

**INFORMAL  
SESSION TO  
ENGAGE**

FO/DIS/21/111  
Correction 1

October 28, 2021

To: Members of the Executive Board

From: The Secretary

Subject: **Issues in Restructuring of Domestic Sovereign Debt—Background Paper**

Board Action: The attached corrections to FO/DIS/21/111 (8/20/21) have been provided by the staff:

**Factual Errors Not Affecting the Presentation of Staff's Analysis or Views** Pages 8, 10, 11, 12, 13, 14, 19, 23, 24, 26 (Sources), 27 (Sources), 29, 30 (fifth reference), 31, 32, 33, 38, 41 (para. 7), 43 (first bullet and para. 13), 46 (para. 20), 47, 50, 51 (paras. 41, 42, and 43), 52, 53, 55 (para. 56, first bullet), 57 (para. 63, line 6)

**Typographical Errors** Pages 26 (Notes), 27 (Notes), 30 (sixth reference), 39, 41 (footnote), 43 (footnote), 45, 46 (footnote), 49, 51 (para. 40), 54, 55 (para. 56, second bullet), 57 (para. 63, line 1)

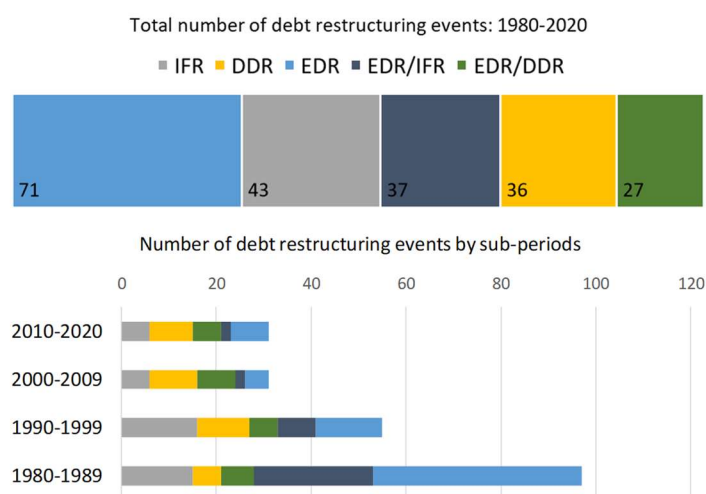
Questions: Mr. Breuer, MCM (ext. 36364)  
Ms. Ilyina, SPR (ext. 35351)



**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).<sup>9</sup> 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).<sup>10</sup> 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. EMDEs: 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

<sup>9</sup> The sample includes 89 countries, all EMDEs except for Greece and Cyprus. See Annex I for details.

<sup>10</sup> 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.

established inflation targeting frameworks. This is also not something that can be done quickly in 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.

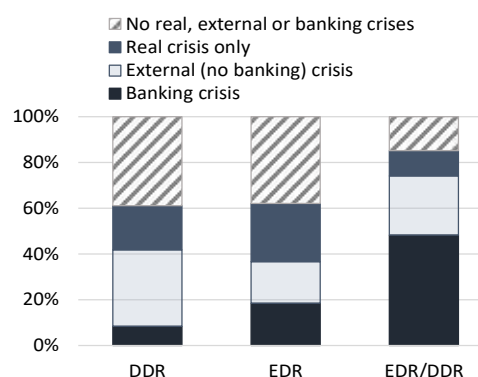
## B. Macro-financial Patterns Around Public Debt Restructurings

### 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 EMDE 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.

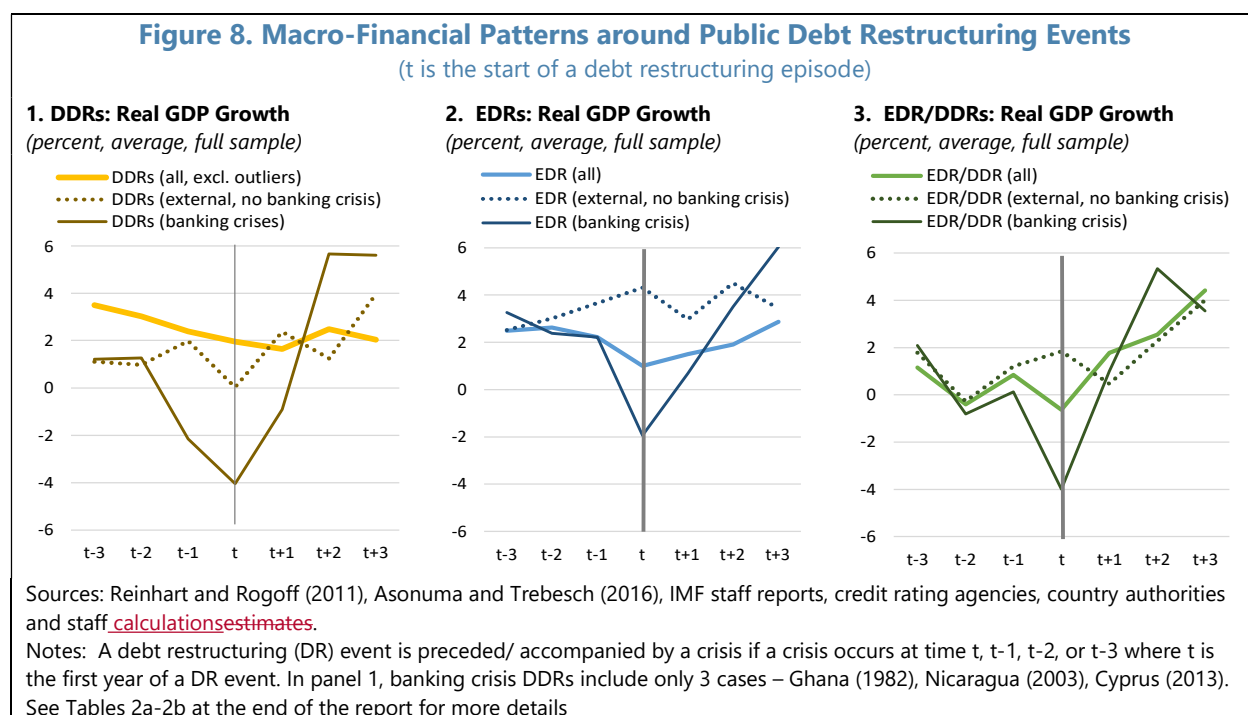
Notes: Based on the full sample (Figure 6). A debt restructuring (DR) event is preceded/ accompanied by a crisis if a crisis occurs at time  $t$ ,  $t-1$ ,  $t-2$ , or  $t-3$  where  $t$  is the first year of a DR event. See Annex I for the description of the real, external and banking shocks.

**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/DDR 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/DDR) than for DDRs or EDRs (Figure 8), suggesting that comprehensive restructurings tended to occur under more stressed economic conditions.<sup>14</sup> For the crisis-driven events, pre-restructuring growth rates were typically lower, with

<sup>14</sup> 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

(continued)

notably sharper output declines associated with more severe crises (Figure 8 and Tables 2a-2b). Out of all the crisis-driven DDRs and EDR/DDR, the worst GDP declines were observed in EDR/DDR 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).



**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/DDR 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/DDR 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/DDR, while the impact on the external financing channel was relatively stronger for EDRs.<sup>15</sup>

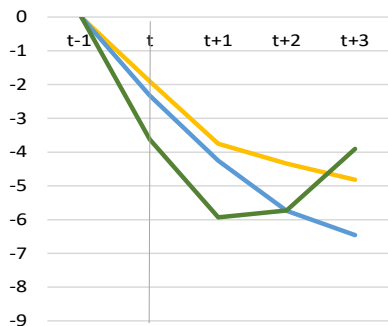
local currency. This notion yields 224 events, compared to 68 cases of *de jure* domestic defaults. These results should be interpreted with caution, as many domestic debt crisis episodes are effectively the twin default crises.

<sup>15</sup> 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)

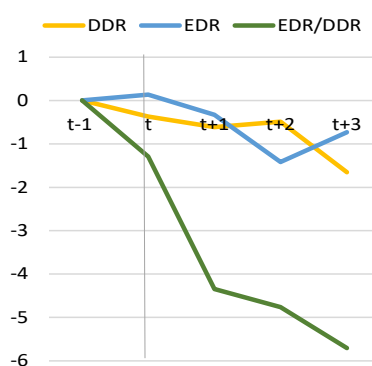
**1a. Real GDP**

(cumulative change, percent, full sample)



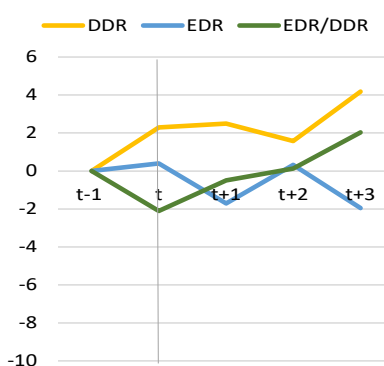
**1b. Domestic Credit/GDP**

(cumulative change, ppercent, full sample)



**1c. Gross Capital Inflows/GDP**

(cumulative change, ppercent, full sample)

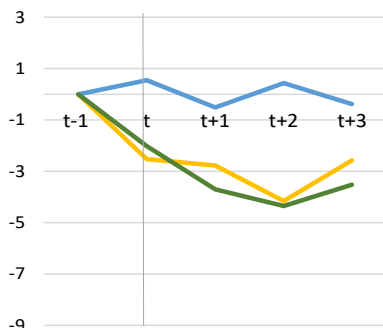


**2a. Real GDP:**

**External Shock, No Banking Crisis**

(cumulative change, percent)

— DDR (external shock, no banking crisis)  
— EDR (external shock, no banking crisis)  
— EDR/DDR (external shock, no banking crisis)

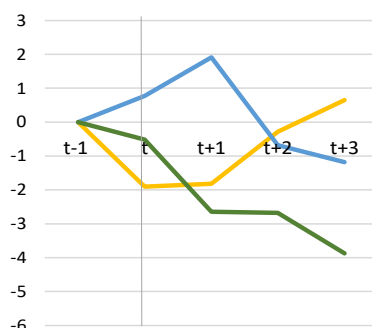


**2b. Domestic credit/GDP:**

**External Shock, No Banking Crisis**

(cumulative change, ppt)

— DDR (external shock, no banking crisis)  
— EDR (external shock, no banking crisis)  
— EDR/DDR (external shock, no banking crisis)



**2c. Gross Capital Inflows/GDP: External**

**Shock, No Banking Crisis**

(cumulative change, ppt)

— DDR (external shock, no banking crisis)  
— EDR (external shock, no banking crisis)  
— EDR/DDR (external shock, no banking crisis)

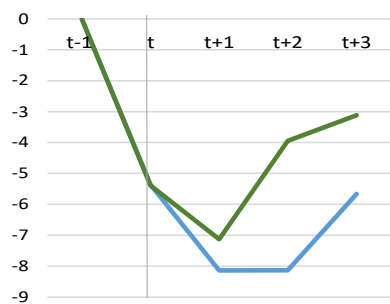


**3a. Real GDP:**

**Banking Crisis**

(cumulative change, percent)

— EDR (banking crisis)  
— EDR/DDR (banking crisis)

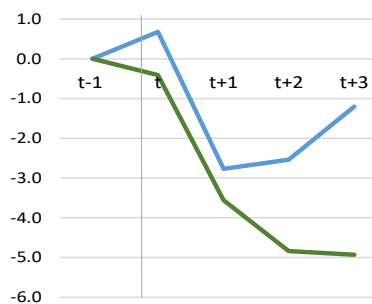


**3b. Domestic credit/GDP**

**Banking Crisis**

(cumulative change, ppt)

— EDR (banking crisis)  
— EDR/DDR (banking crisis)

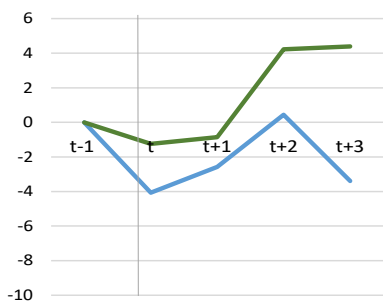


**3c. Gross Capital Inflows/GDP**

**Banking Crisis**

(cumulative change, ppt)

— EDR (banking crisis)  
— EDR/DDR (banking crisis)

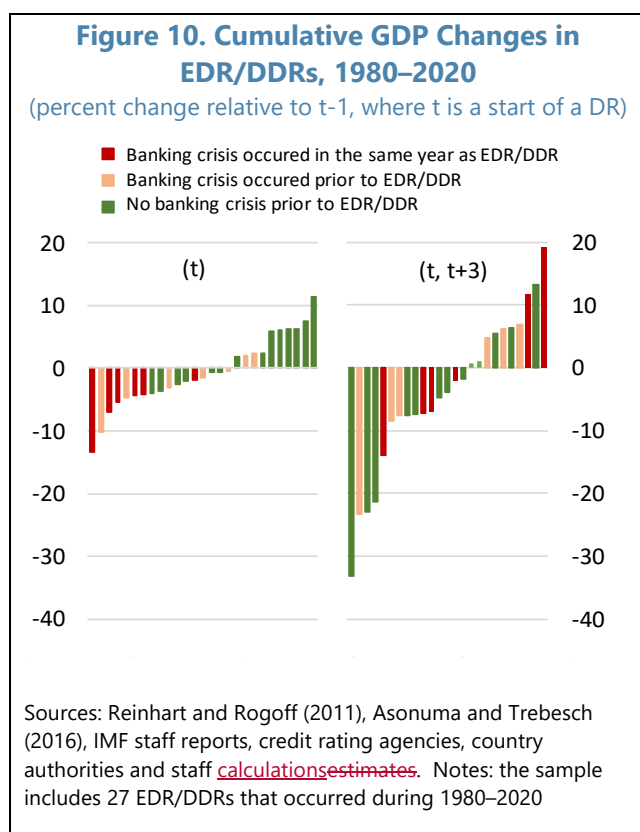


Sources: Reinhart and Rogoff (2011), Asonuma and Trebesch (2016), IMF staff reports, credit rating agencies, country authorities and staff calculationsestimates.

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,<sup>16</sup> 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/DDR which occurred either after or in parallel with banking crises (Figure 8).<sup>17</sup> 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.<sup>18</sup>



**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.

<sup>16</sup> These control factors included per capita output growth, credit, imports, inflation, US Treasury rate, exchange rate and income per capita.

<sup>17</sup> 13 EDR/DDR were preceded/accompanied by banking crises, 6 EDR/DDR 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.

<sup>18</sup> 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/DDR 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.

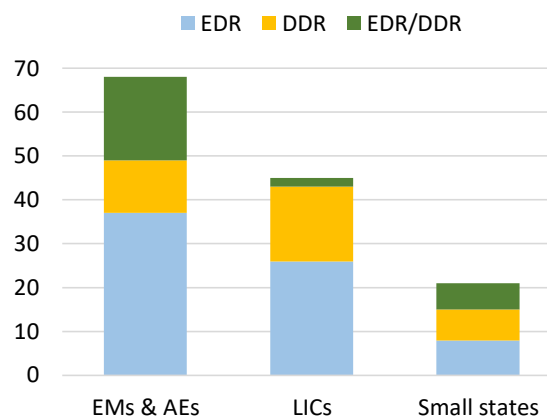
#### 19. The debt restructuring choices were likely affected by the level and composition of public debt.

- 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/DDR:
- *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/DDR. The median domestic debt/GDP ratios were around 20 percent for both DDRs and EDR/DDR (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).<sup>19</sup> 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/DDR (Figure 12, panel 4). This suggests that sovereigns may have opted for stand-alone DDRs

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

(number of events, in percent of total)

DDR 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).

<sup>19</sup> 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).

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).

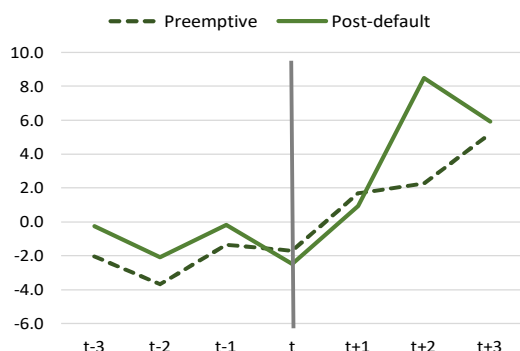
## B. Perimeter, Process and Terms

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

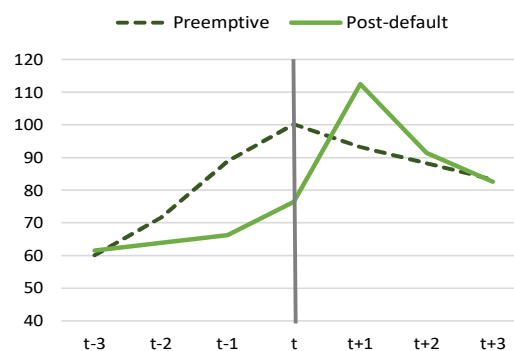
- Process:** Many of the recent DDRs and EDR/DDRs were carried out preemptively rather than after defaults.<sup>22</sup> All stand-alone DDRs considered in the case studies (*Nicaragua, Jamaica (2010, 2013)* and *Cyprus*) and about half of EDR/DDRs (*Ukraine, Uruguay, Greece, St. Kitts and Nevis*) were 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.<sup>23</sup> 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/DDR: 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/estimates](#).

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).

<sup>22</sup> See Tables 2a-2b at the end of the report.

<sup>23</sup> 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).

creditors additional bonds if the authorities failed to implement the IMF-supported reform program.

**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/DDR:

- **Market access:**<sup>28</sup> 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.<sup>29</sup>
- **Credit ratings:**<sup>30</sup> 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.<sup>31</sup> 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).

<sup>28</sup> 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 ~~at least~~ 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/DDR to test similar hypotheses.

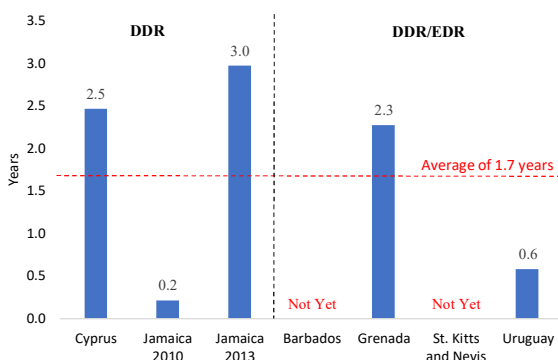
<sup>29</sup> While delaying market re-access may be costly, the delay may also mean that the sovereign has managed to sufficiently lengthen its debt maturities so as to avoid the need to tap the market for a while after restructuring.

<sup>30</sup> Rating agencies assign domestic and foreign currency bond ratings, regardless of the jurisdiction of issuance.

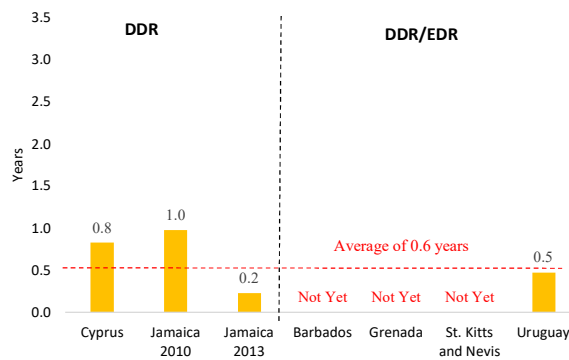
<sup>31</sup> Similar to the external debt, credit rating agencies consider a sovereign borrower to be in default in local currency debt if it missed a payment on at least one financial obligation or if an exchange is seen as distressed (i.e., accompanied by a reduction in coupon, principal or increase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

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

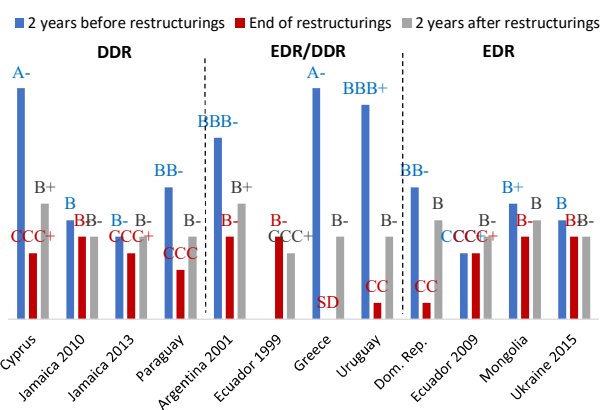
**1. Re-access to Domestic market <sup>1</sup>**



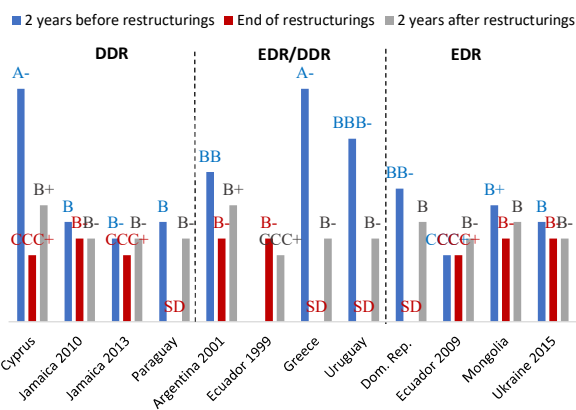
**2. Re-access to International market <sup>1</sup>**



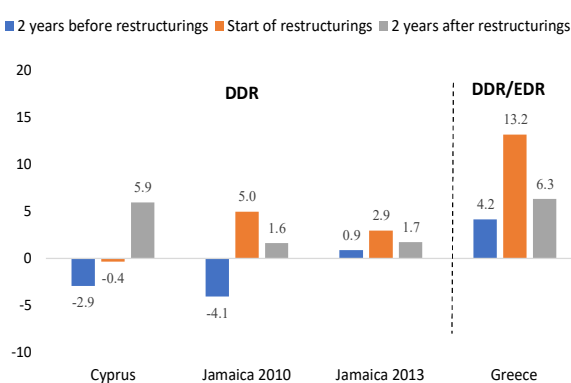
**3. Local Currency Credit Ratings (S&P) <sup>2</sup>**



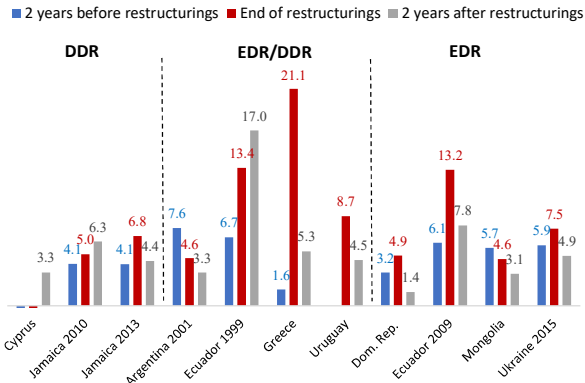
**4. Foreign Currency Credit Ratings (S&P) <sup>2</sup>**



**5. Real Long-term Domestic Bond Yields (percent) <sup>3</sup>**



**6. EMBIG Bond Spreads (percentage points) <sup>4</sup>**



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

Notes: <sup>1</sup>Re-access to domestic or international markets is defined as a date of the first medium- and long-term bond issuance (maturity longer than at least 1 year excluding Treasury bills) after completing a domestic restructuring. <sup>2</sup>S&P credit ratings do not differentiate credit risk on domestic and external debt. <sup>3</sup>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. <sup>4</sup>Cyprus bond spread corresponds to a difference between Cyprus bond yields denominated in euro and German bond yields denominated in euro.

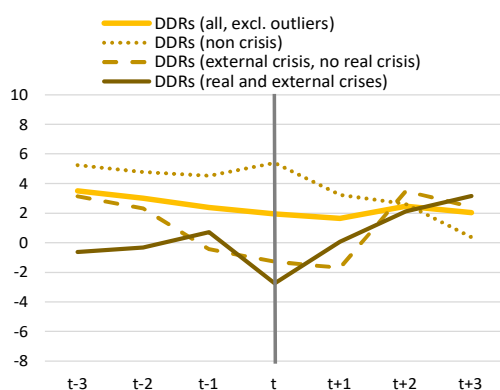
**Table 2a. GDP Growth and Public Debt Dynamics around DDRs**

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

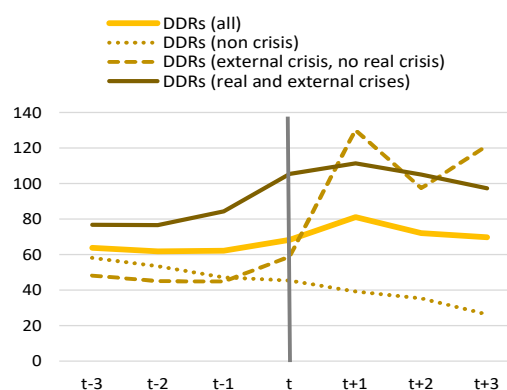
|                        | Start | End  | years | P/D | R | E | B | t-3  | t-2   | t-1   | t     | t+1   | t+2   | t+3   |
|------------------------|-------|------|-------|-----|---|---|---|------|-------|-------|-------|-------|-------|-------|
| 1 Dominican Rep        | 1980  | 1981 | 2     | .   | 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 Paraguay            | 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)



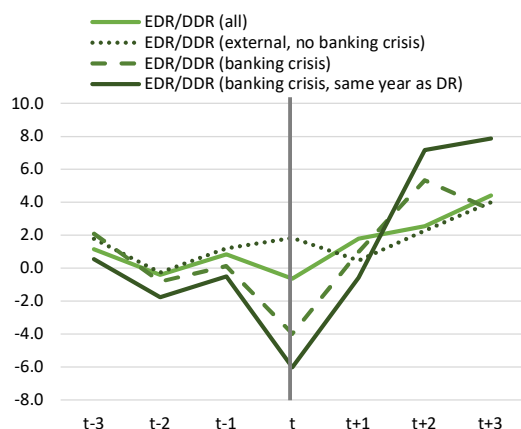
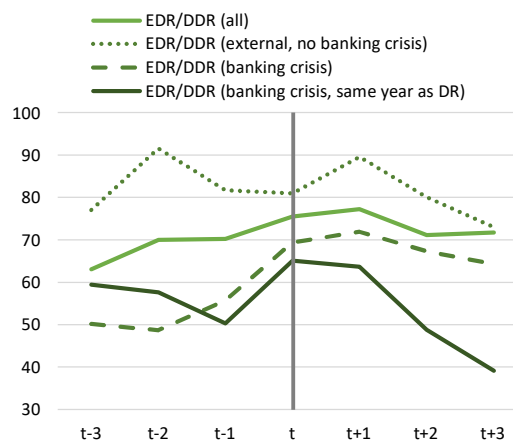
Sources: IMF WEO, Reinhart and Rogoff (2011), Asonuma and Trebesch (2016), IMF staff reports, credit rating agencies, country authorities and staff [calculations/estimates](#).

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/DDR**

(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 | O | 1.9   | 0.6   | 0.3  | -3.9  | -4.0  | -0.2  | -1.7 |
| 2 Argentina            | 1982  | 1982 | 1     | .   | R | O | 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 | O | -3.4  | 5.3   | 7.9  | 7.5   | 3.6   | 0.3   | 3.2  |
| 6 Panama               | 1988  | 1989 | 2     | .   | R | O | B | 4.9   | 3.6   | -1.8 | -13.4 | 1.6   | 8.1   | 9.4  |
| 7 Argentina            | 1989  | 1990 | 2     | .   | R | O | 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 | O | O | 0.0   | -3.5  | 12.1 | 11.4  | 11.0  | 10.5  | 10.4 |
| 10 Venezuela           | 1995  | 1997 | 3     | .   | O | 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 | O | B | 3.9   | -3.4  | -0.8 | -4.4  | -10.9 | 9.0   | 8.9  |
| 15 Moldova             | 2001  | 2001 | 1     | .   | R | E | O | -6.5  | -3.4  | 2.1  | 6.1   | 7.8   | 6.6   | 7.4  |
| 16 Dominica            | 2003  | 2004 | 2     | .   | O | O | O | 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   | O | O | O | -2.0  | 3.4   | 9.5  | -0.6  | 13.3  | -4.0  | 6.1  |
| 19 Zimbabwe            | 2006  | 2006 | 1     | .   | R | O | O | -16.2 | -6.3  | -7.4 | -3.6  | -3.4  | -16.3 | 7.4  |
| 20 Ecuador             | 2008  | 2009 | 2     | .   | O | O | O | 5.3   | 4.4   | 2.2  | 6.4   | 0.6   | 3.5   | 7.9  |
| 21 Seychelles          | 2010  | 2010 | 1     | .   | O | E | O | 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 | B | 6.1   | -4.0  | -0.6 | 1.8   | -2.2  | 5.4   | 6.3  |
| 24 Grenada             | 2013  | 2013 | 1     | D   | R | O | O | -0.5  | 0.8   | -1.2 | 2.4   | 7.3   | 6.4   | 3.7  |
| 25 Argentina           | 2014  | 2016 | 3     | .   | O | E | O | 6.0   | -1.0  | 2.4  | -2.5  | 2.7   | -2.1  | 2.8  |
| 26 Barbados            | 2018  | 2019 | 2     | D   | O | O | O | 2.4   | 2.5   | 0.5  | -0.6  | -0.1  | -17.6 |      |
| 27 Argentina           | 2019  | 2020 | 2     | D   | O | E | O | -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/estimates](#).

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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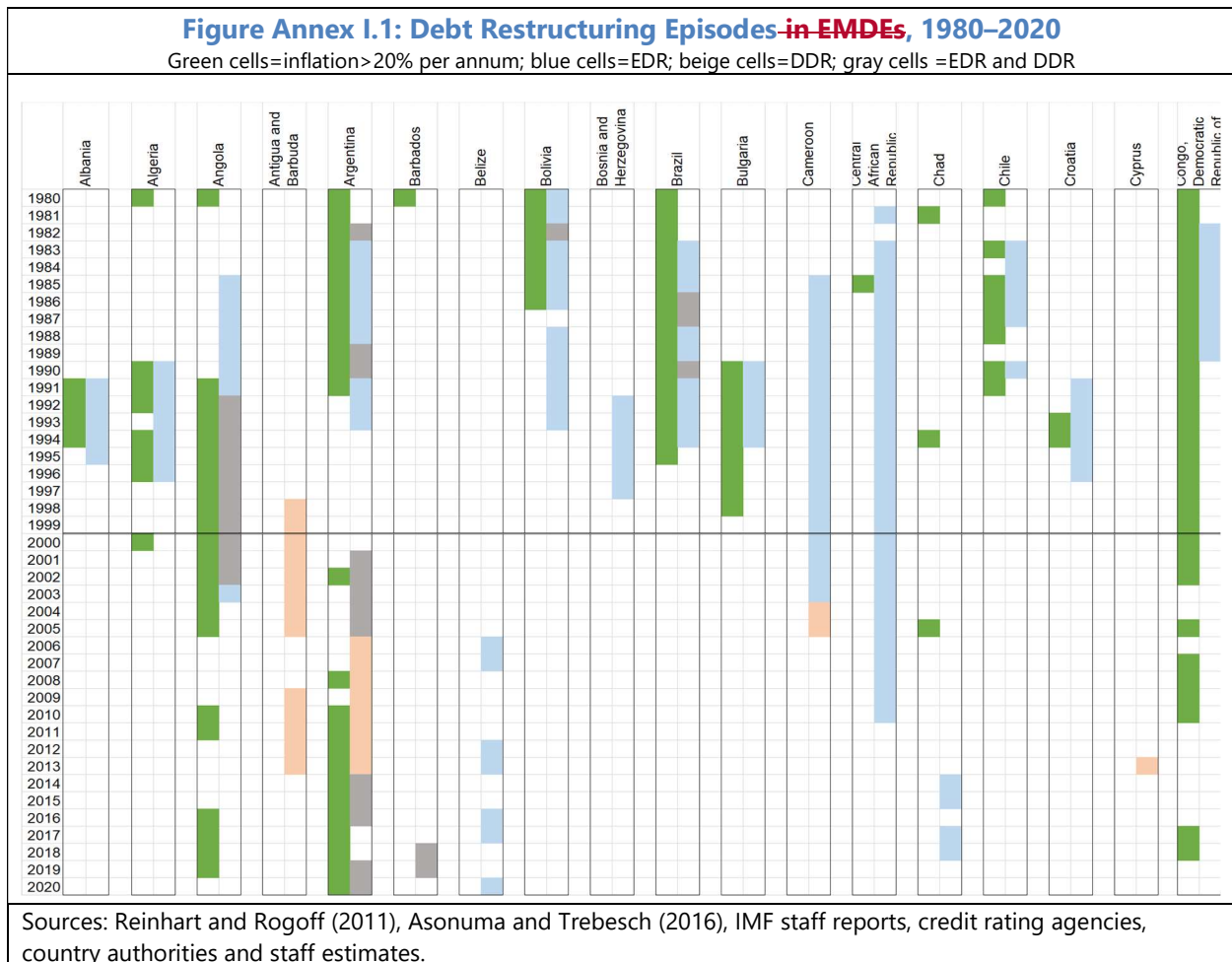
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## Annex I. Data Issues

### A. Sample Description

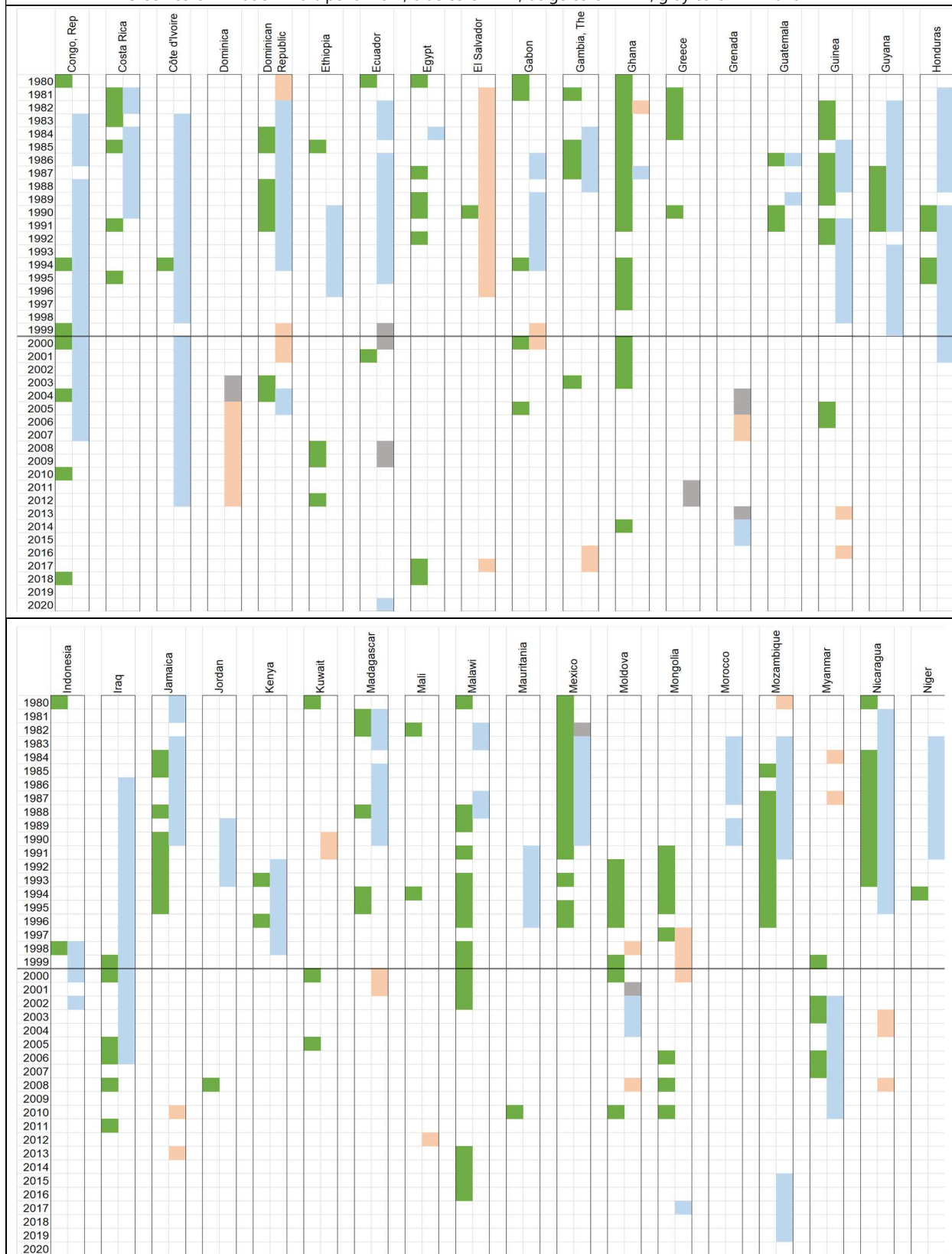
**1. The dataset includes 89 countries that experienced a public debt restructuring event involving either external or domestic-law debt between 1980 and 2020.** Most of the countries in the sample are EMDEs, except Cyprus and Greece. Figure [LA1](#) presents a simple visualization of the data showing countries/years with high inflation (above 20 percent per annum), as well as domestic-law or external debt 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 in EMDEs, 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 in EMDEs, 1980–2020 (concluded)**

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

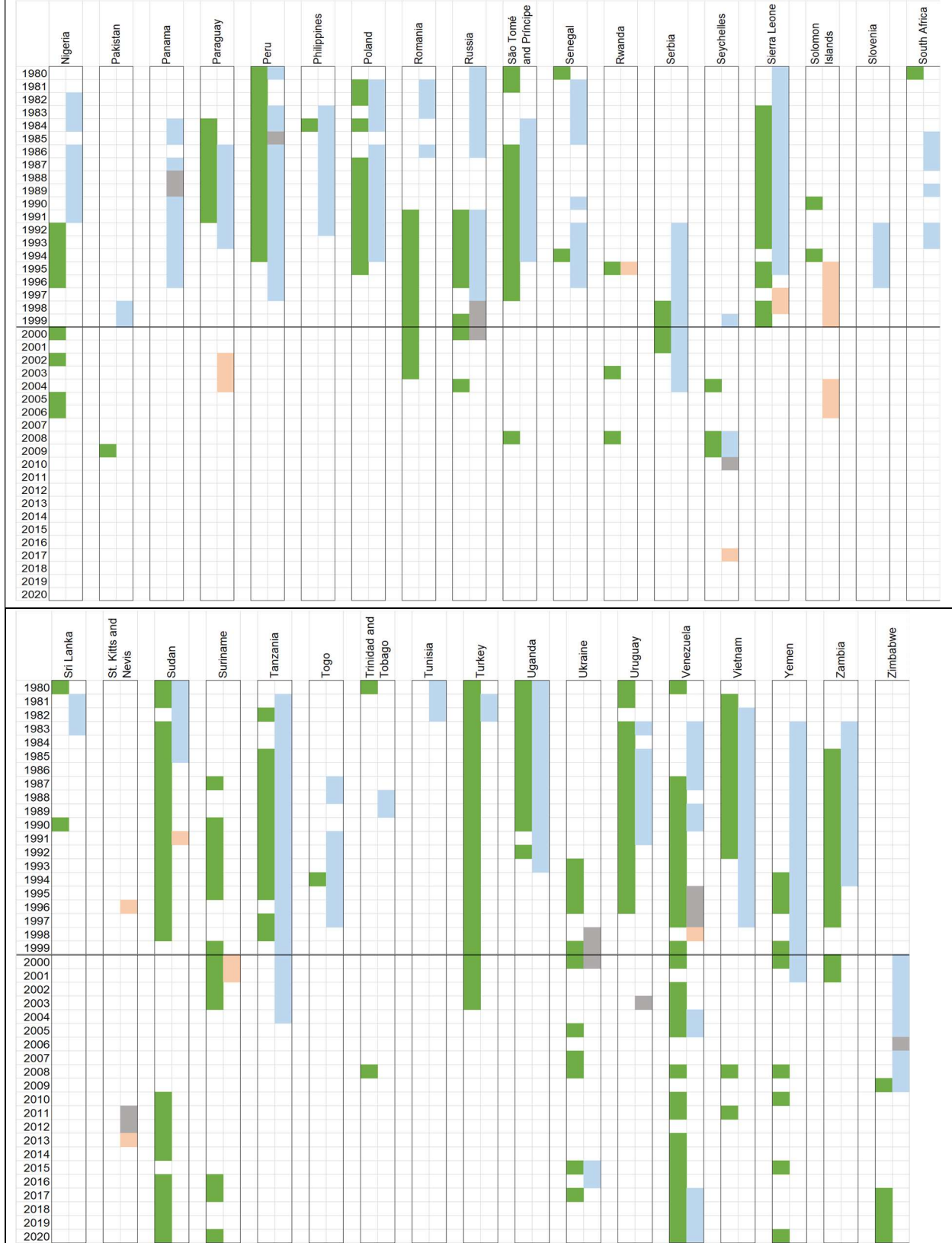


Table 2. Probit Regression Results – Conditional on Restructuring (nested Probit)

|                                       |   | 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<br>(0.04)         |                           |                          |                            | -0.07<br>(0.13)         | 0.05<br>(0.04)  |                          |                           |                            | 0.04<br>(0.10)           | <b>-0.08**</b><br>(0.04)  |                          |                           |                            |
|                                       | Primary balance (percent of GDP, ave. lag 3 years)                      | <b>0.13**</b><br>(0.05) |                           |                          |                            | 0.21<br>(0.20)          | -0.08<br>(0.05) |                          |                           |                            | 0.02<br>(0.14)           | -0.05<br>(0.05)           |                          |                           |                            |
| B. Debt variables                     | Public debt (percent of GDP, lag)                                       |                         | -0.01<br>(0.01)           |                          |                            | -0.02<br>(0.02)         |                 | <b>0.02*</b><br>(0.009)  |                           |                            | 0.02<br>(0.01)           |                           | -0.007<br>(0.01)         |                           |                            |
|                                       | Domestic public debt (percent of GDP, lag)                              |                         | <b>0.06***</b><br>(0.03)  |                          |                            | <b>0.13**</b><br>(0.06) |                 | <b>-0.04**</b><br>(0.02) |                           |                            | -0.04<br>(0.03)          |                           | -0.0001<br>(0.02)        |                           |                            |
|                                       | External public debt to private creditors (percent of public debt, lag) |                         | <b>-0.03**</b><br>(0.01)  |                          |                            | -0.06<br>(0.04)         |                 | 0.01<br>(0.01)           |                           |                            | <b>0.06*</b><br>(0.03)   |                           | <b>0.03**</b><br>(0.01)  |                           |                            |
| C. Financial sector variables         | Bank deposit (percent of GDP, lag)                                      |                         |                           | -0.0002<br>(0.003)       |                            | -0.04<br>(0.03)         |                 |                          | -0.002<br>(0.004)         |                            | <b>0.07**</b><br>(0.03)  |                           |                          | <b>0.008**</b><br>(0.004) |                            |
|                                       | Bank return of assets (percent, lag)                                    |                         |                           | 0.06<br>(0.06)           |                            | -0.21<br>(0.33)         |                 |                          | -0.009<br>(0.06)          |                            | 0.02<br>(0.15)           |                           |                          | -0.04<br>(0.05)           |                            |
| D. Shock variables                    | Nominal exchange rate depreciation (percent, lag)                       |                         |                           |                          | <b>-0.009**</b><br>(0.004) | -0.04<br>(0.03)         |                 |                          |                           | <b>-0.01***</b><br>(0.003) | -0.003<br>(0.005)        |                           |                          |                           | <b>0.002**</b><br>(0.0008) |
|                                       | US 10-year T-bill yields (percent, lag)                                 |                         |                           |                          | <b>-0.17***</b><br>(0.05)  | -0.20<br>(0.33)         |                 |                          |                           | <b>0.11***</b><br>(0.04)   | -0.24<br>(0.37)          |                           |                          |                           | <b>-0.12*</b><br>(0.05)    |
| E. Structural policy regime variables | Nominal GDP per capita (thousand US\$)                                  |                         |                           |                          |                            | 0.20<br>(0.24)          |                 |                          |                           |                            | <b>-1.44**</b><br>(0.69) |                           |                          |                           |                            |
|                                       | Constant  | 0.06<br>(0.26)          | <b>-0.39***</b><br>(0.50) | <b>-0.56**</b><br>(0.28) | 0.27<br>(0.28)             | 3.31<br>(2.86)          | -1.12<br>(0.30) | <b>-1.39**</b><br>(0.56) | <b>-0.81***</b><br>(0.30) | <b>-0.95**</b><br>(0.26)   | -1.52<br>(1.42)          | <b>-0.89***</b><br>(0.30) | <b>-1.39**</b><br>(0.64) | <b>-1.00***</b><br>(0.29) | -0.47*<br>(0.28)           |
|                                       | Number of observations  | 80                      | 50                        | 65                       | 168                        | 37                      | 80              | 50                       | 65                        | 168                        | 37                       | 80                        | 50                       | 65                        | 168                        |
|                                       | LR $\chi^2$ / Wald $\chi^2$   | 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> $\chi^2$  | 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)<sup>1</sup>

**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 GKO, 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.<sup>2</sup> 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

<sup>1</sup> See Sturzenegger and Zettelmeyer (2007) for details.

<sup>2</sup> 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.

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

## B. Ukraine (1998–2000)<sup>3</sup>

**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.

<sup>3</sup> See Sturzenegger and Zettelmeyer (2006, 2007) for more details.

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 “guaranteed” loans governed by Argentine law and owed-guaranteed by the federal and provincial governments.<sup>8</sup> 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.<sup>9</sup>
- *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).<sup>10</sup> 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.<sup>11</sup>

**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

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<sup>8</sup> 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.

<sup>9</sup> See Sturzenegger and Zettelmeyer (2005).

<sup>10</sup> 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.

<sup>11</sup> 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.

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.<sup>12</sup> The 2005 exchange had a participation rate of 76 percent with non-residents accounting for 61 percent of the total amount tendered.<sup>13</sup> 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.<sup>14</sup> 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.<sup>15</sup> 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 unstructured debt in default), from 3 percent before the restructuring.

<sup>12</sup> Their loans were eventually “re-dollarized” by decree in August of 2003.

<sup>13</sup> 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.

<sup>14</sup> The currency conversion was done at the exchange rate of December 31, 2003, the formal issue date of the bond.

<sup>15</sup> 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)<sup>16</sup>

**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.<sup>17</sup>

**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

<sup>16</sup> See Sturzenegger and Zettelmeyer ([20062007](#)) and Diaz-Cassou, Erce and Vazquez-Zamora (2008).

<sup>17</sup> See Sturzenegger and Zettelmeyer ([20062007](#)).

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 [200303/247](#)).

## 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.

**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.<sup>19</sup> 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-testing 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.

<sup>19</sup> 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)<sup>20</sup>

**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 €202.98 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.

<sup>20</sup> 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).<sup>21</sup>
- *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).<sup>22</sup> 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.<sup>23</sup> Greece regained access to the Euro-zone market in April 2014.

## H. St. Kitts and Nevis (2011–2012)<sup>24</sup>

**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<sup>1/3</sup> 7½-percent since 20089, owing to reduced tourism following the global financial crisis, while public debt had become unsustainable at 13542 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

<sup>21</sup> CACs were invoked after a majority of more than 66 percent agreed to the new terms.

<sup>22</sup> 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.

<sup>23</sup> 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.

<sup>24</sup> 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.<sup>25</sup>

**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.<sup>26</sup> Making the size of the haircut contingent on reform program implementation supported sustained post-restructuring fiscal prudence.
- *Debt relief:* The restructuring delivered a large aggregate NPV haircut of 65 percent. By end-2014, total public debt stood at **6972** percent of GDP, reflecting a 55 percentage points of GDP reduction in domestic debt and **115** percentage points reduction in external debt. Sizable

<sup>25</sup> 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.

<sup>26</sup> The specific clause to complete the 6<sup>th</sup> Review under the SBA was successfully met in mid-2013.

revenue 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.<sup>27</sup>

## I. Cyprus (2013)<sup>28</sup>

**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.<sup>29</sup> 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

<sup>27</sup> 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.

<sup>28</sup> See Asonuma, Papaioannou and Tsuda (2021) for detailed discussion.

<sup>29</sup> 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 ~~was~~ 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-defaulting 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)<sup>30</sup>

**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.

<sup>30</sup> 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.<sup>31</sup>

**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 f**Fixed and variable rate bonds were offered a 2040 inflation-indexed bond with stepped up coupon and a fixed rate accreting bond.  **Holders of l**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**f 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.

<sup>31</sup> 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.

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)<sup>33</sup>

**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* gain 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.<sup>34</sup>

**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

<sup>33</sup> See Anthony, Impavido and van Selm (2020) for further discussion.

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