

BoC–BoE Sovereign Default Database: What’s new in 2021?

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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 previously published datasets compiled by various public and private sector sources. It combines elements of these, together 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 2020 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). This update of the BoC–BoE database—and updates to come—will be useful to researchers analyzing the economic and financial effects of individual sovereign defaults and, importantly, the impacts on global financial stability of episodes involving multiple sovereign defaults.

In this paper, we first highlight new developments in sovereign debt defaults in 2020. We provide high-level details on the 48 percent increase in aggregate sovereign debt in default, which was driven chiefly by defaults on foreign currency bonds by Venezuela, Argentina and Puerto Rico. We also describe functionality improvements to the database. We then update some key insights the database provided regarding the number, size and types of defaults. We give a historical overview of debt defaults, including the increase in problematic debt since 2018, the persistence of defaults in highly indebted poor countries, and the shift in bilateral lending toward non–Paris Club lenders.¹ Finally, we provide an update on our continued efforts to include reliable estimates of domestic fiscal arrears in the database.

What's new in 2021?

In this year's update, our findings estimate the total value of sovereign debt in default at US\$443.2 billion in 2020 (0.5 percent of world public debt), up US\$143.6 billion (48 percent) from the revised total of US\$299.6 billion in 2019. This outpaces the 13 percent increase in gross world public debt. The data by major creditor categories show that the increase was driven mainly by foreign currency bonds in default, which rose by US\$121.2 billion. This reflected:

- new defaults by Argentina, Belize, Ecuador and Suriname
- a first-time default on foreign currency bonds by Lebanon

¹ The permanent members of the Paris Club are Australia, Austria, Belgium, Brazil, Canada, Denmark, Finland, France, Germany, Ireland, Israel, Italy, Japan, Korea, the Netherlands, Norway, Russia, Spain, Sweden, Switzerland, the United Kingdom and the United States. For more information, see the Paris Club [website](#).

- a greater amount of interest arrears from ongoing bond defaults by Venezuela and Puerto Rico²

Local currency debt in default increased by US\$0.9 billion. This was due mainly to Iraq's restructuring of its short-term debt into debt with longer-term maturities and lower coupon rates.

Defaults affecting official creditors, notably the Paris Club, China and other bilateral lenders, also increased.³ Their loans accounted for US\$19.4 billion of the global increase, with the Debt Service Suspension Initiative (DSSI) playing a relatively modest role.⁴ The values of defaulted debt in other creditor categories registered smaller changes.

Regarding our treatment of countries that participated in the DSSI, in the 2020 database we include debt service deferrals by bilateral official creditors for sovereigns that the International Monetary Fund (IMF) or the World Bank considers to be already in or at high risk of debt distress. The suspension period for debt service payments was originally set to run from May through December 2020 but was later extended through December 2021. Participation in the program by debtor sovereigns is voluntary, and the debt relief provided is intended to be net-present-value neutral. However, our reason for including in the database debt service payments suspended under the DSSI is that without the DSSI, many of these vulnerable sovereigns, some already with other debt arrears, would likely have sought debt relief. Total DSSI debt service deferrals included in the database amount to US\$4.7 billion, about 1 percent of the total stock of debt in default we identified globally.

Some of the changes in this update are:

- additional data for defaults on China's official loans since 2000
- updated annual data (where available) for each country's total central government debt
- minor revisions of country and aggregate default data for 1960–2019
- data, by country and globally, on domestic arrears since 2005, with the most comprehensive data in the years 2018–20 (see the discussion of domestic arrears)

We also updated two tabs at the bottom of the main database spreadsheet: DATA provides a downloadable format for the global and country default data, and DEBTOTAL provides country data on total government debt stocks. The previously included DOMARS tab is not

² Smaller defaults involve not-yet-completed exchanges of old Argentine defaulted bonds and non-performing bonds issued by Nauru and Zimbabwe.

³ These creditor categories exclude the International Monetary Fund, the International Bank for Reconstruction and Development and the International Development Association.

⁴ In response to the global COVID-19 economic and financial shock, in 2020 the G20—in concert with the International Monetary Fund and the World Bank—launched the DSSI, offering temporary relief on debt service payments owed to bilateral official creditors by 73 low-income countries. The G20 also asked private creditors to participate on comparable terms but was rebuffed. For more information about the DSSI, see [World Bank Group \(2021\)](#).

included in this year's update because the domestic arrears data are now incorporated under the first tab.

Finally, all data are now also downloadable in the CSV, JSON and XML formats.

Key insights from the database

Since 1960, 146 governments—two thirds of the current universe of 215 sovereigns—have defaulted on their obligations.⁵

Defaults had the biggest global impact in the 1980s, reaching US\$450 billion, or 6.1 percent 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 percent of world public debt has been in default. In 2020, the amount was estimated at 0.5 percent. Total sovereign debt in default increased by 48 percent in 2020, considerably outpacing the 13 percent increase in gross world public debt.

As in recent years, the distribution of defaults in 2020 is highly skewed in terms of value. Just three sovereigns—Venezuela, Argentina and Puerto Rico—accounted for 47 percent of the US-dollar value of debt in default globally. The top 10 sovereigns in default accounted for 87 percent.

Our database includes the debt owed to official creditors, and this provides insight into sovereign default “clusters,” which we define 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. A high number of low-income sovereigns often remain in default to official creditors for long periods.

As a percentage of total government debt, only 50 sovereigns—6 percent of observations—defaulted on shares ranging between 50 and 100 percent of their total outstanding government debt. In contrast, about 72 percent of observations are equal to or below 10 percent of government debt. These data confirm sovereigns' tendency to “default selectively” and show how shares of sovereign debt in default are skewed toward lower values.

Despite an uptick in 2020, over the past decade defaults involving the Paris Club group of official creditors have declined in importance. Defaults involving other bilateral official creditors, however, most notably China, are growing.

Sovereign defaults on local currency debt are more common than sometimes assumed. Since 1960, 32 sovereigns have defaulted on local currency debt.

⁵ While 152 sovereigns are listed in the database, 6 (Bahamas, Namibia, Palau, Sint Maarten, Tuvalu, and West Bank and Gaza) include only domestic arrears, which we consider to be *effective* defaults, albeit not on conventional sovereign obligations. For more information on domestic arrears, see Beers, Jones and Walsh (2020).

We expect defaults to pick up again in 2021 and in subsequent years. The majority of advanced, emerging-market and low-income countries are facing growing public debt burdens, and impacts from the global COVID-19 shock will continue to reverberate. Given the potential scale and number of defaults, resolving them will test existing sovereign debt workout mechanisms—probably to an extent not seen since the 1980s’ debt crisis in developing countries.

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 from 1960 onward. The database is particularly useful because it facilitates comparisons of the scale of individual and multiple default events with earlier episodes. Thus, it can contribute to our understanding of ongoing risks to global financial stability. In the commentary that follows, we highlight some of the most noteworthy trends.

From the historical record, we know that for over 200 years the story of sovereign defaults has centred mainly, though not exclusively, on foreign currency bonds and other marketable securities.⁶ 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 soon followed on a substantial scale and persisted well into the 20th century. Defaults on debt denominated in local currency also occurred, but, from the evidence available for the pre-1960 era, they appear to have been less frequent (Reinhart and Trebesch 2014).

After the Second World War, because of pervasive national controls on the movement of capital, cross-border bond issuance by governments fell to low levels, as did defaults. Both remained low over nearly four decades. For a relatively brief period, in the 1970s and 1980s, bank loans denominated in foreign currency eclipsed bonds in importance. 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, in turn, 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 the market debt that is denominated in the local currency of emerging-market sovereigns.⁷ This development was a factor in a number of defaults involving such sovereigns as Russia and Argentina, where the restructuring of their foreign currency bonds was also involved.

⁶ 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).

⁷ For further commentary about sovereign defaults on local currency debt, see [Beers, Jones and Walsh \(2020a\)](#).

While these defaults on foreign currency bonds are also increasing, they nonetheless remain well below their historical peaks from before the Second World War.

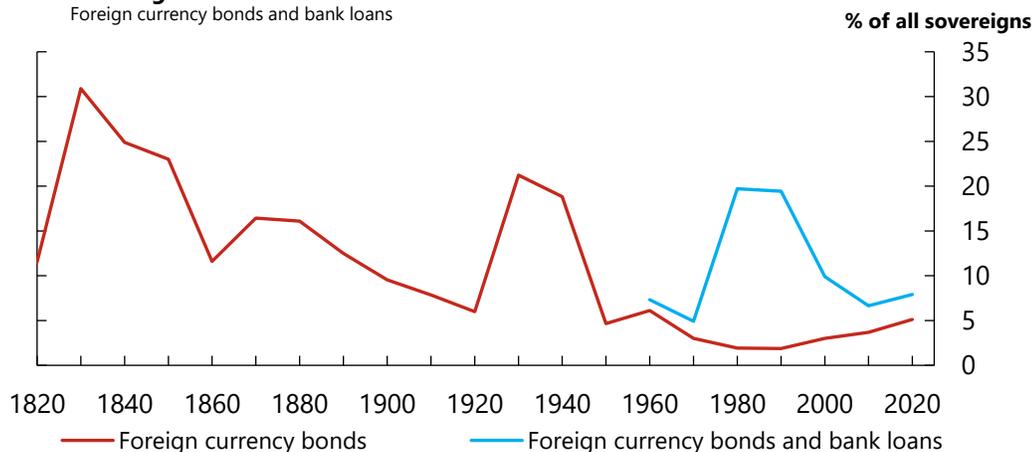
Chart 1 provides a snapshot of trends in defaults on foreign currency bonds and bank loans from 1820 to 2020.⁸ Because for much of this period the historical data on bonds are limited, we calculate unweighted default *rates*, that is, governments in default as a percentage of *all* governments.⁹ For bonds, three peak default periods stand out:

- from the 1830s through the 1850s, when default rates exceeded 25 percent
- in the 1870s, when default rates averaged 18 percent
- in the 1930s, when they reached 21 percent

Of note, too, 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 driver of the fall in the default rate. At the same time, the fragmentation of the cross-border financial markets immediately following the Second World War limited access to bond markets to only the most creditworthy borrowers. As a result, defaults on new issues were low.

Chart 1: Sovereign default rates

Foreign currency bonds and bank loans



Note: Default rates are 10-year averages of annual data except for 2020
Sources: Suter (1992) and BoC–BoE Sovereign Default Database 2021

Last observation: 2020

Before the Second World War, sovereign defaults on official loans played only an intermittent role. Then, after 1945, lending to governments by the IMF and other newly established multilateral institutions (MLIs) 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 the shrinkage in the cross-border bond markets. They increasingly

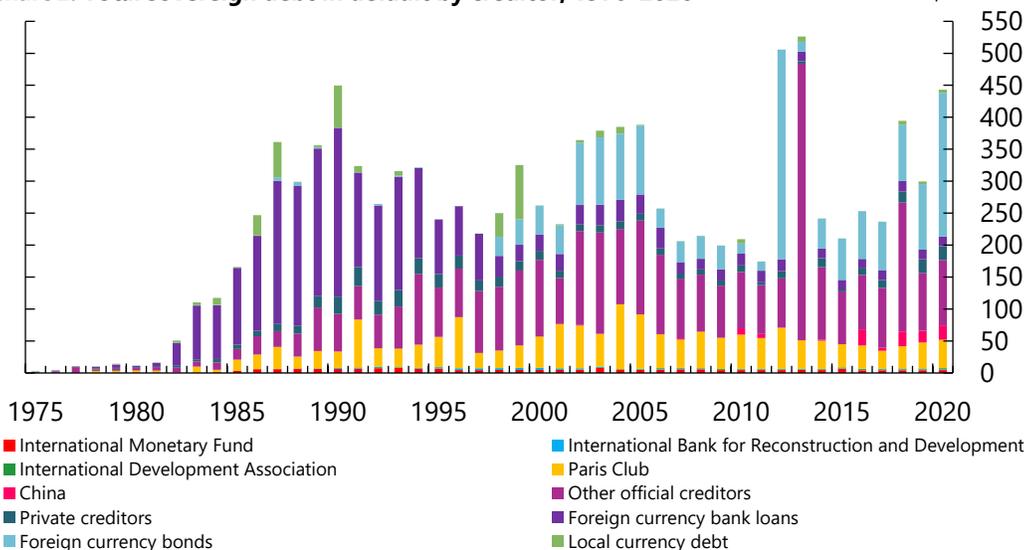
⁸ The data in **Chart 1** are based partly on data previously published by Beers and Chambers (2006).

⁹ By our count, the total number of sovereigns globally was 36 in 1820, 65 in 1900, 105 in 1950 and 215 in 2020. Reinhart and Rogoff (2009) calculate historical sovereign default rates weighted by estimated aggregated gross domestic product. However, because of reliability issues with the national income data of many countries before the Second World War, we do not replicate this approach here.

targeted loans to the governments of developing countries on concessional terms, and initially defaults on official loans were low.

By the 1980s, however, the sharp rise in sovereign defaults on foreign currency bank loans (**Chart 1** and **Chart 5**) was accompanied by growing defaults on loans from official creditors. Even arrears on IMF loans surfaced, although their size was minor 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 world oil prices and in US short-term interest rates. The latter 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 percent of the total (**Chart 2**). By 1995, the share of official creditor debt exceeded 50 percent.

Chart 2: Total sovereign debt in default by creditor, 1976–2020 US\$ billions



Source: BoC-BoE Sovereian Default Database 2021

Last observation: 2020

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. However, by the 1980s, official debt restructuring led by the Paris Club became a frequent occurrence. Yet defaults on official debt persisted. This logjam eased beginning in the mid-1990s, 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, 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.¹⁰ Bilateral official creditors wrote off much of the debt, while the

¹⁰ Somalia began receiving HIPC debt relief in 2020. Two other sovereigns—Eritrea and Sudan—remain eligible but have not yet commenced the process.

IMF and other MLIs also agreed to participate through the Multilateral Debt Relief Initiative.¹¹ As a result, apart from China's debt in default, the dollar amounts of debt in default owed to the IMF, World Bank, Paris Club and other official creditors have fallen in most years since 2006 (**Chart 2**).

That said, three recent developments are worth highlighting. One is the spike in problematic official debt that occurred in 2013 and again in 2018 (**Chart 2**). In the first instance, the spike resulted from the restructuring (without any interruption of scheduled debt service) of loans to Greece, Ireland and Portugal agreed to by their EU partners.¹² Fiscal pressures in the euro area generally have eased since then, though only partially for Greece. Greece delayed its payment of US\$2.2 billion to the IMF in 2015 and faced the restructuring of another US\$110.9 billion of official debt following the completion of its stabilization program in 2018.¹³

The second noteworthy development is that defaults persist in the majority of HIPC countries, amounting to about US\$25 billion in 2020, the highest level since 2010 (**Chart 3**). This is partly due 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 holdout bondholders but, like them, these official creditors can also delay the resolution of defaulted debt. Increasingly, however, it is evident that some sovereigns are also defaulting on new loans contracted from official and private creditors after they received HIPC debt relief.¹⁴

A third development is the sea change 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 "comparability of treatment" principles set out by the Paris Club.¹⁵ Despite occasional frictions with other official creditors, and with bank creditors and bondholders, these arrangements have been broadly effective in resolving sovereign defaults.

¹¹ Government donors funded write-offs of IMF and MLI loans to avoid damaging the institutions' balance sheets and weakening their preferred creditor status. Under the Multilateral Debt Relief Initiative, these write-offs can reach 100 percent.

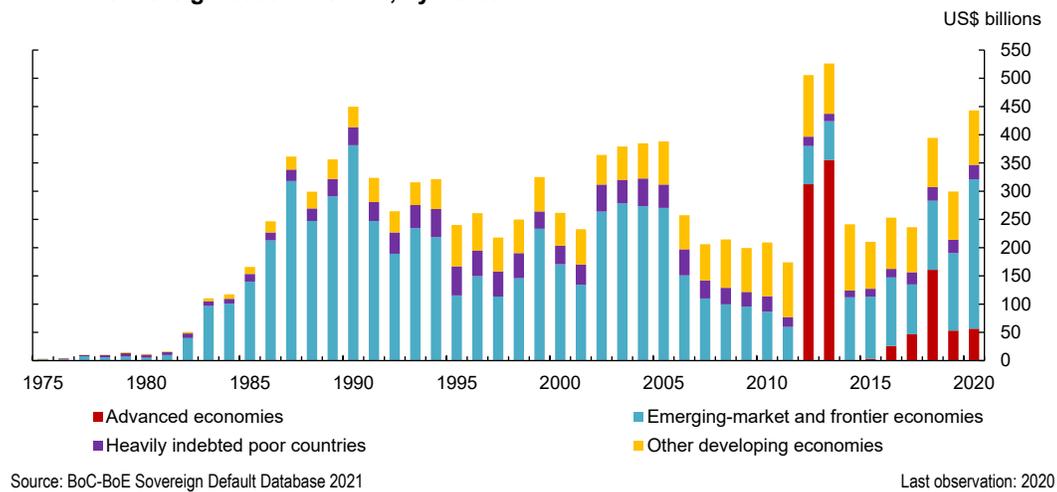
¹² For Greece, creditors reduced interest rates and charges and deferred debt service. They also extended average maturities of EU or euro area official loans to Greece, Ireland and Portugal by up to seven years. These official debt restructurings are consistent with our definition of sovereign defaults because they result in creditor losses in present-value terms.

¹³ See Khan and Brunsden (2018) for details about Greece's 2018 restructuring of official debt agreed to with euro area official creditors.

¹⁴ 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, and in 2020 Congo and Ethiopia both signalled an intent to pursue broad debt restructuring.

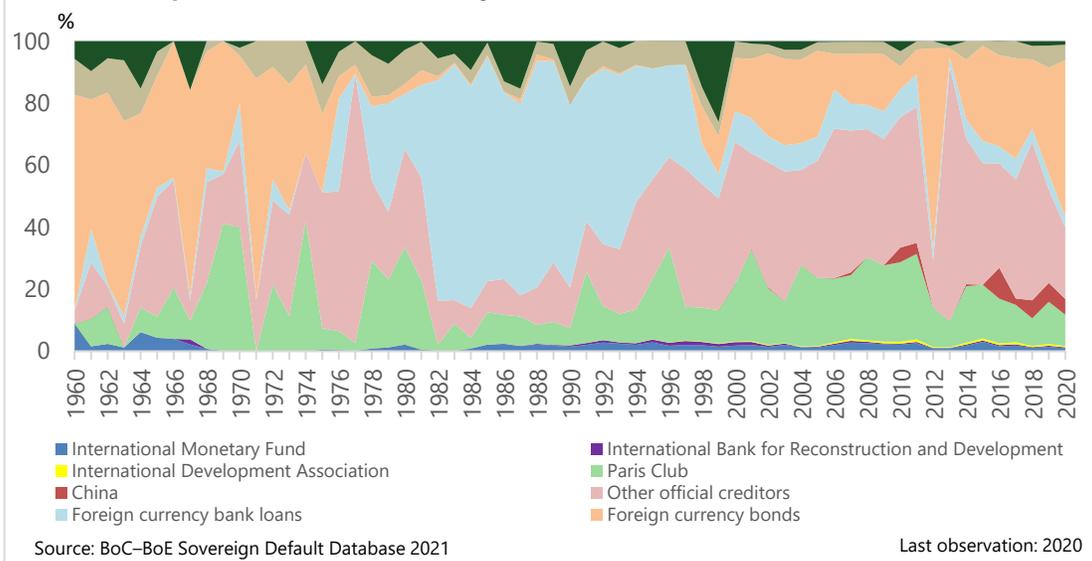
¹⁵ Comparability of treatment refers here to the principle that any debt relief the Paris Club provides to sovereigns should be broadly replicated by other bilateral official and private creditors.

Chart 3: Sovereign debt in default, by debtor



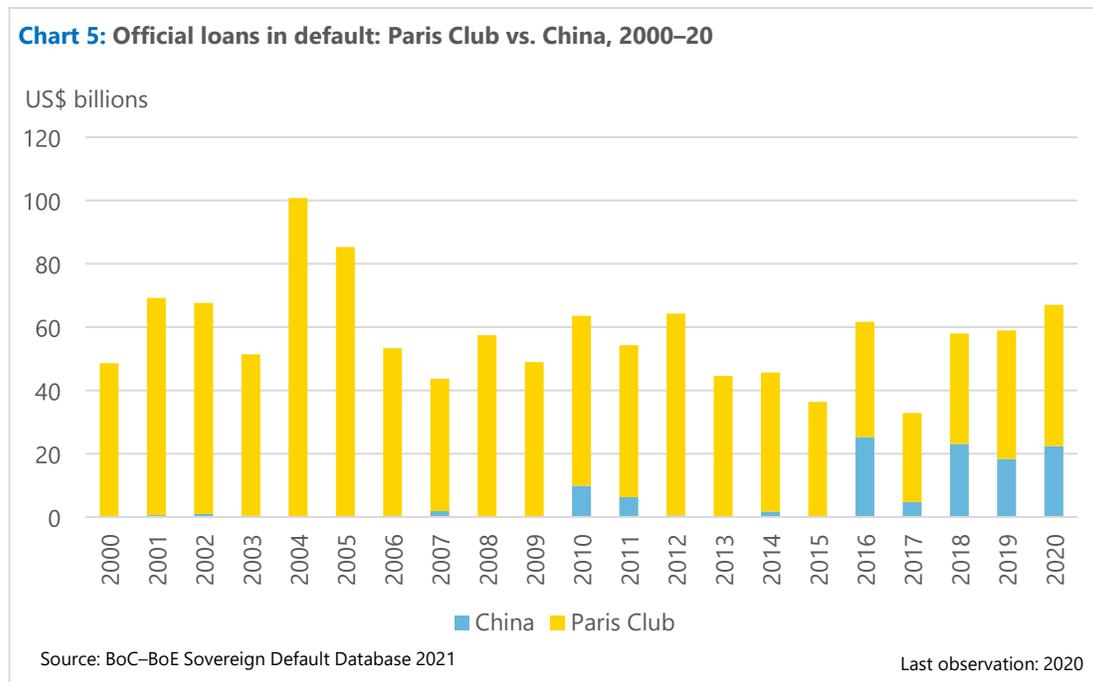
The issue now, however, is that the Paris Club no longer represents all the large bilateral official creditors (**Chart 4**). With some members placing more emphasis on grants, its stock of loans to emerging-market and developing economies—US\$320 billion in 2020—has been relatively static in recent years. By contrast, bilateral loans from China, India and the Gulf states have grown sharply; in aggregate, they are now larger than those of the Paris Club (Hurley, Morris and Portelance 2018). But 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 them in the new Common Framework for Debt Treatments beyond the DSSI.¹⁶

Chart 4: Proportion of debt in default by creditor (1960–2020)



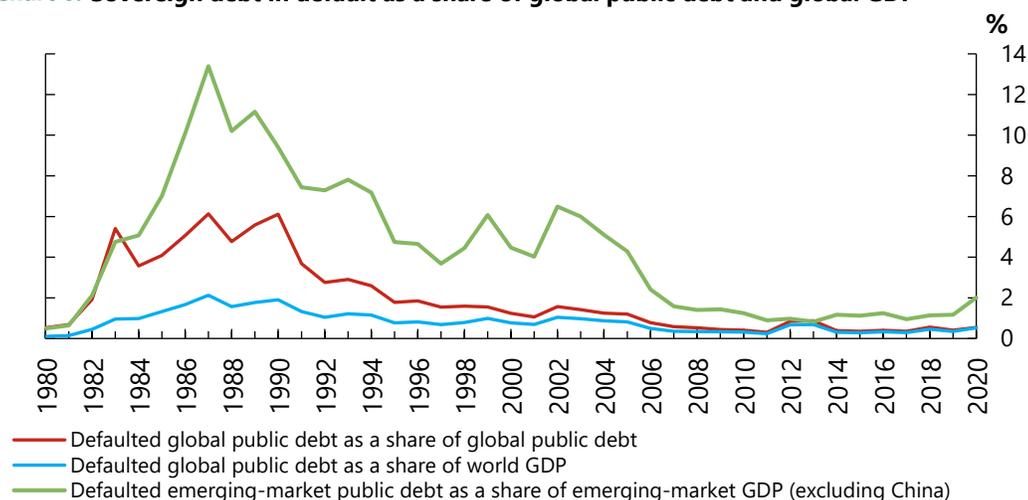
¹⁶ China, India, Abu Dhabi, Kuwait and a few other governments have periodically participated in some Paris Club meetings on an ad hoc basis (Paris Club 2020). For a description of the G20 Common Framework, see [Republic of Italy \(2021\)](#).

In this context, China’s bilateral official lending has generated particular interest. According to independent estimates, its Belt and Road Initiative (BRI), launched in 2013, could result in US\$1 trillion or more of new financing by 2027 (PricewaterhouseCoopers 2016; Morgan Stanley 2018). Emerging-market and low-income sovereigns receive the most BRI funds. The available data on defaulted Chinese official loans indicate that, since 2010, they have increased relative to those in the Paris Club (**Chart 5**) and, at times, overlap with them.



To assess the relative importance of sovereign defaults, we compare the nominal value of debt in default with global public debt and both global gross domestic product (GDP) and the GDP of emerging-market, frontier and other developing economies (excluding China) (**Chart 6**). At the start of the 1980s, sovereign defaults had minimal impact globally. However, by the middle of the decade, significant fiscal stresses affected low- and middle-income countries. The defaulted sovereign debt that was restructured and (in many cases) ultimately written down peaked in 1990, at 6.1 percent of global public debt. Relative to this group’s GDP, the peak was sharper still, at 11.1 percent, but it was milder in terms of global GDP, rising from near zero to 2.1 percent.

Chart 6: Sovereign debt in default as a share of global public debt and global GDP



Source: BoC–BoE Sovereign Default Database 2021

Last observation: 2020

Chart 6 also shows that the global footprint left by these debt workouts has faded, despite big defaults in 2020 by Argentina, Lebanon and Ecuador and the restructuring of sovereign bonds and official loans in the euro area in 2012–13 and again, for official loans, in 2018. Nonetheless, the frequency of such events appears poised to rise significantly, sparked by the global economic and financial shock from the COVID-19 pandemic. Indeed, defaults and restructuring appear likely to be more closely correlated with rising public debt burdens in the near future than at any time since the 1930s. The potential growth in the number and scale of defaults, in turn, could challenge the existing framework for resolving them. In particular, rising US–Chinese tensions could weaken coordination among official creditors and result in more protracted default cases. 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 currency. Still, other government fiscal actions suggest that the sovereign default perimeter should be extended further. Notably, there is substantial evidence that late payments by governments for 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.

Both the definition and the determination of 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, other services and capital outlays. The time frame in which late payments become arrears is typically governed by local law—most often penalties and interest charges can accrue when payments are late by more than 30 or 90 days. When arrears accumulate over a number of 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. Given the often-extended time frame between when arrears emerge and when they are settled, it is clear that the domestic creditors involved incur material losses.

The clearance of arrears and the adoption of policies to discourage them from recurring are frequently 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 domestic arrears, like conventional sovereign defaults, recur and involve a broad spectrum of emerging-market, frontier, other developing and (although less frequently) high-income sovereigns.

Until recently, the published IMF data on domestic arrears had limitations. The data reported usually identified *flows* of arrears, not *stocks*, based on government estimates that are subject to change. Moreover, since the IMF rarely reported estimated stocks of arrears, comparisons with the value of conventional sovereign debt in default were challenging. However, IMF practice is changing, and it increasingly reports domestic arrears data on a stock basis 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 database update, we revise last year’s data for 2018 and include new data for 2019 and 2020. For many Sub-Saharan African sovereigns, we also include data going back to 2005. We also include historical arrears data for five other sovereigns that have not had conventional sovereign defaults. These data are included in a new domestic arrears category for each country. In addition, we provide annual global totals for the sovereigns with arrears we have so far been able to identify. Going forward, we will backfill missing data for 2017 and previous years. With this wider coverage, we have two aims: first, to provide a more comprehensive picture of the scale of historical sovereign debt in distress; and second, to evaluate whether domestic arrears are best viewed as a coincident indicator or as a driver of conventional sovereign defaults.

Our main findings on the 2018–20 data:

¹⁷ For a recent discussion, see International Monetary Fund (2019).

- In aggregate, the stock of identified domestic arrears amounted to US\$143 billion in 2018, an upward revision from US\$122 billion reported last year. This mainly reflects the inclusion of data for five sovereigns not previously identified.
- For 2019 and 2020, our first estimate of domestic arrears puts the global totals at US\$157 billion and US\$152 billion, respectively.
- By comparison, global defaults on conventional sovereign debt in 2018–20 amounted to US\$394 billion, US\$299 billion and US\$443 billion, respectively. The available data highlight two facts:
 - Domestic arrears are sizable in relation to conventional defaults.
 - As highlighted in the 2005–20 data available for Sub-Saharan African sovereigns, domestic arrears often persist for long periods and frequently recur.

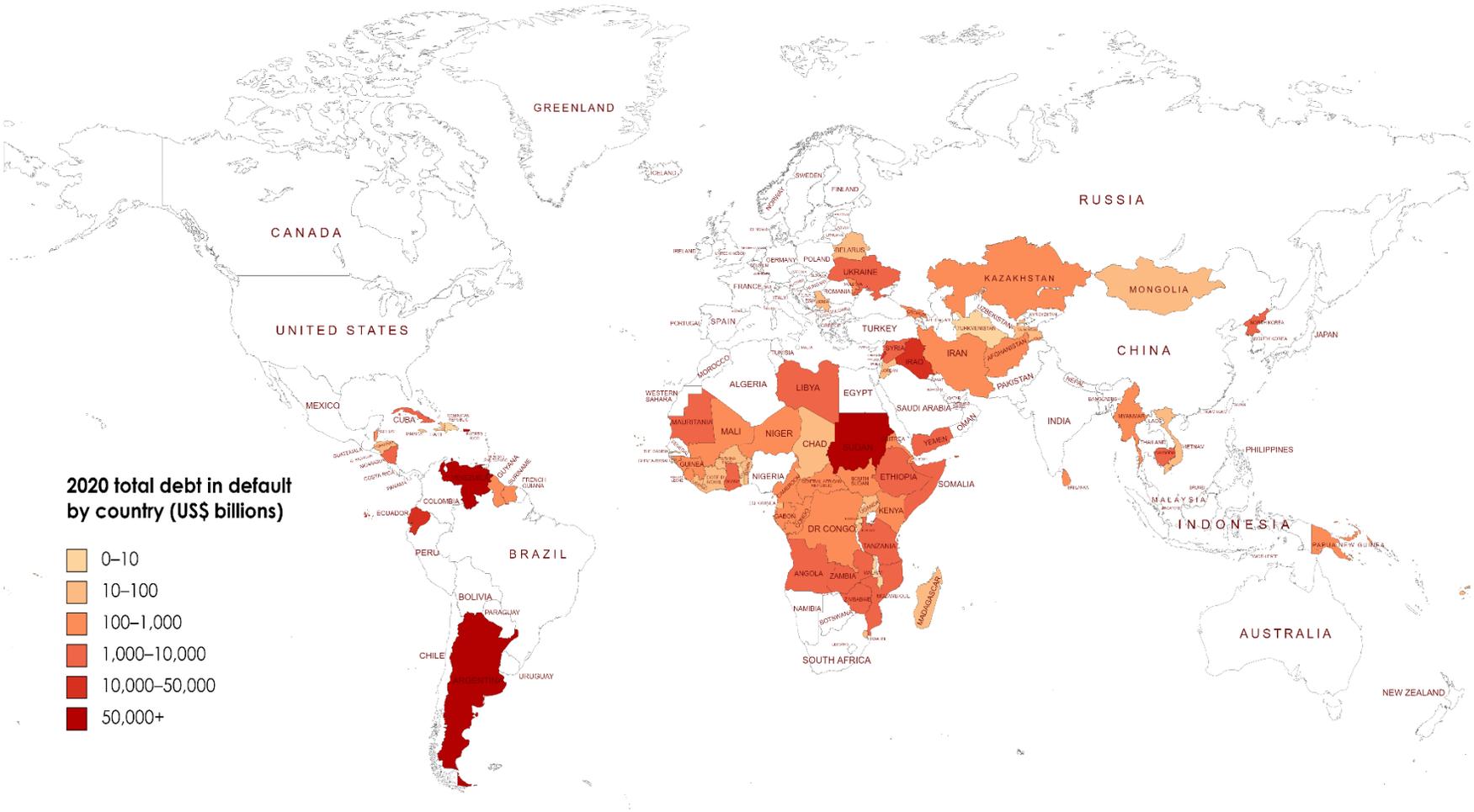
Domestic arrears are also correlated with conventional defaults: over half of the sovereigns in default in the 2018–20 period also had domestic arrears.

The actual scale of domestic arrears throughout 2018–20 was almost certainly larger globally than our findings indicate, as our data do not cover all potential cases. For example, Venezuela, whose arrears in recent years may have been and could still be substantial, does not report them to the IMF.

Conclusion

In publishing our annual update of the BoC-BoE Sovereign Default Database, we aim to provide readers with meaningful insights into the how and why of sovereign defaults and their implications. We will work to further improve the accuracy, reliability and relevance of the data in future versions of the database, including our coverage of domestic fiscal arrears. We welcome questions and feedback on this project.

Appendix: Visualization of 2020 sovereign defaults



References

- Beers, D. and J. Chambers. 2006. "[Sovereign Defaults at 26-Year Low, to Show Little Change in 2007.](#)" S&P Global.
- Beers, D., E. Jones and J. Walsh. 2020. "[How Frequently Do Sovereigns Default On Local Currency Debt?](#)" Bank of Canada.
- Cruces, J. and C. Trebesch. 2011. "Sovereign Defaults: The Price of Haircuts." CESifo Working Paper Series No. 3604. [Bond and bank loan restructuring data](#) are also available.
- Flynn S. and M. Pessoa. 2014. "[Prevention and Management of Government Expenditure Arrears.](#)" International Monetary Fund.
- Hurley, J., S. Morris and G. Portelance. 2018. "[Examining the Debt Implications of the Belt and Road Initiative.](#)" Centre for Global Development Policy Paper 121.
- International Monetary Fund. 2016. "Heavily Indebted Poor Countries (HIPC) Initiative and Multilateral Debt Relief Initiative (MDRI)—Statistical Update."
- International Monetary Fund. 2019. [Regional Economic Outlook—Sub-Saharan Africa: Navigating Uncertainty.](#)
- International Monetary Fund. 2019. "Background Paper: Annex Chapter 3—Domestic Arrears in SSA." In *Regional Economic Outlook: Sub-Saharan Africa*, 27–58.
- Khan, M. and J. Brunnsden. 2018. "Eurozone Creditors Reach 'Historic' Deal on Greek Debt Relief." *Financial Times*. June 21.
- Morgan Stanley. 2018. "[Inside China's Plan to Create a Modern Silk Road.](#)"
- Paris Club. 2020. "[Ad Hoc Participants.](#)"
- PricewaterhouseCoopers. 2016. "[China's New Silk Route: The Long and Winding Road.](#)"
- Reinhart, C. and K. Rogoff. 2009. *This Time Is Different: Eight Centuries of Financial Folly*. Princeton: Princeton University Press.
- Reinhart, C. and C. Trebesch. 2014. "A Distant Mirror of Debt, Default, and Relief." National Bureau of Economic Research Working Paper No. 20577.
- Republic of Italy. 2021. "[The Common Framework for Debt Treatment Beyond the DSSI.](#)"
- Rieffel, L. 2003. *Restructuring Sovereign Debt: The Case for Ad Hoc Machinery*. Washington, DC: Brookings Institution Press.

Suter, C. 1992. *Debt Cycles in the World-Economy: Foreign Loans, Financial Crises, and Debt Settlements, 1820-1990*. Boulder, Colorado: Westview Press.

World Bank Group. 2021. "[COVID-19: Debt Service Suspension Initiative.](#)"