Bank of England

BoC–BoE Sovereign Default Database: What's new in 2023?

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Introduction

Since 2014, the Bank of Canada (BoC) has maintained a comprehensive database of sovereign defaults to systematically measure and aggregate the nominal value of the different types of sovereign government debt in default. The database draws on published datasets compiled by various public and private sector sources. It combines elements of these with new information to develop comprehensive estimates of stocks of government obligations in default. These include bonds and other marketable securities, as well as bank loans and official loans, valued in US dollars, for the years 1960 to 2022, on both a country-by-country and a global basis.

The database is posted on the BoC's website and is updated annually in partnership with the Bank of England (BoE). Regular updates of the BoC–BoE database are useful to researchers analyzing the economic and financial effects of individual sovereign defaults and, importantly, the impacts on global financial stability from episodes involving multiple sovereign defaults.

In this paper, we:

- highlight developments in sovereign debt defaults in 2022, including high-level details on the 34% increase from 2021 in the US-dollar value of sovereign debt in default
- update key insights regarding the number, size and types of defaults
- give a historical overview of debt defaults and their persistence in highly indebted, low-income sovereigns
- examine the shift in bilateral official sovereign lending from Paris Club lenders toward China[2]
- update our estimates of stocks of domestic arrears

The 2023 edition of the database and related research contain a number of enhancements, including:

- more data about defaults on China's official loans since 2000
- minor revisions to country and aggregate default data for 1960 to 2021
- new data on domestic arrears by country and globally, most comprehensively for the years 1995 to 2022
- a new section about the characteristics of sovereign defaults
- new visuals showing regional debt in default
- a revised standalone methodology document, alongside a new, separate document with the appendix and references

[2] The Paris Club members are an informal group of mostly advanced-economy countries. The permanent members are Australia, Austria, Belgium, Brazil, Canada, Denmark, Finland, France, Germany, Ireland, Israel, Italy, Japan, the Netherlands, Norway, Russia, South Korea, Spain, Sweden, Switzerland, the United Kingdom and the United States. For more information, see the Paris Club website.

All data are downloadable in CSV, JSON and XML formats.

Key insights from the 2023 edition

The total value of sovereign debt in default increased 34% last year

We estimate the total value of sovereign debt in default at US$554 billion in 2022, or 0.6% of public debt worldwide. This is an increase of US$144.4 billion, or 34%, from the revised total of US$413.6 billion in 2021. The increase occurred even though the number of sovereigns in default declined from 99 to 83. This was driven, in part, by the tighter financing conditions impacting many Heavily Indebted Poor Countries (HIPC) and emerging/frontier market sovereigns. Debt in default jumped 52% for HIPCs and 47% for emerging/frontier market sovereigns, but by just 2% for advanced-economy sovereigns.

Defaults to official external creditors rose by 16% in 2022

Loans in default to official creditors increased by US$31.2 billion, or 16%, between 2021 and 2022, but the major sub-groups of creditors each fared differently. Defaults to identified multilateral creditors, such as the International Monetary Fund (IMF), the World Bank and the Inter-American Development Bank, declined by US$1.9 billion. Among bilateral creditors, defaults to the Paris Club rose by nearly US$21 billion, while identified defaults to China rose by US$3.1 billion. Defaults to other official creditors (bilateral and multilateral creditors we have not identified separately) rose by US$9.1 billion.

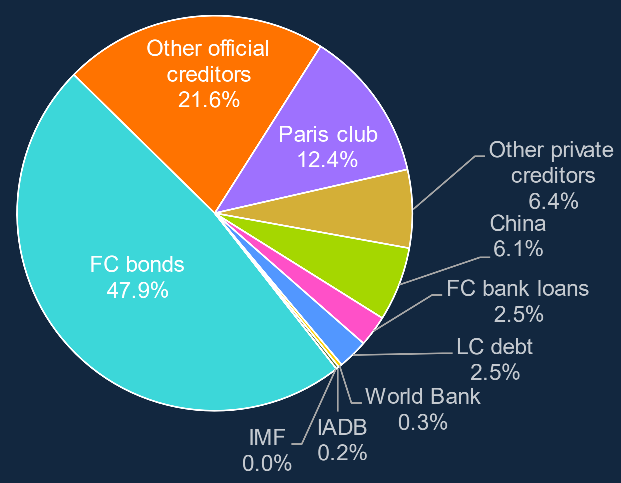
Defaults to private external creditors jumped by 43%

Debt in default to private creditors jumped more sharply, by US$109.2 billion in 2022 compared with 2021. As with official creditors, big variations were observed across categories. Defaults on foreign currency bonds, which made up the largest share of defaults (**Chart 1**), rose by US$119.2 billion, reflecting first-time defaults by Belarus, Ghana and Sri Lanka. Ukraine also defaulted on its foreign currency bonds for the first time since 2016. By contrast, defaults on bank loans and to other foreign creditors (mainly suppliers) dropped by US$1 billion and US$22.2 billion, respectively.

Local currency debt defaults also rose, albeit from a small base

Defaults on local currency sovereign debt increased significantly to US$13.7 billion from US$275 million in 2021. This largely reflected a US$13.5 billion default by Ghana, its first since 1982. Argentina, Barbados and Peru registered smaller defaults.

Chart 1: Total share of debt in default by creditor, 2022



Note: LC is local currency, and FC is foreign currency.
IADB is Inter-American Development Bank.
See footnote 1 for more information on the Paris Club group of lenders.
Other official creditors are bilateral and multilateral creditors not identified separately. Other private creditors are mainly suppliers.

Source: BoC-BoE Sovereign Default Database 2023

General government debt remains elevated as interest rates rise globally

The IMF estimates that the global stock of general government debt measured in US dollars, reached a record US$92.3 trillion in 2022, or 92% of global gross domestic product (GDP). The IMF also projects that the global public debt burden will continue to grow over the medium-term. Against a backdrop of historically high inflation and rising nominal and real interest rates, debt service payments remain challenging for many emerging-market and developing economies. The World Bank (2022) estimates that the poorest countries (those deemed eligible to borrow from the World Bank's International Development Association) already spend over one-tenth of their export revenues to service their long-term, external public debt.

This edition updates the historical data

Since 1960, 151 governments—two-thirds of the existing 215 sovereigns—have defaulted on their obligations.[3] Defaults had the biggest global impact in the 1980s, with the total amount in default reaching US$450 billion, or 6.1% of world public debt, by 1990. The scale of defaults has fallen substantially since then. Over the past decade, between 0.3% and 0.9% of world public debt has been in default. For 2022, we estimate the amount in default at 0.6%.

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[3] Six additional sovereigns in the database (Bahamas, Kosovo, Sint Maarten, Palau, Tuvalu, and West Bank and Gaza) have only domestic arrears, which we consider to be effective defaults, although not on conventional sovereign obligations. For more information on domestic arrears, see the section "Domestic arrears in the sovereign default database: An update," on page 11 of this note.

The distribution of defaults remains concentrated

As in recent years, the distribution of defaults in 2022 is highly concentrated in terms of value: 10 sovereigns—including the new defaults by Ghana, Russia, Sri Lanka and Ukraine—accounted for 82% of the US-dollar value of debt in default globally. Just three sovereigns—Venezuela, Puerto Rico and Sudan—accounted for 35%.

Our database includes debt owed to official creditors and provides insight into sovereign default clusters. We define these clusters as spikes in the number of defaults followed by sharp declines. The data show that while the US-dollar amounts can be low in absolute terms, defaults to official creditors often take longer to resolve than defaults involving private creditors. Many low-income sovereigns often remain in default to official creditors for long periods.

Definition and characteristics of sovereign defaults

We consider debt to be in distress, and effectively in default, when an interruption in scheduled debt service occurs or a sovereign seeks to renegotiate the existing contract terms of any of its obligations—or a combination of both. Such restructurings can include a write-down of principal, a reduction in the interest rate or an extension of maturities. Typically, they also involve creditors suffering a loss in net present value. Once restructured, the debt is reclassified as performing and no longer considered to be in default.

Official creditors include the IMF, the World Bank, other multilateral development banks, Paris Club creditors, non-Paris Club G20 creditors (such as China, India and South Africa) and other government development agencies. Private creditors refer to external bondholders, banks and suppliers.

Sovereigns tend to default selectively on debt

Over the 1960–2022 period, only 6% of sovereigns defaulted on between 50% and 100% of their total outstanding government debt. In contrast, about 72% of sovereigns defaulted on 10% or less of their total outstanding government debt. These data provide one possible explanation that sovereigns tend to default selectively and that shares of sovereign debt in default are skewed toward lower values.

Sovereign defaults on local currency debt are more common than sometimes assumed. Since 1960, 36 sovereigns have defaulted on local currency debt. In 2022, four sovereigns—Argentina, Barbados, Ghana and Peru—defaulted on local currency debt amounting to US$13.7 billion.

Sovereign defaults in historical perspective

The BoC–BoE database and its future updates are helpful to researchers analyzing the economic and financial effects of sovereign defaults on debt owed to official and private creditors since 1960. The database is particularly useful because it helps compare the scale of individual and multiple default events with earlier episodes. Thus, it contributes to our understanding of ongoing risks to global financial stability. In the commentary that follows, we highlight some of the most noteworthy trends.

We know from the historical record that for over 200 years the story of sovereign defaults has centred mainly, though not exclusively, on foreign currency bonds and other marketable securities.[4] Cross-border bond financing for governments emerged in the 1820s when newly independent states in Latin America and other regions, as well as some longer-established sovereigns, began issuing bonds denominated in foreign currency in European financial centres. Defaults on these bonds soon followed on a substantial scale and persisted well into the 20th century. Defaults on debt denominated in local currency also occurred, but they appear to have been less frequent, based on the evidence from before 1960 (Reinhart and Trebesch 2014).

After the Second World War, pervasive national controls on the movement of capital caused cross-border bond issuance by governments to fall to low levels, as did the incidence of defaults. Both remained low over nearly four decades. For a relatively brief period, in the 1970s and 1980s, bank loans denominated in foreign currency were more important than bonds. Many developing and Eastern European countries defaulted on bank loans in the 1980s and 1990s, resulting in creditor losses. The banks' subsequent exit from this business resulted in many low- and middle-income sovereigns turning to cross-border bond markets in the 1990s, an approach to financing that continues today.

The period since the 1990s is also noteworthy because of growing cross-border investments in market debt denominated in the local currency of emerging-market sovereigns.[5] This development was a factor in the debt workouts involving such sovereigns as Russia and Argentina, where the restructuring of their foreign currency bonds also played a role. While these defaults on foreign currency bonds are increasing, they nonetheless remain well below their historical peaks from before the Second World War.

Chart 2 provides a snapshot of trends in defaults on foreign currency bonds and bank loans from 1820 to 2022.[6] Because historical data on bonds are limited for much of this period, we calculate unweighted default rates: that is, governments in default as a percentage of all governments.[7] For bonds, three peak default periods stand out:

from the 1830s through the 1850s, when default rates exceeded 25%

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4 This section of our updated report draws in part on previous work published by Beers and Chambers (2006), Cruces and Trebesch (2011), Rieffel (2003), Reinhart and Rogoff (2009) and Suter (1992).

5 For further commentary about sovereign defaults on local currency debt, see Beers, Jones and Walsh (2020).

6 The data in **Chart 2** are based partly on data previously published by Beers and Chambers (2006).

7 By our count, the total number of sovereigns globally was 36 in 1820, 65 in 1900, 105 in 1950 and 215 in 2022. Reinhart and Rogoff (2009) calculate historical sovereign default rates weighted by estimated aggregated gross domestic product. However, we do not replicate this approach here because of reliability issues with the national income data of many countries before the Second World War.

in the 1870s, when default rates averaged 18%

in the 1930s, when they reached 21%

Also of note is the sharp decline in bond defaults after the Second World War that persisted through the 1980s. The resolution of many pre-war bond defaults was the main reason that the default rate fell in the postwar period. At the same time, the fragmentation of the cross-border financial markets limited access to bond markets to only the most creditworthy borrowers. As a result, defaults on new issues were low.

Before the second World War, sovereign defaults only played an intermittent role in policy discussions. After 1945, lending to governments by the IMF and other newly established multilateral institutions quickly gained prominence. These institutions, as well as national export credit and development agencies, were launched in part to fill perceived gaps in public finance left by shrinkage in cross-border bond markets. They increasingly targeted loans to the

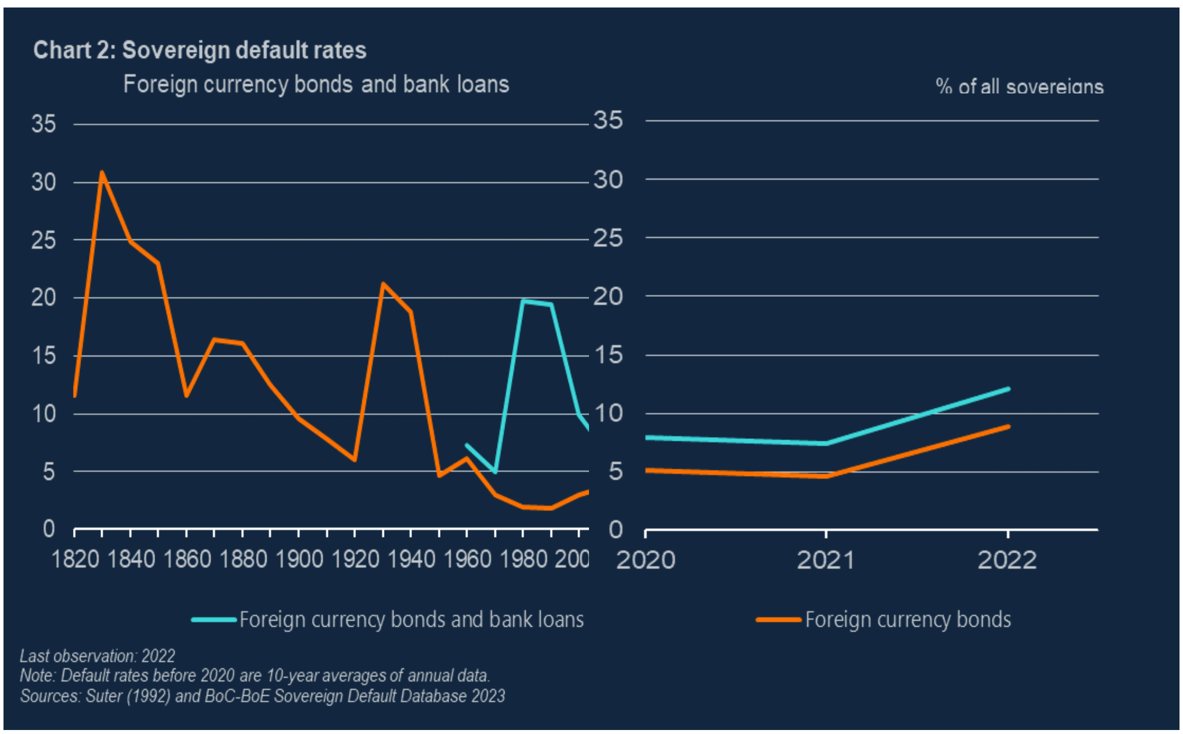


Chart 2: Sovereign default rates

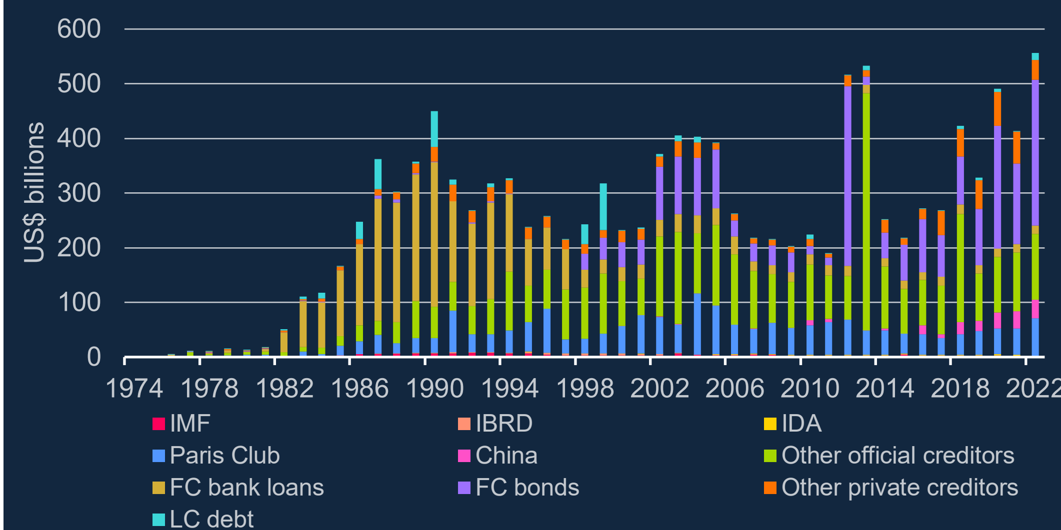
Last observation: 2022
Note: Default rates before 2020 are 10-year averages of annual data.
Sources: Suter (1992) and BoC-BoE Sovereign Default Database 2023

governments of developing countries, mainly on concessional terms.

Initially, defaults on official loans were low. By the 1980s, however, sovereign defaults on loans from official creditors grew alongside a sharp rise in defaults on foreign currency bank loans (**Chart 2** and **Chart 6**). Even arrears on IMF loans surfaced, although they were small compared with defaults to other creditors. The factors driving both bank loans and official loans into default were often closely linked, most notably the adverse fiscal impact in many countries from the spike in both world oil prices and US short-term interest rates. The increase in US interest rates directly influenced the cost of syndicated bank loans contracted by many sovereign borrowers and helped ratchet up the real burden of their public debt. Sovereign debt in default reached US$450 billion by 1990, with debt owed to official creditors accounting for about 21% of the total (**Chart 3**). By 1995, the share of debt owed to official creditors exceeded 50%.

Many of the defaults on official loans continued for long periods because of the borrowers' internal economic and political difficulties and the reluctance of creditors to reschedule loans. By the 1980s, however, official debt restructurings led by the Paris Club became a frequent occurrence. Yet defaults on official debt persisted. This logjam started to ease in the mid-1990s,

Chart 3: Total sovereign debt in default by creditor (1974–2022)



Note: IMF is International Monetary Fund. IBRD is International Bank for Reconstruction and Development. IDA is International Development Association. LC is local currency, and FC is foreign currency.

Source: BoC–BoE Sovereign Default Database 2023

thanks in part to the multilateral Heavily Indebted Poor Countries (HIPC) Initiative, launched with strong support from the IMF and the World Bank (IMF 2016).

Under the program, which is now nearing completion, 39 low-income governments became eligible for substantial reductions in their official debt, subject to the implementation of agreed-upon economic policy reforms.[8] Bilateral official creditors wrote off much of the debt. The IMF and other multilateral institutions also agreed to participate through the Multilateral Debt Relief Initiative.[9] As a result, apart from China's and the World Bank's loans in default, the dollar amounts of debt in default owed to the IMF, Paris Club and other official creditors have fallen in most years since 2005 (**Chart 3**).

[8] Somalia began receiving HIPC debt relief in 2020, and Sudan became eligible in 2021. Another candidate—Eritrea—is at the pre-decision point.

[9] Government donors funded write-offs of IMF and multilateral institution loans to avoid damaging the institutions' balance sheets and weakening their preferred creditor status. These write-offs can reach 100% under the Multilateral Debt Relief Initiative.

Nevertheless, three recent developments are worth highlighting. The first is the spikes in problematic official debt that occurred in 2013 and in 2018 (**Chart 3**). The spikes resulted from the restructuring (without any interruption of scheduled debt service) of loans to Greece, Ireland and Portugal agreed to by their EU partners.[10] Fiscal pressures in the euro area generally have eased since then. However, Greece delayed its payment of US$2.2 billion to the IMF in 2015 and restructured another US$110.9 billion of official debt after completing its stabilization program in 2018.[11]

The second noteworthy development is that defaults persist in the majority of HIPCs and reached a record high of US$131.6 billion in 2022 (**Chart 4**). This is partly due to an increase in default rates on Paris Club loans and to the slow pace at which some non–Paris Club official creditors are implementing debt relief. Official creditor holdouts may be less well known than litigious bondholder holdouts, but, like bondholders, they can also delay the resolution of defaulted debt. However, many HIPC sovereigns are defaulting on new loans contracted with official and private creditors after they received HIPC debt relief.[12]

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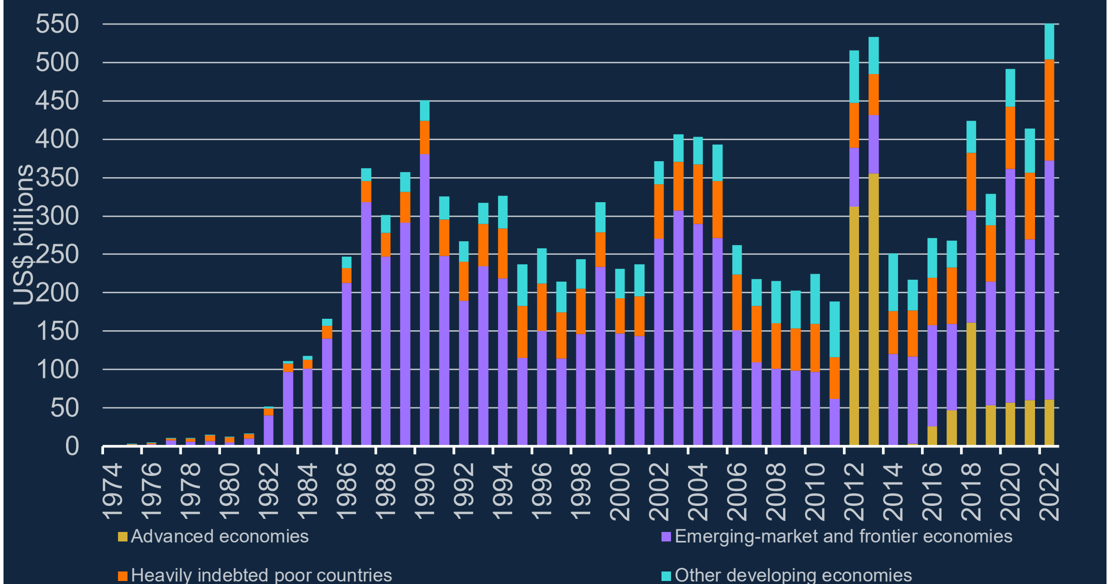
[10] For Greece, creditors reduced interest rates and charges and deferred debt service. They also extended average maturities of EU or euro area official loans to Greece, Ireland and Portugal by up to seven years. These official debt restructurings are consistent with our definition of sovereign defaults because they result in creditor losses in present-value terms.

[11] See Khan and Brunsden (2018) for details about Greece's 2018 restructuring of official debt agreed to with official creditors in the euro area.

[12] For example, two HIPC sovereigns—the Republic of Congo and Mozambique—defaulted on US$2.8 billion of bonds and bank loans between 2016 and 2019. In 2020 and 2021, three other HIPC sovereigns—Chad, Ethiopia and Zambia—signalled an intent to pursue broad debt restructuring. Chad became the first country to reach a debt treatment agreement with official and private creditors under the G20 Common Framework in 2022.

Chart 4: Sovereign debt in default, by debtor



Last observation: 2022
Source: BoC-BoE Sovereign Default Database 2023

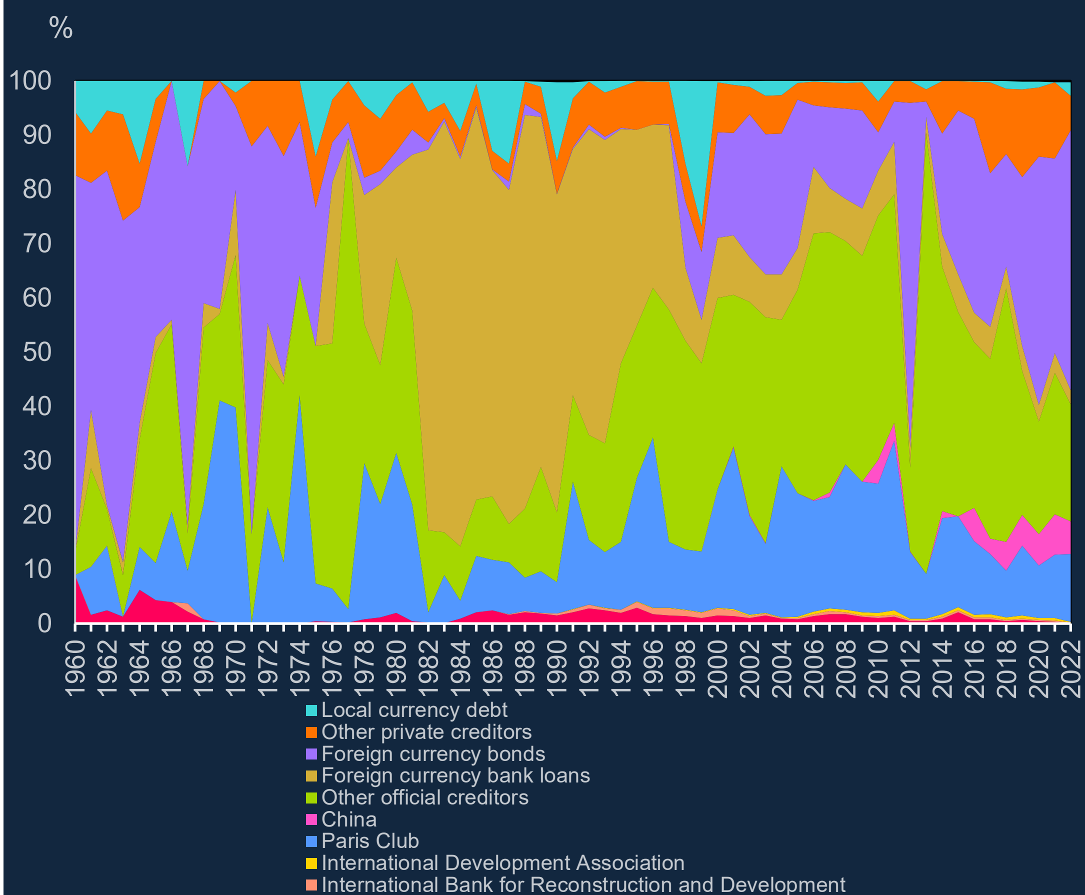
The third development is the significant shift underway in the composition and scale of bilateral official lending. Since the 1980s, sovereign debt owed to bilateral official and private creditors has generally been restructured according to the principle of comparability of treatment set out by the Paris Club.[13] Despite occasional frictions with other official creditors, bank creditors and bondholders, these arrangements have been broadly effective in sovereign debt restructuring.

The Paris Club, however, no longer represents all the large bilateral official creditors (**Chart 5**). With some members placing more emphasis on grants, the Paris Club's stock of loans to emerging-market and developing economies—estimated at US$320 billion in 2022—has been declining in recent years. By contrast, bilateral loans from China, India and Gulf states have grown sharply: the World Bank estimates that loans from China rose from US$333 billion in 2012 to about US$952 billion in 2022, substantially exceeding the stock of Paris Club loans (Hurley, Morris and Portelance 2018). These new official creditors have not yet formally joined the Paris Club, although China, India and Saudi Arabia—all G20 members—have agreed to cooperate with the Paris Club in the new Common Framework for Debt Treatments.[14]

[13] Comparability of treatment means that bilateral official and private creditors should broadly replicate any debt relief the Paris Club provides to sovereigns.

[14] China, India, Abu Dhabi, Kuwait and a few other governments have periodically participated in Paris Club meetings on an ad hoc basis (Paris Club 2021). For a description of the G20 Common Framework, see Republic of Italy (2021).

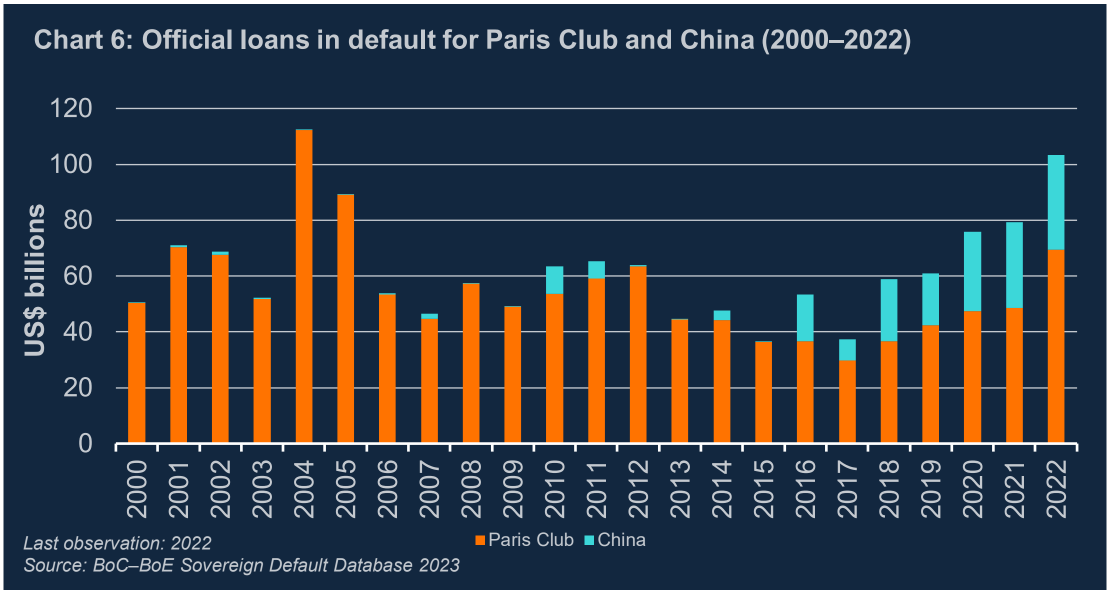
Chart 5: Proportion of debt in default by creditor (1960–2022)



Last observation: 2022
Source: BoC–BoE Sovereign Default Database 2023

In this context, China's bilateral official lending has generated particular interest. Its Belt and Road Initiative (BRI), launched in 2013, could result in US$1 trillion or more of new financing by 2027, according to independent estimates (PricewaterhouseCoopers 2016; Morgan Stanley 2018). Emerging-market and low-income sovereigns receive the most BRI funds. The available data[15] on defaulted Chinese official loans indicate that defaults have been increasing steadily since 2017 (**Chart 6**), with at least US$93 billion of BRI-related loans being renegotiated or written off in the past three years.

[15] See AidData, "Aid Data's" (2021).



To assess the relative importance of sovereign defaults, we compare the nominal value of debt in default with global public debt, global GDP and the combined GDP of emerging-market, frontier and other developing economies (excluding China) (**Chart 7**). At the start of the 1980s, sovereign defaults had minimal impact globally. However, significant fiscal stresses affected low- and middle-income countries by the middle of the decade. The defaulted sovereign debt that was restructured and, in many cases, ultimately written down peaked in 1990 at 6.1% of global public debt. Relative to this group's GDP, the peak was sharper still, at 11.1%, but it was milder in terms of global GDP, rising from near zero to 1.9%.

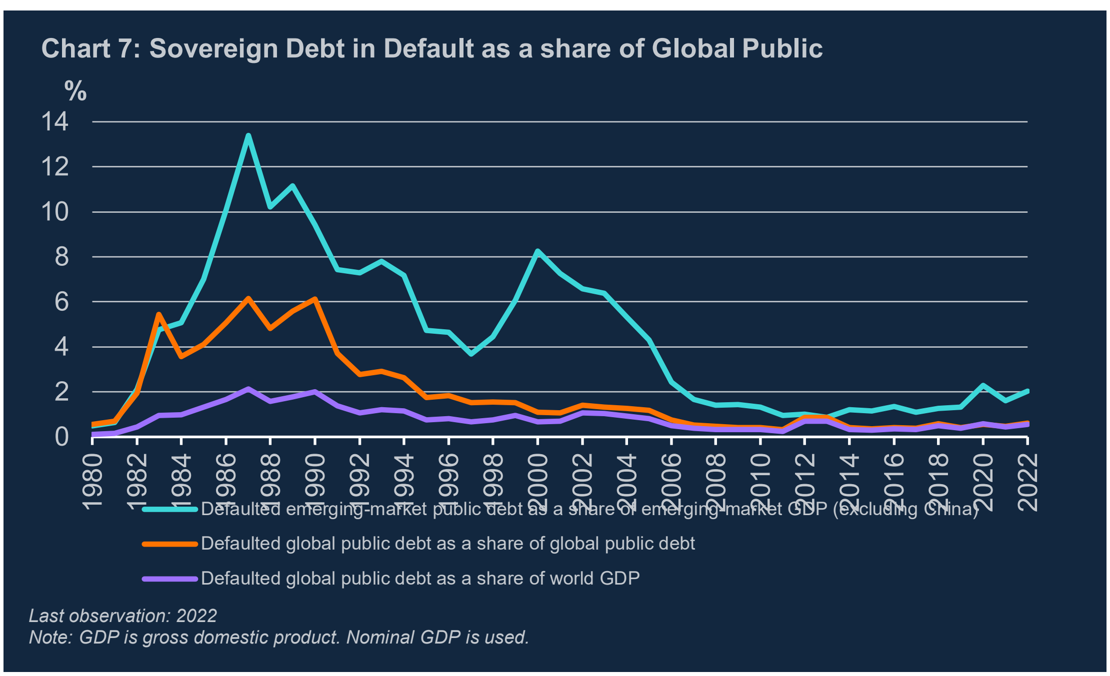


Chart 7 also shows that the global footprint left by these debt workouts has faded, despite the restructuring of sovereign bonds and official loans in the euro area in 2012–13 and again for official loans in 2018; large defaults in 2020 by Argentina, Lebanon and Ecuador; and the broader pick up in emerging-market and developing country sovereign defaults in 2022.

Nonetheless, as already noted, the IMF has stepped up its warnings that debt distress among emerging-market and low-income sovereigns is likely to escalate.[16] The risk factors the IMF highlights include:

high leverage globally in the public and private financial sectors

rising market interest rates to counter persistent inflationary pressures

the negative impact on global economic growth and public finances from the COVID-19 pandemic and Russia's invasion of Ukraine

rising debt-servicing costs, with nearly 60% of low-income sovereigns already in, or close to, debt distress

the sluggish pace at which existing defaults (notably by Chad, Ethiopia and Zambia) are being resolved under the new Common Framework for Debt Treatments

As governments grapple with increasing fiscal challenges, these trends are worth watching alongside other risks to global financial stability.

Domestic arrears in the sovereign default database: An update

From the inception of the BoC–BoE database in 2014, its coverage has been based on a broad definition of sovereign default—one that tracks both interruptions of scheduled debt service and changes in debt payment terms that result in creditor losses. For defaults involving private creditors, this includes marketable debt denominated in foreign and local currencies.

Still, other government fiscal actions suggest that the definition of a sovereign default should be expanded. Notably, substantial evidence indicates that late payments by governments for local goods and services—called domestic, fiscal or expenditure arrears—also create obligations to domestic creditors that are effectively in default and must ultimately be resolved.

Defining and determining domestic arrears are relatively straightforward, at least in theory (Flynn and Pessoa 2014). Arrears are generally defined as any overdue payments for legally mandated or contractually required expenditures, including pensions, salaries, capital outlays and other services. Local law typically governs when late payments become arrears—most often penalties and interest charges can accrue when payments are late by more than 30, 60 or 90 days.

[16] For more details, see IMF (2022a, 2002c, 2023d).

When arrears accumulate over several years, or their legality is disputed, governments and their creditors usually rely on domestic courts or ad hoc tribunals to reconcile and confirm claims before resolving them. Once finalized, these obligations are settled by some combination of cash payments and the issuance of new debt to creditors. At times, there are even haircuts on the amounts repaid, and payments of interest on amounts payable appear to be rare. Given these factors, and the often-extended time frame between when arrears emerge and when they are settled, the domestic creditors involved clearly incur material losses.

Clearing arrears and adopting polices to discourage them from recurring are frequent objectives of IMF country programs. This is not surprising, given the adverse impact that government arrears have on private sector activity in affected countries.[17] But at the same time, IMF documents highlight that, like conventional sovereign defaults, domestic arrears recur and involve a broad spectrum of emerging-market, frontier and other developing sovereigns, as well as, but less frequently, high-income sovereigns.

The published IMF data on domestic arrears has limitations. The data usually identify flows of arrears, not stocks, based on government estimates that are subject to change. Moreover, comparisons with the value of conventional sovereign debt in default can be challenging because the IMF rarely reported estimated stocks of arrears. However, the IMF is changing its practice. It increasingly reports data on the stock of domestic arrears and explicitly incorporates them into the data on public debt. As a result, we can begin to compare data on arrears with the conventional defaults we report in the BoC–BoE Sovereign Default Database.

In this year's update, we revise our estimates of stocks of arrears for many sovereigns, most comprehensively for the years 1995 to 2022. These data are included in a domestic arrears category for each sovereign, including ones that have not had conventional defaults. We also provide annual totals of global domestic arrears.

For each sovereign with domestic arrears, we derive our estimates of each year's stock by aggregating the net annual flows of arrears reported in local currency, which we convert to US dollars at year-end exchange rates. We then adjust these totals (generally downwards) by incorporating historical stock estimates for each country that the IMF publishes periodically.

Going forward, we will continue to backfill missing data for previous years with two aims:

- to provide a more comprehensive picture of the scale of historical sovereign debt in distress
- to evaluate whether domestic arrears are best viewed as a coincident indicator or a driver of conventional sovereign defaults

Our main findings on the 2022 data include the following:

- The overall stock of identified domestic arrears peaked at US$238 billion in 2016 and has trended downward to an estimated US$140 billion in 2022.

[17] For a recent discussion, see IMF (2019).

Global defaults on conventional sovereign debt amounted to US$419 billion in 2022, compared with US$254 billion in 2016.

The available data highlight three issues:

Domestic arrears are often sizable in relation to conventional defaults. In some instances, most notably in Iran since 2014, domestic arrears have exceeded the US-dollar value of the stock of conventional debt in default by large margins.

Domestic arrears often persist for extended periods. This is seen most clearly in the data for the majority of sovereigns in Sub-Saharan Africa, but also in parts of Latin America, the Caribbean, Europe and Asia.

The decline in domestic arrears globally since 2016—at a time when the volume of conventional sovereign defaults has been growing—hints at a possible change in behaviour by some governments. In Central and Eastern Europe, for example, domestic arrears have become rarer. Also of note is that Cabo Verde, in Sub-Saharan Africa, has reported arrears for just one year since 2010. Future updates to the BoC–BoE Sovereign Default Database will allow us to see whether this shift portends a broader change in government behaviour.

The actual scale of domestic arrears over 1995–2022 was almost certainly larger globally than our findings indicate, as our data do not cover all potential cases. For example, Libya and Venezuela, whose arrears in recent years may have been significant and could still be, do not regularly report them to the IMF.

Conclusion

In publishing this annual update of the BoC–BoE Sovereign Default Database and our related research, we aim to provide readers with meaningful insights into how and why sovereign defaults occur and their implications for global financial stability. We will continue to enhance the accuracy and relevance of the data, including on domestic arrears, in future versions of the database. We welcome questions and feedback on this project.

Appendix: Visualizations of global sovereign debt in default in 2022

Figure A-1: Global debt in default

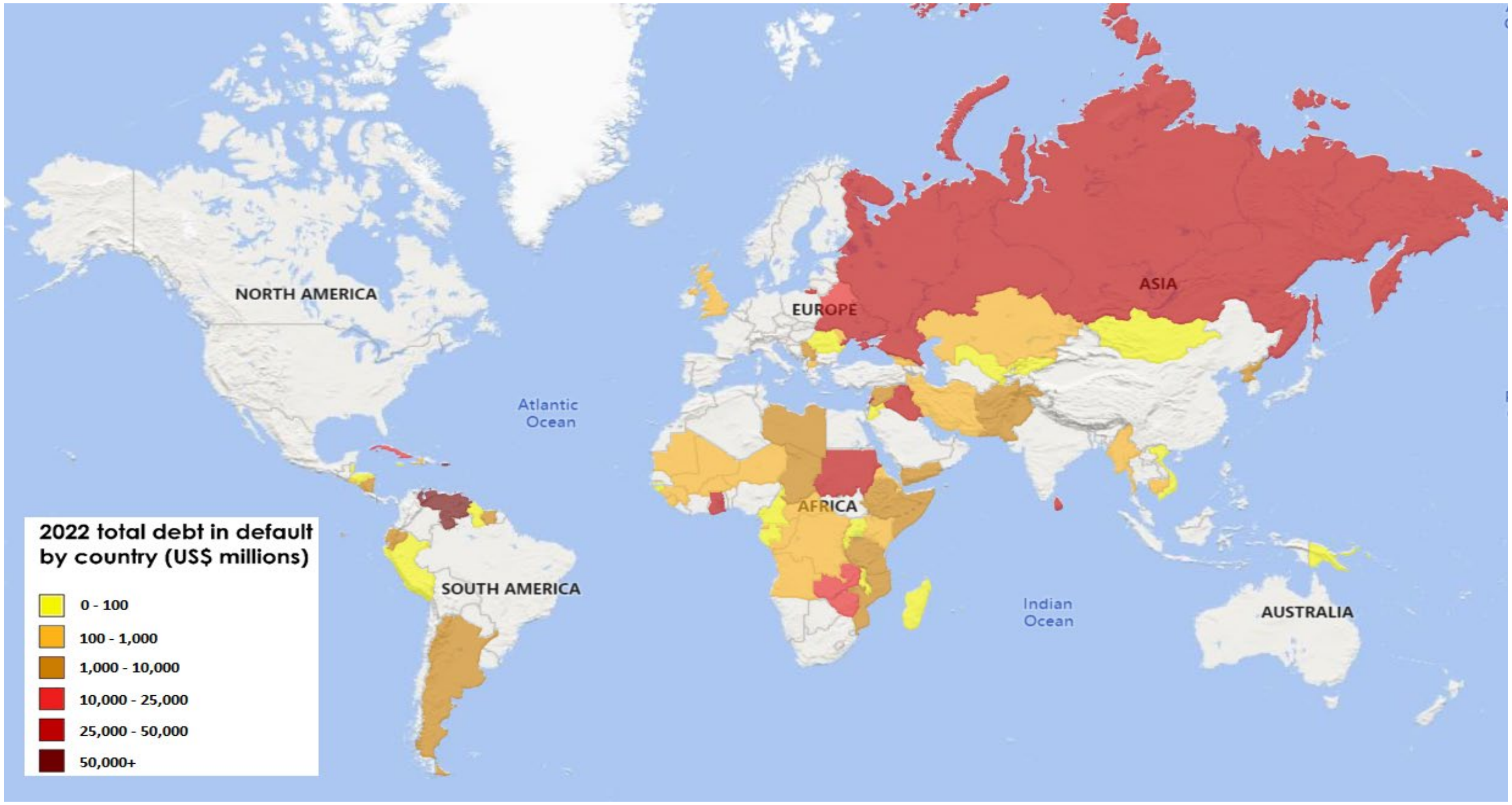


Figure A-2: Debt in default, Europe & Middle East

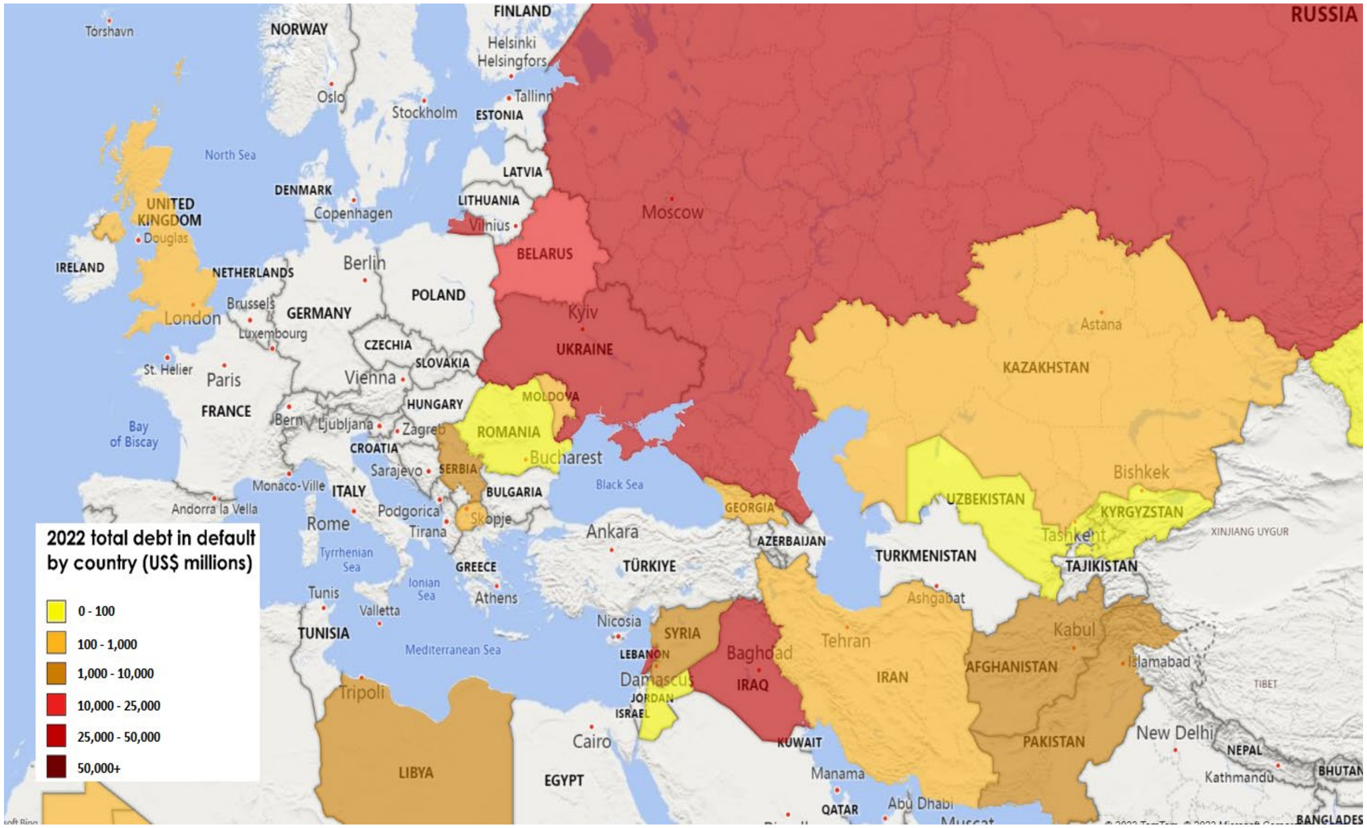


Figure A-3: Debt in default, Asia Pacific

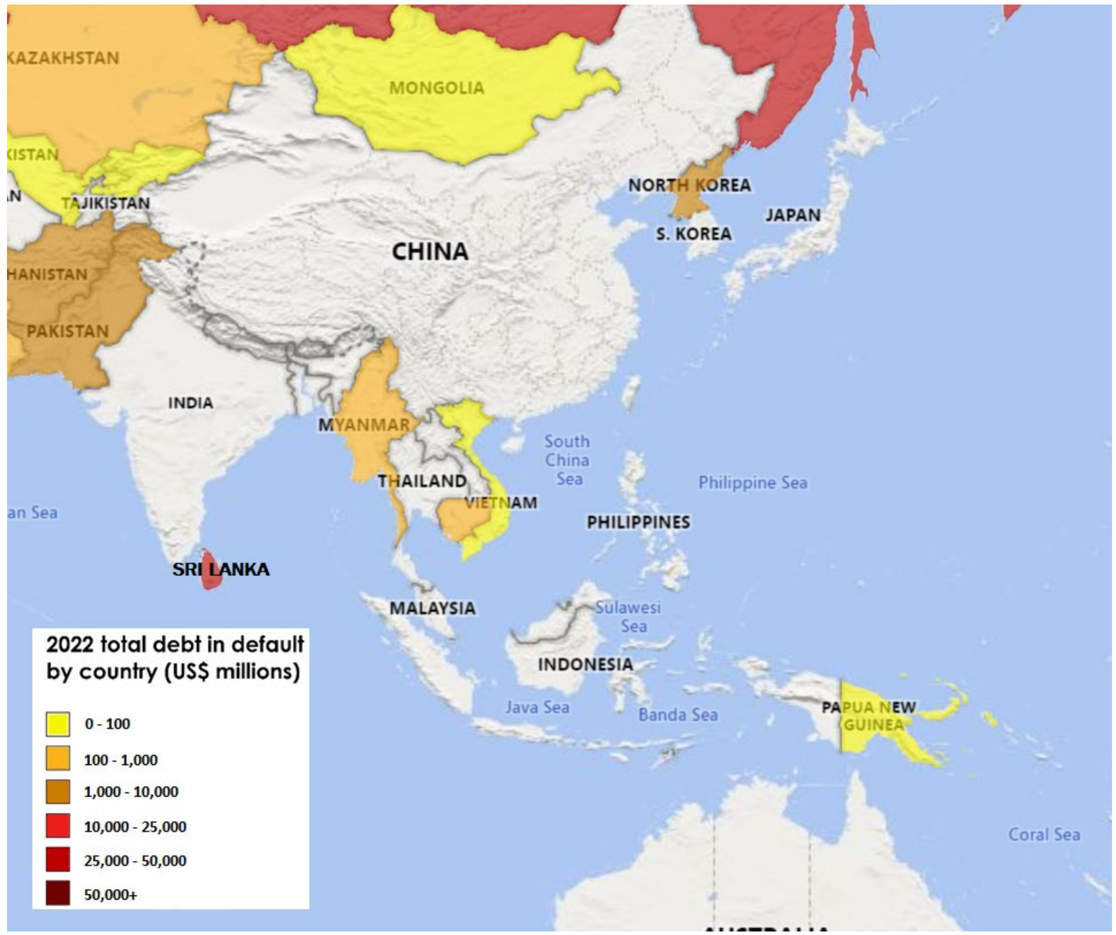


Figure A-3: Debt in default, Latin America and the Caribbean

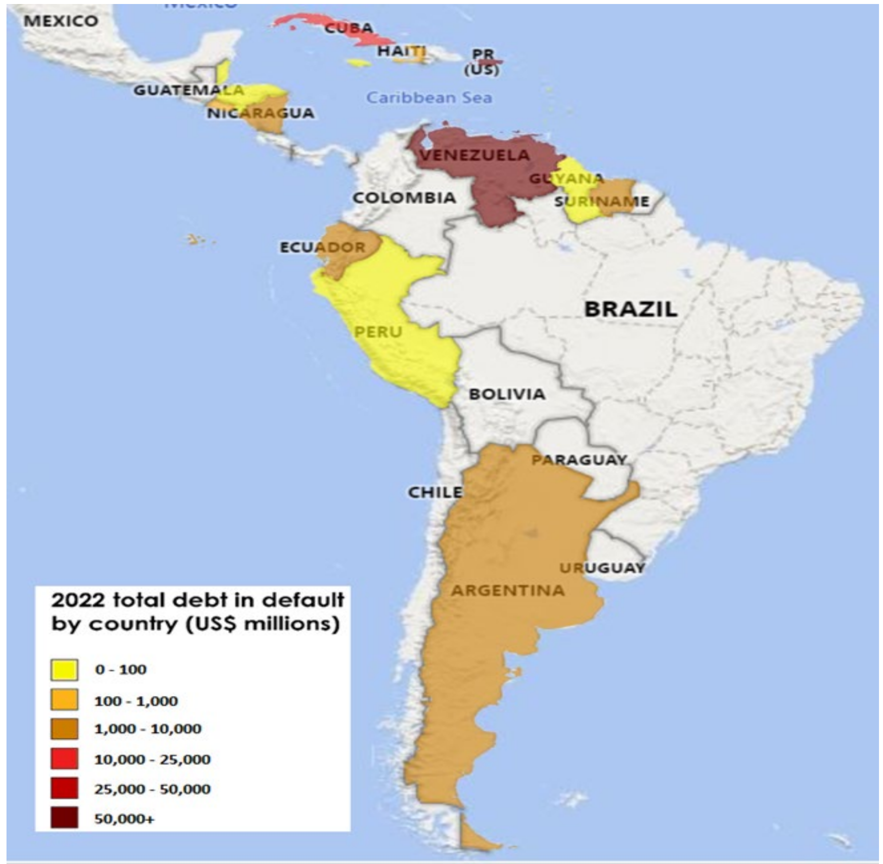
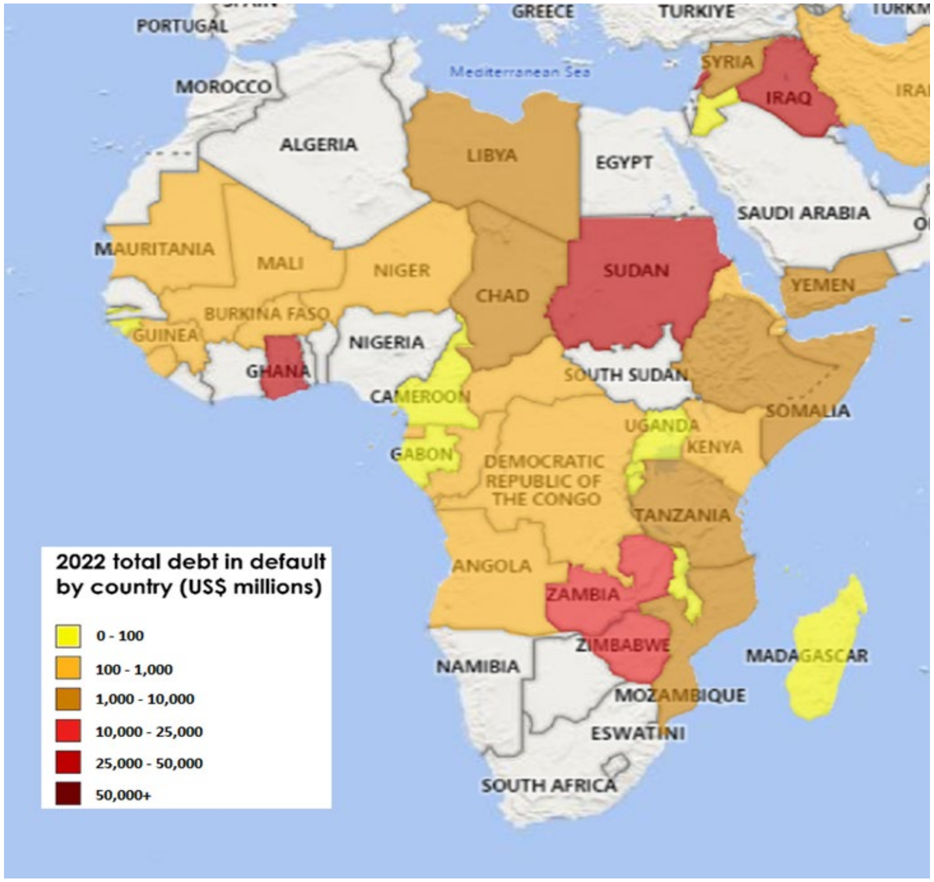


Figure A-4: Debt in default, Africa



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