistent macroeconomic plan.

37. The choice and design of new debt instruments offered should be guided by their effectiveness in restoring sustainability and preventing new debt distress. A well-diversified sovereign debt portfolio that balances liquidity, maturity, currency, and other risks will help ensure the sovereign's capacity to meet future obligations and maintain market access. A DDR could be guided by allocation rules designed to achieve a specific policy objective. For instance, in Jamaica (2010), allocation rules were intended to ensure a reduction in the share of variable rate and dollar-denominated debt, in addition to extending the average maturity of the debt stock (Grigorian, Alleyne, and Guerson, 2012). New instruments can also be designed to help absorb the risk of natural disasters, thus reducing the likelihood of a future debt exchange (Cohen *et al.*, 2020). In Grenada (2013), new external debt instruments included a clause allowing the deferral of debt service payments on the restructured debt for up to 12 months in the event of a hurricane. Similarly, in Barbados (2018), the newly introduced hurricane clause in international sovereign bonds allowed for the rescheduling of maturities over a two-year period following a major natural disaster.

38. Although sovereigns have additional legal powers when undertaking DDRs, the incentives to induce participation in a debt exchange are similar to those in an external debt restructuring. These could include upgrades in the governing law; the introduction of a trust structure; differentiated regulations and treatments of collateral for monetary policy operations between new and old instruments; an option to choose from a variety of new debt instruments; enhancing the securities' eligibility to be used to access emergency liquidity facilities; warrants and/or credit enhancements.[44] Because of the sovereign's control over domestic laws and regulations, some of these incentives and disincentives are specific to DDRs (and not available in EDR cases). Some notable examples include:

- "*Carrots*": In some cases participation was enhanced by the introduction of ex ante "buyback clauses" (e.g., Argentina (2001) and Greece (2012)).[45] An additional incentive relied upon by Greece in 2012 was to provide an unusually high cash-equivalent payout in bonds that was

[44] For a detailed discussion on carrots and sticks in sovereign debt restructuring see Bucheit et al. (2019)

[45] Such clauses would allow the government to repurchase the outstanding debt (e.g., using funds set aside for the debt restructuring that go unused because of holdouts).

governed by foreign rather than domestic law (Zettelmeyer, Trebesch, and Gulati, 2013). Another carrot could include support to mitigate foreign exchange risk: one way to entice creditors with unhedged exposures to hold local currency debt is to provide a natural hedge to investors through indexation to inflation (e.g., Argentina, 2001). In other cases, sovereigns provided the banks with means to close their open foreign currency positions (e.g., Turkey, 2000 and Jamaica, 2010).[46] Finally, tax policy could be used as a carrot allowing losses from the exchange to be carried forward without a limit.

- *"Sticks":* Subjecting old securities to 100 percent risk-weighting and not accepting them as collateral in central bank liquidity facilities played an important role in yielding a participation rate of 99 percent in Uruguay's 2003 DDR. In Jamaica (2010), the introduction of a tax surcharge on interest income earned and exercising the call option embedded in old bonds were seen as the two main disincentives to hold out, contributing to a participation rate of more than 99 percent.[47] In the cases of Greece (2012) and Barbados (2018), the authorities made use of their legal authority to retrofit collective action mechanisms into marketable securities to facilitate the restructuring (Box 2). In the use of "sticks", a sovereign needs to be mindful of limitations under its constitution and/or other domestic laws as well as its obligations under international treaties.

39. Constructively liaising with domestic debt holders helps the restructuring process. It is generally advisable that the sovereign hires external advisors to ascertain who are the holders of domestic debt and what is their ability to absorb losses. The advisors should gauge the scope to produce a menu of new debt securities that can be tailored to accommodate constraints of different creditor categories while considering concerns around participation in the restructuring arising from intercreditor equity. For negotiated DDRs, the role of creditor consultations becomes more important as there is a need to secure a sufficient level of creditor consent before executing the debt restructuring.

40. Without domestic equivalents to the international debt architecture (e.g., Paris Club, G20 Common Framework), the country's debt advisors will often have to create *ad hoc* means of communicating (and negotiating) with domestic creditors. In the case of a negotiated DDR, a creditor committee can fulfill the same important role it plays in many EDRs, facilitating information sharing and negotiations. Creditor committees can also be an important venue to negotiate important intra-creditor tradeoffs.

[46] Unless holders of local currency debt are able to hedge the ensuing foreign exchange open position, investors will have a preference for maintaining the foreign currency denomination for the old debt.

[47] The use of tax law measures as a "stick" to target debt servicing payments would need to be reconciled with any applicable legal terms of the domestic debt instrument itself to avoid the possible occurrence of an event of default. In particular, domestic bond instruments may include provisions fixing the tax liability of bondholders and thus imposition of additional tax may constitute an event of default (e.g., Moody's considered Turkey's imposition of a retroactive withholding tax on interest income from domestic currency bonds in December 1999 led to a contractual "event of default" although this was disputed by the authorities). Unilateral, ex-post measures may also trigger investment arbitration disputes, depending on the applicable Bilateral Investment Treaty.

41. An effective communication strategy with different stakeholders is key to a successful domestic debt exchange. Striking the right balance between confidentiality and transparency will contribute to the efficiency of the process. The government and its advisers should engage with key stakeholders in a confidential manner to inform them about their intentions and solicit views where warranted from a financial stability perspective.[48] Maintaining unnecessary secrecy about the details of the impending exchange can be counterproductive and cause market instability.

42. To be successful a DDR will have to be underpinned by consistent macroeconomic policies and a credible plan of economic reforms. Participation in the exchange requires trust in the government's willingness and capacity to implement a reasonable macro-fiscal adjustment while mitigating spillovers as discussed in Section IV. Confidence can be enhanced by building political consensus around adjustment policies. For example, Jamaica (2010), Grenada (2013), and Barbados (2018) created stakeholder committees with civil society and banking sector representatives to monitor the progress of the debt restructuring and economic adjustment program. A credible reform plan will often include:

- **Sustainable macroeconomic and financial sector policies.** The overall financial loss borne by creditors from DDRs depends as much on the macroeconomic outlook and performance following the debt exchange as it does on the nominal reduction in principal and interest achieved by the exchange. A realistic fiscal consolidation plan and consistent monetary and financial policies to underpin debt sustainability and reduce sovereign risk will be key determinants of this outcome.

- **A plan to regain market access in a timely manner.** Recent experience with loss of market access indicates that formulating a robust debt management strategy is critical for securing timely and affordable market access (Strauch *et al.*, 2016), including by establishing a resilient debt profile in terms its risk factors (e.g., currency composition, maturity structure, refinancing risk). Early and consistent engagement with local creditors on upcoming redemptions, financing needs, and the envelope of securities to be offered to the domestic market can facilitate renewed access to domestic credit markets. Elements of such strategy include investor relations and debt transparency, developing a clear issuance calendar, targeting new domestic investors, and establishing an adequate cash buffer.

- **IFI monitoring, capacity development, and financial support.** Aside from critical financial assistance, IFIs support can provide a robust commitment device to the reform plan and macro-framework to underpin the DDR as well as capacity development.[49]

[48] Confidentiality in the context of domestic debt restructuring may at times be necessary to safeguard financial stability against rumors and pre-emptive actions by potentially affected third parties (i.e., bank depositors, etc.).

[49] Since the IMF cannot lend to member countries with public debt trajectories that are determined unsustainable, an IMF-supported program would only contemplate a DDR if the debt operation is deemed necessary to restore public debt sustainability.

SECTION IV. MITIGATING SPILLOVERS FROM A DOMESTIC DEBT RESTRUCTURING

To safeguard financial stability following a domestic debt restructuring, policy responses may include liquidity and solvency support to financial institutions affected by the restructuring, as well as temporary capital flow management measures and other central bank interventions to support orderly market functioning. Mitigating the impact on non-bank institutional investors and households may require tailored policies. Further, the implications of a restructuring for the central bank's balance sheet need to be considered.

A. Financial Stability Impact

43. The sovereign-bank nexus typically increases in the years prior to a domestic restructuring. The financial system of a country where public debt is at risk of becoming unsustainable is likely to be in a vulnerable condition because it is exposed to the same shocks as the sovereign. For example, if an adverse growth shock is the trigger for sovereign stress, non-performing loans are likely to be elevated as well; or if sovereign bond market liquidity is strained as a result of an external shock, then domestic financial institutions may already be facing elevated market liquidity and funding risks. At the same time, as sovereigns experience fiscal stress, they are likely to rely more on financing from domestic financial institutions.

44. A sovereign DDR will have a direct impact on the balance sheet and earning potential of financial institutions holding sovereign debt. The impact on bank balance sheets could be significant where sovereign securities comprise a large share of bank assets. Any loss in value of government debt exposures will lead to capital losses in financial institutions unless these have already been absorbed by provisioning and mark-to-market (MTM) accounting. These losses could be due to a combination of face value haircut, coupon or interest rate reduction, and maturity extension with below-market coupon rates. The capacity of the banking sector to absorb losses may be higher where it is well capitalized. When banks are able to absorb losses without having to resort to a recapitalization from the government, the fiscal consolidation and/or burden-sharing by other creditors required to restore debt sustainability would be smaller.

45. The indirect effects of a domestic sovereign debt restructuring on the financial system can also be damaging but may be harder to assess. Banks that are directly affected by the restructuring could face deposit runs, with potential spillovers to other banks possibly due to a loss of confidence in the government's ability to backstop the deposit insurance scheme. The restructuring may also lead to disruptions in the interbank market due to heightened uncertainty about the liquidity or insolvency of market participants or if the DDR includes T-bills. In addition, the banking system's ability to perform payment system functions could be affected (IMF, 2014a).[50]

[50] For example, if the sovereign debt restructuring results in a shortage of usable collateral.

With a hit to its capital base and/or profitability, banks could pull back from lending to the private sector. Other indirect effects that could put pressure on financial institutions balance sheets include:

- Capital flight and the attendants effects on the net international reserves position;
- Margin calls or withdrawal of foreign credit lines triggered by a sovereign rating downgrade, requiring topping up of the collateral or repayment;
- Exchange rate depreciation pressures driven by a run to safety or increased demand for foreign currency to meet margin calls;[51]
- Loss of ability to access the central bank's normal liquidity facilities due to limited eligibility of restructured assets as collateral;
- Rapid decline in asset values driven by fire sale of assets and deleveraging by banks;
- Spillovers due to ownership and financial interlinkages with affected financial institutions (i.e., among banks, insurance companies, investment funds, etc.).

46. The combination of these side effects could give rise to sizable bank recapitalization needs. As discussed in Section III, the resulting financial and economic costs would reduce the debt service relief achieved as a result of the restructuring. For example, the Greek (2012) restructuring involving a nominal haircut of 53 percent for the banking sector, resulted in a loss of 170 percent of the core Tier 1 capital for the consolidated banking sector.[52] Similarly, in some countries with a substantial exposure of the domestic banking sector to government debt and an *ex ante* vulnerable banking system, a large DDR had significant negative effects on the health of the banking sector (Argentina, 2001; Ecuador, 1999; Russia, 1998).

B. Managing the Impact on the Banking System

47. A domestic debt restructuring can be designed to limit bank losses, but those losses should not be hidden. For example, the impact of a sovereign domestic debt restructuring on banks' balance sheet has in some cases been limited when the restructuring did not involve any principal haircut but was designed as reprofiling with moderate NPV loss (IMF, 2014).[53] Limiting the NPV haircut can reduce the impact of a debt restructuring on the banking sector and minimize the loss of banking capital (e.g., Jamaica, 2010; Barbados, 2018; Grenada, 2013; St. Kitts and Nevis, 2012).

[51] The default on domestic debt may be followed by a sharp exchange rate devaluation which, in turn, can lead to a banking crisis (e.g., Russia, 1998).

[52] As part of the restructuring process in Greece, the authorities set aside €50 billion from their external borrowing envelope for recapitalizing domestic banks, thus reducing the fiscal savings from the exchange (see background paper for details).

[53] The criterion used to assess whether the bond exchange had a material impact on the banking sector was if, as a direct result of the bond exchange, any bank in the country needed either additional provisioning or recapitalization.

The precise impact will depend on the accounting and regulatory treatment of the debt restructuring.

48. Regulatory relief measures to reduce the impact of a debt reprofiling on banks' capital should be avoided, since they may undermine the credibility of banks' reported figures and delay appropriate mitigating actions. Maturity extension on a part of the bank's portfolio may not require recognition of impairment as long as there is no reduction in the net present value of the underlying sovereign debt instruments and there is no assessment of significant increase in credit risk as a result of that action. In some cases, coupon reductions on a reprofiling were exempted from recognition of impairment, which allowed banks not to have to make additional provisions (e.g., Jamaica, 2010; Cyprus, 2013; and Uruguay, 2003).[54] This approach would lead to an overestimation of banks' financial and prudential ratios, which may increase risks to financial stability.

49. Recognition of losses may need to be paired with a strategy to restore capital buffers if those losses produce shortfalls in regulatory bank capital. Capital shortfalls are more likely to emerge for a tail of weak banks and for banks with a high share of exposure to government domestic debt relative to their capital. Recognition of impairment involving a nominal haircut on domestic bonds in Greece (2012) resulted in severe banking sector losses even while the bulk of the holdings were classified as held-to-maturity (HTM) (Bank of Greece, 2013). With an overall NPV loss of 78 percent banking sector losses amounted to €38.7 billion, a major factor for determining the capital needs of the banks. Although under the IAS39 accounting standard used at the time fair valuation was not required, the deep nominal haircut resulted in significant loss recognition. Reprofiling of domestic debt categorized as HTM by the banking sector in Barbados (2018) was recognized as an impairment due to the introduction of expected loss provisioning under the IFRS9 accounting standard. Box 4 discusses the general framework of the accounting treatment of sovereign debt restructuring for bank balance sheet.

Box 4. Accounting Treatment of the Impact of Restructured Sovereign Bonds on Banks' Capital

The accounting treatment of the valuation changes arising from a DDR depends on the type of portfolio the securities are held in. Under International Financial Report Standard 9 (IFRS 9), financial assets would be broadly classified as either measured at Fair Value or at amortized cost.

Fair value accounting recognizes a significant portion of the potential loss incurred before a DDR event materializes. Where market valuation reflects sovereign debt distress, early recognition of expected losses enhances the loss-absorbing capacity of banks in the event of a debt restructuring as much of the impairment will already be reflected in the banks' balance sheet. IFRS 9 requires timely recognition of impairment losses on banks' balance sheet. Securities held in the "fair value through profit or loss" (FVTPL) portfolio follow mark-to-market (MTM) valuation, and price movements directly affect regulatory capital through the profit and loss statement. For securities held in the "fair value through other comprehensive income" (FVTOCI) portfolio, realized gains or losses are also reflected in bank capital in the same way, but any unrealized gains or losses are accounted for as "other comprehensive income" (OCI). Although amortized cost securities are not affected by changes in market price any expected credit loss will be accounted in the loan loss reserves.

[54] The reprofiling of domestic bonds involving NPV losses resulted in the new market prices to be well below par.

50. Supervisors should encourage banks to reliably measure and promptly recognize losses on banks' sovereign exposures according to sound accounting and prudential standards. For held-for-trading or fair value portfolios, mark-to-market (MtM) requirements should continue being enforced, including for new securities issued in the debt exchange if their market valuation remains below par immediately after the exchange.[55] Under MtM valuation, most of the losses from the debt exchange may already be accounted for as markets would have priced in the likelihood of a restructuring. In addition, impairment should be measured and recognized to account for expected losses on sovereign exposures, including those held at amortized cost. Past episodes of reprofiling in some countries allowed gradual phasing in of MtM valuation to smooth the impact of price volatility of sovereign debt securities around the exchange on bank capital.[56] To the extent that the regulatory treatment of sovereign exposures (in the form of higher risk weights and provisioning requirements) became stricter after a default or during pre-emptive debt negotiations, these treatments may gradually be phased out depending on whether this is warranted by the improved creditworthiness of the sovereign following the debt exchange.[57]

51. If banks' capital buffers are insufficient to absorb losses from the DDR and associated economic stresses, the capital shortfall will need to be addressed. Options will depend on the size of the shortfall, the viability of the distressed banks, and the systemic impact of their possible liquidation. The first step should be arriving at an accurate estimation of capital shortfalls through a rigorous program of asset quality diagnostics. While there is no single template for such an exercise, an asset quality review (AQR) is typically a central element and may be complemented by forward-looking stress testing and scenario analysis of the impact of different options for debt restructuring.[58] Ex ante, this analysis can help to inform the restructuring choices.

52. The strategy to eliminate shortfalls in bank capital has to be carefully designed to ensure financial stability while limiting fiscal risks, which is particularly difficult during a debt restructuring. Shortly after the restructuring, supervisors should require viable banks that are likely to need recapitalization to develop a credible plan to restore compliance with capital requirements and buffers over a reasonable period of time, with close supervisory oversight of the implementation of these plans. In some cases, public sector recapitalization or other state support for banks may be considered as a last resort to maintain financial stability and avoid disruption to the real economy, but this may offset part of the debt relief targeted through the DDR. If this is the case, additional debt relief may need to be obtained from the sovereign's other liabilities. Leveraging a well-designed framework for bank resolution, resolution funding, and deposit insurance could help mitigate risks to financial stability, but contagion risks tend to be higher in

[55] Provision of capital relief, where required is facilitated by availability of accurate valuations.

[56] Such supervisory relaxations were made in the context of deferring losses and also the possibility of reversing some losses accruing at the time of the exchange if interest rates fall following a successful restructuring.

[57] This relaxation could be timed with the improvements in sovereign's credit rating following the debt exchange.

[58] See further discussion of asset quality diagnostics in Gutierrez, Monaghan and Piris (2019).

debt restructuring cases where credible public sector guarantees, and funding backstops may not be available.

53. Gaps in crisis management and bank resolution frameworks should be identified prior to the DDR. Gaps in early intervention, resolution, deposit insurance, and central bank liquidity assistance, as well as the coordination arrangements among these elements should be addressed before the DDR. Standard financial safety net components need to be supported by adequate contingency planning for each stage. Where prospects of private sector funding are weak and orderly resolution is unlikely to be feasible, further attention will need to be given to the design of schemes for the potential provision of public solvency support, including the forms of such support, safeguards to minimize moral hazard, and governance arrangements for the management of the public sector's interest.[59]

C. Managing the Impact on Non-bank Financial Institutions

54. The implications of a DDR on the balance sheet position of long-term institutional holders of government debt (i.e., insurance and pension funds) would have to be analyzed carefully. These (often captive) holders of government debt typically have a large exposure to sovereign securities (by the virtue of their investment and regulatory guidelines and lack of other investment opportunities) and are likely to suffer significant losses in the event of a DDR. Depending on the size of the impact and the pre-restructuring financial condition of pension funds, pension reform might be required to address the income and valuation losses of the assets as a result of a debt restructuring.

55. A comprehensive pension reform may be required to restore long run sustainability in case of an accelerated depletion of reserves resulting from a debt restructuring. For a funded pension system, due to the haircut resulting in a loss of investment income and capital, reserves are likely to be depleted earlier than without the restructuring. Under a scenario where liability cash flows start exceeding asset cash flows, reserves would have to be utilized to pay off current expenditures. A systemic or parametric reform will be required in the medium-term to restore the solvency of the pension fund. Reforms may include making the public pension scheme contributory for new employees, increasing the earliest age of eligibility for new employees, and reducing the rate of benefit accrual for each year of service for new employees. A commitment to fiscal consolidation as part of a debt restructuring strategy, which seeks to reduce contributions from the government could further increase the need for and extent of pension reforms.

[59] For more details on the crisis management and resolution frameworks see Dobler, Moretti, and Piris (2020) and Bank for International Settlements (2014). For the role of government in corporate debt restructuring see Grigorian and Raei (2013).

D. Managing the Impact on the Central Bank and the Need for Systemic Liquidity

56. A sovereign DDR should be calibrated to minimize the effect on the central bank's ability to conduct its main functions. Apart from direct losses, a DDR may reduce the central bank's ability to (i) manage liquidity in the financial system through open market operations; (ii) define and implement collateral policy given the decline in the stock of available government securities; and (iii) hold government securities as counterpart to central bank liabilities, such as currency in circulation and commercial bank deposits with the central bank.[60] A temporary relaxation of collateralization rules may have implications on the quality of the central banks' assets. In some cases, a recapitalization of the central bank by the government (to compensate for the losses from haircuts on its holdings of government securities) may be unavoidable (e.g., Barbados, 2018). If this is not feasible without endangering the sustainability of general government debt, the only solution may be to imposing a higher debt relief burden on other creditors.

57. Liquidity facilities designed to provide emergency support to eligible institutions affected by DDR have been key elements of the financial safety net in some recent episodes. A liquidity backstop serves as a lifeline for financial institutions which may lose access to market or deposit funding. It could be especially useful for a banking system with a high degree of interconnectedness and for financial institutions which otherwise do not have access to a central bank window for liquidity support. Collateral eligibility requirements may need to be reviewed, especially if banks face large haircuts on government bonds typically used as collateral for central bank operations. In countries where financial markets are not well developed, however, the size and scope of liquidity backstop facilities would be limited.

58. The establishment of a financial sector stability fund, possibly supported by IFIs, can help provide liquidity support to the banking system and enhance investor confidence. When set up with contributions from IFIs (including the IMF), such a fund can serve as a useful confidence building instrument for the affected financial institutions.[61] The primary role of the stability funds in past restructuring episodes was to provide liquidity support in the event of pressure on deposits, or external funding calls, or assets under management that are attributable to debt restructuring. Liquidity support could be provided up to a threshold (as a share of the affected institution's capital), beyond which regulatory interventions would be triggered. Inclusion of non-bank institutions which normally do not have access to central bank liquidity can also benefit from such funds. A key rationale for setting up a *dedicated* stability fund is to ring-fence external funding.

[60] Although non-sovereign securities can be eligible as collateral for the central bank in normal times, EMDEs with relatively small undeveloped financial markets, will generally not have alternative liquid securities.

[61] Financial Stability Funds were set up during domestic debt restructuring events in Jamaica and St. Kitts and Nevis (see background paper). In Jamaica, the Financial Stability Fund was not limited to liquidity support and could provide solvency support subject to appropriate conditions.

59. To safeguard financial stability from the risks of sudden and rapid capital flight following a debt restructuring, temporary capital flow management measures (CFMs) on outflows may need to be considered in line with the IMF's Institutional View (IMF 2012c).[62] For EMDEs, sudden and large capital flight could lead to pressures in the forex market, losses of international reserves and disorderly conditions in domestic financial markets. For sovereigns undergoing domestic debt restructuring, well-designed outflow CFMs could be effective in mitigating a crisis before the implementation of macro-financial stabilization measures. For countries facing imminent crisis, outflow CFMs may need to be introduced swiftly to prevent any frontrunning. Imposition of CFM should temporary and part of a broader policy package that also includes macroeconomic, financial sector, and structural adjustment to address the fundamental causes of the crisis. CFMs should take into account country-specific factors and based on a clear legal framework, with central banks generally playing a key role (Gudbjartsdottir, et. al. 2020). Following the restructuring, as macroeconomic and financial stability are restored, market confidence is regained, and foreign exchange reserves rebuilt, removal of the CFMs could be considered as a durable exit strategy.

SECTION V. CONCLUSION

60. Restructurings of domestic debt have become more frequent since the mid-1990s and will likely become even more common in the future. Through the development of domestic capital markets, EMDEs are increasingly relying on marketable, domestically issued debt to finance fiscal deficits and rollover requirements. With a high number of countries at risk of debt distress as a result of the pandemic, going forward, domestic debt restructurings will likely be required more often to restore sustainability.

61. When public debt is unsustainable, policy makers need to decide whether domestic debt restructurings should be part of the resolution strategy, how to carry out the restructuring, and how to mitigate its economic costs. This paper spoke to all three questions, based on the premise—backed by empirical analysis—that the EDRs and DDRs impact the economy through different channels. The sovereign's control over the domestic legal and regulatory framework affords it a greater degree of influence over the DDR process than it would typically have over EDRs. This can be used to avoid a protracted standoff with creditors. Restructuring only domestic law debt may also offer a way of ringfencing the external reputational consequences of debt restructuring and avoiding loss of access to external debt markets. But at the same time, DDRs impose losses on domestic stakeholders and may have large direct and indirect costs for the domestic financial system, with spillovers to the domestic economy.

62. Sovereigns considering a DDR should anticipate its impact on the domestic financial system, limit the use of the local law advantage, and put in place policy measures that mitigate the costs of the DDR for banks, non-bank institutional investors, and households. Key

[62] In designing exchange controls on current and capital account transactions, the authorities should ensure compliance with the country's obligations under Article VIII of the IMF's Articles of Agreement and the *Institutional View on the Liberalization and Management of Capital Flows* (IMF 2012c).

to deciding whether to undertake a domestic debt restructuring is its net—rather than gross—benefit, after taking into account the fiscal costs (in particular, related to bank recapitalization needs), as well as broader economic costs. A wide definition of the perimeter of the claims to be included in the restructuring supports participation by lowering the debt relief sought from each creditor group. A fair and transparent process that encourages participation, accommodates creditor preferences to the extent possible can reduce the costs of the operation. Sovereigns should only use legislative or executive acts to change the terms of domestic debt contracts when it is absolutely necessary and with strict limits to avoid potential legal risks and negative consequences on the domestic debt market. Safeguarding financial stability may include liquidity and solvency support to financial institutions affected by the restructuring, as well as temporary capital flow management measures and other central bank interventions to support orderly market functioning. Further, the implications of a restructuring for the central bank's balance sheet and non-bank financial institutions need to be considered and mitigated through tailored policies.

63. While these policy conclusions are likely robust, further experience with domestic debt restructurings and continued efforts to improve the availability and quality of debt data would help to gain a more granular understanding and inform relevant policy advice. The current analysis is constrained by the small sample size and lack of granular data (such as, net present value losses, debt relief, amount of restructured debt, holders of the debt, etc.). At present, the population sample of standalone DDRs is largely made up of LICs and small economies, with very shallow or non-existent domestic debt markets. Consequently, it is difficult to extrapolate the experiences of these restructurings to larger, more diversified economies, especially those with relatively large foreign participation in their domestic markets. While the experiences of Greece and Cyprus shed some light on these areas, they were also influenced the EU and Euro Area membership of these countries. The analysis is also hampered by a lack of data classifying debt along all three dimensions (e.g., governing law, residency, and currency). As domestic debt will likely continue to be a source of vulnerability, additional cases and improvements in data quality would allow more granular analysis and improve the assessment of debt fragilities and policy advice, including by the IMF.

Annex I. Public Marketable Debt Restructurings – Selected Episodes, 1998–2020

Country	Start of default or restructuring process[1]	End of restructuring process[2]	Length of process (in months)	EDR / DDR[3]	Preemptive/ Post-default[4]	FC, LC or Both[5]
Ukraine	Aug-1998	Sep-1998	2	DDR	Preemptive	Both
Russia	Aug-1998	Aug-2000	26	DDR + EDR	Post-default	Both
Pakistan	Jan-1999	Dec-1999	12	EDR	Preemptive	FC
Ecuador	Jan-1999	Aug-2000	20	DDR + EDR	Post-default	Both
Ukraine	Feb-2000	Apr-2000	3	EDR	Preemptive	FC
Côte d'Ivoire	Mar-2000	Apr-2010	124	EDR	Post-default	FC
Argentina	Nov-2001	Jun-2005	45	DDR + EDR	Post-default	Both
Moldova	Jun-2002	Oct-2002	6	EDR	Preemptive	FC
Paraguay	Dec-2002	Nov-2003	12	DDR	Post-default	Both
Uruguay	Mar-2003	May-2003	4	DDR + EDR	Preemptive	FC
Nicaragua	Jul-2003	Jul-2003	1	DDR	Preemptive	LC
Dominica	Jul-2003	Jun-2004	13	EDR	Post-default	Both
Dominican Republic	Apr-2004	May-2005	15	EDR	Preemptive	FC*
Dominican Republic	Aug-2004	Oct-2005	16	EDR	Post-default	FC
Cameroon	Sep-2004	Apr-2005	8	DDR	Post-default	LC
Grenada	Oct-2004	Nov-2005	15	DDR + EDR	Preemptive	Both
Iraq	Jul-2005	Jul-2006	13	EDR	Post-default	FC
Belize	Aug-2006	Feb-2007	8	EDR	Preemptive	FC
Nicaragua	Jun-2008	Jul-2008	2	DDR	Preemptive	LC
Seychelles	Jul-2008	Feb-2010	21	EDR	Post-default	FC
Ecuador	Nov-2008	Jun-2009	8	EDR	Post-default	FC
Jamaica	Jan-2010	Feb-2010	2	DDR	Preemptive	Both
Côte d'Ivoire	Jan-2011	Nov-2012	23	EDR	Post-default	Both
St. Kitts and Nevis	Jun-2011	Apr-2012	11	DDR + EDR	Preemptive	Both
Greece	Jul-2011	Mar-2012	10	DDR + EDR	Preemptive	Both
Belize	Aug-2012	Mar-2013	7	EDR	Preemptive	FC
Jamaica	Feb-2013	Mar-2013	2	DDR	Preemptive	Both
Grenada	Mar-2013	Nov-2015	34	DDR + EDR	Post-default	Both
Cyprus	Jun-2013	Jul-2013	2	DDR	Preemptive	LC
Argentina	Jul-2014	Jun-2016	24	DDR + EDR	Post-default	FC
Chad	Sep-2014	Dec-2015	16	EDR	Preemptive	FC
Ukraine	Jan-2015	Apr-2016	16	EDR	Preemptive	FC
Mozambique	Jun-2015	Apr-2016	11	EDR	Preemptive	FC
Belize	Nov-2016	Mar-2017	5	EDR	Preemptive	FC
Mongolia	Feb-2017	Mar-2017	2	EDR	Preemptive	FC
Chad	Feb-2017	Jun-2018	17	EDR	Preemptive	FC
Barbados	Jun-2018	Dec-2019	20	DDR + EDR	Post-default	Both
Argentina	Dec-2019	Sep-2020	10	DDR + EDR	Post-default	Both
Ecuador	Mar-2020	Aug-2020	6	EDR	Preemptive	FC

Sources: Asonuma and Trebesch (2016); IMF (2015b); IMF (2020b); Moody's (2020); IMF country reports; and country authorities' websites.

Note: Ongoing cases as of March-2021 have been excluded.

[1] The start of a default/restructuring process is defined as the default month or the month in which a distressed restructuring was announced. When both a default and an announcement take place, the earliest date is used.

[2] The end of a restructuring is defined as the month of the final agreement or the implementation of the debt exchange.

[3] DDR=Domestic Debt Restructuring; EDR=External Debt Restructuring; DDR + EDR= Both Domestic and External Debt Restructuring. The classification of domestic and external is based on the governing law under which the public debt liabilities were issued.

[4] Restructurings are defined as "pre-emptive" if (i) no payments are missed (no legal default) or (ii) some payments are missed, but only temporarily and after the start of formal or informal negotiations with creditor representatives (no unilateral default). "Post-default" restructurings are all other cases, in which payments are missed unilaterally and without the agreement of creditor representatives.

[5] FC=Foreign currency; LC=Local currency; Both=Foreign and local currency denominated debt involved in the debt restructuring episode.

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INTERNATIONAL MONETARY FUND

ISSUES IN RESTRUCTURING OF DOMESTIC SOVEREIGN DEBT—BACKGROUND PAPER

August 19, 2021

EXECUTIVE SUMMARY

Restructuring of domestically issued debt is likely to play a role in the resolution of future debt crises. In the wake of COVID-19, emerging market and developing economies (EMDEs) with heightened debt vulnerabilities tend to have sizable stocks of domestic debt, increasing the potential for domestic debt to be part of future public debt restructurings.

This background paper provides an in-depth analysis of domestic public debt restructuring episodes since 1980. Restructuring of domestic-law public debt differs from external debt restructuring in several important respects – while sovereigns have greater control over the terms of domestic-law debt and supervisory leverage over their domestic creditors, domestic-law debt is disproportionally held in the domestic financial sector. As a result, domestic debt restructuring can affect financial stability. This paper aims to offer insights based on empirical analysis of all public debt restructuring episodes during 1980–2020 and qualitative analysis of 12 country case studies.

The paper shows that restructurings of domestic debt have become more frequent relative to external debt restructurings since the mid-1990s and tend to occur in different settings. Much like external debt restructurings, recent domestic debt restructuring operations were typically carried out through negotiations with creditors, rather than through inflation and financial repression as was often the case in the 1980–90s. Domestic debt is likely to be part of a public debt restructuring in two settings: (i) as a stand-alone operation, in countries with low external debt to private creditors and/or shallow financial systems, (ii) as part of a comprehensive debt restructuring (of both domestic and external debt) in countries with larger financial systems, often triggered or accompanied by severe crises (including banking crises).

Compared to domestic debt-only restructurings, *combined* domestic and external restructurings typically entailed larger losses for creditors and deeper post-restructuring economic and credit contractions. Although data limitations do not allow to fully disentangle the effects of the restructuring modalities *per se* from those of the shocks triggering a particular type of restructuring, the evidence suggests that post-restructuring economic outcomes tend to be worse when both domestic and external financial channels become impaired. The case studies show that the depth of restructuring would generally depend on the extent of the debt problem, the loss absorption capacity of domestic financial institutions and the effectiveness of accompanying policies (including fiscal adjustment). As elaborated in the main paper, "Issues in Restructuring of Domestic Sovereign Debt", a domestic debt restructuring should hence be designed to anticipate, minimize and manage its impact on the domestic financial system.

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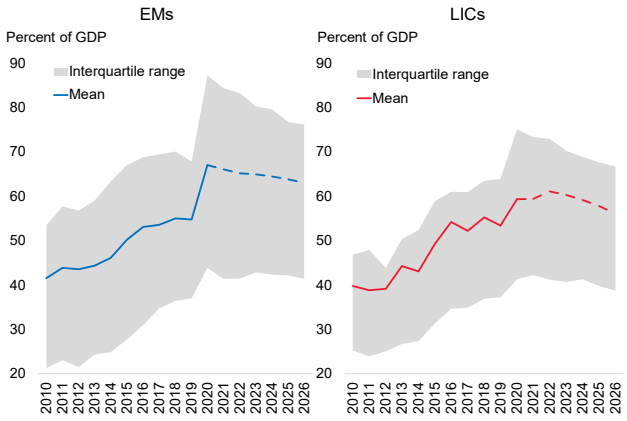
INTRODUCTION

1. The COVID-19 crisis has led to a sharp rise in public debt burdens. In emerging market economies (EMs), public debt reached 66 percent of GDP, on average, at end-2020, while the average public debt in low-income countries (LICs) stood at 61 percent of GDP at end-2020 (Figure 1). Over the medium term, public debt burdens are expected to remain elevated, posing significant challenges for countries with pre-existing vulnerabilities, structural rigidities, and limited financing options.[1]

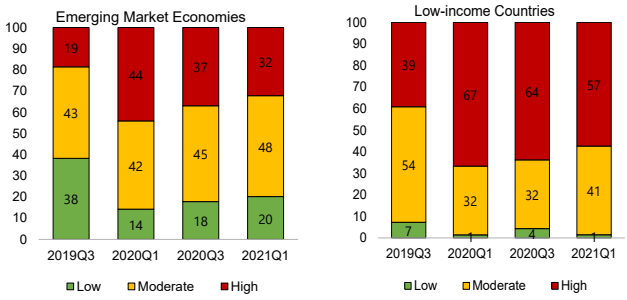
Figure 1. Public Debt in EMDEs
(in percent of GDP)



Source: IMF WEO 2021, based on the WEO classification

2. Fiscal risks and public debt sustainability concerns have increased in LICs and fragile EMs. According to the IMF-World Bank debt sustainability framework for low-income countries (LIC-DSF), more than half of LICs were at high risk of or in public debt distress as of March 2021.[2] In many of these countries either solvency or liquidity indicators are projected to remain above the prudent thresholds for extended periods over the medium term, implying the need for significant fiscal adjustment and possibly some form of debt restructuring to restore debt sustainability. The fiscal crisis risks across both EMs and LICs remain above pre-pandemic levels despite some moderation since the onset of the COVID-19 crisis in 2020:Q1. The IMF staff estimates suggest that as of 2021:Q1 about 30 percent of EMs and 60 percent of LICs were at high risk of a fiscal crisis (Figure 2).[3]

Figure 2. Evolution of Fiscal Crisis Risks in EMDEs
(number of countries, in percent of total)



Source: IMF country teams' fiscal risk assessment (2021:Q1)
Notes: High/moderate/low risk refer to countries with the fiscal sector crisis risks above the 80 percentile, between the 50th and 80th percentile, and below the 50th percentiles of all ratings based on data for the last 15 years (see footnote 3 for details).

[1] See the Board Paper on "Macroeconomic Developments and Prospects in Low-Income Countries – 2021"

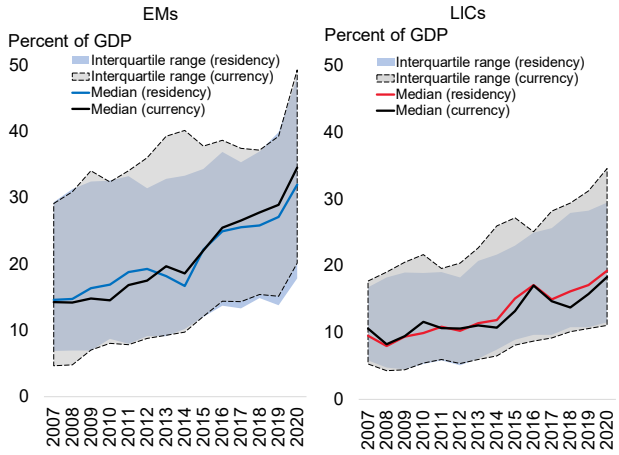
[2] Based on the overall public debt LIC-DSF, as of March 2021, 58 percent of countries were either at high risk of distress or in distress.

[3] The staff's fiscal sector crisis model estimates the risk of a fiscal crisis event defined as any of the following: (1) occurrence of sovereign default or debt restructuring; (2) exceptionally large official financing; (3) high inflation or accumulation of domestic arrears (implicit default); and (4) loss of market access or spikes in sovereign yields (see IMF 2021).

3. Domestic debt now accounts for a sizable share of restructurable public debt in EMDEs. The share of EMDE public debt issued in local currency has been rising steadily, reflecting financial deepening (Figure 3). Much of this debt has been issued under domestic law and has been held by residents[4]. Since 2007, domestic debt (by residency of holders) has doubled from nearly 15 percent of GDP to around 30 percent of GDP, on average, for EMs and from just under 10 percent of GDP to roughly 20 percent of GDP in LICs (Figure 3). While LICs tend to have less domestic debt than EMs, their reliance on external financing from multilateral creditors (including the IMF) is much higher than in EMs (Figure 4). The latter may make it difficult to secure a meaningful debt relief in the event of a restructuring if the scope of restructuring is limited to external debt only.

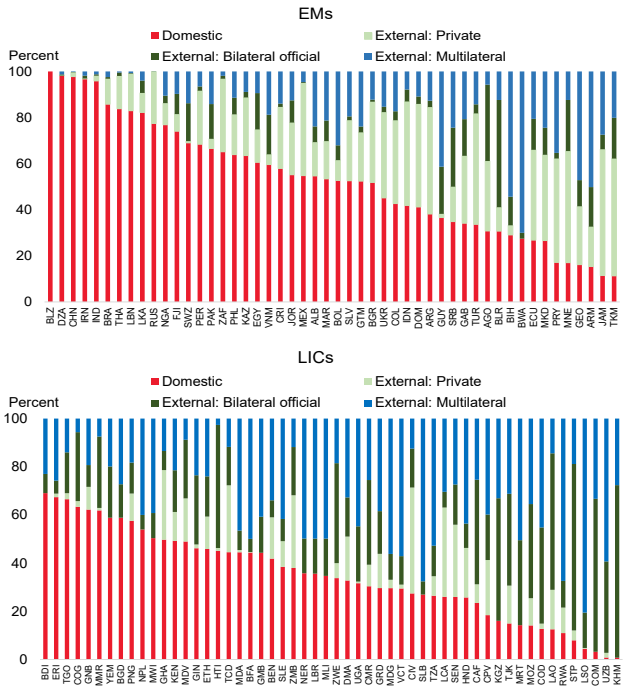
4. Increased debt sustainability concerns in countries with large domestic debt stocks raise the odds of domestic debt restructurings in the future. For the LICs that are at high risk of debt distress or in debt distress (based on the March 2021 LIC-DSF), the average share of domestic debt in total public debt is 35 percent and 30 percent, respectively (Figure 5, panel 1). Domestic debt in EMs that are at high risk of a fiscal crisis is around 55 percent of total public debt, on average, compared to 37 percent in LICs (Figure 5, panels 2-3). In some of these cases, domestic debt restructuring may become necessary to address fiscal pressures.

Figure 3. Domestic Public Debt in EMDEs
(in percent of GDP)



Source: IMF WEO 2021, based on the WEO classification
Note: Domestic debt is shown on residency and currency basis.

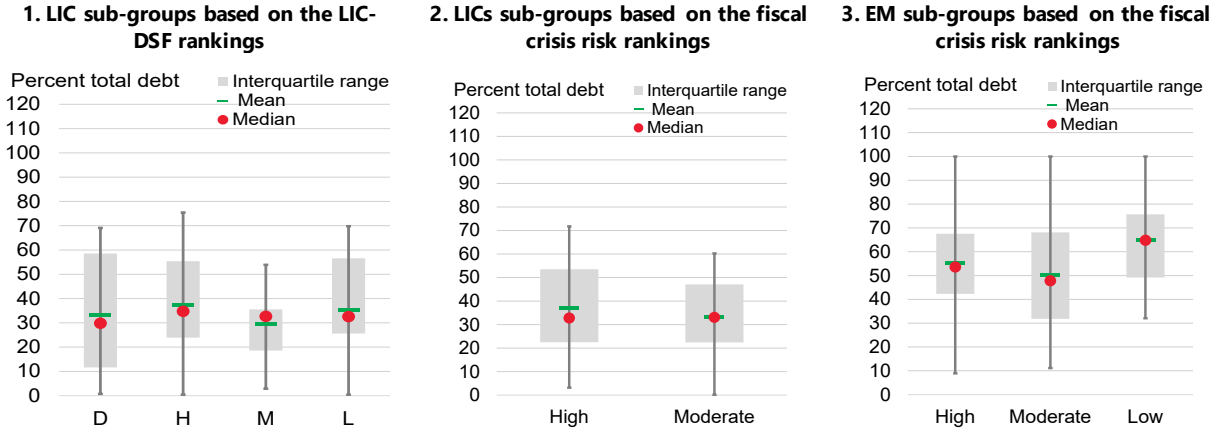
Figure 4. Creditor Composition of Public Debt in EMDEs, 2019



Source: WEO, World Bank International Debt Statistics database
Note: The breakdown of public debt into external and domestic debt (based on residency of holders) is from the WEO database; the creditor profile of external debt is from the WB IDS database.

[4] Under the IMF's debt policies, debt held by residents and debt denominated in local currency are considered to be domestic debt based on the residency criterion and currency criterion, respectively. Another notion of domestic debt is based on the governing law criterion. There is usually a large overlap between these three sets. Throughout the rest of the paper, domestic debt will refer to sovereign debt issued under domestic law, unless indicated otherwise.

Figure 5. Domestic Public Debt in EMDEs, by Fiscal Risk Ranking, 2021
(in percent of total public debt)



Source: WEO, WB database, IMF LIC-DSF database (as of March 2021), IMF country teams' fiscal risk assessment (2021:Q1)
Note: Domestic debt is based on residency of holders. In panel 1, "D" denotes a group of countries that are assessed as "in debt distress", "L", "M" and "H" denote groups of LICs where public debt sustainability risk is assessed as "Low", "Medium" and "High", respectively (based on the overall public debt LIC-DSF, as of March 2021). In panels 2 and 3, high/moderate/low risk refer to countries with risks above the 80 percentile, between the 50th and 80th percentile, and below the 50th percentiles of all ratings based on data for the last 15 years (based on staff's fiscal sector risk assessments as of 2021:Q1, shown in Figure 2).

5. During the pandemic, the local bank holdings of domestic sovereign bonds have increased sharply, raising the potential for bank losses in the event of a debt restructuring. To help finance the widening fiscal deficits during the pandemic, domestic banks in EMDEs had to absorb a sizable share of the new issuance of domestic sovereign bonds.[5] In many cases, holdings of government debt rose faster than bank deposits. Apart from potential concerns about banks' capacity and willingness to continue rolling over government debt, a stronger sovereign-bank nexus will likely exacerbate financial stability concerns in the event of a debt restructuring.

6. This paper aims to provide an in-depth analysis of the domestic public debt restructuring episodes that occurred during 1980-2020 based on historical data and case studies. Focusing on domestic-law debt, this paper presents a taxonomy of the public debt restructuring episodes, discusses the macro-financial patterns around different types of debt restructurings, and the key factors that might influence the debt restructuring choices. The case studies include 12 domestic debt-only and comprehensive (domestic and external) debt restructuring episodes, and help to shed some light on the context, design and modalities of the debt restructuring operations. The objective is to inform the discussion of the key considerations for public domestic debt restructuring presented in the main paper on "Issues in Restructuring of Domestic Sovereign Debt".

[5] As discussed in the October 2020 and April 2021 IMF's Global Financial Stability Reports.

PUBLIC DEBT RESTRUCTURING EPISODES: 1980-2020

A. Types of Debt Restructurings

7. Domestic debt restructurings have been less studied than external debt restructurings. In a well-known paper, "The Forgotten History of Domestic Debt" (2011), Reinhart and Rogoff attribute this lack of attention to relatively lower incidence of domestic debt defaults compared to external defaults, as well as the scarcity of data. For the period of 1914–2010, they identify 68 cases of *de jure* domestic debt defaults in 64 advanced and developing economies, compared to 250 cases of external debt defaults recorded between 1800 and 2010. More recently, Erce and Mallucci (2018) have identified 64 domestic default episodes, compared to 118 external default episodes, in 60 countries between 1980 and 2017.

8. Historically, governments have employed a range of debt reduction strategies. These strategies have included high inflation, retroactive use of withholding taxes, financial repression,[6] and finally, overt debt restructurings by law or executive acts or through negotiations with creditors. Taking into account different ways in which governments have dealt with the real domestic debt burdens in the past, we identify five types of public debt restructuring/reduction events:

1. *High inflation/financial repression episodes (IFRs)* refer to the periods of persistent high inflation (at least 3 consecutive years of inflation at over 20 percent per annum, often in the context of financial repression).

2. *Standalone domestic-law debt restructuring events (DDRs)* refer to the instances of changes to contractual payment terms on domestic-law public debt (including amortization, coupons, and any contingent or other payments) to the detriment of creditors, either through legislative/executive acts or through negotiations with creditors, or both.

3. *Standalone external debt restructuring events (EDRs)* refer to instances of restructuring of the foreign-law public debt.

4. EDRs accompanied by high inflation/financial repression (EDR/IFR).[7]

5. EDRs accompanied by domestic-law debt restructurings (EDR/DDR).[8]

[6] *Financial repression* can take many forms, including (i) directing state-owned banks and enterprises or government-controlled entities (e.g., social security fund) to hold government securities, (ii) running interest-free arrears with domestic suppliers for extended periods, and (iii) setting interest rate on government securities below market rates.

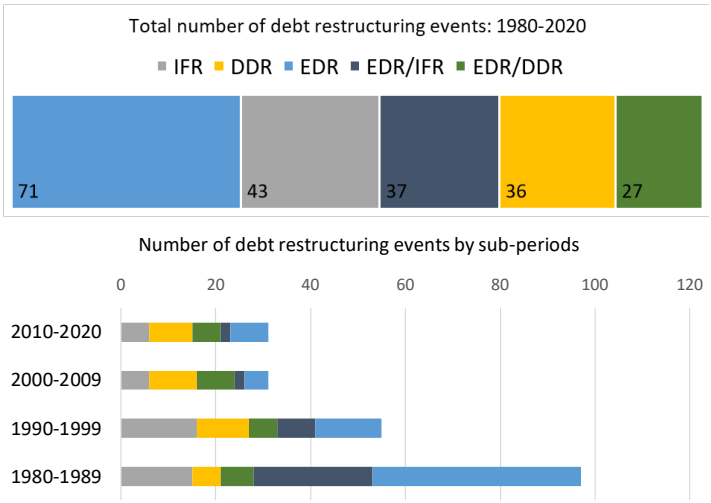
[7] A combined EDR/IFR is an EDR that coincides with an IFR. It should be noted that some of these EDR/DDR events were also accompanied by high inflation.

[8] A combined EDR/DDR is an event which includes both external and domestic-law debt restructurings, which are launched within a 3-year interval from each other, with a starting point of a combined event corresponding to the starting point of the first event.

9. The dataset used in this paper includes public debt restructuring events recorded during 1980–2020. Except for Greece and Cyprus, which restructured during the euro area debt crisis, all of the countries in the sample are EMDEs (including several Eastern European transition economies that restructured in the 1990s).[9] The dataset includes 63 domestic-law debt restructuring events and 135 external debt restructuring events, as well 80 high-inflation episodes (Annex I provides a simple visualization of the data; Figure 6 shows the number of events in each of the five categories described above).[10] The sample includes 71 standalone EDRs, 36 standalone DDRs and 27 combined EDR/DDRs. In addition, there were 37 EDRs that were accompanied by high inflation, designated EDR/IFRs. These should be viewed as EDRs combined with *de facto* domestic debt restructuring rather than standalone EDRs. Finally, there were 43 episodes of high inflation/financial repression not accompanied by external or domestic debt restructuring.

Figure 6. Public Debt Restructuring Events, 1980–2020

The relative frequency of DDRs compared to IFRs and EDRs has increased over time



Sources: Reinhart and Rogoff (2011), Asonuma and Trebesch (2016), IMF staff reports, credit rating agencies, country authorities and staff calculations.
Notes: IFR=high inflation/financial repression episodes; EDR= external debt restructuring events; DDR= domestic debt restructuring events; EDR/IFR =external debt restructuring accompanied by high inflation/financial repression; EDR/DDR=external debt restructuring accompanied by domestic debt restructuring.

10. In the past, governments often resorted to inflation and financial repression to reduce the real burden of domestic debt. Reinhart and Rogoff (2011) identify 150 cases of *de facto* domestic currency "defaults" — defined as episodes with inflation above 20 percent per annum— during 1914–2010. According to Reinhart and Sbrancia (2015), financial repression was most

[9] The sample includes 89 countries, all EMDEs except for Greece and Cyprus. See Annex I for details.

[10] This dataset builds upon the Reinhart and Rogoff (2011) dataset, but it has been expanded and revised using a range of sources, including a survey of the country authorities conducted during March-April 2021. There is some overlap between this dataset and the one in Erce and Mallucci (2018), but there are also a number of differences.

successful in liquidating domestic debt when combined with a steady dose of inflation.[11] Indeed, prolonged periods of high inflation were common in EMDEs during the 1980–90s but have become less frequent in later decades (Figure 6, and Annex I), likely reflecting a wave of financial liberalization and improvements in policy frameworks, including increased central bank independence and adoption of inflation targeting. A study covering 90 economies during 1973–2017 finds that until 1984, three-fourth of jurisdictions had some form of interest rate restrictions, while the number of such jurisdictions dropped to around one-fifth by 1999 (Jafarov, Maino and Pani, 2019).

11. Restructurings of domestic-law public debt have become more frequent:

- *During 1980–90*, the high incidence of EDRs and EDR/IFRs reflects the prevalence of financial repression, high inflation, heavy reliance on external debt, and a wave of external debt defaults of the 80s and early 90s, particularly in Latin America, some African countries, and some Eastern European transition economies (Figure 6 and Figure Annex I.1).

- *Since the mid-1990s*, the increased frequency of the domestic-law debt restructurings appears to be linked to financial liberalization, but also a growing reliance of EMDE sovereigns on marketable domestic debt, which makes it harder to conduct *de facto* debt restructurings via inflation and financial repression. In the three decades between 1990 and 2020, there are as many standalone DDRs (30) as standalone EDRs (27) (Figure 6). Combined external and domestic debt reductions have been quite common as well (Figure 6).[12]

- *During 2000–20*, both the relative frequency and duration of EDRs decline. The decline in the average duration of EDRs is generally attributed to improvements in the resolution mechanisms, including a more widespread use of collective action clauses (see IMF 2020). In contrast, the average duration of DDRs has always been relatively short (2.2–2.5 years, see Tables 1A-2A at the end of the report) likely reflecting a greater control of sovereigns over the terms governing domestic-law debt.

12. The increased incidence of domestic debt restructurings suggests that they have become a preferred strategy for addressing domestic debt pressures. While high inflation in combination with financial repression can be effective in reducing the real burden of domestic public debt, this option also tends to have longer-term negative consequences for financial development and growth.[13] Furthermore, engineering high inflation to reduce the real domestic debt burden may not be a viable policy option for countries with liberalized financial systems and established inflation targeting frameworks. This is also not something that can be done quickly in

[11] Reinhart and Sbrancia (2015) find that in 22 out of 28 sample countries, inflation is significantly higher in the episodes of debt reduction (identified as any decline in debt/GDP over a 3-year period) than in the full sample.

[12] In some cases, the official (Paris club) debt restructurings occurred in parallel with the restructuring of debt to private creditors. This was the case in around 40 percent of EDR/DDRs, 40 percent of EDRs and 14 percent of DDRs.

[13] For example, a recent study estimates that financial repression in the form of interest rate restrictions can reduce growth by about 0.4–0.7 percentage points with the effect being higher in economies with larger financial systems (Jafarov, Maino and Pani, 2019).

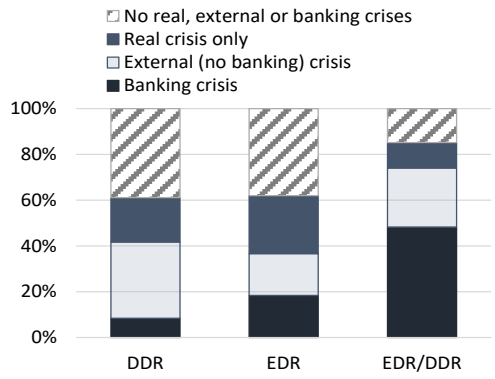
crises conditions. Therefore, the rest of the paper will focus on standalone EDRs, DDRs and comprehensive (EDR/DDR) restructurings, and examine the factors that influence the restructuring choices and outcomes.

B. Macro-financial Patterns Around Public Debt Restructurings

13. Most public debt restructuring events were preceded by economic and fiscal pressures that were triggered or exacerbated by real or financial shocks. On average, roughly 70 percent of all public debt restructuring events during 1980-2020 were preceded or accompanied by sharp recessions (also referred to as "real crises" or "real shocks"), external shocks (such as sudden stops and exchange rate pressures), or banking crises (see Figure 7, and Annex I for identification of shocks). The rest were triggered by political upheavals, litigation (Nicaragua, 2008) or fiscal pressures (e.g., accumulation of payment arrears in Mali, 2012 and Guinea, 2013). In general, real crises were the most common triggers for public debt restructurings, followed by external shocks. DDRs were often preceded by recessions and/or external shocks, but very rarely by banking crises. In contrast, over half of all EDR/DDRs were preceded or accompanied by banking crises and about a third by triple (real, external, and banking) crisis events.

Figure 7. Types of Shocks in Public Debt Restructurings, 1980–2020
(number of events in percent of total)

The most common DDR triggers were external and real shocks, and banking crises for EDR/DDRs



Sources: Reinhart and Rogoff (2011), Asonuma and Trebesch (2016), IMF staff reports, credit rating agencies, country authorities and staff calculations.
Notes: Based on the full sample (Figure 6). A debt restructuring (DR) event is preceded/ accompanied by a crisis if a crisis occurs at time t, t-1, t-2, or t-3 where t is the first year of a DR event. See Annex I for the description of the real, external and banking shocks.

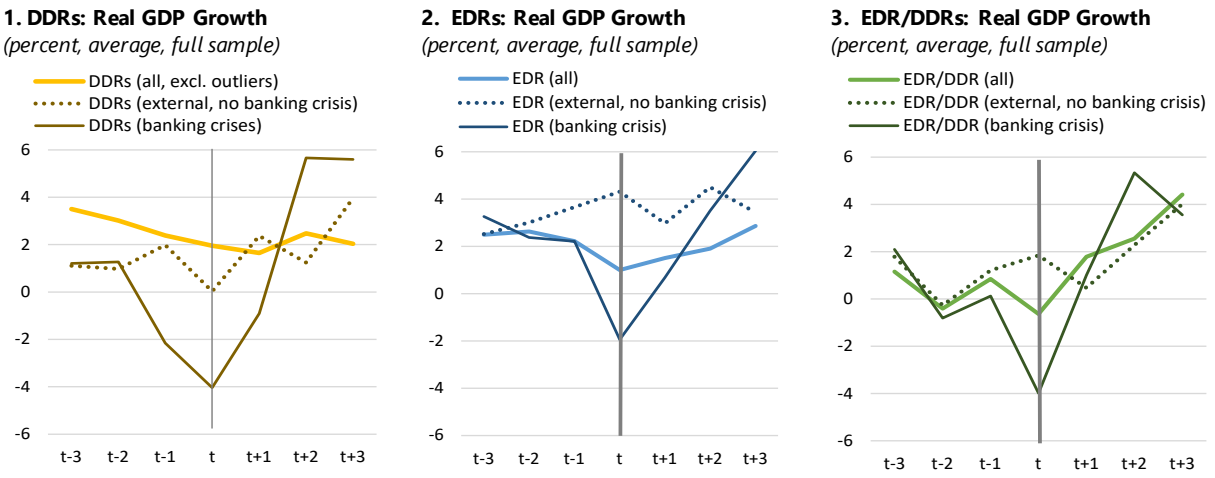
14. Macro-financial patterns around the debt restructuring events were influenced by pre-existing conditions, shocks and debt restructuring choices. A closer look at the GDP and public debt dynamics for all DDRs and EDR/DDRs reveals a lot of heterogeneity, but also some clear patterns (see Tables 2a-2b at the end of the report). Pre-restructuring growth rates were, on average, lower for comprehensive restructurings (EDR/DDRs) than for DDRs or EDRs (Figure 8), suggesting that comprehensive restructurings tended to occur under more stressed economic conditions.[14] For the crisis-driven events, pre-restructuring growth rates were typically lower, with notably sharper output declines associated with more severe crises (Figure 8 and Tables 2a-2b). Out of all the crisis-driven DDRs and EDR/DDRs, the worst GDP declines were observed in EDR/DDRs

[14] This is broadly consistent with Reinhart and Rogoff (2011) findings that declines in output in the run-up to defaults on domestic debt or twin defaults (on external and domestic debt) were worse than for external debt alone. Their definition of domestic debt crisis includes (i) the failure to meet principal or interest payments on the due date (or within a grace period); (ii) the freezing of bank deposits and/or forcible conversion of such deposits from dollars to local currency. This notion yields 224 events, compared to 68 cases of *de jure* domestic defaults. These results should be interpreted with caution, as many domestic debt crisis episodes are effectively the twin default crises.

where banking crises occurred in the same year as the public debt restructuring (Table 2a, panel 1). Similarly, public debt/GDP tended to rise more sharply in crises episodes, especially when recessions were compounded by external pressures and currency depreciations (Tables 2a-2b).

Figure 8. Macro-Financial Patterns around Public Debt Restructuring Events

(t is the start of a debt restructuring episode)



Sources: Reinhart and Rogoff (2011), Asonuma and Trebesch (2016), IMF staff reports, credit rating agencies, country authorities and staff calculations.

Notes: A debt restructuring (DR) event is preceded/ accompanied by a crisis if a crisis occurs at time t, t-1, t-2, or t-3 where t is the first year of a DR event. In panel 1, the banking crisis DDRs include only 3 cases – Ghana (1982), Nicaragua (2003), Cyprus (2013). See Tables 2a-2b at the end of the report for more details

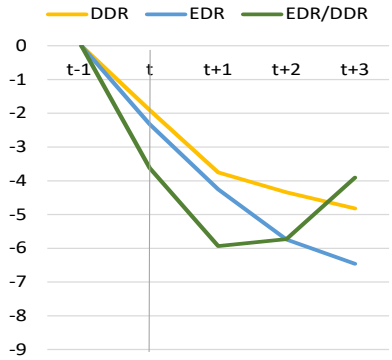
15. The post-restructuring outcomes tend to be worse when both domestic and external financial transmission channels become impaired. Figure 9 explores the post-restructuring output dynamics along three dimensions (i) type of restructuring; (ii) type of shocks and (iii) domestic vs external financing channels (proxied by domestic credit/GDP and capital inflows/GDP, respectively). The first set of panels in Figure 9 (panels 1a-1c) shows that output contractions in EDR/DDRs were generally sharper, and that—unlike stand-alone DDRs or EDRs—both domestic and external financing channels were negatively affected. Focusing on debt restructuring events which were preceded/accompanied by external shocks (but no banking crises), the second set of panels in Figure 9 (panels 2a-2c) shows that cumulative output decline, credit contraction and the impact on capital flows were, on average, worse in EDR/DDRs than in DDRs or EDRs. Focusing on debt restructuring events which were preceded/accompanied by banking crises, Figure 9 (panels 3a-3c) shows that the impact on the domestic financial channel was stronger for EDR/DDRs, while the impact on the external financing channel was relatively stronger for EDRs.[15]

[15] A comparison with DDRs, conditional on banking crisis, is not meaningful because there were only 3 such DDRs.

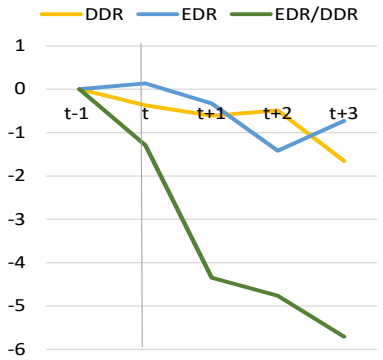
Figure 9. Post-Restructuring Macro-Financial Patterns: Domestic and External Channels

(cumulative changes, percentage points, t is the start of a debt restructuring episode)

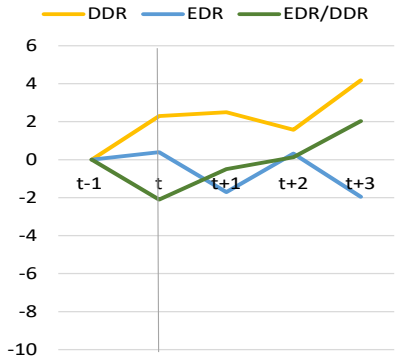
1a. Real GDP
(cumulative change, percent, full sample)



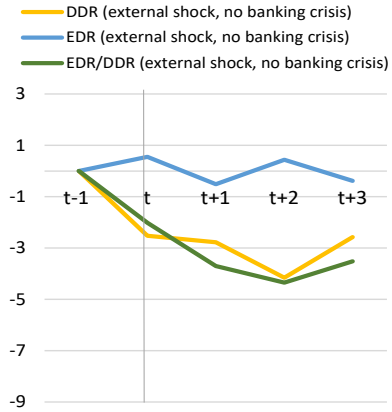
1b. Domestic Credit/GDP
(cumulative change, ppt, full sample)



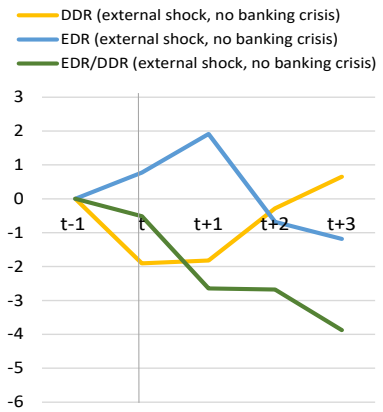
1c. Gross Capital Inflows/GDP
(cumulative change, ppt, full sample)



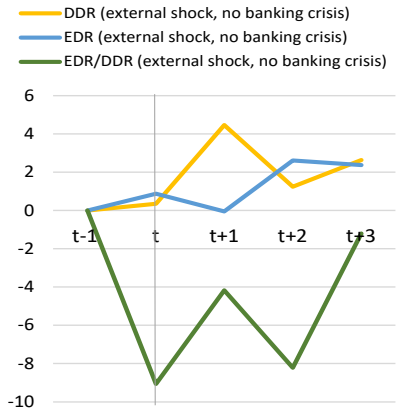
2a. Real GDP:
External Shock, No Banking Crisis
(cumulative change, percent)



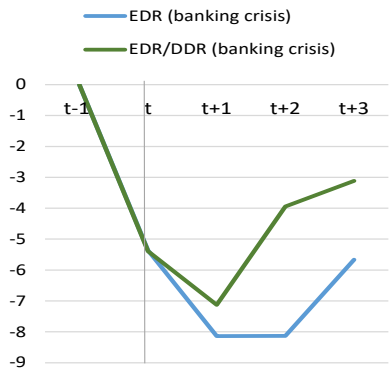
2b. Domestic credit/GDP:
External Shock, No Banking Crisis
(cumulative change, ppt)



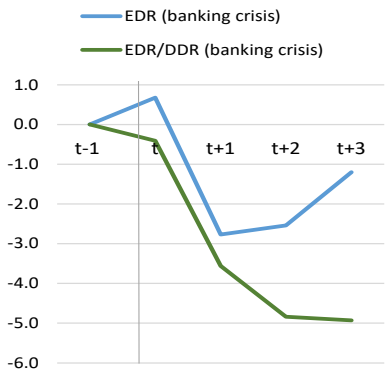
2c. Gross Capital Inflows/GDP:
External Shock, No Banking Crisis
(cumulative change, ppt)



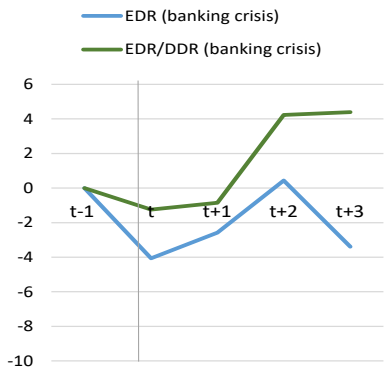
3a. Real GDP:
Banking Crisis
(cumulative change, percent)



3b. Domestic credit/GDP
Banking Crisis
(cumulative change, ppt)



3c. Gross Capital Inflows/GDP
Banking Crisis
(cumulative change, ppt)



Sources: Reinhart and Rogoff (2011), Asonuma and Trebesch (2016), IMF staff reports, credit rating agencies, country authorities and staff calculations.

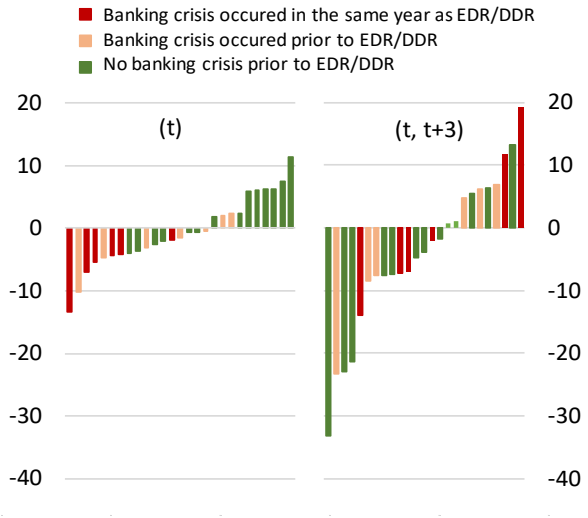
Notes: All country specific series were detrended and cumulative changes averaged across different types of restructurings. A debt restructuring (DR) event is preceded/ accompanied by a crisis if a crisis occurs at time t, t-1, t-2, or t-3 where t is the first year of a DR event.

In sum, it appears that the macro-financial consequences of the shocks that led to debt restructurings tend to be more severe when both domestic and external financial channels become impaired. Given the small sample size, it is difficult to fully disentangle the effects of shocks from the impact of restructuring choices on the outcomes. Controlling for a few key factors,[16] Erce and Mallucci (2018) conclude that the impact of domestic and foreign defaults on growth is negative and similar in size, but output contractions around combined domestic and external defaults are more pronounced.

16. Output contractions *during* debt restructurings were more severe when debt exchanges occurred in the context of a weak domestic financial system. This was true for DDRs, EDRs and EDR/DDRs which occurred either after or in parallel with banking crises (Figure 8).[17] Furthermore, immediate growth impact tended to be worse when banking crises broke out in the same year as debt restructurings (Figure 10, left panel). Looking at a longer horizon, not all of these shocks had lingering effects — in some cases, growth rebounded strongly, likely supported by debt relief and favorable external conditions (Figure 10 right panel shows cumulative GDP over four years since the start of debt restructuring). Even in the worst case, longer-term impact appears to be comparable to an average output contraction following a typical banking crisis.[18]

Figure 10. Cumulative GDP Changes in EDR/DDRs, 1980–2020

(percent change relative to t-1, where t is a start of a DR)



Sources: Reinhart and Rogoff (2011), Asonuma and Trebesch (2016), IMF staff reports, credit rating agencies, country authorities and staff calculations. Notes: the sample includes 27 EDR/DDRs that occurred during 1980–2020

17. Finally, the scale and the design of a public debt restructuring matter as well. A larger scale of restructured debt and greater losses imposed on creditors may lead to worse macro-financial outcomes, at least in the short run. Because such granular information is only available for relatively few recent restructuring cases, these aspects are further explored in the qualitative analysis of the case studies in Section III.

[16] These control factors included per capita output growth, credit, imports, inflation, US Treasury rate, exchange rate and income per capita.

[17] 13 EDR/DDRs were preceded/accompanied by banking crises, 6 EDR/DDRs occurred in the same year as banking crisis; 13 EDRs were preceded/accompanied by banking crises, 8 EDRs occurred in the same year as banking crisis.

[18] The median cumulative output loss for EMDEs that experienced a banking crisis is nearly 14 percent (cumulative over four years) (Laeven and Valencia (2020)).

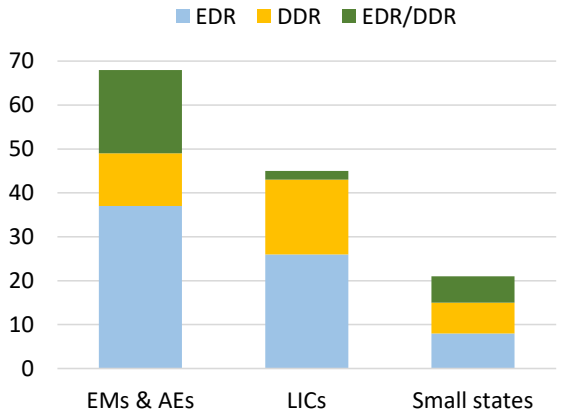
C. Economic Factors Influencing Debt Restructuring Choices

18. Public debt restructuring choices appear to be influenced by the complexity of the economic and financial systems as well as the types of shocks that economies are exposed to. Based on our sample, standalone DDRs were more frequent in LICs and small states than in EMs, while EDR/DDRs were more common in EMs and small states than in LICs (Figure 11). These patterns may be related to structural differences. LICs tend to rely more on external *official* creditors than on external *private* creditors and tend to be more vulnerable to real and political shocks than to financial shocks. In contrast, EMs rely more on external *private* creditors, have more complex financial systems, and tend to be more vulnerable to financial shocks than LICs. Some of these features are explored below.

Figure 11. Types of Countries that Experienced Public Debt Restructurings, 1980–2020

(number of events)

DDRs have been more frequent in LICs than in EMs, while comprehensive restructurings were more frequent in EMs



Sources: Reinhart and Rogoff (2011), Asonuma and Trebesch (2016), IMF staff reports, credit rating agencies, country authorities and staff calculations.

Notes: Based on the full sample (Figure 6). EDR= external debt restructuring events; DDR=domestic-law debt restructuring events; EDR/DDR=external debt restructuring accompanied by domestic-law debt restructuring. The country classification is from the WEO. The "EMs&AEs" group includes two AE debt restructurings: Greece (2011-2012, EDR/DDR) and Cyprus (2013, DDR).

19. The debt restructuring choices were likely affected by the level and composition of public debt. Figures 12 shows the medians and interquartile ranges of the public debt variables (recorded a year prior to the restructuring event) for DDRs, EDRs and EDR/DDRs:

- *Public debt level*: The pre-restructuring public debt levels were relatively high in all cases. The pre-restructuring median public debt levels relative to GDP were 70 percent for DDRs, 79 percent for EDRs and 88 percent for EDR/DDRs. The median domestic debt/GDP ratios were around 20 percent for both DDRs and EDR/DDRs (Figure 12, panel 2).

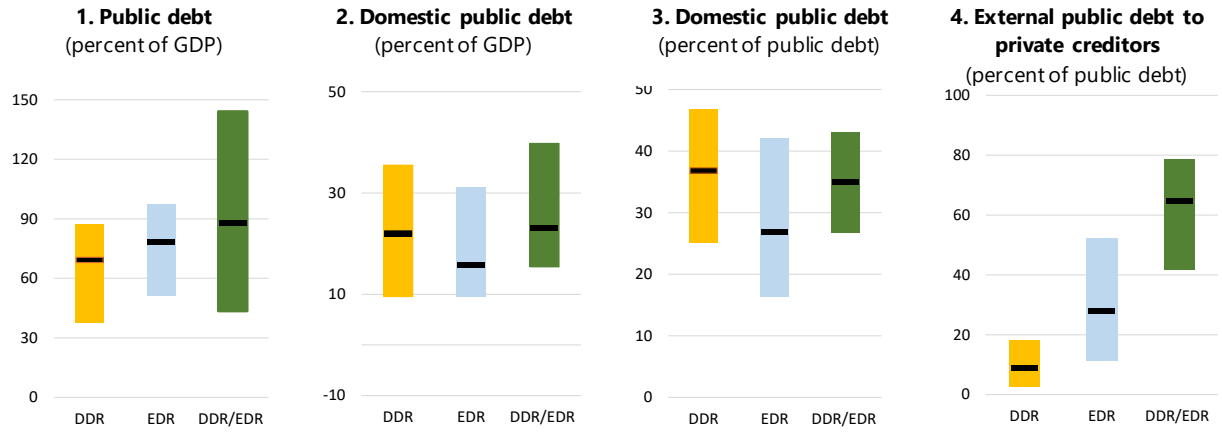
- *Public debt composition*: The pre-restructuring median share of domestic debt in total public debt was notably higher for DDRs (37 percent) than for EDRs (27 percent), suggesting that a larger stock of domestic debt makes its inclusion in a restructuring more likely (Figure 12, panel 3).[19] In contrast, external public debt held by private creditors was very low prior to DDRs (9 percent of total public debt), compared to 28 percent for EDRs and 65 percent for EDR/DDRs (Figure 12, panel 4). This suggests that sovereigns may have opted for stand-alone DDRs

[19] Of note is that comparable median ratios for the LICs which are currently in distress or at high risk of distress are in the same ballpark – 30 percent and 35 percent, respectively (see Figure 5).

because involving external private creditors would not have significantly reduced the debt burden (while imposing additional costs, as discussed in Section II.B).

Figure 12. Pre-Restructuring Public Debt Levels and Composition, 1980–2020
(all values recorded one year before debt restructuring; medians and interquartile ranges)

Countries that experienced DDRs tended to have relatively high share of domestic debt, but very low share of external public debt to private creditors



Sources: Reinhart and Rogoff (2011), Asonuma and Trebesch (2016), IMF staff reports, credit rating agencies, country authorities and staff calculations.
Notes: Based on the full sample (Figure 6). EDR= external debt restructuring events; DDR=domestic-law debt restructuring events; EDR/DDR=external debt restructuring accompanied by domestic-law debt restructuring.

20. The size of the domestic financial system, its capacity to absorb potential losses, and available financing options for the domestic non-financial private sector may have influenced the public debt restructuring choices as well. Figures 13 shows the medians and interquartile ranges of the financial variables (recorded a year before the restructuring event) for DDRs, EDRs and EDR/DDRs:

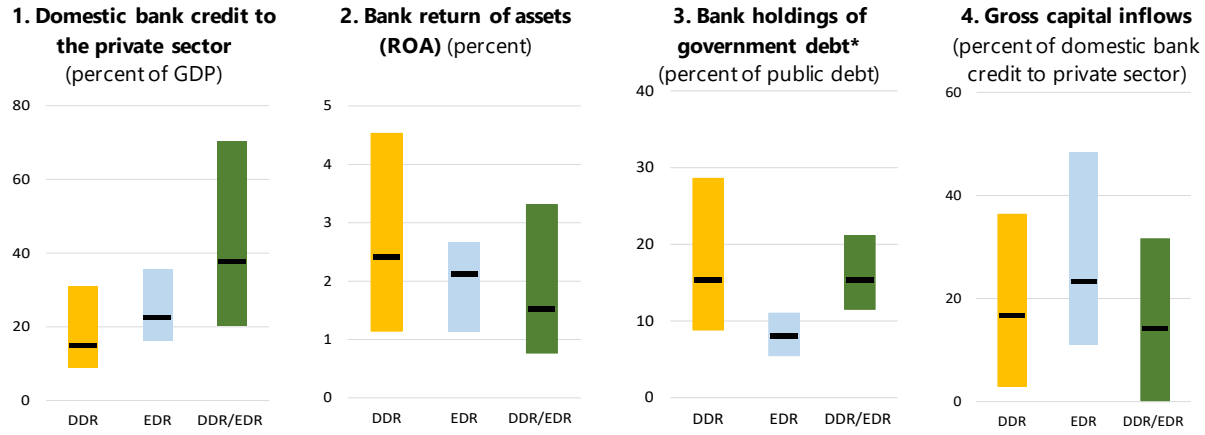
- *Banking system*: In countries that experienced DDRs, the domestic financial systems tended to be relatively shallow, with the median domestic bank credit to the private sector notably lower for DDRs (15 percent of GDP) than for EDR/DDRs (38 percent of GDP) (Figure 13, panel 1). At the same time, the pre-DDR median profitability of domestic banks was stronger (Figure 13, panel 2), and bank holdings of sovereign bonds were somewhat larger than in EDRs (Figure 13, panel 3). Taken together, these stylized facts seem to suggest that sovereigns were likely to opt for DDRs when the capacity of the banking system to transmit shocks to the rest of the economy (if it were to bear losses due to restructuring), was relatively limited.

- *Private sector reliance on external financing*: The extent of the nonfinancial private sector reliance on external financing may have played a role as well. Because a sovereign debt restructuring would typically lead to a credit rating downgrade, it would also affect the private sector access to and cost of funding. Figure 13, panel 4 shows gross capital inflows scaled by the level of domestic credit to the private sector, which is meant to capture the importance of external financing relative to domestic financing. The private sector reliance on foreign financing tended to be lower in countries that experienced DDRs or EDR/DDRs compared to those that had EDRs.

Figure 13. Pre-Restructuring Domestic Bank Indicators and Capital Inflows, 1980–2020

(all values recorded one year before debt restructuring; medians and interquartile ranges)

Countries that experienced DDRs tended to have relatively low domestic bank credit to the private sector, but relatively profitable banks with sizable holdings of govt bonds



Sources: Reinhart and Rogoff (2011), Asonuma and Trebesch (2016), IMF staff reports, credit rating agencies, country authorities and staff calculations.

Notes: Based on the full sample (Figure 6). EDR= external debt restructuring events; DDR=domestic-law debt restructuring events; EDR/DDR=external debt restructuring accompanied by domestic-law debt restructuring. (*) The data on bank holdings of govt debt is availble only for about 1/3 of restructuring cases.

21. The potential determinants of debt restructuring choices can be further explored using probit regression analysis. To test the effects of macro-economic, fiscal, and financial factors discussed above on the likelihood of different types of restructurings, we ran unconditional and conditional probit regressions (see Annex II). The results are broadly consistent with priors and the stylized facts documented in Figures 8–13:[20]

- Larger economic deteriorations in the run up to public debt restructurings make the inclusion of domestic debt in a restructuring more likely. Both DDRs and EDR/DDRs are more likely during periods of economic downturns, while EDRs are more likely in the context of increased fiscal liquidity pressures (i.e., a deterioration of the primary fiscal balance) and less favorable external financing conditions (i.e., higher US Treasury bond yields). EDRs are also more likely in countries with lower nominal per capita GDP (an indicator often used as a proxy for the capacity to repay).

- Once the debt restructuring is a given, the choice between an EDR and a DDR appears to be largely determined by the composition of debt. The unconditional probit regression results show that (i) EDRs are more likely when the public debt/GDP ratio and the share of external debt to private creditors are higher; (ii) both EDRs and EDR/DDRs are more likely when domestic public debt/GDP is lower. This is also confirmed by the conditional probit results, which show that

[20] The baseline findings are robust when the same regression specification is applied to different subsamples; (i) pre- and post-2000 periods, (ii) EMs and LICs and when we include inflation rate proxying monetary policy regime.

conditional on a restructuring taking place, a DDR is more likely when domestic debt/GDP is higher, while the share of external debt to private creditors is lower.

- The strength of the domestic financial transmission channels seems to matter for the debt restructuring choices as well. The unconditional probit regression results show that EDR/DDRs are more likely in countries with larger banking systems, while the likelihood of a DDR increases in countries with relatively more resilient banking systems (as proxied by the banking system return on assets (ROA)).

22. These results highlight the role of the composition of public debt and the domestic financial transmission channel, and also echo the findings from previous studies. Erce and Diaz-Cassou (2010) examined 10 debt restructuring episodes and concluded that the decision on whether to involve domestic or external creditors in a public debt restructuring typically factored in (i) the origin of liquidity pressures (e.g., the types of debt that they were primarily struggling to roll over); (ii) ex ante soundness of the domestic banking system and its role in financing the domestic private sector and (iii) the reliance of private sector on external funding. Erce and Mallucci (2018) find that domestic defaults are more likely in countries with smaller credit markets, while external defaults are more likely in countries where imports are small. Gennaioli, Martin and Rossi (2018) show that the post-default decline in bank lending is stronger in countries with more developed financial systems.

LESSONS FROM THE COUNTRY CASE STUDIES

23. This section reviews 12 public debt restructuring episodes involving domestic-law debt (Annex III provides details for each of these episodes). These case studies were chosen with the objective of including domestic-law debt restructuring cases that are both representative, in terms of geography and level of income, and novelty, in terms of the unique characteristics of the restructuring[21]. The discussion focuses on the backdrop, the perimeter/process/terms, financial stability considerations, outcomes, and market access following the restructuring events.

A. Context

24. In all 12 case studies, debt restructurings were preceded by significant deterioration in economic conditions and increased fiscal pressures (see Table 1). These developments were typically driven by a combination of external shocks and pre-existing vulnerabilities (including prior fiscal mismanagement), which ultimately led to difficulties in servicing public debt obligations and/or a sharp rise in the sovereign financing costs due to increased concerns about sovereign creditworthiness or credit rating downgrades:

[21] The availability of sufficiently detailed information was an additional consideration.

Table 1. DDR and EDR/DDR Case Studies: Key Characteristics

								(all values recorded one year before restructuring)				
	Dates	Type of Restructuring	Preemptive vs Post-default 1/	Ex ante crisis shocks 2/	Restruc-tured debt (in % of total debt)	Face value reduction (in %) 3/	NPV losses (in %) 4/	Public debt (in % of GDP)	Domestic public debt (in % of GDP)	Domestic bank credit to private sector (in % of GDP)	Bank assets (in % of GDP)	Bank ROA (percent)
Russia	1998-2000	EDR/DDR	D	R, E, B	21.6	0-73.9	46-90	52	16	.	19	2.3
Ukraine	1998-2000	EDR/DDR	P	R, E	43.8	5-8	18-59	29	10	.	9	3.3
Argentina	2001-2005	EDR/DDR	D	R, B	79.6	66	71	41	14	24	31	0.8
Uruguay 5/	2003	EDR/DDR	P	R, E, B	56.8	0	34	92	.	71	72	-14.4
Greece	2011-12	EDR/DDR	P	R, E, B	55.2	53.5	65-78	147	45	112	125	-0.5
St. Kitts & Nevis	2011-12	EDR/DDR	P	R, E	43.1	32	62	142	89	65	123	1.5
Grenada	2013-15	EDR/DDR	D	R	.	50	50	103	36	83	92	1.0
Barbados	2018-19	EDR/DDR	D	no	.	0	30	159	97	82	106	2.3
Nicaragua	2008	DDR	P	no	5.9	0	25	31	20	33	30	2.2
Cyprus	2013	DDR	P	R, E, B	4.7	0	36	79	.	250	30	-0.5
Jamaica	2010	DDR	P	R, E	56.5	0	10-15	145	68	29	45	3.4
Jamaica	2013	DDR	P	R, E	53.8	0	8.6	147	62	29	42	1.4

Source: Asonuma and others. (2018, 2021), Sturzenegger and Zettelmeyer (2006), WEO, WB database, Moody's, IMF staff reports.

Notes: 1/ Restructurings are defined as "pre-emptive" if (i) no payments are missed (no legal default) or (ii) some payments are missed but only temporarily and after the start of formal or informal negotiations with creditors (no unilateral default); "post-default" restructurings are all other cases.
2/ "R" stands for real crisis, "E" stands for exteral crisis and "B" denotes the banking crisis (see Annex I for definitions).
3/ *Face value reduction* is defined as 1 - face value of new debt / face value of old debt (including arrears) (on external and domestic debt for EDR/DDRs and on domestic debt for DDRs).
4/ The *NPV losses* are defined as 1 - present value of new debt / present value of old debt (including arrears). Both present value of new and old debt is discounted by exit yields of new debt, as in Struzenegger and Zettelmeyer (2006). For Russia, Ukraine, Uruguay, St. Kitts & Nevis estimates are based on NPV of cash flows bases; for other cases, the estimates come from the IMF staff reports.
5/ Central government debt is used instead of public debt.

- **Shocks.** History shows that sovereign debt crises come in waves, with fiscal imbalances often amplified by policy responses to earlier shocks and the debt rollover difficulties precipitated by external shocks. Several of the debt restructuring episodes occurred in the aftermath of the global financial crisis – *Greece* (2011-2012), *Cyprus* (2013), *Jamaica* (2010, 2013), *St. Kitts and Nevis* (2011), and *Grenada* (2013). In all these cases, the authorities had to use the counter-cyclical fiscal policies to cushion the impact of the crisis on their economies adding to their public debt burdens. In some cases, additional aggravating circumstances included (i) persistent balance of payment pressures (e.g., due to slow recovery in the tourism flows post GFC in the case of *St. Kitts and Nevis*, *Grenada* and *Jamaica*), (ii) financial spillovers from neighboring countries experiencing severe financial and sovereign debt crises (e.g., *Cyprus* was affected by contagion from the Greek debt crisis; *Russia* – by contagion from the Asian financial crises, *Ukraine* – by spillovers from the Russian crisis; *Uruguay* – by contagion from the Argentine crisis), or (iii) natural disasters (*Grenada* and *Jamaica*).

- **Pre-existing vulnerabilities.** Typically, macro-financial imbalances and fiscal vulnerabilities had been building up for years in the run up to debt restructurings, often in the context of fixed exchange rate regimes, and with public debt rising well beyond the prudent levels (Table 1). Several restructurings were preceded by dramatic currency devaluations (*Russia, Ukraine, Argentina, Uruguay*). For example, in *Argentina*, a prolonged economic slowdown along with currency mismatches in the sovereign and banking sectors culminated in severe liquidity

problems for the sovereign. In most cases, the public debt restructurings occurred in the aftermath of severe crises that involved recessions, balance of payments pressures, currency depreciations, and in some cases, financial instability and banking crises (see Table 1).

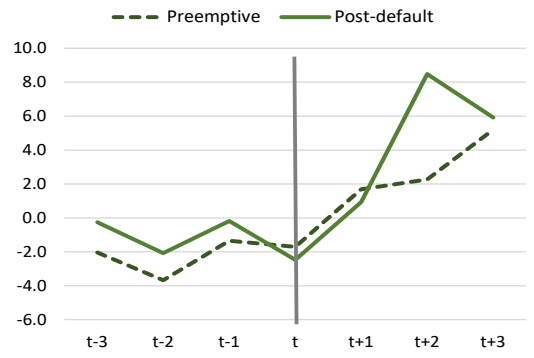
B. Perimeter, Process and Terms

25. The perimeter and design of debt restructurings varied across countries:

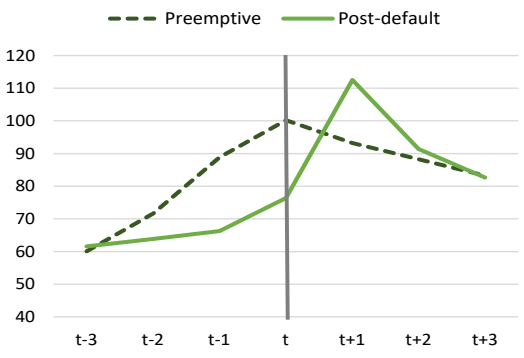
- **Process:** Many of the recent DDRs and EDR/DDRs were carried out preemptively rather than after defaults.[22] All stand-alone DDRs considered in the case studies (*Nicaragua*, *Jamaica (2010, 2013)* and *Cyprus*) and about half of EDR/DDRs (*Ukraine*, *Uruguay*, *Greece, St. Kitts and Nevis)* were preemptive. Only in *Russia*, *Argentina*, *Barbados*, and *Grenada* the public debt restructurings were undertaken after defaults. Studies on external debt restructurings find notably worse outcomes in post-default cases.[23] Based on the data for 4 preemptive and 3 post-default EDR/DDRs (Figure 14) the pre-restructuring GDP contractions and the rise of public debt/GDP tend to be more pronounced in pre-emptive cases than in post-default cases, while the post-restructuring growth patterns do not provide clear evidence in favor of pre-emptive approaches in restructurings involving domestic-law debt.

Figure 14. Macro-Financial Patterns around EDR/DDRs: Preemptive vs Post-default 1/
(t is the start of a debt restructuring episode)

1. Real GDP Growth: Pre-emptive vs Post-Default
(in percent, average)



2. Central Govt Debt: Pre-emptive vs Post-Default
(in percent of GDP, average)



Sources: Reinhart and Rogoff (2011), Asonuma and Trebesch (2016), IMF staff reports, credit rating agencies, country authorities and staff calculations.
Notes: 1/ Restructurings are defined as "pre-emptive" if (i) no payments are missed (no legal default) or (ii) some payments are missed but only temporary and after the start of formal or informal negotiations with creditors (no unilateral default); "post-default" restructurings are all other cases. Post-default cases include Russia (1998), Argentina (2001), Grenada (2013), pre-emptive cases include Ukraine (1998), Uruguay (2003), Greece (2012) and St. Kitts & Nevis (2011).

[22] See Tables 2a-2b at the end of the report.

[23] Post-default external restructurings are found to be associated with larger declines in growth, investment, and bank credit— than pre-emptive restructurings (Asonuma and others., 2016, 2021).

- **Perimeter:** Short-term debt instruments were often excluded from restructurings. Short-term T-bills with maturity of less than 12 months were not included in the debt restructuring perimeter in *Grenada, St. Kitts and Nevis, Cyprus, Jamaica,* and *Uruguay*.[24] However, in those countries where T-bills accounted for a large share of outstanding domestic government debt — *Barbados, Russia, Ukraine* – they were included in the debt exchange. In contrast, longer-term domestic bonds – local currency or FX denominated or linked, fixed or floating rate – were included in all cases. Overall, among the post-GFC cases, the pre-restructuring domestic public debt stocks ranged from 36 percent of GDP (Grenada) to 97 percent of GDP (Barbados).

- **The net present value (NPV) losses**[25] incurred by private creditors were deeper when face value haircuts were imposed in addition to coupon reductions and maturity extensions (Table 1), and were on average lower in DDRs than in EDR/DDRs:

  - *No face value haircuts:* In *Barbados*, the private creditors' NPV loss of 30 percent was due to interest reductions and maturity extensions. In *Jamaica* (2010), the NPV loss was about 10–15 percent without any face value haircuts. In *Cyprus*, the debt restructuring involved only maturity extensions, leading to an NPV loss of 36 percent. In *Nicaragua,* the 2008 restructuring included a combination of interest rate reductions and maturity extensions.

  - *Face value haircuts*: In *Grenada*, the NPV loss of 50 percent was due to lengthening of maturities, lower coupon rates, and face value haircuts. In *St. Kitts and Nevis*, the average NPV loss was 65 percent, including both EDR and DDR components of the restructuring. In *Greece*, deep face value reductions led to the NPV losses of 65-78 percent. Although the *Argentine* debt restructuring in 2001 initially did not include a face value haircut, eventually, conversion of foreign currency debt into local currency denomination resulted in an additional NPV loss of 45 percent for the domestic banking sector.

C. Financial Stability Considerations

26. In recent public debt restructurings, financial stability implications were assessed using stress tests and managed through a combination of regulatory and crisis management measures, which included setting up a financial stability fund to provide solvency or liquidity support to financial institutions that might be affected by the crisis or by spillovers from the public debt restructuring:

- **Bank stress tests** were used to calibrate the parameters of the debt restructuring and assess potential recapitalization needs of financial institutions affected by the debt restructurings in *Barbados*, *St. Kitts and Nevis*, and *Jamaica* (2010, 2013).

- **Financial stability funds** to provide liquidity or solvency support to financial institutions affected by the debt restructuring were established in several cases. *In Jamaica,* Financial Sector Stability Fund (FSSF) was established in 2010. The fund aimed at providing short-term liquidity (and in special cases, capital support) to eligible institutions facing difficulty following the

[24] In the case of Uruguay, local currency T Bills were excluded, but foreign currency T Bills were included.

[25] See definitions in Table 1.

Jamaica Debt Exchange. The FSSF also remained operational during the 2013 debt exchange. Although the fund remained untapped, the FSSF facility helped maintain confidence. In *St. Kitts and Nevis*, the Banking Sector Reserve Fund (BSRF) was established under a Fund-supported program and had similar characteristics. In *Greece*, significant resources were set aside in the context of the financial assistance program supported by the EU, ECB and the IMF specifically to help banks cope with the impact of recession and public debt restructuring. In *Uruguay*, the Fund for Fortifying the Banking System (FFBS) was set up ahead of the sovereign debt restructuring.

- **Bank recapitalization or restructuring** were carried out in those cases where banks experienced significant capital shortfalls, and in some cases, bank recaps were carried out before restructurings to strengthen the banking systems:

  - *Bank recapitalization or restructuring before the launch of a public debt restructuring*: In *Russia*, several banks lost their licenses, and three major regional banks were restructured during 1999 before the second GKO swap. In *Uruguay*, a comprehensive cleanup of the banking system, including bank liquidations or restructurings, was carried out ahead of the public debt restructuring.

  - *Bank recapitalization or restructuring after the launch of a public debt restructuring:* In *Cyprus*, following the restructuring, the authorities had to intervene in and restructure two large banks, bailing in bank creditors. In *Greece*, several rounds of recapitalizations were needed to restore banks' viability. Of note is that both in *Cyprus* and in *Greece* domestic sovereign bonds were held predominantly by domestic commercial banks rather than by other financial institutions or by foreign creditors. Banks in *Argentina* were recapitalized via specially issued government bonds following the debt restructuring and peso devaluation.

  - *No bank recapitalization or restructuring*: In *Barbados, Grenada, St. Kitts and Nevis,* and *Jamaica*, a combination of the debt exchange design features and favorable global economic conditions following the restructurings allowed financial institutions to absorb losses without any material liquidity or capital shortfalls. That said, in *Barbados, Grenada,* and *Jamaica*, domestic commercial banks were not the largest holders of domestic government bonds.[26]

- **Regulatory flexibility:** To delay or smooth the impact of the domestic debt restructuring on financial institutions' capital buffers, regulatory forbearance has been used in some cases. For example, in *Nicaragua*, the bank regulator temporarily waived the requirement to apply NPV accounting standards to restructured bonds, extended the use of the new bonds for liquidity purposes, and allowed the bonds to be used as dividend payments. In *Argentina,* banks were also allowed to temporarily decrease their capital charge on interest rate risk, and losses

[26] In Barbados, all five commercial banks were foreign owned. In Grenada, about ½ of restructured domestic debt was held by the public pension fund. In Jamaica, commercial banks were holding only 13 percent of domestic government debt, with securities dealers and insurers accounting for 27 percent and 11 percent, respectively.

incurred due to court injunctions could be booked as assets to be amortized over a 5-year period.

D. Outcomes

27. Domestic debt restructurings typically involved high creditor participation and sometimes the issuance of new instruments designed to reduce debt related vulnerabilities:

- **Creditor participation** in the domestic debt exchange was generally high in most case studies—100 percent in *Barbados*, *Grenada, St. Kitts and Nevis*, and 99.2 and 99 percent in *Jamaica*'s 2010 and 2013 debt exchanges, respectively. In the *Greek* restructuring, participation was 100 percent for the Greek law bonds.[27] In *Uruguay*, participation was 99 percent for domestically issued bonds. In *Russia*, the second debt restructuring recorded 95 percent participation for residents and 89 percent participation for nonresidents. These high participation rates were achieved through a combination of "carrots" and "sticks":

    - *"Carrots":* In the *Greek* debt restructuring, the authorities offered "sweeteners" — creditors were entitled to receive 15 percent of the value of their old bonds in cash-like short-term EFSF bonds. In *Russia,* creditors who participated in the debt exchange received a package of cash and short-term instruments in addition to longer-term new bonds. In *Jamaica*, participating financial institutions were eligible to access the FSSF.

    - *"Sticks":* In *Barbados* and *Greece*, high participation was supported by a retrofitted collective action mechanism that required parliamentary approval. In *Uruguay*, the authorities used regulatory disincentives—old securities effectively became non-tradable and were not accepted as collateral in central bank liquidity facilities. In *Jamaica*, the introduction of a tax surcharge on interest income earned acted as a disincentive to hold out. In *Nicaragua*, the legal uncertainty and potential invalidation of the old domestic bonds provided a strong incentive for holdouts to accept the debt exchange. In *Ukraine*, the central bank indicated that only domestic banks participating in the exchange would have access to the short-term emergency financing.

- **New instruments** were designed with a view to restore public debt sustainability, reduce specific debt vulnerabilities, ensure high creditor participation in a debt restructuring and, in some cases, provide an additional commitment mechanism for the authorities to carry out the necessary economic and fiscal adjustment. New instruments were often designed to lengthen maturities and reduce near-term rollover risks (most cases), provide FX hedge (*Russia*), and/or inflation hedge (*Jamaica*). In *Barbados* and *Grenada*, new debt instruments included natural disaster clauses. In *St Kitts and Nevis*, some new bonds included a claw-back feature providing creditors additional bonds if the authorities failed to implement the IMF-supported reform program.

[27] In contrast, participation was only 75 percent for foreign law bonds.

28. In all case studies considered in this paper, debt restructurings occurred in the context of the *IMF-supported programs* as part of the broader policy response to economic and financial shocks that would typically also include significant fiscal adjustment and structural reforms.

E. Future Market Access and Borrowing Costs

29. The average speed of the post-restructuring normalization of market access, credit ratings and borrowing costs do not seem to be significantly different for DDRs, EDRs and EDR/DDRs:

- **Market access:**[28] In most cases, sovereigns regained access to domestic and international markets within 2 years after the public debt restructuring (Figure 15, panels 1–2), with some of the variation likely linked to global financial market conditions. In three cases —*Barbados*, *Grenada*, and *St. Kitts and Nevis*—sovereigns have not yet tapped the market (either domestic or international) following their most recent debt restructurings.[29]

- **Credit ratings:**[30] The local currency (LC) and foreign currency (FC) credit ratings tended to cluster within the single-B range at the 2-year mark after debt restructuring, regardless of the type of restructuring or the level of pre-restructuring ratings (Figure 15, panels 3–4). In most cases, credit ratings did not recover to pre-restructuring levels within 2 years after restructuring.[31] Both LC and FC ratings seemed to move in tandem in both DDRs and EDRs.

- **Borrowing costs:** The real long-term domestic bond yields tended to rise sharply around restructurings, and except in the case of Cyprus, did not revert to their pre-crisis levels within the subsequent 2 years (Figure 16, panel 5). External bond spreads—a difference between yields on the external sovereign USD bonds and the US Treasury bond yields—rose as well but reverted to pre-restructuring levels faster than domestic bond yields, in some cases, reflecting favorable global financial conditions (Figure 16, panel 6).

[28] Re-access to domestic or international markets is defined as a date of the first medium- and long-term bond (maturity longer than 1 year excluding Treasury bills) issuance after completing a restructuring. Previous studies on EDRs suggest that the amount of time that it takes to re-access market depends on the losses imposed on creditors and on whether the debt restructuring was preemptive or post-default (see Cruces and Trebesch, 2013, and Asonuma and Trebesch, 2016). There is no sufficient data on DDRs and EDR/DDRs to test similar hypotheses.

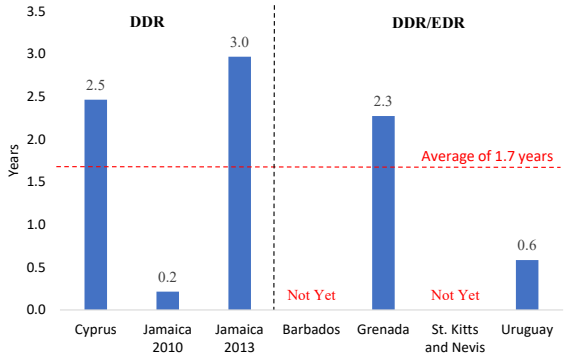
[29] While delaying market re-access may be costly, the delay may also mean that the sovereign has managed to sufficiently lengthen its debt maturities so as to avoid the need to tap the market for a while after restructuring.

[30] Rating agencies assign domestic and foreign currency bond ratings, regardless of the jurisdiction of issuance.

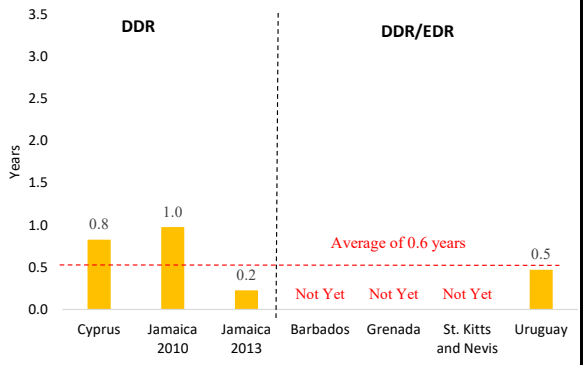
[31] Similar to the external debt, credit rating agencies consider a sovereign borrower to be in default in local currency debt if it missed a payment on at least one financial obligation or if an exchange is seen as distressed (i.e., accompanied by a reduction in coupon, principal or increase in maturity).

Figure 15. Market Re-Access, Bond Yields and Credit Ratings

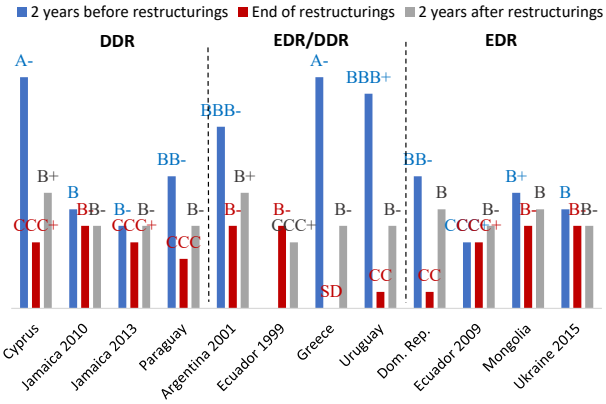
1. Re-access to Domestic market [1]



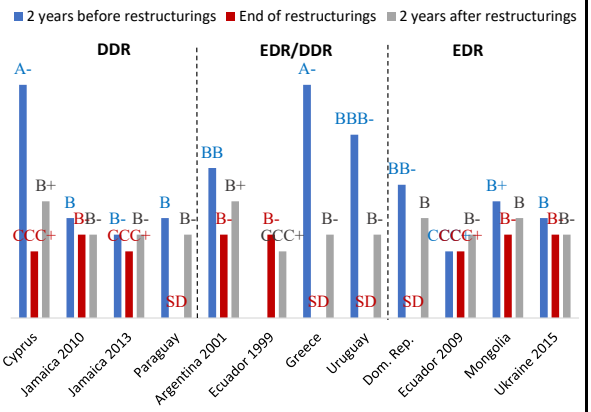
2. Re-access to International market [1]



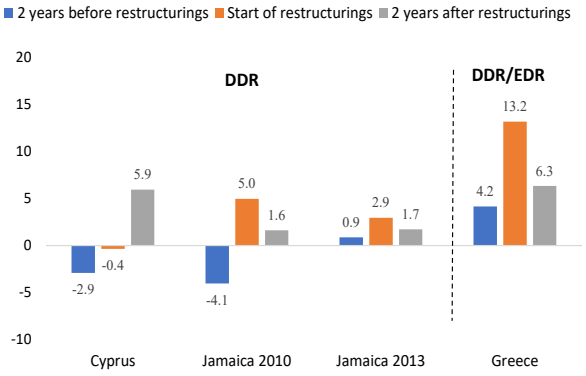
3. Local Currency Credit Ratings (S&P) [2]



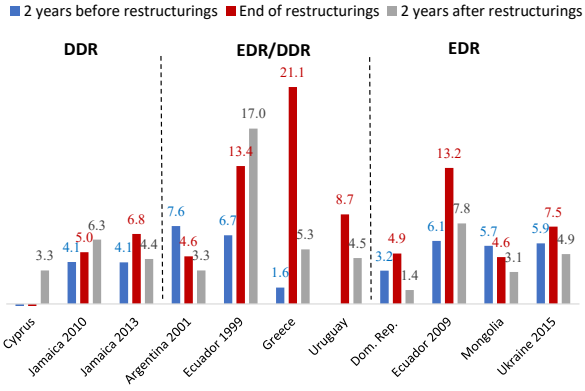
4. Foreign Currency Credit Ratings (S&P) [2]



5. Real Long-term Domestic Bond Yields (percent) [3]



6. EMBIG Bond Spreads (percentage points) [4]



Sources: Bloomberg, Dealogic, Perfect Information, Standard and Poor's

Notes: [1] Re-access to domestic or international markets is defined as a date of the first medium- and long-term bond issuance (maturity longer than 1 year excluding Treasury bills) after completing a domestic restructuring. [2] S&P credit ratings do not differentiate credit risk on domestic and external debt. [3]Real long-term bond yields correspond to yields of domestic bonds (domestic currency-denominated) whose remaining maturity is close to 10 years at each specified period minus CPI inflation rate.[4] Cyprus bond spread corresponds to a difference between Cyprus bond yields denominated in euro and German bond yields denominated in euro.

KEY TAKEAWAYS

30. Increased debt sustainability concerns in countries with large domestic debt stocks raise the potential for domestic debt to be part of future public debt restructurings. Restructurings of domestic debt have become more frequent since the mid-1990s. Much like external debt restructurings, recent domestic-law debt restructurings were typically carried out through negotiations with creditors, rather than through inflation/financial repression as was often the case in the 1980–90s. Increased debt sustainability concerns in countries with large domestic debt stocks raise the odds of more domestic debt restructurings in the future.

31. The decision to restructure domestic debt and its outcomes tend to be influenced by the extent of the public debt problem, the composition of public debt, the severity of shocks that led to restructuring as well as the strength of the domestic financial transmission channel. *Domestic debt-only restructurings* tended to occur in countries with low external debt to private creditors and shallow financial systems, and typically entailed smaller losses for creditors and milder post-restructuring economic contractions than other debt restructuring operations. *Comprehensive debt restructurings* (of both domestic and external debt) occurred in countries with larger financial systems, were often triggered or accompanied by severe crises (including banking crises), involved larger losses for creditors and deeper economic and credit contractions. In general, the immediate post-restructuring economic outcomes tend to be worse when both domestic and external financial channels become impaired.

32. The design of a public debt restructuring plays an important role in achieving the required debt relief, while minimizing financial stability risks. Recent experiences with DDRs and EDR/DDRs offer some lessons. *First*, because domestic debt restructuring is usually part of a broader policy package to restore debt sustainability, the depth of restructuring would generally depend on the extent of the debt problem, the loss absorption capacity of domestic financial institutions and the effectiveness of accompanying policies (including fiscal adjustment). *Second*, a well-designed restructuring would aim to internalize its impact on the financial system, ensure high creditor participation and include new instruments designed to reduce the key debt vulnerabilities. *Third*, the impact on the domestic financial system was managed through *ex ante* stress tests, as well as regulatory and crisis management measures (including by establishing a financial stability fund). *Fourth*, the post-restructuring market access and borrowing costs seem to depend more on the effectiveness of the overall policy response and global financial conditions than on specific debt restructuring modalities (e.g., preemptive vs post default; DDRs vs EDR/DDRs). These lessons, as well as empirical analysis, will be further refined as more data become available.

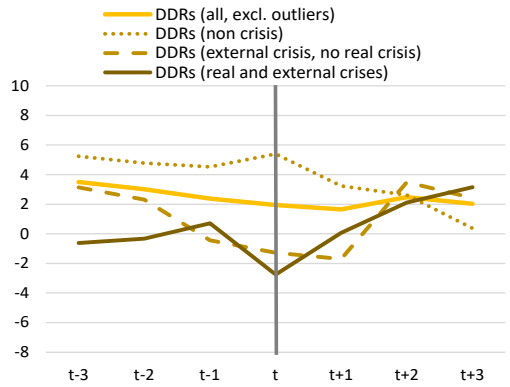
Table 2a. GDP Growth and Public Debt Dynamics around DDRs

(t is the start of a DDR; P=pre-emptive; D=default; R=real crisis; E=external crisis; B=banking crisis)

		Start	End	years	P/D	R	E	B	t-3	t-2	t-1	t	t+1	t+2	t+3
1	Dominican Rep	1980	1981	2	.	R	0	0	5.0	2.1	4.5	8.0	4.3	1.7	4.6
2	Mozambique	1980	1980	1	.	0	0	0	-0.2	1.1	3.1	4.2	5.0	-6.9	-15.7
3	El Salvador	1981	1996	16	.	R	0	0	6.4	-1.9	-8.6	-5.7	-6.3	1.5	1.3
4	Ghana	1982	1982	1	.	R	0	B	-2.5	0.5	-3.8	-8.1	-6.2	9.5	6.5
5	Myanmar	1984	1984	1	.	0	0	0	6.4	5.6	4.4	4.9	2.9	-1.1	-4.0
6	Myanmar	1987	1987	1	.	R	0	0	4.9	2.9	-1.1	-4.0	-11.4	3.7	2.8
7	Kuwait	1990	1991	2	.	R	E	0	8.1	-10.0	25.9	-26.2	-41.0	82.8	35.1
8	Sudan	1991	1991	1	.	R	0	0	4.3	1.4	0.8	7.0	5.5	2.8	3.5
9	Rwanda	1995	1995	1	.	R	E	0	6.6	-10.4	-41.9	24.5	11.6	14.9	8.3
10	Solomon Islands	1995	1999	5	.	0	0	0	12.7	4.0	8.1	10.1	1.6	-0.9	1.3
11	St. Kitts and Nevis	1996	1996	1	.	0	0	0	5.4	5.4	3.5	5.9	7.3	1.0	3.9
12	Mongolia	1997	2000	4	.	0	E	0	2.1	6.4	2.2	3.9	3.3	3.1	1.1
13	Sierra Leone	1997	1998	2	.	R	E	0	3.5	-10.0	-24.8	-17.6	-0.8	-8.1	3.8
14	Antigua & Barbuda	1998	2005	8	.	R	0	0	-4.4	6.6	5.5	4.7	3.7	6.7	-5.0
15	Moldova	1998	1998	1	.	R	E	0	-1.4	-5.9	1.6	-6.5	-3.4	2.1	6.1
16	Dominican Rep	1999	2001	3	.	0	0	0	6.0	8.9	6.7	5.9	4.7	2.5	4.5
17	Gabon	1999	2000	2	.	R	E	0	3.6	5.7	3.5	-8.9	-1.9	2.1	0.2
18	Madagascar	2000	2001	2	.	0	E	0	3.7	3.9	4.7	4.5	6.0	-12.4	9.8
19	Suriname	2000	2001	2	.	0	E	0	7.0	2.2	-0.9	-0.1	4.9	3.7	6.2
20	Paraquay	2002	2004	3	D	R	0	0	-1.4	-2.3	-0.8	0.0	4.3	4.1	2.1
21	Nicaragua	2003	2004	2	P	0	0	B	4.1	3.0	0.8	2.5	5.3	4.3	3.8
22	Cameroon	2004	2005	2	D	0	0	0	4.4	4.2	4.6	6.8	2.0	3.5	4.9
23	Solomon Islands	2004	2006	3	.	R	E	0	-8.0	-2.8	6.5	6.7	5.5	4.9	4.4
24	Argentina	2006	2013	8	.	0	0	0	9.0	8.9	8.9	8.0	9.0	4.1	-5.9
25	Moldova	2008	2008	1	.	0	0	0	7.5	4.8	3.0	7.8	-6.0	7.1	5.8
26	Nicaragua	2008	2008	1	.	0	0	0	4.3	3.8	5.1	3.4	-3.3	4.4	6.3
27	Antigua & Barbuda	2009	2013	5	.	R	0	0	12.7	9.3	0.0	-12.1	-7.6	-2.0	3.4
28	Jamaica	2010	2010	1	P	R	E	0	1.4	-0.8	-3.4	-1.4	1.4	-0.5	0.2
29	Mali	2012	2012	1	.	0	0	0	4.7	5.4	3.2	-0.8	2.3	7.1	6.2
30	Cyprus	2013	2013	1	P	R	E	B	2.0	0.4	-3.4	-6.6	-1.8	3.2	6.4
31	Guinea	2013	2013	1	.	0	0	0	4.2	5.6	5.9	3.9	3.7	3.8	10.8
32	Jamaica	2013	2013	1	P	R	E	0	-1.4	1.4	-0.5	0.2	0.6	0.9	1.5
33	Gambia	2016	2017	2	.	0	E	0	2.9	-1.4	4.1	1.9	4.8	7.2	6.1
34	Guinea	2016	2016	1	.	0	0	0	3.9	3.7	3.8	10.8	10.3	6.2	5.6
35	El Salvador	2017	2017	1	.	0	0	0	1.7	2.4	2.5	2.2	2.4	2.4	-8.6
36	Seychelles	2017	2017	1	.	0	0	0	4.5	4.9	4.4	5.0	1.3	1.9	-13.4

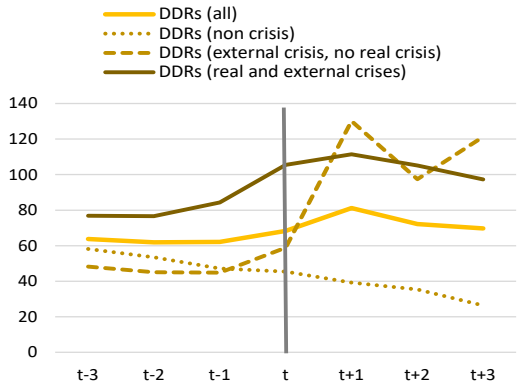
Real GDP Growth: by Type of Shock

(percent, average, excl. Kuwait, Rwanda, Sierra Leone)



Central Govt Debt: by Type of Shock

(in percent of GDP, average)



Sources: IMF WEO, Reinhart and Rogoff (2011), Asonuma and Trebesch (2016), IMF staff reports, credit rating agencies, country authorities and staff calculations.

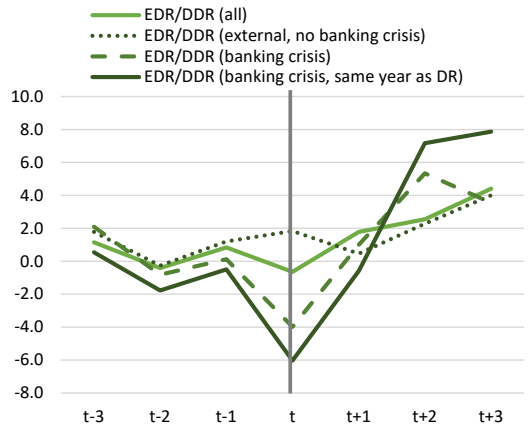
Notes: EDR= external DR events; DDR=domestic DR events; EDR/DDR=external debt restructuring accompanied by domestic debt restructuring. Restructurings are defined as "pre-emptive" if (i) no payments are missed (no legal default) or (ii) some payments are missed but only temporarily and after the start of formal or informal negotiations with creditors (no unilateral default); "post-default" restructurings are all other cases. The crisis shocks include real (R), external (E) and banking (B), shown in black, blue and red, respectively. A debt restructuring (DR) event is identified as being preceded/accompanied by a crisis if a crisis occurs at time t, t-1, t-2, or t-3 where t is the first year of a DR. The cells shaded in blue correspond to the onset of the GFC and the COVID-19 pandemic.

Table 2b. GDP Growth and Public Debt Dynamics around EDR/DDRs

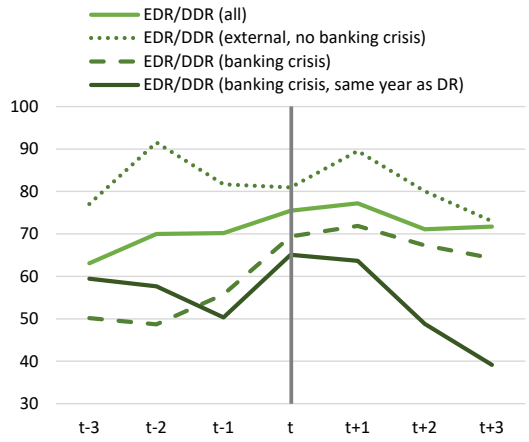
(t is the start of an EDR/DDR; P=pre-emptive; D=default; R=real crisis; E=external crisis; B=banking crisis)

		Start	End	years	P/D	R	E	B	t-3	t-2	t-1	t	t+1	t+2	t+3
1	Bolivia	1982	1982	1	.	R	E	0	1.9	0.6	0.3	-3.9	-4.0	-0.2	-1.7
2	Argentina	1982	1982	1	.	R	0	B	7.1	0.7	-5.7	-3.1	3.7	2.0	-7.0
3	Mexico	1982	1982	1	.	R	E	B	9.7	9.5	8.5	-0.5	-3.5	3.4	2.2
4	Peru	1985	1985	1	.	R	E	B	-0.3	-9.3	3.8	2.1	12.1	7.7	-9.4
5	Brazil	1986	1987	2	.	R	E	0	-3.4	5.3	7.9	7.5	3.6	0.3	3.2
6	Panama	1988	1989	2	.	R	0	B	4.9	3.6	-1.8	-13.4	1.6	8.1	9.4
7	Argentina	1989	1990	2	.	R	0	B	7.1	2.5	-2.0	-7.0	-1.3	10.5	10.3
8	Brazil	1990	1990	1	.	R	E	B	3.6	0.3	3.2	-4.2	1.0	-0.5	4.7
9	Angola	1992	2002	11	.	R	0	0	0.0	-3.5	12.1	11.4	11.0	10.5	10.4
10	Venezuela	1995	1997	3	.	0	E	B	7.9	2.7	7.3	-1.4	5.6	5.0	4.3
11	Russia	1998	2000	3	D	R	E	B	-4.1	-3.6	1.4	-5.3	6.4	10.0	5.1
12	Ukraine	1998	2000	3	P	R	E	B	-12.2	-10.0	-3.0	-1.9	-0.2	5.9	8.8
13	Ecuador	1999	2000	2	D	R	E	B	1.7	4.3	3.3	-4.7	1.1	4.0	4.1
14	Argentina	2001	2005	5	D	R	0	B	3.9	-3.4	-0.8	-4.4	-10.9	9.0	8.9
15	Moldova	2001	2001	1	.	R	E	0	-6.5	-3.4	2.1	6.1	7.8	6.6	7.4
16	Dominica	2003	2004	2	.	0	0	0	2.3	-0.1	-2.8	6.4	3.1	0.7	4.7
17	Uruguay	2003	2003	1	P	R	E	B	-1.8	-3.5	-7.1	2.3	4.6	6.8	4.1
18	Grenada	2004	2005	2	P	0	0	0	-2.0	3.4	9.5	-0.6	13.3	-4.0	6.1
19	Zimbabwe	2006	2006	1	.	R	0	0	-16.2	-6.3	-7.4	-3.6	-3.4	-16.3	7.4
20	Ecuador	2008	2009	2	.	0	0	0	5.3	4.4	2.2	6.4	0.6	3.5	7.9
21	Seychelles	2010	2010	1	.	0	E	0	10.4	-2.1	-1.1	5.9	5.4	3.7	6.0
22	Greece	2011	2012	2	P	R	E	B	-0.3	-4.3	-5.5	-10.1	-7.1	-2.7	0.7
23	St.Kitts and Nevis	2011	2012	2	P	R	E	0	6.1	-4.0	-0.6	1.8	-2.2	5.4	6.3
24	Grenada	2013	2013	1	D	R	0	0	-0.5	0.8	-1.2	2.4	7.3	6.4	3.7
25	Argentina	2014	2016	3	.	0	E	0	6.0	-1.0	2.4	-2.5	2.7	-2.1	2.8
26	Barbados	2018	2019	2	D	0	0	0	2.4	2.5	0.5	-0.6	-0.1	-17.6	
27	Argentina	2019	2020	2	D	0	E	0	-2.1	2.8	-2.6	-2.1	-9.9		

Real GDP Growth: by Type of Shock
(percent, average)



Central Govt Debt: by Type of Shock
(in percent of GDP, average)



Sources: Reinhart and Rogoff (2011), Asonuma and Trebesch (2016), IMF staff reports, credit rating agencies, country authorities and staff calculations.

Notes: EDR= external debt DR events; DDR=de jure domestic DR events; EDR/DDR=external debt restructuring accompanied by de jure domestic debt restructuring. Restructurings are defined as "pre-emptive" if (i) no payments are missed (no legal default) or (ii) some payments are missed but only temporarily and after the start of formal or informal negotiations with creditors (no unilateral default); "post-default" restructurings are all other cases. The crisis shocks include real (R), external (E) and banking (B), shown in black, blue and red, respectively. A debt restructuring (DR) event is identified as being preceded/accompanied by a crisis if a crisis occurs at time t, t-1, t-2, or t-3 where t is the first year of a DR. The cells shaded in blue correspond to the onset of the GFC and the COVID-19 pandemic.

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Annex I. Data Issues

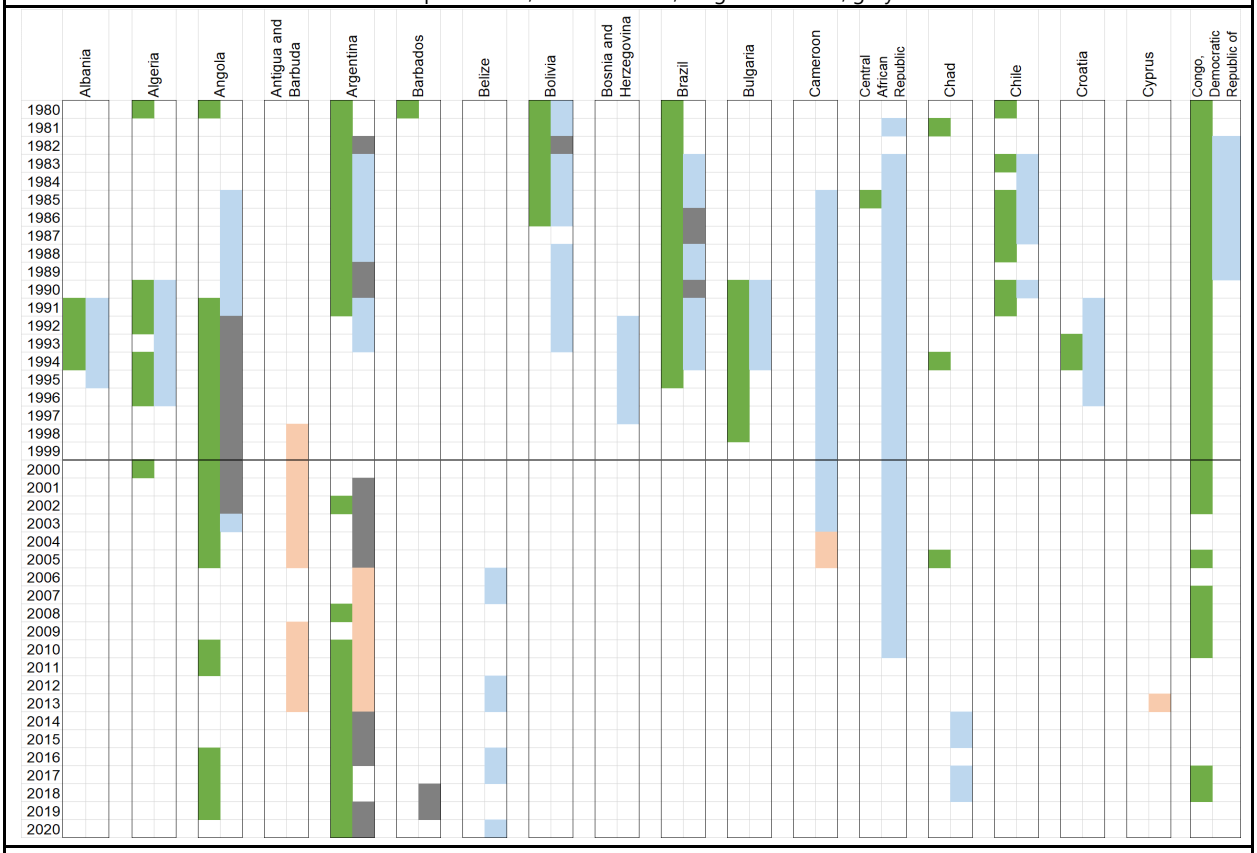
A. Sample Description

1. The dataset includes 89 countries that experienced a public debt restructuring event involving either external or domestic-law debt between 1980 and 2020. Most of the countries in the sample are EMDEs, except Cyprus and Greece. Figure I.1 presets a simple visualization of the data showing countries/years with high inflation (above 20 percent per annum), as well as domestic-law or external public debt restructurings. The formal identification of different types of debt restructuring events is discussed in paragraph 8.

2. The data are compiled from a range of sources. The sources include Reinhart and Rogoff (2011), Asonuma and Trebesch (2016), IMF staff reports, credit rating agencies, as well as a survey of the country authorities conducted by IMF staff during March-April 2021.

Figure Annex I.1: Debt Restructuring Episodes, 1980–2020

Green cells=inflation>20% per annum; blue cells=EDR; beige cells=DDR; gray cells =EDR and DDR



Sources: Reinhart and Rogoff (2011), Asonuma and Trebesch (2016), IMF staff reports, credit rating agencies, country authorities and staff estimates.

Figure Annex I.1. Debt Restructuring Episodes, 1980–2020 (continued)

Green cells =inflation>20% per annum; blue cells=EDR; beige cells =DDR; gray cells =EDR and DDR

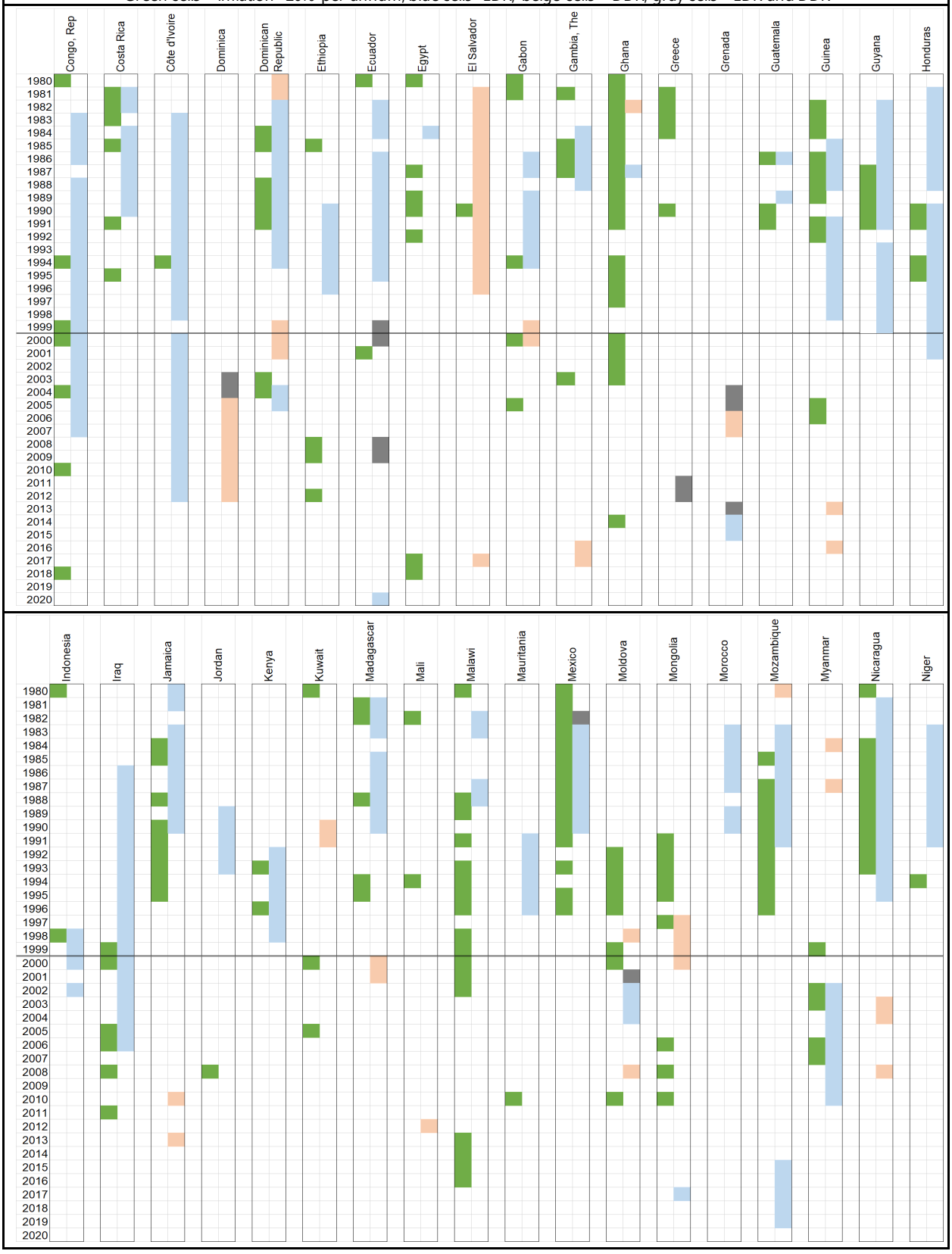
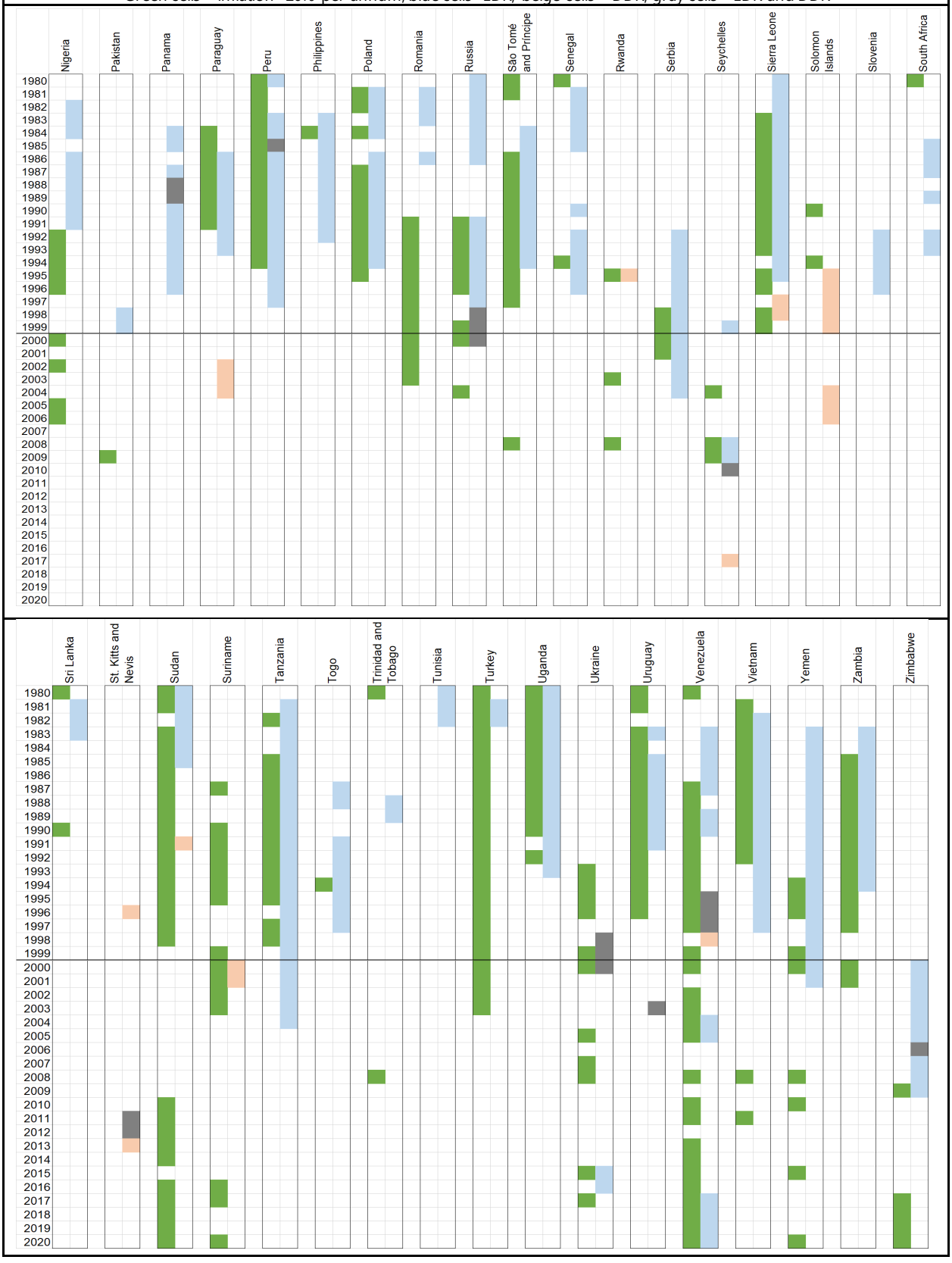


Figure Annex I.1. Debt Restructuring Episodes, 1980–2020 (concluded)

Green cells =inflation>20% per annum; blue cells=EDR; beige cells =DDR; gray cells =EDR and DDR



B. Data Sources

Description	Data source
General government gross debt (billion, national currency)	IMF World Economic Outlook
General government external debt (billion, national currency)	IMF World Economic Outlook
Official external debt (billion, US dollar)	IMF World Economic Outlook
Gross external debt including arrears and other short-term debt (billion, US dollar)	IMF World Economic Outlook
External debt stocks, public and publicly guaranteed (billion, US dollar)	WB International Debt Statistics
Private external public debt (percent of public debt)	WB International Debt Statistics
Domestic bank holding of total government debt (percent of total debt)	Sovereign investor base estimates by Arslanalp and Tsuda (2014)
GDP (constant 2010 US dollar)	WB World Development Indicators
Primary balance (percent of GDP)	IMF World Economic Outlook
Domestic credit to private sector (percent of GDP)	WB World Development Indicators
Deposit money banks' assets (percent of GDP)	WB Global Financial Development
Bank return on assets (percent, before tax)	WB Global Financial Development
Bank credit to private non-financial sector, (percent of GDP)	Bank of International Settlements
Gross capital inflows to the private sector (percent of GDP)	IMF World Economic Outlook
Nominal exchange rate against US dollar, end of period	IMF World Economic Outlook
Nominal GDP per capita (thousand US dollar)	WB World Development Indicators
Banking crisis indicator (binary)	Laeven and Valencia (2020)
External crisis indicator (binary)	IMF Vulnerability Exercise Database
Real crisis indicator (binary)	IMF Vulnerability Exercise Database
US 10-year Treasury Bond Yields (percent)	Financial Sector Database
Domestic bond yields	Financial Sector Database
Consumer price index (CPI, percent)	IMF World Economic Outlook
External bond spreads (percent)	Financial Sector Database
Bond issuance	Perfect Information
Credit rating on local and foreign currency denominated debt	Standard and Poor's

C. Crisis Events

3. The identification of the *real, external, and banking crisis shocks* is based on the methodology developed for the IMF Vulnerability Exercise (IMF, 2021):

- **External crisis events** include (i) *sudden stops* (net private capital inflows as a percentage of GDP are at least 2 percentage points lower than in the previous year and two years before, as well as when the country gets approved for large IMF support) *with growth impact* (when the changes in growth relative to the previous five-year average growth rate lie in the lower 10th-percentile of the whole panel) and (ii) *exchange market pressure events* (defined as occurring when the Exchange Market Pressure (EMP) index lies in the lower 15th-percentile of the whole panel, as well as when the country gets approved for large IMF support). The data on external crises for

1990–2017 used in this paper come from the IMF Vulnerability Exercise database. The data on the currency crises during the 1980s come from the Reinhart and Rogoff database.

- **Real crisis events** are defined based on four different GDP series and four different thresholds. The four series are (i) a country's annual growth rate, (ii) its cumulative growth rate over the past three years, (iii) its growth performance relative to the most recent five-year average, and (iv) its average GDP level relative to the previous three-year average. For each of these, the focus is on GDP per working-age person. Values of these series are flagged as being in a crisis if they fall below the 10th percentile of observations in one of the following groups: (i) all countries in the sample, (ii) all countries in the same income group – advanced economies (AEs), emerging markets (EMs), and low income and developing economies (LICs) according to the current WEO classification, (iii) by income group according to the WEO classifications in 1980 with an additional category of countries with a population below one million, and (iv) countries in the same tercile of the total sample for year-on-year growth volatility. The data on the real crises for 1990–2018 used in this paper come from the IMF Vulnerability Exercise database.

- **Banking crisis events** are from Laeven and Valencia (2020), which covers 117 countries from 1980 to 2017.

Annex II. Probit Regression Results

1. Following recent studies on sovereign defaults (Asonuma and others. 2021; Huertas and Meyer-Cirkel, 2021), we ran a probit regression to estimate both unconditional and conditional likelihood of a DDR, an EDR, and an EDR/DDR. Conditional likelihood refers to a likelihood of a particular type of public debt restructuring (e.g., a DDR) conditional on any form of public debt restructuring, including episodes of inflation/financial repression (IFRs).

2. The descriptive analysis provides some guidance for narrowing down the set of explanatory variables to the following: (i) macro-fiscal indicators (e.g., GDP growth, primary balance), (ii) debt indicators (e.g., public debt, domestic public debt, external public debt to private creditors); (iii) financial sector indicators (e.g., bank deposits and return of assets); (iv) external shock indicators (e.g., exchange depreciation, US 10-year Treasury yields); (v) level of development (GDP per capita). Some of these choices are also influenced by data availability.

3. For robustness checks, the baseline regression specification is applied to different subsamples: (i) pre-2000 and post-2000 periods, (ii) EMs and LICs.

Table II.1. Probit Regression Results – Unconditional

		DDR single					EDR single					EDR/DDR				
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
A. Macro-fiscal variables	GDP growth (percent, ave. lag 3 years)	**-0.04*** **(0.02)**				-0.04 (0.04)	-0.01 (0.02)				-0.02 (0.05)	**-0.08***** **(0.02)**				**-0.22***** **(0.07)**
	Primary balance (percent of GDP, ave. lag 3 years)	0.007 (0.01)				0.002 (0.04)	**-0.04**** **(0.02)**				-0.07 (0.06)	-0.03 (0.02)				-0.03 (0.06)
B. Debt variables	Public debt (percent of GDP, lag)		0.004 (0.003)			0.004 (0.005)		**0.01***** **(0.003)**			0.006 (0.005)		0.006 (0.004)			0.004 (0.008)
	Domestic public debt (percent of GDP, lag)		0.002 (0.006)			0.01 (0.01)		**-0.02**** **(0.007)**			**-0.03**** **(0.01)**		-0.01 (0.008)			**-0.03*** **(0.02)**
	External public debt to private creditors (percent of public debt, lag)		-0.003 (0.005)			0.0009 (0.008)		**0.01***** **(0.004)**			**0.02***** **(0.007)**		**0.01***** **(0.005)**			0.009 (0.009)
C. Financial sector variables	Bank deposit (percent of GDP, lag)			0.0006 (0.002)		-0.02 (0.01)			-0.0007 (0.004)		0.01 (0.008)			**0.005***** **(0.002)**		0.007 (0.009)
	Bank return of assets (percent, lag)			**0.05*** **(0.03)**		0.02 (0.05)			0.01 (0.04)		0.03 (0.06)			-0.02 (0.03)		0.11 (0.07)
D. Shock variables	Nominal exchange rate depreciation (percent, lag)				-0.001 (0.002)	-0.008 (0.009)				-0.002 (0.002)	0.002 (0.003)				-0.000006 (0.000009)	-0.007 (0.01)
	US 10-year T-bill yields (percent, lag)				-0.02 (0.03)	-0.10 (0.12)				**0.11***** **(0.02)**	-0.09 (0.12)				0.008 (0.03)	0.22 (0.17)
E. Structural variables	Nominal GDP per capita (thousand US$)					-0.008 (0.07)					**-0.24*** **(0.13)**					0.10 (0.07)
	Constant	-2.14*** (0.11)	-2.59*** (0.22)	-2.41*** (0.16)	-2.21*** (0.14)	-1.93*** (0.55)	-2.49*** (0.15)	-3.03*** (0.27)	-2.48*** (0.20)	-2.79*** (0.14)	-2.49*** (0.59)	-2.37*** (0.15)	-3.12*** (0.32)	-2.60*** (0.15)	-2.47*** (0.15)	-3.86*** (0.96)
	Number of observations	2,289	1,529	1,842	3,322	1,179	2.289	1,529	1,842	3,322	1.179	2,289	1,529	1,842	3,322	1.179
	LR χ^2 / Wald χ^2	3.40	2.55	2.69	2.55	9.68	5.03	14.95	0.16	36.98	18.44	16.90	10.20	8.08	0.10	28.48
	Prob> χ^2	0.18	0.47	0.26	0.28	0.47	0.08	0.00	0.92	0.00	0.05	0.00	0.02	0.02	0.95	0.00

Table II.2. Probit Regression Results – Conditional on Restructuring (Nested Probit)

		DDR single					EDR single					EDR/DDR			
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
A. Macro-fiscal variables	GDP growth (percent, ave. lag 3 years)	-0.04 (0.04)				-0.07 (0.13)	0.05 (0.04)				0.04 (0.10)	**-0.08** (0.04)**			
	Primary balance (percent of GDP, ave. lag 3 years)	**0.13** (0.05)**				0.21 (0.20)	-0.08 (0.05)				0.02 (0.14)	-0.05 (0.05)			
B. Debt variables	Public debt (percent of GDP, lag)		-0.01 (0.01)			-0.02 (0.02)		**0.02* (0.009)**			0.02 (0.01)		-0.007 (0.01)		
	Domestic public debt (percent of GDP, lag)		**0.06*** (0.03)**			**0.13** (0.06)**		**-0.04** (0.02)**			-0.04 (0.03)		-0.0001 (0.02)		
	External public debt to private creditors (percent of public debt, lag)		**-0.03** (0.01)**			-0.06 (0.04)		0.01 (0.01)			**0.06* (0.03)**		**0.03** (0.01)**		
C. Financial sector variables	Bank deposit (percent of GDP, lag)			-0.0002 (0.003)		-0.04 (0.03)			-0.002 (0.004)		**0.07** (0.03)**			**0.008** (0.004)**	
	Bank return of assets (percent, lag)			0.06 (0.06)		-0.21 (0.33)			-0.009 (0.06)		0.02 (0.15)			-0.04 (0.05)	
D. Shock variables	Nominal exchange rate depreciation (percent, lag)				**-0.009** (0.004)**	-0.04 (0.03)				**-0.01*** (0.003)**	-0.003 (0.005)				**0.002** (0.0008)**
	US 10-year T-bill yields (percent, lag)				**-0.17*** (0.05)**	-0.20 (0.33)				**0.11*** (0.04)**	-0.24 (0.37)				**-0.12* (0.05)**
E. Structural variables	Nominal GDP per capita (thousand US$)					0.20 (0.24)					**-1.44** (0.69)**				
	Constant	0.06 (0.26)	-0.39*** (0.50)	-0.56** (0.28)	0.27 (0.28)	3.31 (2.86)	-1.12 (0.30)	-1.39** (0.56)	-0.81*** (0.30)	-0.95** (0.26)	-1.52 (1.42)	-0.89*** (0.30)	-1.39** (0.64)	-1.00*** (0.29)	-0.47* (0.28)
	Number of observations	80	50	65	168	37	80	50	65	168	37	80	50	65	168
	LR χ^2 / Wald χ^2	7.41	13.12	1.31	26.27	20.15	3.38	6.98	0.17	24.06	17.08	6.99	7.33	7.12	12.71
	Prob> χ^2	0.02	0.00	0.52	0.00	0.03	0.18	0.07	0.92	0.00	0.07	0.03	0.06	0.03	0.00

Annex III. The Country Case Studies

A. Russia (1998–2000)[1]

1. Context: Between 1993 and 1998, Russia was facing increasing economic and fiscal pressures — real GDP growth plunged by an annual rate of 5.5 percent while the general government deficit averaged 8.4 percent over the same period. The government began to increasingly rely on the issuance of short-term Treasury Bills (the GKOs, i.e., discount instruments with maturities of up to twelve months) to cover its deficit. As a result, the stock of GKOs, mainly held by domestic financial institutions, rose from about 1.2 percent of GDP at end-1994 to over 12 percent at end-1997. A sharp fall in oil prices combined with speculative attacks on its currency further weakened Russia's fiscal and external positions. By August 1998, banks had accumulated net claims on the government of about 40 percent of GDP. Annualized GKO yields exceeded 100 percent and the debt dynamics became increasingly unfavorable. In June 1998, rollover risks were looming large, prompting the authorities to launch a debt exchange.

2. Perimeter, process, and terms: There were two rounds of debt exchanges involving domestic debt:

- The *initial GKO debt exchange* was completed on July 20, 1998. It aimed at lengthening of the debt maturity through a voluntary exchange of GKOs into seven and twenty-year foreign currency Eurobonds. The new Eurobonds were issued at a substantial discount — at a spread of 940 basis points over U.S. Treasury bonds, compared to 750 basis points in June 1998. Importantly, this debt exchange offered domestic financial institutions a means of covering their foreign exchange positions. After this initial debt swap failed to mitigate fiscal pressures (see below), the government declared a moratorium on all local currency denominated debt (GKOs and longer-dated ruble denominated bonds (OFZs)) in August 1998. The second debt restructuring with holders of GKOs, and longer-term domestic currency-denominated bonds was finalized in March 1999.

- The *GKO-OFZ debt restructuring* entailed differential treatment between foreign and domestic creditors and was accompanied by the imposition of capital controls. For holders of GKOs and longer-term ruble-denominated bonds who initially rejected the government's exchange offer, the scheduled payments were first discounted to August 19, 1998, at an annual rate of 50 percent. Based on the adjusted nominal claim, creditors would then receive a package of cash and very short-term instruments in addition to longer-term bonds.[2] The "cash value" bond could be used at par to pay tax obligations or purchase newly issued shares of Russian banks. The remaining 70 percent was exchanged for bonds with maturities ranging from four to five years. Importantly, any receipts from selling these GKOs and bonds had to be deposited in restricted

[1] See Sturzenegger and Zettelmeyer (2007) for details.

[2] The short-term component included a cash payment of 3.33 percent of the adjusted nominal value, 3.33 percent in three-month GKOs, 3.33 percent in six-month GKOs, and a ''cash value'' bond for 20 percent of nominal value.

local currency accounts that could be used to purchase selected Russian corporate bonds and equity securities. Any withdrawal and repatriation of funds from the restricted accounts were allowed at market exchange rates only after one year. In contrast, *Russian institutional holders* that were required to hold GKOs and local currency bonds by law, received different terms (10 percent cash, 10 percent in three-month GKOs, 10 percent in six-month GKOs, 20 percent in cash value bonds and 50 percent in bonds with maturities ranging from four to five years).

3. Financial Stability Considerations: The authorities adopted a mix of regulatory forbearance and selective interventions. The regulatory forbearance allowed banks to value their capital at precrisis levels for several months after the default. Additionally, following a review of the major Moscow-based banks, some bankruptcy proceedings were applied to three banks while twelve other banks entered a voluntary restructuring agreement with a newly established restructuring agency. During 1999, the central bank withdrew the licenses of 127 banks, and the newly established agency also initiated the restructuring of three major regional banks.

4. IMF-supported program: In July 1998, a crisis package was approved by the IMF to support the authorities in their efforts to correct fiscal imbalances, stabilize the exchange rate and lengthen the maturity of debt. The initial market reaction was favorable — GKO yields declined, reducing the refinancing risks. But by early August 1998, GKO yields surged above the pre-restructuring levels and exchange rate pressures re-emerged.

5. Outcomes: Multiple rounds of debt exchanges are generally attributed to the lack of a clear and credible plan, including the commitment to strong fiscal consolidation, mitigation of rollover risk and the restructurings of domestic institutions that were the largest holders of GKOs. Specifically,

- The *first GKO-Eurobond exchange* retired a face value of about $4.4 billion GKOs. The GKO yields initially declined sharply. However, this decline was short-lived, as the new Eurobonds triggered margin calls on repurchase agreements entered into by Russian banks, forcing some banks to sell GKOs to meet their liquidity needs. Thus, immediately after the completion of the exchange, GKO yields shot up, reaching three digits by August 1998, and forcing the government to cancel new auctions.

- The *second debt restructuring* recorded 95 percent participation for residents and 89 percent participation for nonresidents. Nonresidents who did not participate were repaid in full but had to place their proceeds in restricted accounts with a five-year repatriation restriction. Considering high interest rates prevailing at the time, this requirement amounted to an implicit haircut—whose magnitude was similar to that suffered by investors that accepted the exchange. The estimated total (nominal) debt relief was about $22 billion.

- The banking crisis that followed devaluation and default also led to difficulties with servicing external debt obligations, forcing the state-owned banks (December 1998, June 1999) and then

the central government to default on external debt (May 1999). Russia regained access to international markets in December 2002.

B. Ukraine (1998–2000)[3]

6. Context: Ukraine's debt crisis in 1998–2000 followed immediately after the Russian financial crisis in August 1998. The market for government debt dried up at a time when large repayments on Treasury bills were coming due, and Ukraine faced serious problems of rolling over its debt. The National Bank of Ukraine (NBU) devalued the Hryvnia in September 1998—by adjusting its fluctuation band —and had to eventually float the currency in March 1999. The NBU also closed the interbank market for foreign exchange, forcing all transactions onto the official market. The Ukrainian government announced a restructuring of both domestic and external debt in August 1998 and completed it in August 1999.

7. Perimeter, process, and terms: Sovereign debt eligible for restructuring comprised (i) domestic treasury bills (OVDPs) of US$4.9 billion, and external commercial loans (Chase and ING loans) of US$0.3 billion in total. Treasury bills issued under domestic law (US$4.9 billion) were held by both domestic commercial banks (US$4.5 billion) and non-residents (US$0.4 billion). The restructuring was carried out with the following exchanges in sequence: (i) in August 1998, T-bills held by local commercial banks (OVDPs-resident) were exchanged for long-term local currency-denominated debt with maturity of 3-6 years; (ii) T-bills held by non-residents (i.e., OVDPs-nonresidents) were exchanged for local currency-denominated bonds or US$-denominated bonds; (iii) finally, the government also restructured US$109 million loan issued through Chase Manhattan in October 1998, the ING loan (US$163 million) in August 1999. The NPV haircuts on OVDPs-residents and OVDPs-nonresidents were 6.9 percent and 56.3 percent. The NPV haircuts on the Chase loan and ING loan were 30.7 percent and 38.0 percent.

8. Financial stability considerations: The authorities' banking sector reform under the IMF-supported program included both banking sector restructuring as well as measures to strengthen the bank supervision. Under financial sector reform program, two state-owned banks, Savings Bank and State Export-Import Bank, underwent major rehabilitation programs.

9. IMF-supported program: The IMF-supported program envisaged (i) a reduction of the overall fiscal deficit, (ii) regaining credibility in monetary policy to contain inflation and maintain a stable exchange rate; (iii) elimination of deficit financing by the NBU, and (iv) structural reform agenda.

10. Outcomes:

- *Participation*: Participation of OVDPs-residents was 84 percent and that of OVDPs-nonresidents was 82 percent. Participation in the restructuring of the Chase and ING loans was 100 percent.

[3] See Sturzenegger and Zettelmeyer (2007) for more details.

The NBU indicated that all domestic banks participating in the exchange would have access to the short-term emergency financing, while those banks that refused to participate would not be eligible to receive any emergency financing.

- *New instruments*: At OVDP debt exchange in August-September 1998, domestic residents were offered long-term hryvnia-denominated bonds (maturity of three to six years) and non-residents were offered a choice between a hryvnia-denominated bond with a 22 percent hedged annual yield or a two-year zero-coupon dollar-denominated Eurobond with a yield of 20 percent.

- *Debt relief:* The estimated (nominal) debt relief was about US$240 million in total. While the debt restructurings in 1998–99 provided some immediate cash flow relief, they also created large payment obligations for 2000–01 which, in turn, resulted in an external debt restructuring in 2000. Ukraine regained access to the international market in October 2005.[4]

C. Argentina (2001–2005)[5]

11. Context: In 2001, Argentina defaulted on its domestic and external sovereign debt after experiencing banking and currency crises. Argentina's prolonged depression in the late nineties, triggered by spillovers from EM crisis and compounded by structural weaknesses (including a narrow export base and a high level of dollarization in the context of the currency board) culminated in acute balance of payments pressures and foreign currency liquidity shortages. At the end of 2000, the federal government debt stood at 45 percent of GDP, with 97 percent of the total debt denominated in foreign currency. Economic growth contracted by an average of 3 percent between 1999 and 2001. With the economy continuing to contract in 2001, in order to address mounting problems in rolling over of maturing debt, the authorities undertook a voluntary debt exchange under stressed conditions in June 2001.[6] As confidence in the currency peg deteriorated, and creditors turned reluctant to roll over debt, local currency spreads widened resulting in large-scale withdrawal of deposits from the banking system.[7] A sovereign debt restructuring was launched in November 2001. In December 2001, Argentina defaulted on its sovereign debt and, in early January 2002, the government abandoned the convertibility regime.

12. Perimeter, process, and terms: The authorities initially planned a two-phased approach for debt restructuring by end 2001. The intention of having two phases of debt exchange was to segment local and foreign bondholders to protect domestic financial institutions and pension funds.

[4] S&P credit ratings on Ukraine domestic and foreign currency debt were not available until December 2001 when S&P first assigned ratings.

[5] See Sturzenegger and Zettelmeyer (2005) for detailed discussion.

[6] By capitalizing interest and using step up coupons, the implicit interest rate on the swap operation exceeded 17 percent and resulted in a net addition in present value terms of debt by 3 percent of GDP.

[7] The spread between peso- and U.S. dollar-denominated interest rates increased sharpy from less than 1 percentage point at the start of 2001 to almost 16 percentage points in mid-2001, when the central bank moved to allow greater room for liquidity injections by reducing the required currency-backing under the currency peg.

However, the worsening of macro-financial conditions and loss in investor confidence resulted in a protracted resolution of the debt problem:

- *Phase I* of the restructuring announced in November 2001 and completed within a month, initially focused on domestic-law debt and aimed at domestic residents. The November 2001 exchange in the form of a reprofiling to deal with the liquidity problem entailed an average coupon reduction of 4-5 percent and maturity extension by 3 years and it included loans governed by Argentine law and guaranteed by the federal and provincial governments.[8] The "guarantee" of the loans would be revenues collected through the financial transaction tax. Given that there was no secondary market for the new domestic instruments immediately after the exchange, in the absence of maturity-adjusted exit yields, the unweighted average NPV loss was estimated at 40 percent. [9]

- *Phase II* of the debt restructuring—primarily aimed at foreign-law debt and a small part of the domestic debt (for which investors did not participate in the first phase)—could not be undertaken owing to the ensuing macro-financial deterioration and political turmoil.

13. On December 23, 2001 a new government declared the intention to default on the remaining part of government debt (not covered during Phase I restructuring). This was shortly followed by the 30 percent peso devaluation. In February 2002, the government decided on "pesoization" of the guaranteed loans that had been issued in November 2001, as well as any other dollar-denominated domestic law instruments (about US$58 billion in total). [10] As the conversion rate was nearly 30 percent below the market rate, this entailed a substantial loss. In addition, interest rates were further reduced. The "pesoization" and interest rate reductions which were completed by August 2003 through a decree resulted in an unweighted average NPV loss of around 45 percent on the debt restructured.[11]

14. After three years in default on its foreign debt, in January 2005, the authorities launched their global debt exchange offer of US$82 billion of eligible claims (excluding past due interest accrued between December 2001 and December 2003). The bulk of this debt included foreign debt, which was not treated during the 2001 exchange, with the remaining relating to holdings of debt by some residents who did not participate in the previous exchange. The restructuring included a

[8] The offered amount of the debt exchange in the form of a reprofiling operation covered federal (US$41 billion) and provincial (US$10 billion) in peso and U.S. dollar-denominated bonds with an average interest rate of 11-12 percent. Although the debt exchange was undertaken as a voluntary exchange, it was treated as a distressed debt exchange by credit rating agencies.

[9] See Sturzenegger and Zettelmeyer (2005).

[10] Under this scheme, the existing stock of banks' dollar-denominated assets and liabilities were converted at the rate of Arg$1=US$1 for loans to the private sector and Arg$1.4=US$1 for loans to the public sector and for U.S. dollar deposits, which were also indexed to inflation. The peso/dollar exchange rate was close to 1.90 at the time.

[11] The average cumulative haircut resulting from these two restructurings on domestic debt was close to 70 percent; almost as high as the haircuts associated with the 2005 exchange related to foreign debt.

nominal haircut to redress the solvency problem and implied an NPV reduction (including past due interest) of around 75 percent.

15. Financial stability considerations: The banking system in Argentina was relatively small compared to other EMs and appeared to be well capitalized and geared towards operating in a dollarized economy under the currency peg. As domestic banks held around one-quarter of its assets in government bonds by mid-2001 (one-half of total public debt), it was estimated that a 70 percent haircut on government debt would wipe out the banking system's capital and create serious liquidity problems. Following the announcement of the first phase of restructuring that covered domestic debt and involved domestic banks, a full-blown banking system crisis broke out with bank deposits falling by more than 6 percent of the deposit base. Exchange market pressures led to higher interest rates and reserve losses under the currency board arrangement, prompting the authorities to impose deposit freeze and capital controls.

16. The asymmetric "pesoization" of its banking system's assets and liabilities led to second round losses for the banking sector. Although the measure was intended to protect firms and households with foreign-currency denominated debt, it merely shifted the burden of the devaluation to the banking system—and ultimately to the taxpayer as banks would need to be capitalized. The "pesoization" and "indexation" further complicated the crisis by deepening financial disintermediation, curtailing the supply of fresh credit and withdrawal of term deposits. As a result, bonds had to be issued to compensate banks and depositors for the peso devaluation (amounting to about US$9 billion), which reduced the gross relief expected from "pesoization". By 2005, the share of government debt in banking assets doubled to one-half of the total assets.

17. Regulatory forbearance aimed to support a gradual recovery of the banking sector. A valuation mechanism for government bonds and loans allowed for a gradual convergence to market value. Banks were also allowed to temporarily decrease their capital charge on interest rate risk. Losses incurred due to court injunctions could be booked as assets to be amortized over a 5-year period.

18. IMF-supported program: The crisis that unfolded along with the debt restructuring took place while the country was engaged in a succession of IMF-supported programs. In retrospect, programs had insufficient structural content and conditionality, given that the currency board arrangement, together with the relatively small share of exports in the economy, put a premium on the flexibility and resilience of the domestic economy (see Daseking, Ghosh, Lane and Thomas (2004) for details).

19. Outcomes:

- *Participation*: The first phase of debt restructuring in November 2001 was aimed at domestic creditors and achieved a participation rate of 80 percent. While several incentives for participation were offered, including relaxation of prudential rules, the main disincentive was the threat of an involuntary restructuring at worse terms if the exchange was not accepted. For the *pesoization* and interest rate reductions undertaken in February 2002, which also included debt

restructured in November 2001, investors were given the choice to return to the defaulted foreign currency bond they had exchanged during "Phase 1". However, around one-fifth of holders of loans involved in *pesoization* made use of this option with the remaining— mostly pension funds—rejecting both alternatives, and taking legal action against the government.[12] The 2005 exchange had a participation rate of 76 percent with non-residents accounting for 61 percent of the total amount tendered.[13] Despite this participation rate, residual principal in default (US$20 billion) and estimated past due interest – believed to be held mostly by nonresidents –remained unresolved. The settlement of the debt exchange that started in June 2005 was delayed by 2 months—reflecting litigation by holdouts. In 2010, a part of the pending debt was restructured under the generic terms of 2005, resulting in an overall participation of 93 percent.

- *New instruments***.** The November 2001 exchange offered options for three types of instruments: (i) fixed rate bonds, (ii) floating rate bonds with the cap set at Libor plus 300 basis points, and (iii) capitalizing bonds. The 2005 exchange offered three new types of bonds (par, quasi-par, and discount instruments), each security with a detachable GDP-linked warrant. In order to de-dollarize the debt, owners of any instrument could exchange their holding for indexed peso bonds.[14] Participation for the entire portion of local currency debt was by resident investors through the offer of a quasi-par bond adjusted by a proxy of consumer price index inflation.[15] The 2005 debt exchange program managed to transform the currency structure of the debt being restructured.

- *Debt relief*: Reflecting the effects of the exchange rate depreciation, the issuance of debt to compensate banks for the asymmetric *pesoization*, and the accumulation of arrears, federal government debt nearly trebled from 53 percent of GDP at end-2001 to 147 percent at end-2002. And only the 2005 debt exchange (which included a nominal haircut) reduced the debt stock to 72 percent of GDP in April 2005 (excluding the debt in default amounting to around 15 percent of GDP) and improved the debt service profile. After the exchanges, the share of local currency debt rose to 37 percent of the total federal government debt stock (excluding unrestructured debt in default), from 3 percent before the restructuring.

[12] Their loans were eventually "re-dollarized" by decree in August of 2003.

[13] Negotiations with private creditors for the 2005 exchange were not constructive for the most part. Although the authorities met with domestic and foreign creditors, including undertaking international road shows in 2005, it did not entail substantive negotiations.

[14] The currency conversion was done at the exchange rate of December 31, 2003, the formal issue date of the bond.

[15] The quasi-par bond was targeted specifically to local pension funds, which were coaxed into an agreement under which they received the quasi-par bond along with regulatory benefits.

D. Uruguay (2003)[16]

20. Context: Vulnerabilities in Uruguay had been building up long before the crisis, owing to a long recession that had begun in 1999, persistent fiscal deficits, and banking system weaknesses. Massive withdrawals of deposits by Argentine residents following Argentine default in December 2001, put pressure on Uruguay's banking system and balance of payments resulting in a banking crisis in 2002. The central bank's attempt to provide liquidity assistance led to a quick depletion of international reserves. On June 2002, the government decided to float the currency. As a result of a sharp exchange rate depreciation, the central government debt-to-GDP ratio reached 92 percent of GDP at end-2002 casting doubt on Uruguay's ability to service its debt. The government of Uruguay announced a restructuring of both external and domestic debt on March 11, 2003 and launched a restructuring proposal on April 10, 2003.

21. Perimeter, process, and terms: Both external and domestic debt restructurings which were carried out in 2003 were voluntary and were completed preemptively, i.e., there were no missed payments. The debt exchange was geared to extending the maturity of debt and improving the liquidity of existing instruments. Sovereign debt eligible for restructuring comprised domestically issued bonds in a total of US$1.6 billion and international bonds in a total of US$3.7 billion. Domestic bonds could be exchanged through a custodian or broker, or directly at the central bank. The debt exchange with bond holders was completed on May 29, 2003 with no face value reduction and NPV haircuts of 24.0 and 38.1 percent (extension and benchmark options, respectively) on domestic debt.[17]

22. Financial stability considerations: The authorities' banking sector reform included the following measures, most of which were approved on August 2002: (i) liquidating insolvent banks and implementing a comprehensive restructuring of public banks; (ii) extending the maturity of dollar time deposit liabilities of public banks; and (iii) taking steps to preserve the payments system, with full backing of sight and savings deposits in the public and intervened private banks. The banking sector resolution was completed before the announcement of debt restructuring in March 2003.

23. IMF-supported program: The IMF-supported program was aimed to restore confidence in the banking system and sustainability of public finances and public debt, while laying the foundations for a growth recovery.

24. Outcomes:

- *Participation*: Participation of domestic financial institutions was encouraged by regulatory incentives (i.e., old bonds becoming non-tradable securities) and reached 99 percent for domestically issued bonds. Participation for externally issued bonds was 90 percent, due to the

[16] See Sturzenegger and Zettelmeyer (2007) and Diaz-Cassou, Erce and Vazquez-Zamora (2008).

[17] See Sturzenegger and Zettelmeyer (2007).

use of exit consents to change the non-payment terms and attractive menu of options for new instruments.

- *New instruments*: Bondholders were offered two options: (i) a maturity extension option, whereby a bond could be exchanged for a bond with similar coupon and extended maturity; and (ii) a benchmark bond option, which included longer dated but more liquid bonds (three external and four domestic benchmark bonds, with maturities 7-30 years, some targeting foreign institutional investors). Following completion of the exchange, several credit rating agencies upgraded Uruguay's sovereign rating. The government has regained some access to the domestic financial market, with net placements of short-term paper of US$340 million through mid-June 2003 (IMF 2003).

E. Nicaragua (2008)

25. Context: In 2008, in an environment of slow growth and high inflation resulting from a commodity price shock, the current account widened, and Nicaragua reached out to external stakeholders for financial assistance. Nicaragua reached an agreement for a 3-year PRGF program with the IMF. However, the second review of the program was delayed among other factors (e.g., the global financial crisis and a commodity price shock) due to a domestic debt default triggered by a court injunction that stopped the payment on the outstanding bonds, due to allegations of governance issues.

26. Perimeter, process, and terms: During the 2001 banking crisis, the Central Bank of Nicaragua issued approximately US$400 million (about 10 percent of GDP) in domestic bonds, CENIs (Certificados Negociables de Inversion) backed by the government. The bonds were issued to cover the shortfall in performing assets vs liabilities for insolvent banks. They were dollar indexed and had maturities of up to 3 years. In 2003, the banks holding CENIs agreed to provide debt service relief to the government by accepting new bonds (bonos bancarios) with maturities up to 10 years. These latter bonds have a long and mired legal history in Nicaragua and in 2008 the courts temporarily halted debt service to banks. Under the shadow of legal challenges, banks agreed to restructure their bonos bancarios, the outstanding amount of which was US$190 million (about 2.2 percent of GDP). The new instruments had 20-year maturities, lower interest rates, but were allowed to be used for liquidity and dividend payment purposes.

27. Financial stability considerations: The 2008 restructuring impacted banks' capital levels, liquidity and market indicators as well as the concentration limits. Nevertheless, all but two banks managed to keep capital level above the required 10 percent following the restructuring. The IMF program included a financial strategy for banks to achieve prudential compliance as well as an agreement to provide some regulatory forbearance.

28. IMF-supported program: Completion of the domestic debt exchange and the judicial consent to make scheduled bond payments were part of the program. The multilateral support package provided substantial financial support, facilitating external and fiscal adjustment.

29. Outcomes:

- *Participation*: Participation during the domestic debt restructuring was limited to banks holding CENIs. All the securities held by banks were tendered at the exchange. The largest incentive was the legal uncertainty of the old bonds.

- *New instruments*: New instruments were issued twice as the CENIs were restructured, and the circumstances around the issuance of the new instrument was a key basis for the legal disputes.

- *Debt relief*: The domestic debt restructuring was critical to continuing the IMF program and is estimated to have provided debt relief of about US$50 million in NPV terms, but no face value reduction. The restructuring of domestic securities was in addition to a broader debt restructuring strategy that was taking place, which included a voluntary debt buy-back of commercial debt (facilitated by the World Bank's Debt Reduction Facility) as well as a debt restructuring agreement with official bilateral creditors.

F. Jamaica (2010)[18]

30. Context: The global financial crisis added significant balance of payments pressures on the Jamaican economy already struggling with low growth and high public debt. Jamaica's debt, held mainly by domestic creditors, was subject to mounting exchange rate, interest rate, and refinancing risks. By end-2009, Jamaica's public debt at nearly 140 percent of GDP appeared unsustainable, with interest payments accounting for more than half of fiscal revenues, forcing the government to undertake a debt exchange (launched on January 14, 2010 and completed on February 3, 2010).

31. Perimeter, process, and terms: The restructuring— the Jamaica Debt Exchange (JDX)— covered all government of Jamaica's *domestically issued debt*, including local currency (fixed, variable, and US$-indexed) securities and locally issued US$-denominated debt, totaling 65 percent of GDP (Grigorian, Alleyne, and Guerson, 2012). *Externally issued bonds* were excluded from the transaction because of their relatively small size and the authorities' desire to maintain external market access. The operation involved no face value haircuts but reduced the securities' coupons and extended their maturities. In exchange for old bonds, investors were given an option of selecting from a menu of new fixed, floating, and inflation- and US$-indexed securities, subject to allocation rules, which were calibrated to reduce the share of variable rate and US$-denominated and to increase the maturity of the debt stock.

[18] See Grigorian, Alleyne, and Guerson (2012) and Jahan (2013) for detailed discussion.

32. Financial stability considerations: To safeguard financial stability, the government established a liquidity facility—*Financial Sector Support Fund* (FSSF) — funded by the IMF, the Inter-American Development Bank (IDB), and the World Bank for solvency and liquidity needs of eligible financial institutions.[19] However, the FSSF received no applications and remained untapped because the financial institutions with exposure to the government debt managed the stress on their own. Other measures to minimize financial distress included a series of iterative stress-tests done by the Bank of Jamaica to help calibrate the design of the debt restructuring.

33. IMF-supported program: Completion of the debt restructuring was a prior action for IMF Executive Board approval of Jamaica's 2010 Stand-By Arrangement (SBA) (IMF, 2010). Following the completion of the debt exchange, the SBA was approved, catalyzing support from other multilateral creditors.

34. Outcomes: The multilateral assistance and the debt exchange significantly reduced Jamaica's liquidity risks. The operation secured fiscal saving of about 3.5 percent of GDP and extended the average maturity of domestic debt by 3.6 years. Despite these achievements, the 2010 debt operation did not lead to a gradual reduction of public debt and debt sustainability as expected—the 2010 SBA went off track after the completion of just 3 quarterly reviews owing to fiscal slippages.

- *Participation*: The debt exchange recorded a high participation rate (99.2 percent). This was supported by a mix of "carrots" and "sticks", including tax surcharge on interest income earned from the old bonds, the threat of exercising the call option embedded in old bonds, and temporary regulatory forbearance.

- *New instruments:* The exchange was guided by allocation rules that separated fixed-rate, variable-rate, and US$-denominated old instruments. Holders of fixed-rate instruments were permitted to swap only into other fixed-rate instruments; holders of variable rate and US$-denominated instruments were required to swap into some new fixed-rate and inflation-indexed bonds; and only holders of old US$-denominated debt were allowed to acquire new US$-denominated securities. Additionally, the coupon rates on variable bonds were fixed for the first 3 to 12 months. Except for variable-rate bonds, the new instruments were stripped off the call options to make them more attractive for investors to hold.

- *The design* of the JDX resulted in streamlined functioning of the public debt markets. The new (benchmark) bonds—25 in total, comprised of 11 fixed, nine variable, three US$-denominated, and two CPI-indexed bonds—replaced over 350 different securities in circulation.

[19] Financial institutions (securities dealers, commercial banks, and insurance companies) that exchanged at least 90 percent of the old government bonds in their portfolios were eligible to access FSSF. Security dealers, commercial banks, and insurance companies were holding 27 percent, 13 percent, and 11 percent of the government direct debt, respectively.

G. Greece (2011-2012)[20]

35. Context: Having lost access to capital markets, Greece requested official financial assistance in April 2010 and subsequently agreed to implement a three-year economic adjustment program co-financed by the EU, the IMF, and the ECB totaling €110 billion (48 percent of GDP). Following some initial success in implementation, reform efforts slowed, and market sentiment deteriorated, fueled by credit downgrades, deposit outflows, and expectations of an impending debt restructuring.

36. Perimeter, process, and terms: On February 24, 2012, the Greek Ministry of Finance announced the terms of the debt exchange and invited bondholders to tender their bonds by March 8. Sovereign bonds issued both under the Greek law and foreign law, as well as 36 sovereign-guaranteed bonds issued by public enterprises were eligible for exchange. The Ministry of Finance announced subsequently that 85.8 percent of bonds issued under the Greek law and 69 percent of bonds issued under foreign law (€177 billion and €28 billion of eligible stock of debt, respectively) were tendered in the exchange, totaling €202 billion.

37. The debt exchange was completed preemptively, i.e., no payments were missed, on March 12, 2012. The holders of eligible bonds exchanged their securities for new discount bonds with a face value of 31.5 percent of the original claim; maturity of between 10 and 30 years; and a step-up coupon starting at 2 percent and averaging 3.85 percent over the life of the bonds. In addition, bondholders received short-term EFSF notes amounting to 15 percent of the face value of the original claim through a co-financing agreement between the EFSF and Greece. The face value reduction thus amounted to 53.5 percent with NPV haircuts in the range of 65-78 percent depending on the exit yield and computational convention applied.

38. IMF-supported program: The economic adjustment was supported by a 4-year Fund program. In addition to addressing balance of payments problems, correcting the competitiveness gap, and supporting growth and employment, the program targeted a combination of private and official sector involvement to deliver enough debt relief to place public debt on a trajectory to reach 120 percent of GDP by 2020.

39. Financial stability considerations: The Greek banks were heavily exposed to the government via their holdings of public debt securities and faced significant headwinds from the overall economic decline in the form of mounting non-performing loans. To restore financial stability significant resources (€50 billion) were set aside in the program to help banks cope with the impact of the recession and of restructuring of government debt (IMF, 2012). The private ownership of banks was to be maintained to the extent possible and the framework for bank resolution and recapitalization as well as financial sector oversight were to be strengthened.

[20] See Zettelmeyer, Trebesch, and Gulati (2013) and Xafa (2013).

40. The debt restructuring dramatically impaired the value of banking sector assets and added to the strains imposed by deposit withdrawals and non-performing loan losses as the recession deepened. As a result, an additional €50 billion out of the new rescue package was set aside to recapitalize the banks. Two subsequent rounds of injections of public funds (in 2014 and 2015; see Stournaras, 2018) ended up being necessary to fully recapitalize the Greek banks.

41. Outcomes:

- *Participation:* High participation in the debt exchange was achieved through application of CACs that had been retrofitted by an act of the Greek parliament to the bonds issued under the Greek law, raising the weighted average participation of those bondholders to 97 percent of total eligible securities (100 percent for Greek law bonds and 75 percent for foreign law bonds).[21]

- *Debt relief*: Overall, the debt restructuring reduced the public debt by €106 billion (54 percent of GDP) but also generated new debt of €30 billion to the EFSF as well as an estimated €36 billion for recapitalizing banks (Xafa, 2013).[22] Thus, the *net* debt reduction amounted to about €40 billion (20 percent of GDP). However, because debt sustainability had not been achieved and government bond yields remained high, on December 11, 2012, the Public Debt Management Agency conducted a debt buyback operation (using a reverse auction) for eligible (€62 billion in face value) new GGBs issued in March under the PSI. €31.9 billion of these securities were tendered at a cost of €11.3 billion (including accrued interest) in exchange for six-month EFSF notes.[23] Greece regained access to the Euro-zone market in April 2014.

H. St. Kitts and Nevis (2011–2012)[24]

42. Context: At the end of 2010, St. Kitts and Nevis faced dire macroeconomic conditions and an imminent debt crisis. Real GDP had fallen by a cumulative 3 1/3 percent since 2008, owing to reduced tourism following the global financial crisis, while public debt had become unsustainable at 135 percent of GDP.

43. Perimeter, process, and terms: A comprehensive debt restructuring targeting all public debt except for T-bills and debt to multilateral creditors was announced in June 2011 and proceeded in phases. First, a debt exchange with external commercial creditors was completed in April 2012 involving take-up of both par and discount bond options with a significant maturity extension and face value haircut respectively. The second phase involved restructuring of domestic debt (roughly 70 percent of total) held largely by the local banking sector, with whom shareholder

[21] CACs were invoked after a majority of more than 66 percent agreed to the new terms.

[22] While the Bank of Greece (2012) estimated the capital shortfall of the banks to be at €40.5 billion, Zettelmeyer, Trebesch, and Gulati (2013) put the estimate of actual recapitalization cost at €25 billion.

[23] These securities were trading at 17–18 cents a dollar at the time. The offer price ended up higher than the market value to entice participants to tender their securities.

[24] See Jahan (2013) for detailed discussion.

agreements were signed in April 2012. With much of this debt collateralized by public land, the restructuring included *a debt-for-land swap* implemented in tranches over 2013-14, where the lands were placed in a special purpose vehicle (SPV) with the intention to settle creditor banks' claims with funds received from subsequent land sales. In the final phases official bilateral credit was rescheduled with highly concessional rates, with agreement with Paris Club creditors concluded in May 2012.

44. Financial stability considerations: With roughly a half of the domestic debt held by local commercial banks, its restructuring involved close monitoring of the financial stability impact, including frequent stress testing by the Eastern Caribbean Central Bank (a quarterly structural benchmark under the SBA). The authorities also established a banking sector reserve fund in the context of the SBA program as a liquidity backstop mechanism, which was ultimately unwound unutilized in 2014.[25]

45. IMF-supported program: In July 2011, a Stand-By Arrangement (SBA) was approved by IMF Board to support the authorities program featuring a front-loaded fiscal adjustment along with measures to safeguard financial stability and boost growth. In addition, a public debt restructuring—the announcement for which was a prior action for the SBA—was to address the debt overhang and restore debt sustainability. The SBA also supported establishing the banking sector reserve fund.

46. Outcomes:

- *Participation:* External commercial creditor participation (initially at 97 percent) increased to 100 percent after the introduction of collective action clauses and bilateral agreements were concluded with all Paris Club creditors.

- *New instruments:* About one third of creditors opted for a par bond, an EC$ denominated 45-year mortgage style bond with a 15-year grace period and 1.5 percent coupon, while two thirds chose a US$ denominated 20-year mortgage-style discount bond taking a 50 percent cut in the face value of their claims. The discount bond included a step down coupon (carrying a 6 percent for the first four years which steps down to 3 percent); a partial guarantee by the Caribbean Development Bank (CDB); and a claw-back feature providing creditors additional bonds (equal to 40 percent of the face amount of discount bonds issued in the exchange offer) if the authorities failed to implement the underlying IMF reform program.[26] Making the size of the haircut contingent on reform program implementation supported sustained post-restructuring fiscal prudency.

- *Debt relief*: The restructuring delivered a large aggregate NPV haircut of 65 percent. By end-2014, total public debt stood at 69 percent of GDP, reflecting a 55 percentage points of GDP reduction in domestic debt and 11 percentage points reduction in external debt. Sizable revenue

[25] The surge in CBI inflows during program years substantially raised government deposits in the banking system and liquidity was not an issue. For details on access terms and conditions for the fund see Country Report No. 11/270.

[26] The specific clause to complete the 6th Review under the SBA was successfully met in mid-2013.

injections from the Citizenship-by-Investment (CBI) program supported output growth and fiscal surpluses that allowed further reductions in public debt, which reached 52 percent of GDP by end-2019. However, a significant portion of the domestic debt reduction was achieved through the debt-for-land swap, where only a small fraction of the swapped lands has so far been successfully divested in private sales.[27]

I. Cyprus (2013)[28]

47. Context: In the run-up to the Greek debt crisis, Cyprus had tight financial links with Greece: by end-2011, bank loans to Greek residents and holdings of Greek government bonds reached 130 and 30 percent of Cyprus' GDP, respectively. As the Greek crisis unfolded, Cyprus' sovereign debt spreads widened dramatically, and by mid-2011, the sovereign lost market access with public debt under 70 percent of GDP. The economy fell into recession in late 2011, exacerbating the correction of the housing market that had started in 2009. In combination with Greek debt restructuring in March 2012, this had a devastating impact on banks' balance sheets. Negative feedback loops further weakened public finances. By the end of 2012, public debt reached 86 percent of GDP. In March 2013 a financial assistance package was agreed between the Republic of Cyprus and the troika (consisting of the IMF, the European Commission and the ECB). As part of that package the authorities took on the obligation to execute an exchange of €1 billion of domestic bonds maturing in the period 2013-2016 to a future date beyond March 2016 when the program would be completed. The government of Cyprus launched a restructuring proposal on June 13, 2013 and announced an exchange on June 27, 2013.

48. Perimeter, process, and terms: Sovereign debt eligible for exchange comprised only *domestic bonds* maturing in 2013-15, in a total of €1 billion out of a total of €3.6 billion of domestic bonds maturing in that period. Neither domestic T-bills—maturity at issue less than 12 months—nor *external debt* were included in the perimeter. Domestic bonds were held predominantly by banks. A debt exchange with bond holders was completed preemptively on July 1 with a maturity extension of 6.3 years on average, no face value reduction and NPV haircuts of 36 percent (Asonuma, Papaioannou and Tsuda 2021).

49. Financial stability considerations: Bank resolution started earlier and was completed before the announcement of the debt restructuring in May 2013.[29] The financial sector reforms included banking sector recapitalization and restructuring of the two largest and insolvent banks (assets of 400 percent of GDP). Three key steps were taken: (i) the Greek branches of Cypriot banks were sold to a Greek bank; (ii) Cyprus Popular Bank (CPB) was resolved and its insured deposits were

[27] The government has recently used a share of its sizeable deposits accumulated with the help of its citizenship-by-investment (CBI) revenues to purchase back close to a third of the swapped lands in 2018 and 2019, but the remaining illiquid, large fixed asset tied to the SPV continues to tie up bank capital.

[28] See Asonuma, Papaioannou and Tsuda (2021) for detailed discussion.

[29] The Bank of Cyprus recapitalization process through a bail-in of depositors (i.e., a deposit–to–equity conversion) was completed on July 30, 2013.

transferred to the Bank of Cyprus (BoC), and (iii) BoC entered into resolution and the recapitalization process started with the participation of bank creditors. As a result, the banking system shrunk by about 200 percent of GDP. To safeguard financial stability, the authorities introduced capital controls, restrictions on deposit withdrawals (which were lifted in April 2015) and a 6-day bank holiday during the implementation of the bank resolution and restructuring.

50. IMF-supported program: The IMF approved a three-year €1 billion (US$1.33 billion) arrangement under the Extended Fund Facility (EFF) on May 13, 2013 in support of the authorities' economic adjustment program. The EFF arrangement was part of a combined financing package with the European Stability Mechanism (ESM) amounting to €10 billion. The EFF aimed to place the banking system on a sustainable footing to restore financial intermediation and support economic activity. The Fund program also entailed a well-paced fiscal adjustment that sought to balance short-run cyclical concerns and long-run sustainability objectives, while protecting vulnerable groups. From the €10 billion made available under the program, only €7.3 billion was used as the economic recovery was both faster and stronger than expected.

51. Outcomes:

- *Participation:* The participation rate was almost 100 percent of €1.0 billion offered. Neither CACs nor exit consent were used. Only domestic debt maturing over 2013-16 and held by domestic banks was included in the exchange. The authorities pro-actively reached out to banks before making the formal offer—a practice known as "market sounding"—to ensure high participation.

- *New instruments:* Financial and legal terms on the new instruments were identical to those of the old instruments except that the average maturity was extended to 6.8 years from 0.3 years.

- *Market access*: Cyprus was upgraded to a non-default rating (B-) from Standard and Poor's in November 2013, 4 months after completion of the exchange. However, Moody's reassigned a non-default rating (B3) in November 2014 and Fitch (B-) in April 2014. Cyprus regained access to the Eurobond market in June 2014, less than 12 months after completion of exchange.

- *Repurchase at market terms:* During 2015-16, €578.4 million of those bonds were repurchased by the authorities at market terms, resulting in a significant benefit for bond holders.

J. Jamaica (2013)[30]

52. Context: Following the JDX, Jamaica continued to experience difficult macroeconomic conditions, owing to the slow recovery of tourism following the global financial crisis and the impact of hurricane Sandy in 2012. Annual real GDP growth averaged -0.1 percent between 2010 and 2013. The expected fiscal consolidation did not materialize as planned.

[30] See Okwuokei and van Selm (2017) for detailed discussion.

53. Perimeter, process, and terms: The National Debt Exchange (NDX) targeted *local currency bonds* (with fixed, variable and CPI-indexed interest rates) as well as domestically issued US$-denominated bonds amounting to approximately 64 percent of GDP in total. The exchange did not include bonds issued in foreign jurisdictions or held by nonresidents. The exchange served the dual purpose of rolling over a large portion of short-term debt and securing a gradual reduction in the stock of debt through lower coupon rates.[31]

54. Financial stability considerations: The NDX was designed through iterative processes that involved stress tests of the resilience of domestic financial institutions holding Jamaica's government debt. The results of these tests were used to design the debt exchange proposal to limit its adverse impact on the financial sector, and to put in place appropriate contingency plans. The FSSF, established in the 2010, remained operational during the NDX and offered liquidity and solvency support to eligible financial institutions (with broadly similar eligibility requirements as in the JDX). Similar to the JDX, however, the FSSF remained untapped during the NDX.

55. IMF Program: The NDX was a prior action for a new IMF program (approved by the Executive Board on May 1, 2013). A domestic monitoring mechanism led by the Economic Program Oversight Committee helped in broadening public support for the economic reform program.

56. Outcomes:

- *Participation*: As in the JDX, the NDX recorded a high participation rate of 99 percent. The authorities stressed the voluntary nature of the exchange in their communication but emphasized their willingness for retroactive use of legal and regulatory measures, if necessary. Holders of fixed and variable rate bonds were offered a 2040 inflation-indexed bond with stepped up coupon and a fixed rate accreting bond. Holders of locally issued US$-denominated bonds were offered only a 2040 inflation-indexed bond option.

- *Debt relief:* The NDX marked a turning point towards restoring debt sustainability. It significantly lengthened the maturity and reduced the interest payments on domestic debt. In total, the exchange was consistent with a reduction in the public debt-to-GDP ratio by 2020 equivalent to 8.6 percent of GDP. The debt restructuring was part of an economic reform program that entailed ambitious fiscal consolidation, as well as structural reforms to boost growth. This led a to a reduction in public debt to below 100 percent of GDP in 2020.

[31] For *variable-rate bonds*, coupon reductions ranged from 0.75 to 1.125 percentage points and maturity extensions of 3-8 years; and for *fixed-rate bonds*, coupon reductions ranged from 1 to 5 ppt and maturity extensions of 3-10 years. Locally issued US$-indexed bonds saw coupon reductions of 1.5-2 ppt and maturity extensions of 4-7 years. Locally issued inflation-indexed saw coupon reductions of 1 ppt and 3 years of maturity extensions.

K. Grenada (2013–2015)[32]

57. Context: At the end of 2012, Grenada's public debt exceeded 100 percent of GDP, as the government used counter-cyclical fiscal policy to cushion the impact of the global financial crisis on its economy. A drying up of multilateral financing and reluctance of domestic banks to maintain their sovereign exposures led to a debt restructuring announced on March 8, 2013.

58. Perimeter, process, and terms: The restructuring covered public debt to both private and official creditors except for T-bills, overdraft facilities, and debt to multilaterals. The bulk of the restructured debt (75 percent of total 26 percent of GDP) was debt to external bondholders. Agreement with private creditors was reached in March 2015, with the formal closing of the agreement completed in November 2015. The deals involved an estimated haircut of 50 percent in NPV terms, achieved either through an equivalent face value haircut or a combination of reduced interest rates and longer maturities, depending on the type of debt instrument. The domestic debt eligible for *domestic restructuring* did not include T-bills. The monitoring of program implementation was conducted by a Homegrown Monitoring Committee with broad stakeholder participation.

59. Financial stability considerations: About half of the restructured domestic debt represented claims held by the public pension fund. Banks and other financial institutions were able to absorb the losses given the limited exposure and sizable capital buffers.

60. IMF-supported program: A 36-month Extended Credit Facility (ECF) arrangement was approved by the IMF Executive Board in June 2014. The authorities' program targeted significant up-front fiscal consolidation accompanied by reform of the legislative framework (including a fiscal responsibility law), installing a durable framework for fiscal prudence, and debt sustainability. Performance under this program was strong.

61. Outcomes:

- *Participation:* The exchange offer specified the minimum level of overall participation requirement of at least 75 percent of the total principal outstanding of eligible claims. Securities representing around 94 percent of external bonds and 100 percent of domestic bonds were tendered before the expiration date of the offer. Consistent with the collective action clauses (CAC), the entirety of those bonds was exchanged for new bonds.

- *New instruments:* The new debt instruments included a clause that allows a deferral of debt service payments on the restructured debt for up to 12 months in the event of a qualifying hurricane. This new clause was meant to provide significant cash flow relief in case of a natural disaster, improving the risk profile of the debt by reducing the likelihood of a follow-up debt restructuring. The deal with the private external bondholders also included a contingent

[32] See Asonuma and others. (2018) and Okwuokei and van Selm (2017) for detailed discussion.

revenue-sharing provision should the proceeds from the country's Citizenship-by-Investment program exceed a threshold of US$15 million.

- *Debt relief*: The 50 percent face value haircut was delivered in two equal steps: the first half upon closing of the debt exchange in 2015 and the second half after the completion of the last review of the ECF in 2017.

L. Barbados (2018)[33]

62. Context: In 2018-19, Barbados' sovereign debt was restructured for the first time in the country's history, following a decade of increasing public debt and dwindling international reserves. By March 2018, public debt had reached around 160 percent of GDP (excluding arrears of 19 percent of GDP), while on the eve of the debt restructuring international reserves had been reduced to US$220 million, or 5-6 weeks of import coverage. The timing of the government's June 2018 announcement to seek debt restructuring was driven by large external debt payments due in early June 2018.

63. Perimeter, process, and terms: The restructuring initially focused on domestic debt, given that the bulk of Barbados' debt was domestic. The exchange offer for the domestic debt restructuring was launched in September 2018—about three months after the initial announcement—and the exchange was finalized in November 2018. The NPV loss incurred by private domestic creditors was around 30 percent, a result of interest reduction and maturity extension (a similar NPV loss was achieved in the external debt restructuring, completed in December 2019). To ensure adequate burden sharing among creditors (external and domestic) and reduce gross financing needs, the exchange also included T-bills (39 percent of GDP prior to the restructuring).

64. Financial stability considerations: Financial sector supervisors conducted extensive stress tests to ensure that the proposed debt restructuring would not jeopardize financial stability. While old debt securities were not subject to face-value haircuts, the NPV losses incurred by financial institutions due to maturity extensions and interest rate reductions led to capital losses, which were booked immediately. No financial entity experienced major liquidity or solvency issues as a result of the restructuring.[34]

65. IMF-supported program: The launch of the domestic debt exchange offer was a prior action for the approval of an arrangement under the Extended Fund Facility (EFF) and signaled a credible closure of the financing gaps for the duration of the program. Along with fiscal consolidation, the debt restructuring targeted a gradual reduction of public debt from about 160 percent of GDP in March 2018 to 60 percent of GDP in 2033. The government engaged in intensive

[33] See Anthony, Impavido and van Selm (2020) for further discussion.

[34] All five Barbados' commercial banks were foreign owned, but none of them had to call on their foreign owners to help absorb the losses.

consultations with its social partners to build support for the reform program. A Monitoring Committee was set up with private sector and labor union participation in October 2018, which has since issued quarterly press releases.

66. Outcomes:

- *Participation*: To achieve high participation in the domestic restructuring, the authorities retrofitted domestic securities with a collective action mechanism. This required legislative action by the parliament and ultimately helped secure 100 percent participation in the exchange.

- *New instruments*: Most new debt instruments included natural disaster clauses to allow for capitalization of interest and deferral of amortization falling due over a two-year period following a major event.

- *Debt relief*: The debt restructuring played a key role in restoring debt sustainability. The maturity profile of public debt was lengthened, dramatically reducing the gross financing needs.