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Priorities for the G20 Finance Track

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Abstract

Emerging markets and developing economies are currently facing major challenges from global shocks including: a slowdown in global growth; food and energy price increases; decline in risk appetite of international investors; unsustainable debts in low-income countries; and ongoing climate risks. National policies have not sufficed to meet these challenges. Efforts at the national level must be complemented by changes in the global economic and financial architecture designed to make the world a safer place. In this paper, we focus on the financial aspects of such reforms. The financial agenda as we see it has seven key elements: (i) reform of central bank swap lines; (ii) reform of IMF contingent credit lines; (iii) SDR reallocation; (iv) reform of credit rating agencies; (v) creation of currency hedging instruments; (vi) inclusion of climate-resilient debt clauses in new debt instruments; and (vii) steps to streamline the debt restructuring process. We detail this agenda, and urge the G20 members to implement the recommended measures.

Keywords: G20 countries, Emerging markets, Developing economies, External debt, Financial reforms, Central bank swap lines, IMF contingent credit lines

JEL Classification: E44, E58, E61, F34, F36, F38

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1. Introduction

Recent events, from the COVID-19 pandemic to Russia's invasion of Ukraine and now the global slowdown, are reminders that small open economies, and even not-so-small open economies, do not entirely control their own fate. Even when they deploy their entire arsenal of economic policy tools, they are not able to fully insulate their economies and residents from global shocks.

Those shocks have been coming fast and furious. First is the slowdown in global growth, driven in 2022 by China and prospectively in 2023 by the U.S. and Europe, which, even if they avoid recession, are certain to grow more slowly. This will mean weak external demand for emerging markets, many of which depend heavily on exports. Second is the terms of trade shock, given the unusual situation that food and energy prices have been going up even while global growth goes down. This negative shock disproportionately impacts food and energy importers. Third is the decline in risk appetite on the part of international investors as economic and financial conditions become more volatile and returns on safe assets rise, driven by sharp increases in the policy interest rates of advanced-country central banks. This shift manifests itself in the curtailment of portfolio capital flows into emerging markets, and in some cases in portfolio outflows from emerging and developing countries. Thus, India saw a cumulative portfolio capital outflow of more than US \$30 billion in the 12 months ending in October 2022.¹

Historically, this toxic mix has resulted in recession and, more than once, financial crises. Thus, it is revealing that official and private forecasters anticipate that emerging markets and developing countries will continue to grow in 2022-23 despite this unfavorable global backdrop. IMF forecasts are representative: the Fund sees emerging and developing countries growing by 3.9 percent in 2022 and 4.0 in 2023.² Some will say that the other shoe has yet to drop, that more downward revisions of growth forecasts will yet follow. Dozens of low-income countries face severe debt-servicing difficulties. But that emerging-market economies as a class have avoided outright recession and financial crisis testifies to the progress they have made in strengthening their policy frameworks and institutions.

The particulars of that progress are well known. Emerging markets have in many cases brought down formerly high rates of inflation, often through the adoption of inflation targeting as a monetary framework, together with measures strengthening the independence of their central banks. They have turned to greater exchange rate flexibility to facilitate adjustment. They have accumulated foreign exchange reserves to permit intervention when the exchange rate is buffeted by shocks (although a share of that reserve cushion has now been worked down as a result of recent intervention). They have

¹ Over the first 10 months of 2022, it saw the rupee depreciate by 10 percent against the US \$, and local-currency bond yields rise by more than 130 basis points.

² Admittedly, a fall in GDP growth in emerging and developing countries from 6.7 percent in 2021 to 3.9 percent now is not ideal, but it is worth recalling that the 2021 rate was boosted by the bounce-back from COVID-19 lockdowns and supply-chain disruptions in 2020. Prior to the pandemic, growth in this set of countries had been running at between 4.5 percent (in 2017-18) and 3.5 percent in 2019. Seen in this light, these forecasts for 2022-23 are not that unfavorable.

strengthened fiscal rules and institutions and maintained public-debt-to-GDP ratios that on average are less than half of those of advanced economies. They have succeeded in issuing a sharply higher share of government debt in local currencies.³ They have embraced macro-prudential policies. And monetary, fiscal and regulatory authors have done a better job of communicating their intentions and actions to financial markets and other stakeholders.

Although this progress at the national level continues, progress at the national level alone is not enough. It is past-due time to implement changes in the global economic and financial architecture designed to make the world a safer place for emerging markets and developing countries.

In this paper, we focus on the financial aspect. We do so in part because we have little to say about reforms that might limit the risk and incidence of global recessions and terms-of-trade shocks. In terms of limiting global recessions, advanced countries could avoid excessive fiscal stimulus that causes inflationary pressures to develop. Their central banks could avoid falling behind the curve so that, to catch up, they are forced to jack up interest rates with a vengeance.⁴ They could limit their dependence on unreliable sources of energy. They could engage in a modicum of fiscal consolidation once recovery is secure. In terms of food- and energy-price shocks, major economies could diversify their sources of supply, invest in self-sufficiency and sustainability, and cooperate with one another, importantly in Europe but also more broadly. They could avoid international conflicts that threaten major supply disruptions.

The other reason we focus on the financial dimension is that important aspects of this agenda remain unaddressed. Our goal in this paper is to remind the G20 of the details of this agenda, and to urge members to get on with it.

2. The Agenda

The financial agenda as we see it has seven key elements: reform of central bank swap lines; reform of IMF-contingent credit lines; SDR reallocation; reform of credit rating agencies; creation of new hedging instruments for economies with currency mismatches; inclusion of climate-resilient debt clauses in the new debt raised; and steps to streamline the debt restructuring process.

³ Albeit without always succeeding in selling it to local investors.

⁴ We do not think that it is realistic to call for major advanced-country central banks such as the Federal Reserve to take the foreign repercussions of their policies into account, above and beyond their spillover and spillback effects. But we would argue that their falling behind the curve and then having to scramble to implement sharp increases in rates unnecessarily aggravated both domestic and international financial stability risks. Thus, the idea that central banks should avoid falling behind the curve so as to avoid having them to impose major monetary dislocations is compatible both with their domestic economic and financial stability mandates and the needs of emerging markets.

i) Generalize central bank swap lines

Bilateral swap lines have proliferated in recent years (see Figure 1.) Central bank swap lines generally, and the dollar swaps provided by the Federal Reserve in particular, have been highly effective in calming financial markets during periods of volatility. Bahaj and Reis (2022) examine deviations from covered interest parity as a measure of financial stringency and stress. They find that such deviations are smaller for currencies issued by central banks with access to Federal Reserve swap lines than for comparable currencies issued by central banks lacking such access. Further, they find a positive impact on the condition of financial institutions in the recipient countries.⁵ Although there now exists a broad-based network of some 170 bilateral swap lines worldwide (Perks et al. 2021), the Bank for International Settlements (BIS) concludes that the Fed's dollar swaps are especially important and powerful, given the dominance of the U.S. dollar in cross-border financial transactions and the magnitude of cross-border claims on banks operating in the United States (BIS 2020).

The Federal Reserve has acknowledged the utility of dollar swaps and made five of its temporary swap lines permanent, thereby making it easier and quicker for the recipients to tap them. But it has provided these facilities selectively, and it has not been transparent about its criteria for deciding who gets access. Other central banks similarly provide swaps of the currencies they issue to a limited number of partners. The European Central Bank maintains a euro swap line with Poland, where euro-denominated mortgage obligations are prevalent; it has tendered a total of 28 such agreements since the Global Financial Crisis. The People's Bank of China (PBOC) has entered into 41 bilateral currency swap agreements, arguably with the goal of encouraging trade settlement in local currencies (notably its own) rather than for dealing with financial distress (Tran 2022).⁶ Still other central banks and governments provide ad hoc loans of foreign currency to top up their partner's reserves; Saudi Arabia's deposits with the Egyptian and Pakistani central banks are examples (*The Economist* 2022). Finally, there exist regional swap agreements such as the Chiang Mai Initiative Multilateralization, under which central banks may obtain dollar or local currency swaps from partner central banks participating in the arrangement – though it is notable that this facility has not been drawn on in its two-plus decades of existence. More detail on these arrangements is provided in Appendix A.

Emerging and developing members of the G20 are all recipients of swaps of one form or another, but most smaller emerging and developing countries (EMDCs) are not. The G20 should therefore encourage central banks to broaden their networks of currency swaps. The Federal Reserve can afford to extend swaps to additional central banks without balance sheet risk to itself (if these additional central banks have other assets that can act as collateral). Other central banks with partners that do business in the former's currency can similarly take steps to provide swaps more widely. Temporary swaps can be made permanent. Central banks with ample dollar reserves can make these available to partners

⁵ In addition, they find a positive impact on the prices of U.S. corporate bonds held by recipient-country financial institutions, suggesting that the extension of dollar swaps by the Federal Reserve is not entirely selfless.

⁶ Although some of the PBOC's swaps, such as those with Argentina, appear to be intended to supplement the country's foreign exchange reserves rather than to encourage local currency settlement.

as in the case of Saudi Arabia in Egypt and Pakistan, though it would be highly desirable for such arrangements to be formalized where they are ad hoc, and for the terms to be transparent. The Reserve Bank of India might negotiate similar arrangements in South Asia, while the South African Reserve Bank could do likewise in southern Africa. Such arrangements would go part way toward filling the holes in the global financial safety net.

There have also been more ambitious proposals (e.g. Gallagher and Gao 2021) for routing central bank swap lines through a multilateral organization such as the IMF, perhaps transferring to the Fund the power to decide who on the receiving side qualifies. But central banks issuing hard currencies would be reluctant to cede these prerogatives. Governments and not central banks are IMF members.

Fortunately, there exists an alternative that can, in principle, fulfill the same functions, namely the IMF's contingent credit lines, to which we now turn.

ii) Reform IMF-contingent credit lines

The introduction of IMF-contingent credit lines was stimulated by the observation that holding foreign reserves is costly (Rodrik 2006) and that even ample reserves may not suffice to insulate countries from global shocks beyond their control.

To remind the reader, the Fund now has a trio of contingent lines. Table 1 compares their features. The Flexible Credit Line (FCL) introduced in 2009 was intended to encourage countries to seek IMF assistance before experiencing a full-blown crisis. Pre-qualified countries can draw on an FCL at any time within the period covered, without a cap of amounts, for a renewable period of an initial one or two years. But only countries with “very strong fundamentals” (in the words of the IMF's website) can qualify.⁷ And countries must apply.

The Precautionary and Liquidity Line (PLL) was added subsequently to address the liquidity needs of countries with sound economic fundamentals but with “some remaining vulnerabilities” that prevent them from qualifying for an FCL. Durations are shorter, while amounts are capped at 250 percent of the quota for the first year and 500 percent of the quota for the entire arrangement, reflecting the existence of these vulnerabilities. Qualified countries are subject to “focused ex post conditionality” designed to eliminate those remaining vulnerabilities and undergo biannual reviews by the IMF Executive Board.

Finally, the Short-Term Liquidity Line (SLL) established in 2020 in response to the COVID-19 pandemic is designed to be drawn by countries with very strong policies but facing temporary adverse capital account conditions. The qualification criteria are similar to those for the FCL, but the periods are shorter, the amounts are limited to 145 percent of the quota, and the fees are lower if the facility is used purely on a precautionary basis. The fees convert to those applying to the FCL if the line is actually drawn.

In their first decade, only five countries signed up for an FCL or PLL: Mexico, Poland, Colombia, Macedonia and Morocco. Peru, Chile and Panama joined in 2020-21. Of these eight, only Macedonia, Morocco and Colombia have actually drawn. Table 2 provides the

⁷ A 2017 review of the FCL specified in more detail what this means specifically.

details. Table 3 shows that resources potentially made available are large in proportion to the reserves that these countries hold. So, failure to apply is a paradox. Policymakers in countries with strong policies may not see the need. Or they may fear that applying sends an adverse signal to the markets. Application to the PLL may be further discouraged by the need to subject the country to IMF conditionality, regular staff monitoring, and periodic Executive Board oversight.

Lisi (2022) concludes that negotiating an FCL or PLL generally leads to a reduction in sovereign spreads and a smaller increase in spreads in the event of an adverse shock such as the COVID-19 pandemic.⁸ He finds no negative impact on the spreads of countries actually drawing on these lines. The problem for analysis is that these findings are based on a very small sample, as just described, and that countries applying for contingent lines are not randomly selected, as Essers and Ide (2019) show. In our view, the case for contingent IMF lines remains to be made empirically, though the underlying analytical case remains strong, insofar as foreign currency resources have insurance value but warehousing reserves is costly.

The G20 should therefore endorse measures to enhance their role. Advanced countries could apply for contingent lines as a way of weakening the adverse signaling effect that deters emerging-market governments. More ambitiously, the IMF could prequalify countries rather than requiring them to apply. It could include in the Article IV report whether a country qualifies or not and the amount of the line. The charges attached to initial qualification could be eliminated entirely. Lines could disburse automatically when there is an “EM sell off” identified by the IMF staff and verified by the Executive Board.

Acceptance of a larger role for the IMF in global financial management, through the extension of contingent credit lines and provision of other forms of finance, rests on the legitimacy of the institution in the eyes of its members. As shown by the quota shares in Figure 2, the imbalance between the votes and voices of advanced and emerging G20 members is growing, not shrinking. Continued quota reform should therefore be an integral element of the G20 agenda.

iii) Reallocate SDRs

The historic decision of IMF members to authorize a new \$650 billion allocation of Special Drawing Rights (SDRs) in response to the COVID-19 economic crisis was supposed to be accompanied by reallocation of those SDR resources from high-income countries that don't need them to low-income countries in balance-of-payments and fiscal distress. Yet more than a year later, there has been little such reallocation. An unprecedented number of low-income countries have drawn on their own SDR allocations in the interim. But the bulk of the 2021 allocation remains immobilized in the hands of high-income countries that are the majority recipients.

⁸ In an earlier study, Birdsall, Rojas-Suarez and Diofasi (2017) similarly find no evidence that applying sends an adverse signal to the markets.

To facilitate that reallocation process, the IMF agreed to create (and operationalized in October 2022) the “Resilient and Sustainability Trust,” or RST, which builds on the earlier Poverty-Reduction and Growth Trust (PRGT). Where the PRGT pools SDR-related donor funds (SDRs which can be swapped for currencies or equivalent amounts in those currencies) for lending to low-income countries, mainly for balance of payments needs, the RST is designed to address the needs of both low- and middle-income countries with longer-term funding needs, including those related to climate change and pandemic readiness. SDRs are lent rather than donated to lessen bureaucratic constraints. RSF arrangements have a 20-year maturity and a 10.5-year grace period during which it is not required to repay the principal. Concessional interest rates are in line with those on the PRGT. This effectively removes pre-existing obstacles to SDR reallocation.

Borrowing from the RST, however, requires a government to request an IMF program. Although this can include a non-financing “IMF-supported program”, this requirement can still act as a deterrent. In addition, the RST is initially capped at 150 percent of the quota or SDR 1 billion, whichever is smaller, which translates into a sum significantly smaller than the SDR allocation received by high-income countries in 2021. The IMF foresees mobilizing only \$42 billion of SDRs for reallocation. As of October 2022, only six members had signed agreements to lend their SDRs, for a total of \$20 billion. Staff-level agreements had been reached with only three countries (Barbados, Costa Rica and Rwanda), with negotiations still underway with a handful of others (IMF 2022).

This is progress, but relative to ambitions attached to the 2021 SDR allocation the RST remains underpowered. The 150 percent of the quota cap can be lifted. Conditions attached to the associated staff-monitored programs can be further simplified and streamlined.⁹ The G20 can resolve that additional advanced-country governments beyond the pioneering six should contribute to the trust.

iv) Reform rating agencies

Sovereign rating changes (especially downgrades) have a substantial (negative) impact on financial conditions in emerging markets (see e.g., Kraeussi 2003). Stability can be threatened by so-called cliff effects, when sovereigns are downgraded from investment to non-investment grade, forcing institutional investors to liquidate their positions in response to regulatory requires or their own mandates. Ratings are procyclical, causing them to amplify economic and financial cycles: upgrades facilitate and encourage overborrowing during upswings, and during downswings precipitate financial crises (Ferri, Lui and Stiglitz 1999; Griffith-Jones and Kraemer 2021). Fear of downgrades may also be part of the explanation why countries have been reluctant to participate in the G20’s Debt Service Suspension Initiative and Common Framework (United Nations 2022).

These problems are likely to grow more severe as sovereign bonds become more complex, with the addition of contingencies related to inter alia climate-change- and public-health-related risks (see below). Policymakers in emerging markets will want to know

⁹ The program requirement presumably cannot be eliminated because the SDRs funding the RST are lent rather than donated, requiring assurances that the lending countries will be paid back.

how credit ratings will be affected by the addition of these clauses, and officials will want to know on what basis rating agencies are gauging the resulting risks. In contrast to government agencies, rating agencies do not publish formal debt sustainability analyses underlying their judgments. They do not provide fan charts surrounding their central cases; they do not provide scenario analyses. They do not provide model-based ratings and then explain how judgmental factors, including political judgments, cause them to modify model outputs.

The aforementioned are all best practices that could be required by regulators.¹⁰ The cliff-edge problem can be addressed by regulatory reform at the national level. National authorities could modify regulations that require financial institutions to abruptly liquidate claims on a country when it is downgraded or to abruptly add significant amounts of additional risk capital. A more gradual approach to adjusting risk weights could be substituted. So too could rules that mandate gradual adjustments of portfolio shares in response to incremental changes in overlapping tiers of ratings. The mandates of financial institutions could be altered to require them to maintain an average rating for their entire portfolio, not to restrict each and every holding in the portfolio to a certain grade. The G20 could help by establishing a committee to identify best practices for risk weighting and regulation at the national level, keeping these concerns in mind.

In addition, more systematic and regular dialogue between rating agencies and government officials in more countries can reduce misunderstanding on both sides. More extensive dialogue between rating agencies and multilateral institutions could prevent the former from inferring that participating in the programs of the latter is a sign of economic and financial weakness.

Commercial credit ratings are only as good as the data used as inputs, and data on the external debt of governments (and its composition) are imperfect and incomplete. Greater accuracy and transparency of debt statistics is also an issue when a sovereign debtor and its diverse creditors meet to negotiate debt restructuring and agree on comparability of treatment (see below). It is equally an issue for the rating agencies, which can be reduced to making guesses in the absence of hard information. Improving debt data is an obvious way of modestly enhancing the rating agencies' performance.

Complaints from emerging markets that credit ratings are arbitrary and unfair and that investors have a tendency to react strongly (and possibly over-react) are fueled by rating agencies' lack of transparency and by their reluctance to acknowledge uncertainty surrounding their judgments. Rating agencies publish the "building blocks" of their methodologies, but only partially (without detailing the "qualitative overlay") and only in general terms.¹¹ Even if the methodologies of the Big Three rating agencies (Standard & Poor's, Moody's and Fitch) are broadly similar, their ratings can differ markedly.

As we show in Appendix B, commercial credit ratings for emerging markets depend heavily on indicators of the quality of institutions and governance, in addition to the data on debt alluded to in the previous paragraph and other macroeconomic indicators. When one looks across the G20 advanced and emerging markets, EMs receive lower ratings even

¹⁰ Especially those who use commercial credit ratings as inputs to capital adequacy regulation.

¹¹ For discussion, see Griffith-Jones and Kraemer (2021).

after controlling for a comprehensive set of available debt and macroeconomic indicators. In other words, when one adds a dummy variable for EM status, its coefficient is strongly negative (indicating a lower rating) and highly significant, even after controlling for observed macroeconomic indicators. But when one adds institutional and governance indicators (such as or the World Bank’s “Worldwide Governance” and “Doing Business” measures), this differential disappears. Policy makers in emerging markets argue that the weight attached to such indicators is arbitrary and opaque, and that the measures in question are of dubious quality. Emerging markets with no history of debt default nonetheless receive lower ratings than their observed debt loads and macroeconomic performance would otherwise lead one to expect.

Addressing these concerns requires more than just improving the debt and macroeconomic statistics used in rating-agency exercises. It requires efforts on the part of multilaterals and others to improve the quality of the institutional/governance measures they produce, while being more transparent about how they produce them. It requires more transparency on the part of rating agencies on exactly how they use the resulting measures.

v) Create hedging instruments

Many low-income and not a few middle-income countries continue to have no choice but to borrow in foreign currencies (Eichengreen, Hausmann and Panizza 2022). This exposes them to financial risk and economic dislocation from exchange-rate volatility. Periods like 2022 when the U.S. dollar rose sharply, making it more difficult for such countries to service and repay their dollar-denominated debts, illustrate the point.

Readily available hedging instruments at the relevant maturities and affordable cost would help to mitigate these dangers. Private markets in such hedging instruments exist for only a small number of emerging economies, such as Chile, with relatively well-developed financial markets (see Alfaro, Calani and Varela 2021). Developing such markets for additional countries and currencies would be a significant step toward reducing financial fragility, although this goal remains out of reach for many emerging markets and most frontier economies.

Entities such as Currency Exchange Fund NV, or TCX, show how such a market could be structured. TCX was established 15 years ago by a group of national governments (German, Dutch, British and Swiss), development finance institutions or DFIs (such as KfW from Germany and JBIC from Japan), and additional donors to provide swaps and forward contracts in emerging market currencies.

TCX operates mainly in connection with development finance. When a bank or other entity in a developing country borrows from a multilateral development bank or other DFI, that DFI is not in a position to provide a loan in the borrower’s local currency because of the risk to its own balance sheet. TCX provides the DFI with a hedging instrument in the relevant currency and tenor, enabling it to extend a domestic-currency

loan.¹² The original maturity of these instruments averages three to five years. Interest rates on those local currency hedges are above interest rates on dollars, adjusted for differential inflation. In other words, the borrower pays a premium for hedging its currency risk but reaps benefits in terms of stability and risk reduction. This pricing model has been sufficient for TCX to break even or even earn a modest positive return in most years.

In the absence of other hedging instruments, there is no secondary market to which TCX can transfer its exposures (although on occasion, the Fund has been able to sell portions of its portfolio to other interested parties, typically investment banks). Currency diversification mitigates some of the residual balance-sheet risk, but not all. Capital therefore has to be sufficient to enable the Fund to meet its commitments in the event of balance-sheet losses. Unfortunately, TCX's capitalization is limited to \$1.1 billion U.S. (as of end-2020). This limited capital limits the hedges that it can provide. As a result, the Fund has a balance sheet of derivatives of only some \$5 billion U.S.¹³ TCX to date has hedged loans mainly to micro-borrowers and small- and-medium-sized enterprises (SMEs), although its loans for infrastructure and sustainable energy projects have been growing.

TCX's capital is minute by the scale of the problem. Only four G20 governments are shareholders in the Fund.¹⁴ Most of the hedges provided by TCX go to relatively small private borrowers in frontier markets, not to frontier and emerging-market governments exposed to currency mismatches. A G20 agreement to provide the funding needed for TCX or an equivalent entity at the IFC or elsewhere to scale up significantly would help to address the currency mismatch problem that creates financial fragility. This demonstration effect may then attract commercial banks and other private financial entities into providing currency hedges for this growing market.

vi) Insert climate-resilient debt clauses into debt contracts

Climate change poses special risks to developing countries, especially those that are low-lying and lack the financial resources to invest heavily in resiliency. A climate-change-related disaster can also turn into a financial disaster insofar as such countries find themselves unable to service their debts and see their capital-market access curtailed.

Financial market participants, with support from the international policy community, have made progress in standardizing a variety of other contingent clauses and inserting them into debt contracts, thereby beginning to address this incomplete-markets problem. The market in privately-issued catastrophe bonds allows insurers to reinsure against losses from earthquakes, hurricanes and related natural disasters. Last September, Barbados issued the world's first government bond with a clause allowing payments to be

¹² In addition, in some cases where the loan is extended in dollars or euros, TCX may provide hedging instruments directly to the borrower.

¹³ Capital as a share of risk-weighted assets was 30 percent at the end of 2020, up from 24 percent in 2019 (TCX 2021).

¹⁴ Although others have some indirect participation through inter alia the European Bank for Reconstruction and Development (EBRD), European Investment Bank, and International Finance Corporation of the World Bank.

suspended in the event of another global pandemic. In addition, it issued a dollar-denominated global bond in conjunction with a restructuring that included provisions for payments to bondholders to be delayed for up to two years in the event of a specified natural disaster (earthquake, tropical cyclone, excessive rainfall).

The decision of Fitch Ratings to assign a B rating to Barbados' disaster bond suggests the existence of a market for such issues. The market will be deeper and more liquid, however, and any adverse signal (issuing such a bond may be taken as a sign that a government anticipates lacking the capacity to cope, financially, with the shock) will be less if a broad set of countries, including advanced-country governments, issue such bonds. The G20 countries should be open to including such clauses in their own bilateral, regional and multilateral lending to climate-sensitive low-income countries. They could use regulation to persuade and incentivize private creditors to do likewise. They might subsidize interest premium for such contingent lending through multilateral institutions, in the same manner that some advanced countries have done for catastrophe/pandemic bonds issued by the World Bank.

It is useful that a private sector working group convened by the UK Government (PSWG 2022), including investment banks, legal experts, academic experts and multilateral financial institutions, have agreed on a template or term sheet for such bonds. A standard template will make for a more homogenous, liquid market. It will reduce the transactions cost of issuance. The G20 should encourage and endorse this initiative.

vii) Create a more efficient mechanism for restructuring debts

According to the World Bank, as many as 60 percent of all low-income countries are in or at high risk of debt distress (Ahmed and Brown 2022). (We provide more detail on the financial situation of these countries in Appendix C.) “The Common Framework for Debt Treatments” agreed by the G20 in November 2020 is intended to expedite necessary debt restructurings. This framework was designed to give the Chinese government a seat at the table alongside existing Paris Club bilateral lenders and to ensure that private creditors would provide comparable relief. Yet more than two years later, only three countries, Chad, Ethiopia and Zambia, have applied for relief through the Common Framework. Only one, Chad, has completed the process and actually obtained relief.

The heads of the World Bank and IMF have suggested that distressed debtors seeking relief under the Common Framework should receive statutory protection from asset seizures by national courts when suspending debt service payments. This will help to relieve immediate debt distress and encourage more countries to apply for relief under the framework. But that protection needs to be implemented by creditor-country governments through legislation or executive order. The G20 can adopt a resolution to this effect. More countries can also be encouraged to apply if the Common Framework is extended from low- to middle-income countries such as, for example, Sri Lanka. The IMF can also speed the process by offering impartial, blunt appraisals of exactly how much relief is necessary.

Beyond the immediate need to fix the Common Framework, there is the need to address the increasingly diverse and fragmented nature of the creditor base, which

heightens free-rider problems and complicates debt restructuring. To this end, new creditors such as China and India should be admitted as official members of the Paris Club.¹⁵ The Common Framework is supposed to be an alternative to the Paris Club, but it operates on an ad hoc basis and lacks the precedents and secretariat of its long-standing counterpart.

In addition, the G20 should support ongoing efforts to streamline the restructuring process through the adoption of collective representative and collective action clauses in sovereign bond contracts. Most new debt issues by emerging markets and developing countries now include collective action clauses (though legacy debt does not). Two-limb voting clauses have now been used in the recent Ecuador and Argentina restructurings, although the simpler single limb voting provision in some recent issues has not yet been used (IMF 2020). However, other instruments such as newly-issued syndicated loans and foreign-law-governed sub-sovereign bonds still do not include CACs; these should be added. Legislation adopted at the national level should make this a requirement.

In addition, more creditor countries can adopt “anti-vulture fund” legislation, along the lines of acts adopted by the United Kingdom, Belgium and France. Doing so will prevent private creditors from holding up renegotiation by rushing to the courthouse (Gill and Buchheit 2022).

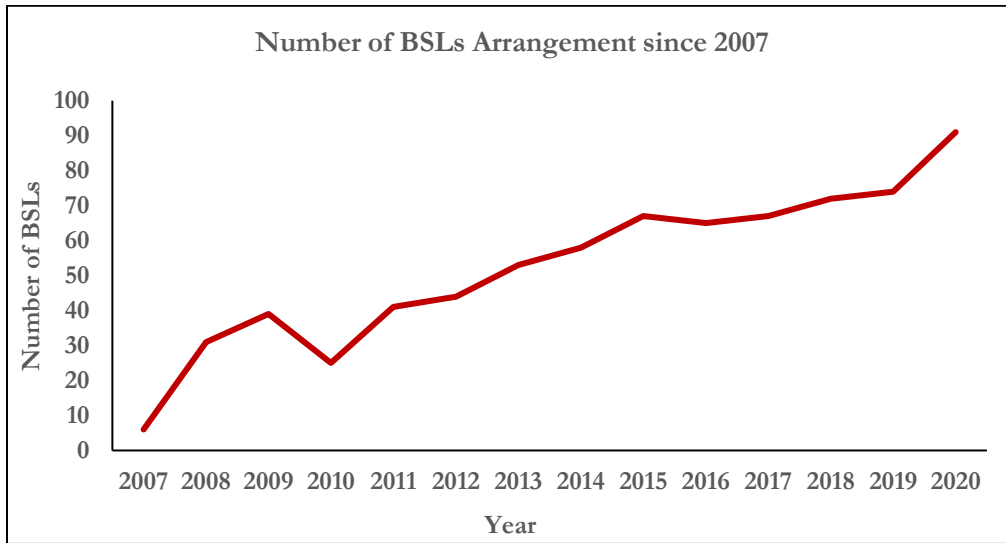
Finally, efforts to restructure problem debts tend to be stymied by less than complete information on who owes what to whom. Not all official creditors provide comprehensive information on their loans, which complicates efforts to agree on burden-sharing (World Bank 2021). Nor is the problem limited to official creditors. In 2021, the OECD launched a “Debt Transparency Initiative” encouraging private creditors to provide more complete information on their loans and investments (OECD 2021). Few private creditors have participated so far, however (Neiman 2022). The G20 governments can make this a regulatory requirement.

3. Conclusion

The G20 finance track has no shortage of problems to address. Few of these problems have simple solutions, but it should still be possible to make progress on them during the Indian G20 presidency. In this paper, we have suggested six specific areas where concrete progress is possible. There is no reason why the G20 cannot address these issues simultaneously.

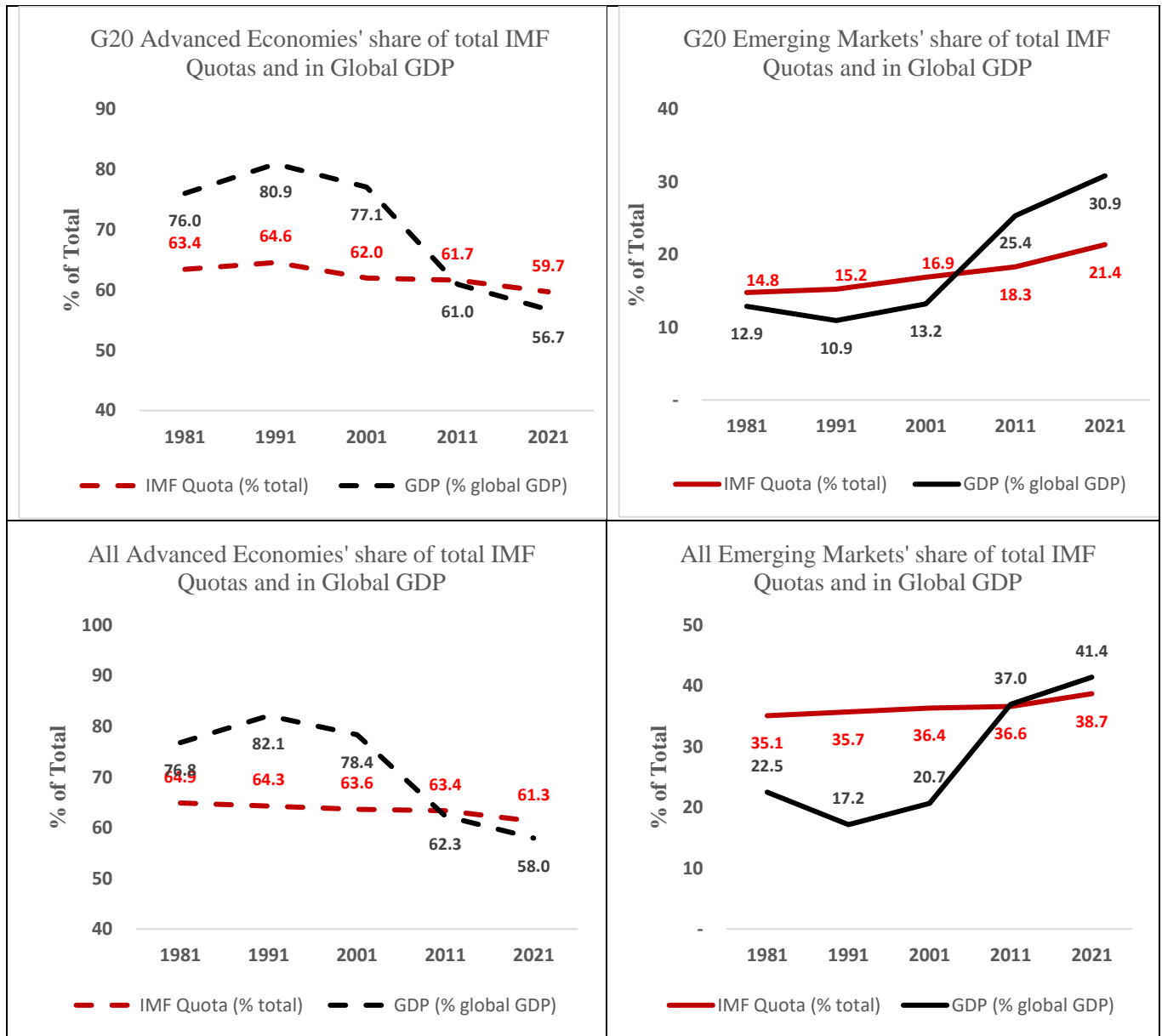
¹⁵ Currently, both have only observer status.

Figure 1: Number of Bilateral Swap Lines (BSLs), 2007-2020



Source: Perks et al. (2021), downloaded from the IMF website. Two-way arrangements are counted only once.

Figure 2: Advanced Country and Emerging Market GDP Shares and IMF Quotas



Source: The GDP and population data is from World Development Indicators (WDI, World Bank) and the IMF Quota information is from the IMF Quota and Governance Publications and IMF Annual Reports.

Table 1: Comparison of the Key Features of the SLL, FCL and PLL

	SLL: Short-term Liquidity Line	FCL: Flexible Credit Line	PLL: Precautionary Liquidity Line
Introduced in Year	Spring 2020 (part of IMF’s COVID-19 response)	March 2009 (in response to the 2007-09 Financial Crisis)	November 2011 (replacing the Precautionary Credit Line, PCL)
Facility	Special facility	Credit tranches	Credit tranches
Objective	Provide “swap-like” liquidity support to very strong members for special Balance of Payment (BOP) needs.	Allow very strong members to deal with any type of BOP needs.	Provide financing to meet actual or potential BOP needs of countries with sound policies that may have some vulnerabilities which prevent them from qualifying for the FCL.
Balance of Payments needs	Potential, moderate, short-term BOP difficulties reflected in pressure on the capital account and the member’s reserves resulting from volatility in international capital markets.	Any	Any
Qualification	Based on an assessment of: <ul style="list-style-type: none"> • Very strong fundamentals and institutional policy frameworks. • Very strong policies: in the past, currently, and commitment to maintaining them 		
Repurchase period	12 months	3¼–5 years	Same as FCL
Access	Up to 145 percent of the quota; revolving access	No access limit	For a 6-month PLL arrangement, funds are capped at 250 percent of the quota. For 1-2 years, the first-year funds capped at 250 percent of the quota and a total of 500 percent of the quota for the entire arrangement.
Duration of arrangement	12 months	1 or 2 years	6 months to 1 or 2 years.
Charges and fees	A special fee structure would apply: <ul style="list-style-type: none"> • Non-refundable commitment fee (8 bps) • Service charge (21 bps) 	The usual charges and fees that apply under the credit tranches: <ul style="list-style-type: none"> • Normal schedule for commitment fees that are refundable on drawings (15 bps up to 115 percent of the quota, 30 bps from 115 to 575, and 60 bps above 575) • Normal service charge (50 bps) • Lending rate: 	

	<ul style="list-style-type: none"> • Normal rate of charge • Normal schedule for level-based surcharges. SLL does not count towards time-based surcharges 	<ul style="list-style-type: none"> ○ Basic rate of charge - SDR interest rate (floored at 5bps) and a margin (currently set at 100bps). ○ Surcharge – On the amount of credit outstanding above 187.5 percent of the quota, 200bps in the first 3 years, and 300bps after 3 years. <p>The level and time charges are set with the aim of discouraging large and prolonged use of IMF's lending resources.</p>	
Activation	Board approves the “extension of an offer,” and the arrangement enters into effect upon the Fund confirming receipt of the signed written communication from the member, including the acceptance of the offer and policy commitments; no prior informal Board meeting required.	Upon Board approval of the request for the arrangement; prior informal Board meeting required.	Upon Board approval of the request for the arrangement; prior informal Board meeting and preliminary assessment of qualification by the country team required.
Signatory	Given the more limited anticipated adjustment (if needed), sole central bank signatory of the written communication possible in certain cases.	Both the central bank and the government generally sign the written communication, given the broad nature of BOP needs that can be addressed under the FCL.	
Ex-post conditionality	None	None	Qualifying countries are subject to “focused ex-post conditionality” designed to eliminate those remaining vulnerabilities and undergo biannual reviews by the Executive Board.
Reviews	None	Annual review to assess qualification for two-year arrangements.	1-2-year PLL arrangements are monitored through 6-monthly reviews by the Executive Board.
Successor arrangements	No restrictions, upon Board assessment of continued qualification and existence of special potential BoP need.	Exit expected as external risks decline.	Approval subject to an assessment of continued qualification and prior actions.

Source: The table is reproduced from the IMF Factsheets: Short-term Liquidity Line (SLL) (imf.org), Precautionary and Liquidity Line (PLL) (imf.org), PPL - operational guidance note, IMF.

Table 2: IMF Credit Lines Approved and Availed of

Country	Credit Line	First Approval	All Approvals	Expiration Date	No. of Renewal 1/	Duration of the Line	Total Amount Agreed upon (\$ bn)	Funds drawn (\$ bn)
Mexico	FCL	17-Apr-09	19-Nov-21	18-Nov-23		2	47.3	No
			22-Nov-19	18-Nov-21		2	59.2	No
			29-Nov-17	21-Nov-19		2	71.0	No
			27-May-16	28-Nov-17		1	82.9	No
			10-Jan-11	26-May-16	2	2	62.8	No
Poland	FCL	06-May-09	17-Apr-09	09-Jan-11	1	1	41.9	No
			13-Jan-17	02-Nov-17		11mo	8.6	No
			14-Jan-15	12-Jan-17		2	17.3	No
			18-Jan-13	13-Jan-15		2	29.2	No
			21-Jan-11	17-Jan-13		2	25.5	No
Colombia	FCL	11-May-09				1,6mo		No
			06-May-09	20-Jan-11	1	(2/)	18.2	
			29-Apr-22	28-Apr-24		2	9.5	No
			01-May-20	28-Apr-22		2	16.3	5.0
			25-May-18	30-Apr-20		2	10.4	No
			13-Jun-16	24-May-18		2	10.9	No
							2,2,1	
Macedonia	PLL	19-Jan-11	06-May-11	12-Jun-16	2	(3/)	5.1	
			07-May-10	05-May-11		1	3.1	No
			11-May-09	06-May-10		1	9.3	No
			21-Nov-22	20-Nov-24		2	0.54	0.11
Morocco	PLL	03-Aug-12	19-Jan-11	18-Jan-13		2	0.55	0.26
			17-Dec-18	07-Apr-20		2	2.9	2.9
			22-Jul-16	21-Jul-18		2	3.3	No
			28-Jul-14	21-Jul-16		2	4.3	No
Peru	FCL	28-May-20	03-Aug-12	27-Jul-14		2	5.5	No
			27-May-22	26-May-24		2	5.3	No
Chile	FCL	29-May-20	28-May-20	26-May-22		2	10.6	No
			29-Aug-22	28-Aug-24		2	18.5	No
			20-May-22	28-Aug-22		4mo	3.4	No
Panama	PLL	19-Jan-21	29-May-20	19-May-22		2	23.2	No
			19-Jan-21	18-Jan-23		2	2.5	No

Source: The information in this table is sourced from IMF Lending Commitments (IMF). Note: 1/ No. of renewal indicates the number of times the agreement was renewed. 2/ Term 1,0.5 indicates that the agreement was first signed for 1 year, and later renewed for 6 months. 3/ The agreement was first signed for 2 years, then renewed twice for 2-year and 1-year terms, respectively.

Table 2 shows the sparse use of the IMF contingency lines. There is only one G20 country among the ones that have signed for them. In most cases they have remained unused.

Table 3: Country Reserves vs. IMF Credit Lines

Country	Total Reserves Excluding Gold (in \$ billion)				Amount Agreed (in \$ billion)	Credit to Reserves (%) 1/	Last Approval Date
	2021	2020	2018	2017	FCL/PLL/SLL		
Mexico	200.8	191.8	171.4	170.5	47.3	23.6	19-Nov-21
Poland	152.5	140.3	111.7	109.0	8.6	7.9	13-Jan-17
Colombia	57.7	58.2	47.4	46.7	9.5	16.5	29-Apr-22
Macedonia	3.7	3.7	3.0	2.5	0.5	14.5	21-Nov-22
Morocco	34.4	34.7	23.5	25.3	2.9	12.1	17-Dec-18
Peru	78.5	72.7	58.9	62.4	5.3	6.8	27-May-22
Chile	51.2	39.2	39.8	39.0	18.5	36.2	29-Aug-22
Panama	10.98	9.6	2.1	2.7	2.5	22.8	19-Jan-21

Source: Total reserves excluding gold sourced from International Financial Statistics (IFS), IMF; for Peru and Panama, the reserves for 2021 have been taken from their respective Article IV reports (IMF) – the figure is the actual reserve value for Peru and is the projected value for Panama. Amounts agreed in the most recent FCL/PLL/SLL have been sourced from IMF Lending Commitments (IMF).

Note: 1/ The denominator in this ratio is the reserve amount as per the last approval year of the credit line.

References

- Ahmed, Masood and Hanna Brown (2022). “Fix the Common Framework for Debt before It Is Too late,” Center for Global Development (18 January).
- Alfaro, Laura, Maruicio Calani and Liliana Varela (2021). “Currency Hedging in Emerging Markets: Managing Cash Flow Exposure,” *Harvard Business School Working Paper 21-096* (March).
- Bahaj, Saleem and Ricardo Reis (2022). “Central Bank Swap Lines: Evidence on the Effects of the Lender of Last Resort,” *Review of Economic Studies*, 89: 1654-1693.
- Bank for International Settlements (2020). “Central Bank Swap Lines and Cross-Border Bank Flows,” *BIS Bulletin No. 34* (December).
- Birdsall, Nancy, Liliana Rojas-Suarez and Anna Diofasi (2017). “Expanding Global Liquidity Insurance: Myths and Realities of the IMF’s Precautionary Credit Lines,” *Working Paper No. 449*, Washington, D.C.: Center for Global Development (February).
- Denbee, Edward, Carsten Jung and Francesco Paterno (2016). “Stitching Together the Global Financial Safety Net,” *Bank of Italy Occasional Paper No. 422* (April).
- The Economist* (2022). “The Growing Popularity of a Strange Form of Debt Diplomacy,” *The Economist* (3 November).
- Eichengreen, Barry, Ricardo Hausmann and Ugo Panizza (2022). “Yet it Endures: The Persistence of Original Sin,” *CEPR Working Paper*.
- Essers, Dennis and Stefaan Ide (2019). “The IMF and Precautionary Lending: An Empirical Evaluation of the Selectivity and Effectiveness of the Flexible Credit Line,” *Journal of International Money and Finance*, 92: 25-61.
- Ferri, Giovanni, L-G. Lui and Joseph Stiglitz (1999). “The Procyclical Role of Rating Agencies: Evidence from the East Asian Crisis,” *Economic Notes by the Banco Paschi di Siena*, 28: 335-355.
- Gallagher, Kevin and Haihong Gao (eds.) (2021). “Building Back a Better Global Financial Safety Net,” Global Development Policy Center, Boston University (April).
- Gallagher, Kevin, Haihong Gao, William King, Jose Antonio Ocampo and Ulrich Volz (2020). “Safety First: Expanding the Global Financial Safety Net in Response to Covid-19,” *Global Policy*, 12: 140-148.
- Gill, Indermit and Lee Buchheit (2022). “Targeted Legislative Tweaks Can Help Contain the Harm of Debt Crises,” *Brookings Institution Policy Brief* (27 June).
- Griffith-Jones, Stephany and Moritz Kraemer (2021). “Credit Rating Agencies and Developing Economies,” Department of Economic and Social Affairs, United Nations.

International Monetary Fund (2020). “The International Architecture for Resolving Sovereign Debt Involving Private-Sector Creditors – Recent Developments, Challenges, and Reform Options,” Washington, D.C.: IMF (23 September).

——— (2022). “Resilience and Sustainability Trust Frequently Asked Questions,” Washington, D.C.: IMF.

Kraeussi, Roman (2003). “Do Credit Rating Agencies Add to the Dynamics of Emerging Market Crises?” *Journal of Financial Stability* 1: 355-385.

Lisi, Giulio (2022). “IMF’s Precautionary Lending Instruments: Have They Worked?” IMF *Working Paper No. WP/22/256* (December).

Medhora, Rohinton (2017). “Monetary Unions, Regional Financial Arrangements, and Central Bank Swap Lines: Bypasses to the International Monetary Fund?” *American Journal of International Law*, 111: 241-246.

Mohapatra, Sanket, Manabu Nose, and Dilip Ratha (2018). “Determinants of the Distance between Sovereign Credit Ratings and Sub-sovereign Bond Ratings: Evidence from Emerging Markets and Developing Economies”, *Applied Economics*, 50(9): 934-956.

Neiman, Brent (2022). “Remarks at the Peterson Institute for International Economics,” Statements and Remarks, U.S. Department of the Treasury (20 September).

OECD (2021). “OECD Debt Transparency Initiative,” Paris: OECD.

Perks, Michael, Yudong Rao, Jongsoon Shin and Kiichi Tokuoka (2021). “Evolution of Bilateral Swap Lines,” *IMF Working Paper 21/210* (August).

Private Sector Working Group (2022). “Climate Resilient Debt Clauses: Chair’s Summary,” London: PSWG (9 November).

Rojas-Suarez, Liliana and Andres Velasco (2022). “Why Latin America Needs a Larger Reserve Fund,” Center for Global Development Blog Post (24 February).

Rodrik, Dani (2006). “The Social Cost of Foreign Exchange Reserves,” *International Economic Journal*, 20: 253-266.

TCX (2021), *Annual Report*, Amsterdam: TCX.

Tran, Hung (2022). “Internationalization of the Renminbi via Bilateral Swap Lines,” *Econographics*, Washington, D.C.: Atlantic Council (18 March).

United Nations (2022). “Credit Rating Agencies and Sovereign Debt: Four Proposals to Support Achievement of the SDGs,” New York: United Nations Department of Economic and Social Affairs.

World Bank (2021). “Debt Transparency in Developing Countries,” Washington, D.C.: World Bank.

Appendix A: Global Safety Nets

Economies have been strengthening global financial safety nets through bilateral swap lines (BSLs) and the regional finance agreements (RFAs). Both arrangements have proliferated since the global financial crisis of 2008-09. In this Appendix, we first focus on the bilateral swap lines, and then briefly summarize the developments regarding the regional finance agreements.¹⁶

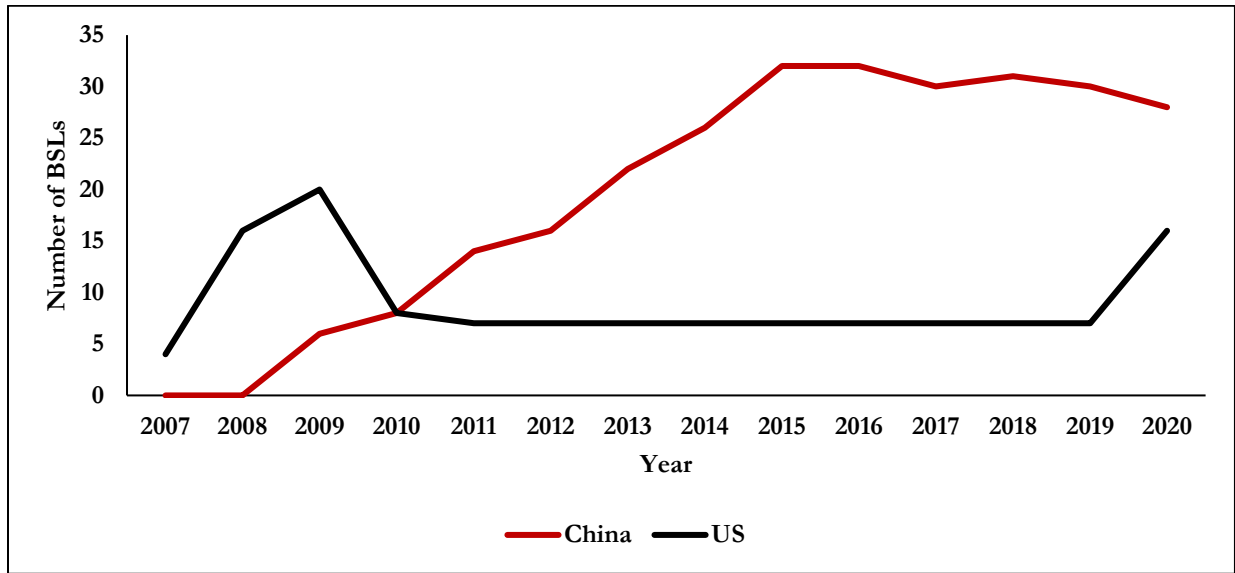
While BSLs existed prior to the global financial crisis, they gained notice in 2008-09, when the US Federal Reserve Board offered them to five advanced economies and four emerging market economies. Since then, these have proliferated rapidly. Between 2007 and 2020, 91 bilateral swap lines have been signed around the world; involving 21 countries as their issuers and 43 countries as the recipients.

In 2008, the Federal Reserve Board offered swap lines to the Bank of England, European Central Bank, Bank of Japan, Swiss National Bank and Bank of Canada. It then extended BSLs to nine other countries: Australia, Denmark, South Korea, New Zealand, Norway, Singapore, Sweden, Brazil, and Mexico. These additional BSLs expired in 2010 but were reintroduced in response to COVID-19 pandemic. During the global financial crisis, the ECB also initiated swap lines to Latvia, Hungary, Poland, Denmark, and Sweden.

Subsequently, China led the expansion of the global BSL network. China signed six BSLs in 2009, including with Argentina, Indonesia and Malaysia, and rapidly expanded them to 30 countries at end-2019. China is currently the leading provider of these lines by number, followed by the United States (Figure A1). While the US limits its agreements to advanced economies and select emerging markets, Chinese swap lines are more diverse and have a wider reach. Japan and South Korea have also offered swap lines to multiple countries (Figure A2).

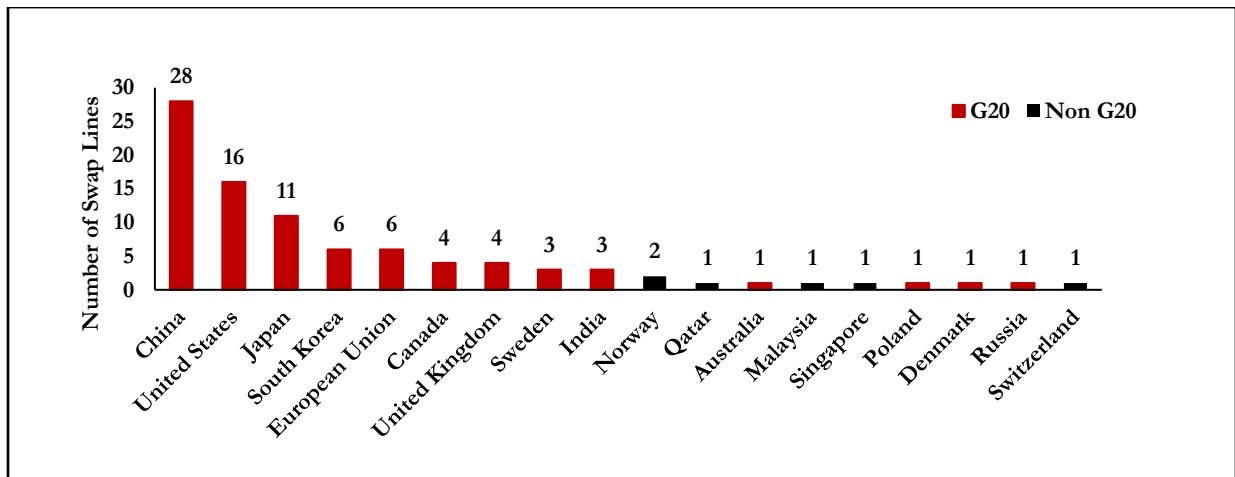
¹⁶ In this section, we draw on the information provided in Perks et al (2021), supplementing it with press releases, and country specific information obtained from the respective central banks' websites.

Figure A1: Two Largest Issuers of Swap Lines, 2007-2020



Source: Perks et al. (2021)¹⁷, downloaded from IMF website.

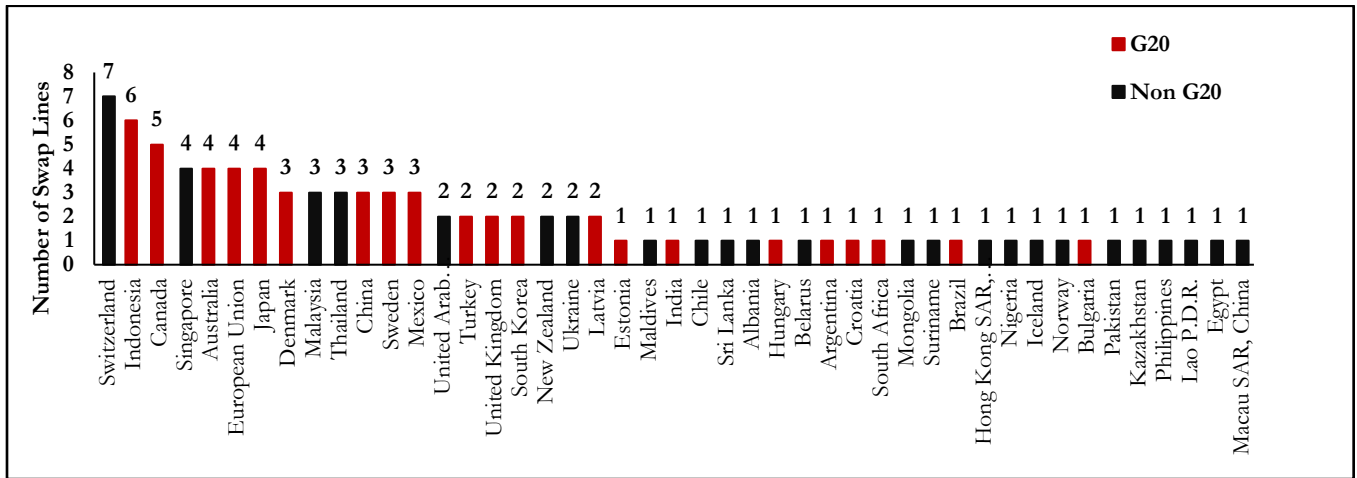
Figure A2: Number of Bilateral Swap Lines Extended, 2007-2020



Source: Perks et al. (2021), downloaded from IMF website.

¹⁷ China is signatory to 31 swap lines, issuer to 28 of them. In Perks et al. (2021), Thailand and Turkey have been listed as the source countries, for a swap line to China. We have considered them as target countries. For Russia, South Korea and Canada, we are using the Perks et al. (2021) classification i.e., China is a recipient of swap lines from these countries.

Figure A3: Countries Receiving Swap Lines, 2007-2020, Together with Number Received



Source: Perks et al. (2021), downloaded from IMF website.

While bilateral swap lines were originally intended to address temporary foreign currency needs, they are now being used to advance a variety of other objectives too. These include: increasing the use of local currency of the issuing country in bilateral trade; serving geopolitical ends; and financing more persistent BOP deficits. In many cases, these swap lines appear to be regarded merely as a form of insurance and are not actually drawn. For example, India has never withdrawn from its ongoing swap line with Japan.

Many advanced economies and emerging markets have been issuing the swap lines and/or have received at least one (see Figure A3 and Table A1). Advanced economies have traditionally offered swap lines to each other (39 of 57 such lines). But nearly a quarter of the swap lines have been signed among the emerging and developing economies, the so-called south-south agreements.

China has, in particular, offered swap lines to emerging markets and developing economies. China’s clients include 9 countries among the G20 countries and to more than 20 countries outside the G20.

Table A1: Swap Lines between Advanced Economies and Emerging and Developing Economies

Recipient Country	Source Country		
	Advanced Economies	Emerging and Developing Economies	Grand Total
Advanced Economies	39	11	50
Emerging and Developing Economies	18	23	41
Total	57	34	91

The use of bilateral swap lines is quite prevalent within the G20 countries (Table A2). Of the 91 swap lines that have existed during 2007-2020, 45 have been between two G20 countries; and in all of the remaining, at least one G20 country has been a counter party.

Table A2: Swap Lines between G20 and Non-G20 Countries

Recipient Country	Source country		
	G20 Countries	Non-G20 Countries	Total
G20 Countries	45	6	51
Non-G20 Countries	40	0	40
Total	85	6	91

The global bilateral swap line network is estimated to have been worth US\$ 1.9 trillion at end-2020 (Table A3), dominated by the Fed’s permanent standing bilateral swap line network among advanced economies (estimated at US\$ 610 billion), and the network of BSLs between Asian countries (estimated at US\$ 500 billion).

Table A3: Bilateral Swap Lines (in USD Billions) as of 2020 1/

Year	Number of BSLs		Amount of BSLs with Limits (A)		Amount of Unlimited BSLs ^{2/} (B)	Total Amount of BSLs (A+B)
	Global	o/w Asia ^{3/}	Global	o/w Asia		
2000	3	0	6	0	0	6
2005	3	0	6	0	0	6
2010	25	7	207	110	293	500
2015	67	19	631	328	610	1242
2019	74	25	757	466	610	1367
2020	91	28	1275	496	610	1885

Source: Reproduced from Perks et al. (2021). The notes below are as per in the latter. 1/ Amounts of two-way arrangements are counted only once. Excludes BSLs signed as part of regional financial arrangements (e.g., Chiang Mai Initiative Multilateralization (CMIM)). 2/ permanent swap lines among major advanced economy central banks (Fed, ECB, Bank of England, Bank of Japan, Swiss National Bank, and Bank of Canada). The estimated amount is based on known past usage or, if undrawn, on average past maximum drawings of the remaining central bank members in the network, following the methodology in Denbee et al. (2016). 3/ BSLs between Asian countries.

Regional Financial Arrangements¹⁸

Alongside bilateral swap agreements, countries have also developed a number of regional financial agreements (RFAs). These include, the BRICS Contingent Reserve Arrangement (CRA); Chiang Mai Initiative (CMI); European Stability Mechanism (ESM); and Fondo Latinoamericano de Reservas (FLAR).

The various RFAs were created to pool the resources of the respective countries in order to provide initial unconditional financing during the situations of temporary liquidity needs of foreign exchange, and to supplement the eventual financing available from the IMF.¹⁹ Some of these regional arrangements also reflected the discomfort and perceived unreliability of the IMF to step in during country-specific or region-wide BOP crises. To some extent, the CRA also came about due to the limited and slow pace of reforms to the IMF voting structure as seen by the emerging economies.²⁰

¹⁸ The section draws on Medhora (2017).

¹⁹ Rojas-Suarez and Velasco (2022) recommend that the size and membership of the Latin American Reserve Fund (FLAR) be expanded; and the larger countries, with deeper pockets, should be convinced to join it. The main argument is that the presence of larger countries such as Brazil and Mexico will give more credibility to the Fund; and will make smaller countries less vulnerable to the impact of capital account volatility ex ante, as well as exports.

²⁰ Despite this seemingly common purpose, the scope and operating principles of different RFAs differ from each other. The FLAR is the only RFA that accepts deposits from members, and also provides asset management services. It is also the most unconditional in its support. By contrast, both the CMI and CRA require users to have a concurrent IMF program in place to access larger levels of reserves. The ESM has no formal stated borrowing limits or policy conditions to access its resources. Those that exist in practice are opaque and ad hoc (as demonstrated in the resolution of the Greek crisis and other cases). Besides, the ESM goes beyond being a pure reserve pool, because it leverages members' contributions to raise additional funds in the short-term bond and long-term debt markets.

As Medhora (2017) points out, FLAR and the CMI were established in response to dissatisfaction of the IMF's handling of various Latin American debt crises and the 1997-98 Asian financial crisis.

Table A4: Regional Financial Arrangements

RFAs	Established	Members	Capital/swap Amount (Billion USD)	IMF Involvement
Arab Monetary Fund (AMF)	1976	Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco , Oman, West Bank and Gaza, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, United Arab Emirates, and Yemen.	3.6	
BRICS Contingent Reserve Arrangement (CRA)	2014	Brazil, China, India, Russian Federation, and South Africa.	100	If access > 30% of maximum
Chiang Mai Initiative Multilateralization (CMIM)	2010	Brunei Darussalam, Cambodia, China, Indonesia, Japan, Korea, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam, and Hong Kong Monetary Authority of Hong Kong SAR, China.	240	If access > 30% of maximum
European Financial Stability Facility (EFSF)	2010	All Euro Area member states: Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, Netherlands, Portugal, Slovak Republic, Slovenia and Spain.	€440 billion ²¹	
European Financial Stabilization Mechanism (EFSM)	2010	All European Union member states: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France,	67.7	Yes

²¹ As per Stocktaking the Fund's Engagement with Regional Financing Arrangements (imf.org).

		Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland , Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden and United Kingdom		
European Stability Mechanism (ESM)	2012	Eurozone countries: Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Portugal, Slovakia, Slovenia and Spain.	Maximum lending capacity of €500 billion	Active participation to be sought, at both technical and financial levels
European Union-Balance of Payments Facility (EU-BOP)	2002	EU Non- Eurozone countries: Bulgaria, Czech Republic, Denmark, Hungary, Poland , Romania, Sweden and United Kingdom.	54.1	Not necessary, but post-2008 joint programs with IMF
Latin American Reserve Fund (FLAR)	1978	Bolivia, Colombia , Costa Rica , Ecuador, Paraguay, Peru , Uruguay, Chile and Venezuela.	2.9	
North American Framework Agreement (NAFA)	1994	Canada, Mexico and the United States.	14.0	US Treasury Secretary requires letter from IMF
The South Asian Association for Regional Cooperation (SAARC) currency swap facility	2012	Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka.	2.0	

Source: Information provided here is drawn from Gallagher et al. (2020) ; ECB Occasional Paper Series No 207 / March 2018 and likely pertains to until 2019 or so. *Countries in bold letters above are those which have availed of IMF's Credit lines (FCL, SLL and PLL).

Table A5: Regional Financial Arrangements, IMF Resources and EMDC's Share in Lending Capacity

	Capital/Swap Amount (Billion USD)	EMDE's Share of Lending Capacity
International Monetary Fund	971.1	388.5
European Stability Mechanism	90.6	0.0
Chiang Mai Initiative Multilateralization	240.0	201.6
Contingent Reserve Arrangement	100.0	85.0
European Financial Stabilization Mechanism	67.7	0.0
EU Balance of Payments Facility	54.1	0.0
North American Framework Agreement	14.0	0.0
Eurasian Fund for Stabilization and Development	8.5	8.5
Arab Monetary Fund	3.6	4.7
Latin American Reserve Fund	2.9	4.7
European Macro-Financial Assistance Facility	2.0	0.0
South Asian Association for Regional Cooperation	2.0	2.0
Total	1556.5	695.0

Source: Reproduced from Gallagher et al. (2020).

Table A6: Bilateral Swap Lines and Regional Financial Agreements of G20 Countries

G20 Countries	Fed Swap Line	A Swap Line Issued to 1/	Received Swap Line from	RFA 1/	Reserves (in Billion USD)	Reserves/GDP (%)
Advanced Economies						
Australia	Yes	1: Indonesia	3: China, Japan, Korea	No	54	3.3
Canada	Yes	4: EU, Korea, Mexico, China	3: UK, Japan, Switzerland	1: NAFA	107	5.4
European Union	Yes	6: Sweden, Japan, Switzerland, Denmark, Croatia, Bulgaria	3: UK, Canada, China	3: EFSF, EFSM, ESM	1115	6.5
France	No	No	No	3: EFSF, EFSM, ESM	102	3.4
Germany	No	No	No	3: EFSF, EFSM, ESM	99	2.3
Italy	No	No	No	3: EFSF, EFSM, ESM	84	4.0
Japan^{2/}	Yes	11	3: UK, EU, China	1: CMIM	1356	27.5
South Korea	Yes	6: Switzerland, UAE, Malaysia, Australia, Indonesia, China	1: Canada	1: CMIM	457	25.2
United Kingdom	Yes	4: EU, Japan, Switzerland, China	1: China	2: EFSM, EU-BOP	176	5.5
United States^{3/}	No	16	No	1: NAFA	240	1.0
Emerging Economies						
Argentina	No	No	1: China	No	36	7.5
Brazil	Yes	No	No	1: CRA	355	22.1
China^{4/}	No	28	3: Korea, Canada, Russia	2: CRA, CMIM	3314	18.7
India	No	3: UAE, Maldives, Sri Lanka	1: Japan	2: BRICS, SAARC	594	18.7

Indonesia	No	No	6: Japan, China, Australia, Malaysia, Korea, Singapore	1: CMIM	140	11.8
Mexico ^{5/}	Yes	No	1: Canada	1: NAFA	201	15.5
Russia	No	1: China	No	3: CRA, ACF, EFSD	498	28.0
Saudi Arabia	No	No	No	1: AMF	455	54.6
South Africa	No	No	No	1: CRA	50	12.0
Turkey	No	No	1: China, Qatar	No	71	8.7

Sources: Perks et al. (2021) (Fed swap line Swap line issuer and recipient); Medhora (2017), IMF Policy Paper on Collaboration Between Regional Financing Arrangements and the IMF (RFAs); IFS, WEO, WDI (Reserves/GDP (%) as of 2021).

Note: 1/AMF: Arab Monetary Fund; BRICS CRA: Contingent Reserve Arrangement; CMIM: Chiang Mai Initiative Multilateralization (CMIM); ACF: Eurasian Economic Community Anti-Crisis Fund; EFSD: Eurasian Fund for Stabilization and Development; EU-BOP: European Union- Balance of Payments Facility; FLAR: Latin American Reserve Fund; NAFA: North American Framework Agreement; SAARC: The South Asian Association for Regional Cooperation.

2/Japan is issuer of 11 swap lines to: Switzerland, Canada, Philippines, Singapore (2), Thailand (2), Indonesia, India, Australia, Malaysia.

3/United States is issuer of 16 Swap lines to EU, UK, Japan, Switzerland, Canada (2), Mexico (2), South Korea, Singapore, Sweden, Australia, Denmark, Norway, New Zealand, Brazil.

4/China has issued 28 swap lines to: Australia, South Africa, Albania, Nigeria, Belarus, Kazakhstan, Malaysia, UK, Japan, Indonesia, Ukraine, Suriname, Singapore, Turkey, EU, Macau SAR, Egypt, Lao PDR, Chile, Mongolia, Argentina, Hong Kong SAR, Pakistan, New Zealand, Hungary, Thailand, Switzerland, Iceland. In addition, it has had swap lines with Canada, South Korea and Russia, which are listed as the latter's swap lines in the Perk's et al. database.

5/Mexico is the only country in the G20 which received a Flexible Credit Line as part of the IMF contingent lines.

Table A7: Swap Agreements around the World

Year	Events
2007	Fed extends crisis swap lines to Europe. Chiang Mai swap lines, agreed in 2000, remain available but unused.
2008	Fed extends twelve more crisis swap lines, including four to emerging countries.
2009	China extends swap agreements to six central banks.
2010	Fed allows some swap lines to expire. Chiang Mai becomes a multilateral arrangement.
2011	Major market central bank swap network established.
2012	China extends four swap lines, bringing the total to nineteen.
2013	Major market central bank swap network made permanent.
2014	China extends five more swap lines, including with Russia, drawing domestic criticism.
2015	Argentina draws on China swap line and announces it has permission to convert the RMB into USD.
2016	Mongolia draws on China swap lines and China, India and Japan each extend two new swap lines.
2017	Japan extends two new swap lines and Canada and South Korea establish one.
2018	Japan and China agree to re-establish their swap line. Switzerland and South Korea establish one. India and Indonesia each extend one additional swap line.
2019	India and China each extend one new swap line.
2020	Fed extends emergency swap lines to nine central banks as COVID-19 crisis begins. ECB establishes swap lines and repurchase agreements with seven central banks.

Source: Central Bank Currency Swaps Tracker, Council on Foreign Relations Central Bank Currency Swaps Tracker | Council on Foreign Relations (cfr.org).

Table A8: Swap Lines Issued or Received by India

Year	Events
2008	Japan extends a swap line to India (USD 3bn).
2011	Japan raises amount to USD 15 bn.
2014	Japan extends a swap line to India (USD 50 bn).
2016	RBI signs Special Currency Swap Agreement with the Central Bank of Sri Lanka (USD 700 mn).
2016	RBI signs Currency Swap Agreement with the Royal Monetary Authority of Bhutan (USD 100 mn).
2018	India signs USD75 bn Currency Swap Pact with Japan.
2019	Bank of Japan and India renew swap line (USD 75 bn).
2020	RBI signs Currency Swap Agreement with Central Bank of Sri Lanka (USD 400 mn).
2022	Renewal of the Bilateral Swap Arrangement between Japan and India (USD 75 bn).
2022	Reserve Bank of India signs Bilateral Swap Agreement with Maldives Monetary Authority (USD 200 mn).

Source: Press Release by the Reserve Bank of India, downloaded from the RBI website.

Table A9: Federal Reserve Dollar Swap Lines (in USD Billions) as of 2020

	During COVID-19 Pandemic		During Global Financial Crisis	
	Ceiling	Total Amount Drawn	Ceiling	Total Amount Drawn
		May 27, 2020 (Peak)	End-2020	End-Dec 2008 (Peak)
Total		449	18	583
Major AEs		403	14	501
Japan	Unlimited	226	0	Unlimited
ECB	Unlimited	143	4	Unlimited
UK	Unlimited	23	0	Unlimited
Switzerland	Unlimited	10	10	Unlimited
Canada	Unlimited	0	0	Unlimited
Other Nine Economies	450	46	4	225
Australia	60	1	0	30
Denmark	30	4	0.4	15
Korea	60	19	0	30
New Zealand	30	0	0	15
Norway	30	5	0	15
Singapore	60	10	2	30
Sweden	60	0	0	30
Brazil	60	0	0	30
Mexico	60	7	1	30

Source: Perks et al. (2021).

Note: Ceiling is the maximum limit on swap line by economies. The total amount drawn by economies is given for two different events – the COVID-19 pandemic and the Global Financial Crisis. In the former, the amount withdrawn is given as of May 27, 2020 and as of end-2020, and in the latter event, the amount withdrawn is given as of end-2008.

Appendix B: Determinants of Credit Ratings

In this section, we analyze the correlates of credit ratings for the G20 countries.

We follow Griffith-Jones and Kraemer (2021), who observe that, “Rating agencies derive their ratings applying published methodologies. While the methodologies, as well as the ratings, differ between the three agencies, the main building blocks are the same. They consist of an analysis of: (i) institutional and governance quality; (ii) economic growth and resilience; (iii) public finances; (iv) external accounts; and (v) monetary flexibility,” after which they apply a “qualitative” overlay. The credit committee can revise the indicative scores in either direction based on their subjective assessment. Thus, the final rating outcome results from a combination of “objective quantitative and subjective qualitative factors.”

We regress the numerical credit ratings of the G20 countries for 2019 on the following variables: GDP growth, the fiscal deficit (as a percentage of GDP), public debt (as a percentage of GDP), the current account deficit (as a percentage of GDP), and inflation. We also include a dummy which takes a value of 1 for emerging markets and 0 for advanced economies. In additional regressions, we also include (log) per capita GDP.

We use the credit ratings assigned to the G20 countries by the three largest international credit rating agencies: Moody’s, S&P Global, and Fitch. We calculate the average annual ratings for each country in two steps. First, we use the concordance provided by Mohapatra, Nose, and Ratha (2018) to convert alphabetical ratings into numerical ratings that are comparable across agencies. Those numerical ratings run from 1 to 21. The lowest rating (coded by the Moody’s, S&P, and Fitch as Ca, C, and C, respectively) is given the value 1; and the highest rating (coded by Moody’s, S&P, and Fitch as Aaa, AAA, and AAA, respectively) is given the value 21. Second, we take the average of the monthly ratings for each country.²²

Average ratings differ significantly between advanced economics and emerging markets. While the average rating of an AE is 19, the emerging market average is 7.5 points lower (11.6, viz., barely above the junk grade, which starts at 11). The low average rating for emerging markets is affected by Argentina’s 3.6 rating, but even when Argentina is excluded the emerging market average is 12.6, viz., just 1.5 points above junk. Hence, it may take just one downgrade for an emerging market to fall from the investment grade to the junk grade.

Regression results are in Table B1. Most coefficients have their expected signs. Faster growing countries have higher ratings. Countries with a higher ratio of public debt to GDP get a lower credit rating; while countries with higher inflation also have lower ratings.

But even after controlling for these determinants of credit ratings, the advanced economy differential persists: the emerging market dummy still has a negative and significant coefficient. Only when we also include per capita income, which of course differs

²² We thank Prof. Sanket Mohapatra of the Indian Institute of Management, Ahmedabad (IIMA) for generously sharing these data.

systematically between advanced and emerging markets, does that coefficient decline in size and become less significant.

For robustness, we dropped Argentina and repeated the regressions for 2021. The results are very similar.

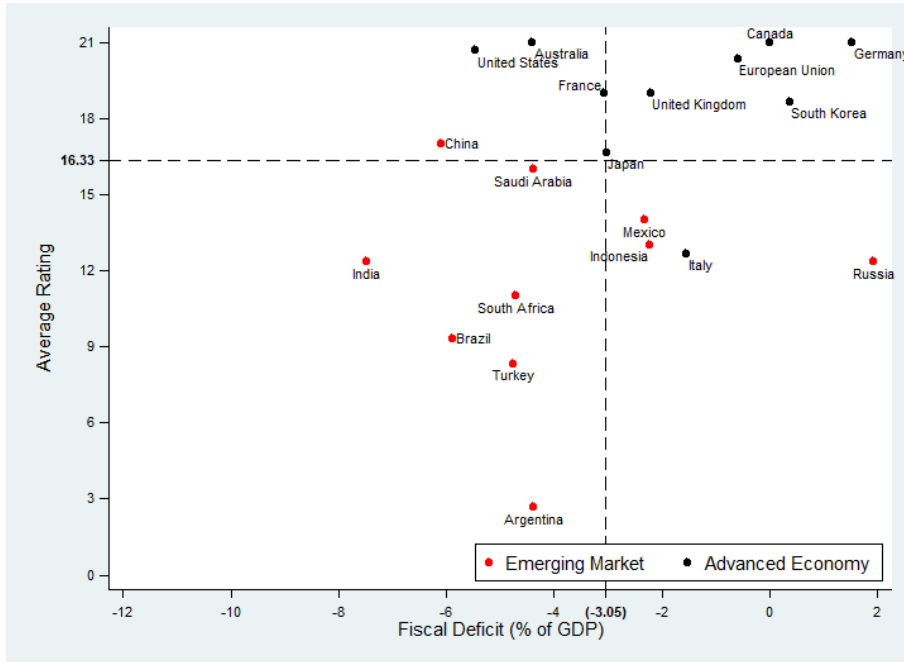
Figures B1-B5 juxtapose sovereign ratings against current account deficits, fiscal deficits, public debt, inflation, and GDP growth. The figures convey the same impression as Table B1. They indicate that the advanced economies have higher ratings than emerging markets, despite the fact that many of them have higher fiscal deficits, public debts, inflation and current account deficits, and lower GDP growth.

Table B1: OLS Regression Results for 2019

Avg. Rating	(1)	(2)	(3)	(7)	(4)	(5)	(6)	(8)
Dummy (EM=1)	-7.40*** (4.78)	-5.29 (1.56)	-7.26*** (4.91)	-7.21*** (4.54)	-9.01*** (5.53)	-7.65*** (5.83)	-5.70*** (4.75)	-7.21*** (6.79)
Log (per capita income)		1.27 (0.86)						
Fiscal Deficit (as a % of GDP)			0.07 (0.35)					
CAD (as a % of GDP)				0.12 (0.62)				
Public Debt (as a % of GDP)					-0.04** (2.15)			-0.02* (1.87)
GDP Growth Rate (%)						1.132** (2.701)		0.47 (1.22)
Inflation (CPI, %)							-0.21*** (9.42)	-0.16*** (3.74)
Constant	19*** (22.85)	5.484 (0.344)	19.12*** (20.70)	18.82*** (21.74)	22.44*** (15.59)	17.29*** (17.02)	19.27*** (21.70)	20.57*** (14.12)
Observations	20	20	20	20	20	20	20	20
R-squared	0.56	0.57	0.56	0.56	0.65	0.72	0.78	0.85

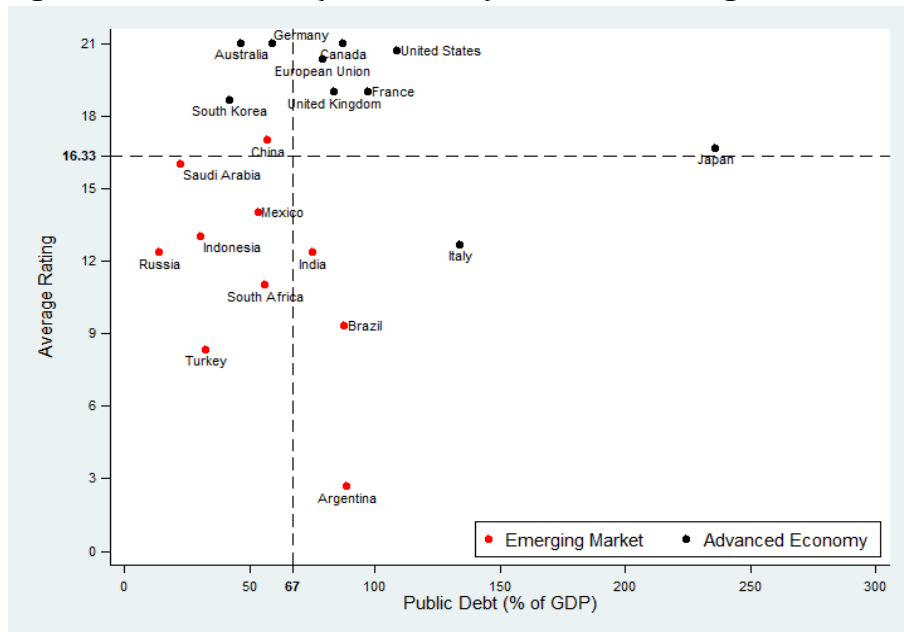
Notes: The dependent variable is the average numeric rating across the three credit rating agencies. All the G20 countries are included in the sample. The dummy variable takes a value of 1 for emerging market countries, with the coefficient indicating the change in ratings if the country in observation is in the EM category. Robust t-statistics are reported in parentheses. ***, **, * indicate significance at the 1%, 5% and 10% levels, respectively.

Figure B1: Fiscal Deficit (as % of GDP) and Credit Rating for G20 Countries in 2019



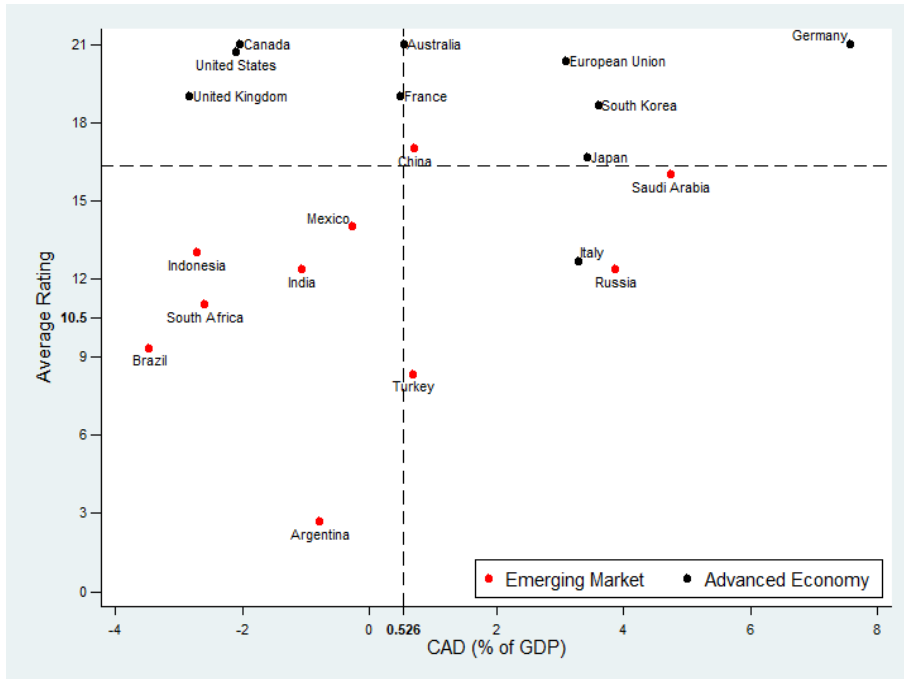
Note: The dashed lines indicate the median credit rating and fiscal deficit (in percentage of GDP), respectively.

Figure B2: Public Debt (as % of GDP) and Credit Ratings in 2019



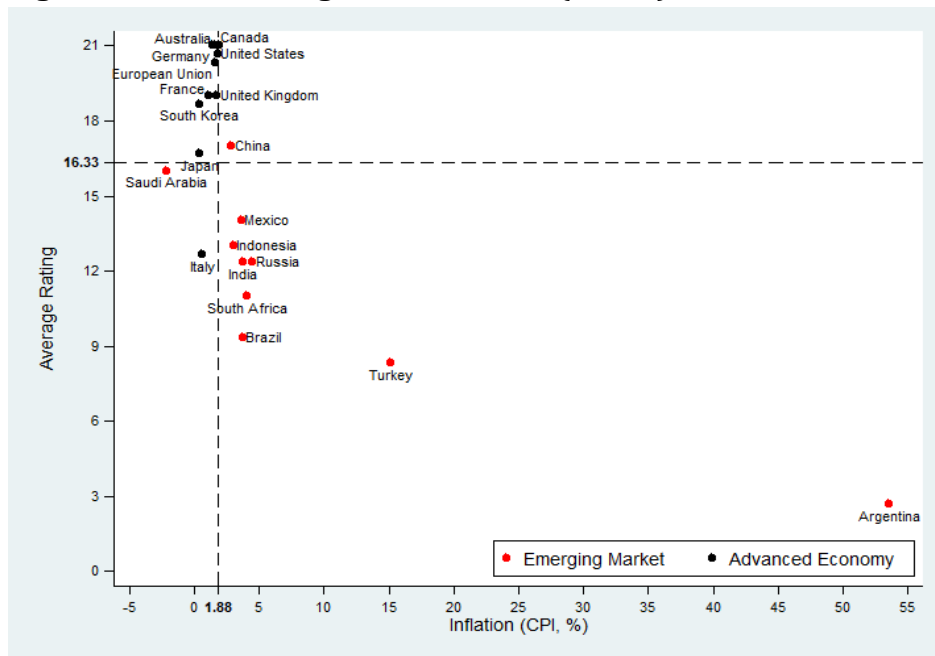
Note: The dashed lines indicate the median credit rating and public debt (in percentage of GDP) respectively.

Figure B3: Current Account Deficit (as % of GDP) and Credit Ratings for 2019



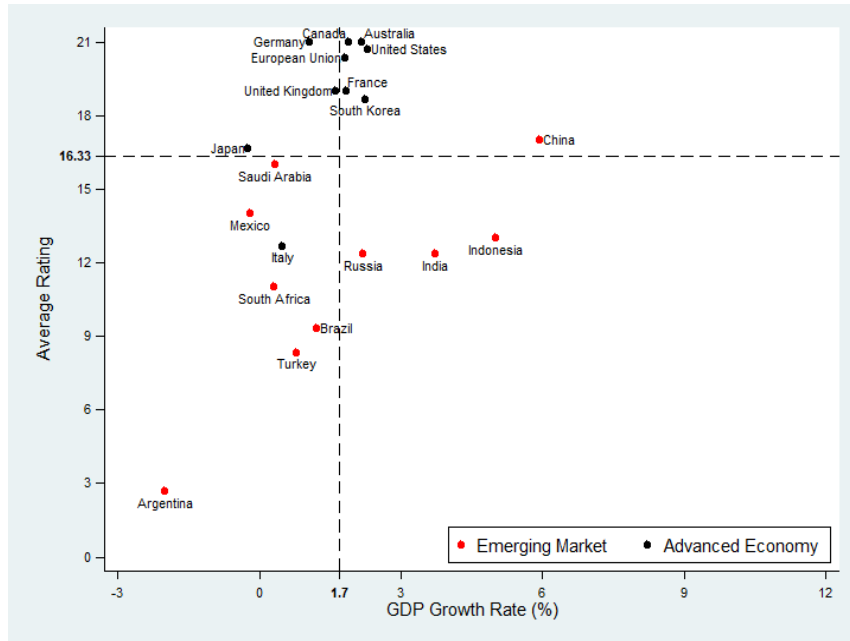
Note: The dashed lines indicate the median credit rating and current account deficit (in percentage of GDP) respectively.

Figure B4: Credit Rating versus Inflation (CPI, %) for 2019



Note: The dashed lines indicate the median credit rating and inflation, respectively.

Figure B5: Credit Rating v/s GDP Growth Rate (%) for 2019



Note: The dashed lines indicate the median credit rating and GDP Growth Rate (%) respectively.

We now add governance indicators to the analysis.²³ The dataset includes government effectiveness, or perceptions of the quality of public services, civil service and its degree of independence from political pressures, the implementation of policies and their quality, and the government’s commitment to these policies; regulatory quality, or perceptions of the government’s ability to implement sound policies and regulations that permit and promote development of the private sector; political stability and the absence of violence, or perceptions of the likelihood of politically motivated violence, and political instability (including terrorism); and control of corruption, or perceptions of the extent to which private gains motivate the exercising of public power and also the degree to which states are captured by elite and private interests.

Each of these indicators ranges from -2.5 to 2.5, with higher values corresponding to stronger/better governance. We also calculate an average governance indicator, by taking a simple average of these four indicators.

Table B2 reports the results when we include the average value of the governance indicator. The results are similar to before, but now the governance variable enters positively and significantly, while the EM dummy no longer differs from zero.

²³ The Worldwide Governance Indicators (WGI) are a dataset summarizing the views on the quality of governance provided by a large number of enterprises, citizen and expert survey respondents in industrial and developing countries. These data are gathered from a number of survey institutes, think tanks, non-governmental organizations, international organizations, and private sector firms.

Table B2: OLS Regression with the Average Governance Indicator Included

Avg. Rating	(1)	(2)	(3)	(7)	(4)	(5)	(6)	(8)
Dummy (EM=1)	0.73 (0.18)	1.66 (0.36)	1.38 (0.34)	1.46 (0.35)	-1.47 (-0.39)	-0.73 (-0.20)	2.65 (0.78)	0.43 (0.16)
Avg. Governance Indicator	5.66** (2.48)	5.42** (2.39)	5.88** (2.61)	5.96** (2.46)	5.17** (2.58)	4.81** (2.17)	5.80** (2.78)	5.18*** (3.04)
Log (per capita income)		0.77 (0.62)						
Fiscal Deficit (as a % of GDP)			0.16 (0.80)					
CAD (as a % of GDP)				0.19 (1.22)				
Public Debt (as a % of GDP)					-0.04** (-2.57)			-0.02*** (-3.52)
GDP Growth Rate (%)						1.056** (2.29)		0.37 (1.04)
Inflation (CPI, %)							-0.22*** (-12.41)	-0.17*** (-4.60)
Constant	12.25*** (4.15)	4.32 (0.32)	12.28*** (4.12)	11.61*** (3.60)	16.01*** (5.19)	11.66*** (4.21)	12.36*** (4.49)	14.38*** (5.84)
Observations	20	20	20	20	20	20	20	20
R-squared	0.64	0.64	0.64	0.65	0.71	0.78	0.86	0.91

Notes: The dependent variable is the average numeric rating across the three credit rating agencies. All the G20 countries are included in the sample. The dummy variable takes a value of 1 for emerging market countries, with the coefficient indicating the change in ratings if the country in observation is in the EM category. Robust t-statistics are reported in parentheses. ***, **, * indicate significance at the 1%, 5% and 10% levels, respectively.

Appendix C: Debts of Low-Income Countries

In 2005, the IMF and World Bank jointly developed a framework to conduct Debt Sustainability Assessments (DSAs) of Low-Income Countries (LICs).²⁴ The latest assessment of the 70 LICs, published in November 2022, identified 10 of these countries as in debt distress, 27 at high risk of distress, 25 at moderate risk of debt distress, and 7 at low risk of debt distress.²⁵

Using the IMF's *Fiscal Monitor* and World Bank's *International Debt Statistics* database, we calculate the average total government debt and government debt raised externally, both expressed as a percentage of GDP, across countries at different levels of debt distress. Table C1 shows that the debt burden of countries in distress was roughly 90 percent of GDP in 2019, and further increased by almost ten percentage points of GDP by 2021. The debt levels of countries at high risk of debt distress was 48 percent of GDP in 2019, but increased by ten percentage points of GDP, to an average of 58 percent by 2021.

The table also shows that countries in debt distress have raised 40 percent of their total public debt externally; countries at high risk of distress have raised a larger fraction of debt externally; countries at moderate risk have raised more than 60 percent of their debt externally; and countries at low risk have raised half of their debt externally.

Table C1: Average Public Debt Held by Low-Income Countries by Debt Distress Category (Percentage of GDP)

	General Government Debt, 2019	External General Government Debt, 2019	General Government Debt, 2021	External General Government Debt, 2021
LICs in debt distress	89.4	38.1	98.8	39.7
LICs at high risk of debt distress	47.9	27.8	58.1	32.2
LICs at moderate risk of debt distress	47.9	31.6	57.8	36.0
LICs at low risk of debt distress	33.1	17.8	42.7	21.2

Source: Calculated using debt data from International Debt Statistics and the GDP data from the World Development Indicators. The numbers presented are simple averages of all the countries in the respective risk categories.²⁶

²⁴ The current version of the framework is being implemented since 2018. See IMF Factsheet - The Joint World Bank-IMF Debt Sustainability Framework for Low-Income Countries.

²⁵ List of LIC DSAs for PRGT-eligible Countries, as of November 30, 2022 (imf.org).

²⁶ We use gross general government debt to GDP from the Fiscal Monitor database. To estimate the portion of general government debt raised externally, we use external debt stock, general government sector (as percentage of GDP) from the International Debt Statistics (IDS) database. This includes long-term external obligations of national governments of all levels, political subdivisions, or any agency of either. Short-term

We decompose the externally raised general government debt stock into bilateral debt (which we further disaggregate into debt owed to the G20 countries and to the non-G20 countries, and to countries in the G20 that are members of the Paris Club and those that are not); debt owed to the multilateral agencies; and debt raised from private creditors. In 2019, external public debt raised by LICs totaled \$340 billion. Of this, about half of the debt was owed to the multilateral institutions, 35 percent to bilateral creditors, and the rest to the private sector.

A large proportion of this bilateral debt has been extended by the G20 countries (amounting to \$102 billion in 2019, which further increased to \$123 billion in 2021). China has been by far the largest creditor, accounting for half of all the bilateral debt accruing to the G20 countries (see Figures C1 and C2). In all, more than half of all bilateral debt is extended by the G20 countries not in the Paris Club (see Table C4).

Table C2: Creditor Composition of the External Debt Owed by the Governments in Low-income Countries (US\$ Billion)

Year	Bilateral Debt (A)		Multilateral Debt (B)	Private Creditors (C)	External General Government Debt Stock (A+B+C)
	G20 Countries (A.1)	Non-G20 Countries (A.2)			
2019	102.3	15.6	163.7	60.6	340.2
2021	123.2	15.8	200.2	79.3	416.1

Source: International Debt Statistics.

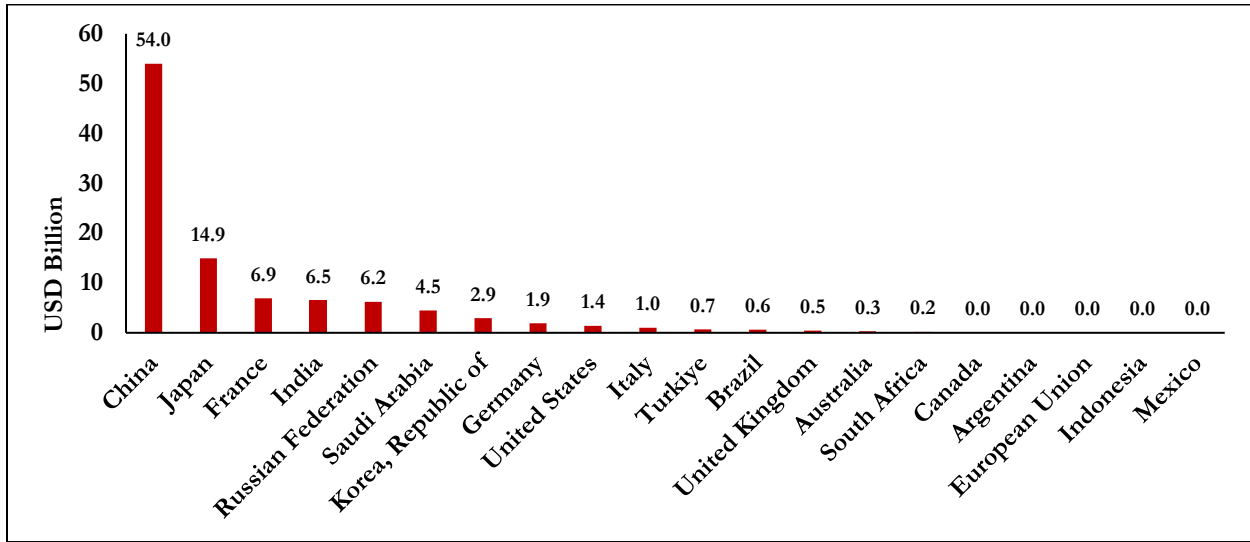
Table C3: Creditor Composition of the External Debt Owed by the Governments in Low-income Countries (Percentage of the Total)

Year	Bilateral Debt (A)		Multilateral Debt (B)	Private Creditors (C)	External General Government Debt Stock (A+B+C)
	G20 Countries (A.1)	Non-G20 Countries (A.2)			
2019	30.1	4.6	48.1	17.8	100
2021	29.6	3.8	48.1	19.1	100

Source: International Debt Statistics and authors' calculations.

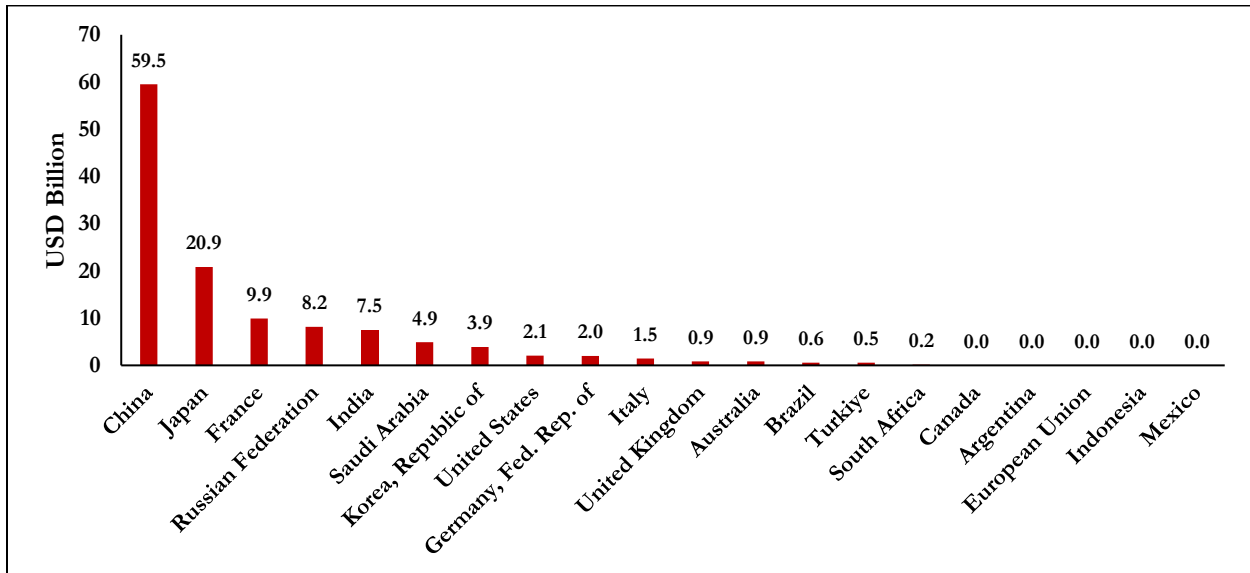
debt raised externally is not included in this variable, as the latter is not available separately for debt raised by the public sector and by the private sector.

Figure C1: Credit Owed by LICs to G20 Countries, 2019



Source: International Debt Statistics.

Figure C2: Credit Owed by LICs to G20 Countries, 2021



Source: International Debt Statistics.

Table C4: External Debt of Low-Income Countries Due to G20 Countries Not in the Paris Club

	2019 in \$ billion	2021 in \$ billion
China	54	59.5
India	6.5	7.5
Saudi Arabia	4.5	4.9
Turkey	0.7	0.5
South Africa	0.2	0.2
Argentina	0	0
Indonesia	0	0
Mexico	0	0
Total	65.9	72.6

Source: International Debt Statistics and authors' calculations.

Table C5: External Public Debt of Low-Income Countries (US\$ Billion) by Creditor Type, 2019

Year	Bilateral Debt (A)		Multilateral Debt (B)	Private Creditors (C)	External General Government Debt Stock (A+B+C)
	G20 Countries (A.1)	Non-G20 Countries (A.2)			
Afghanistan	0.95	0.04	0.95	N.A.	1.94
Bangladesh	13.09	0.28	27.09	0.02	40.48
Benin	0.39	0.05	2.10	1.06	3.60
Bhutan	1.83	0.02	0.63	0.02	2.51
Burkina Faso	0.21	0.13	3.01	0.01	3.35
Burundi	0.10	0.03	0.31	N.A.	0.44
Cabo Verde	0.19	0.22	0.88	0.51	1.81
Cambodia	5.39	0.07	2.10	N.A.	7.56
Cameroon	5.11	0.10	3.75	1.38	10.33
Central African Republic	0.12	0.10	0.15	0.05	0.42
Chad	0.41	0.49	0.67	1.26	2.83
Congo, Dem. Rep.	0.91	1.15	2.12	0.10	4.28
Congo, Rep.	2.86	0.33	0.87	0.90	4.96
Cote d'Ivoire	3.29	0.07	2.58	9.26	15.20
Djibouti	0.11	0.01	0.35	N.A.	0.47
Dominica	0.05	0.01	0.10	0.07	0.23
Ethiopia	3.09	0.53	12.04	1.00	16.66
Gambia, The	0.13	0.10	0.47	N.A.	0.70
Ghana	2.74	0.42	4.61	11.79	19.55
Grenada	0.01	0.08	0.27	0.12	0.48
Guinea	0.82	0.39	1.00	0.07	2.27
Guinea-Bissau	0.04	0.08	0.35	0.13	0.59
Guyana	0.25	0.14	0.81	0.02	1.22
Haiti	N.A.	1.85	0.10	0.04	1.99
Honduras	0.39	0.58	4.54	1.86	7.38
Kenya	9.27	0.19	12.71	7.09	29.26
Kyrgyz Republic	2.23	0.02	1.46	N.A.	3.71
Lao PDR	5.32	0.90	1.71	2.12	10.04
Lesotho	0.09	0.04	0.72	0.00	0.85
Liberia	0.09	0.03	0.70	N.A.	0.82
Madagascar	0.37	0.10	2.42	0.10	2.99
Malawi	0.37	0.05	1.59	N.A.	2.01
Maldives	0.72	0.04	0.31	0.36	1.43
Mali	0.94	0.12	3.40	N.A.	4.46
Mauritania	0.84	0.37	2.18	N.A.	N.A.

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Moldova	0.13	0.08	1.21	0.02	1.45
Mozambique	3.61	1.27	4.34	0.21	9.43
Myanmar	4.43	0.20	2.08	0.05	6.76
Nepal	0.75	0.01	5.08	0.00	5.84
Nicaragua	0.27	0.21	4.01	0.03	4.52
Niger	0.57	0.13	2.47	N.A.	3.17
Papua New Guinea	1.30	N.A.	1.85	1.15	4.31
Rwanda	0.42	0.07	2.98	0.46	3.93
Samoa	0.18	N.A.	0.21	N.A.	0.39
Sao Tome and Principe	0.03	0.14	0.05	0.01	0.22
Senegal	2.73	0.24	4.84	4.45	12.27
Sierra Leone	0.15	0.07	0.76	0.19	1.17
Solomon Islands	N.A.	0.01	0.09	N.A.	0.10
Somalia	1.11	0.25	0.69	N.A.	2.05
St. Lucia	0.00	0.05	0.21	0.27	0.53
St. Vincent and the Grenadines	0.04	0.01	0.27	0.01	0.33
Sudan	5.36	2.77	3.65	4.63	16.41
Tajikistan	1.22	0.04	1.03	0.52	2.83
Tanzania	3.82	0.38	10.09	2.54	16.82
Timor-Leste	0.02	N.A.	0.17	N.A.	0.19
Togo	0.56	0.04	0.65	0.12	1.37
Tonga	0.10	N.A.	0.08	N.A.	0.18
Uganda	2.81	0.09	5.65	0.08	8.63
Uzbekistan	2.03	0.07	6.96	1.10	10.16
Vanuatu	0.23	N.A.	0.14	N.A.	0.36
Yemen, Rep.	2.00	0.20	2.99	N.A.	5.19
Zambia	3.50	0.00	2.10	5.40	11.00
Zimbabwe	2.25	0.14	N.A.	N.A.	3.84
Total	102.3	15.6	163.7	60.6	340.2

Source: International Debt Statistics.

Table C6: External Public Debt of Low-Income Countries (US\$ Billion) by Creditor Type, 2021

Country	Bilateral Debt (A)		Multilateral Debt (B)	Private Creditors (C)	External General Government Debt Stock (A+B+C)
	G20 Countries (A.1)	Non-G20 Countries (A.2)			
Afghanistan	0.95	0.04	0.92	N.A.	1.91
Bangladesh	20.65	0.26	32.82	0.01	53.74
Benin	0.57	0.04	2.72	2.50	5.83
Bhutan	2.03	0.01	0.82	0.02	2.88
Burkina Faso	0.34	0.13	3.84	0.01	4.31
Burundi	0.15	0.04	0.32	N.A.	0.51
Cabo Verde	0.20	0.23	1.04	0.52	1.98
Cambodia	6.54	0.06	2.85	N.A.	9.45
Cameroon	5.51	0.09	4.78	2.05	12.43
Central African Republic	0.13	0.10	0.18	0.03	0.43
Chad	0.49	0.46	0.80	1.26	3.00
Congo, Dem. Rep.	1.02	1.14	2.45	0.13	4.74
Congo, Rep.	2.61	0.28	1.02	2.37	6.29
Cote d'Ivoire	5.26	0.06	4.66	12.26	22.25
Djibouti	0.12	0.01	0.42	N.A.	0.55
Dominica	0.05	0.01	0.18	0.06	0.29
Ethiopia	3.33	0.53	14.07	1.00	18.93
Gambia, The	0.17	0.11	0.52	N.A.	0.81
Ghana	2.85	0.32	5.36	17.77	26.30
Grenada	0.03	0.07	0.33	0.10	0.53
Guinea	1.45	0.38	1.39	0.28	3.50
Guinea-Bissau	0.04	0.08	0.51	0.32	0.95
Guyana	0.26	0.13	0.91	0.01	1.31
Haiti	0.00	1.95	0.09	0.04	2.08
Honduras	0.36	0.54	5.54	1.93	8.38
Kenya	9.47	0.19	15.78	8.33	33.77
Kyrgyz Republic	2.24	0.02	1.71	N.A.	3.96
Lao PDR	5.77	0.86	1.81	1.69	10.12
Lesotho	0.17	0.03	0.75	0.00	0.96
Liberia	0.10	0.02	0.90	N.A.	1.01
Madagascar	0.51	0.10	2.85	0.06	3.52
Malawi	0.39	0.05	1.91	N.A.	2.36
Maldives	0.93	0.05	0.42	0.85	2.25

Priorities for the G20 Finance Track

Mali	1.18	0.41	3.83	N.A.	5.43
Mauritania	1.03	0.39	2.32	N.A.	N.A.
Moldova	0.09	0.01	1.69	0.02	1.80
Mozambique	3.49	1.25	4.49	0.30	9.53
Myanmar	5.38	0.18	2.67	0.07	8.30
Nepal	1.03	0.02	6.75	0.00	7.79
Nicaragua	0.32	0.23	5.08	0.02	5.65
Niger	0.59	0.13	3.33	0.20	4.25
Papua New Guinea	2.52	0.00	2.92	0.59	6.04
Rwanda	0.74	0.07	3.91	0.86	5.58
Samoa	0.19	0.00	0.19	N.A.	0.38
Sao Tome and Principe	0.03	0.14	0.05	0.01	0.23
Senegal	3.10	0.23	6.19	4.92	14.44
Sierra Leone	0.17	0.07	0.89	0.17	1.31
Solomon Islands	0.02	0.01	0.11	N.A.	0.14
Somalia	2.32	0.28	0.36	N.A.	2.96
St. Lucia	0.00	0.11	0.32	0.24	0.67
St. Vincent and the Grenadines	0.04	0.02	0.40	0.00	0.46
Sudan	5.21	2.76	2.58	4.75	15.30
Tajikistan	1.21	0.06	1.38	0.52	3.18
Tanzania	3.62	0.40	11.45	3.41	18.88
Timor-Leste	0.03	0.00	0.20	N.A.	0.23
Togo	0.62	0.06	0.80	0.29	1.76
Tonga	0.11	0.00	0.07	N.A.	0.19
Uganda	3.53	0.10	7.85	0.49	11.97
Uzbekistan	2.91	0.13	10.01	3.12	16.18
Vanuatu	0.26	0.00	0.15	N.A.	0.41
Yemen, Rep.	1.99	0.20	2.91	N.A.	5.11
Zambia	4.21	0.00	2.62	5.66	12.49
Zimbabwe	2.51	0.15	0.00	0.00	4.10
Total	123.2	15.8	200.2	79.3	416.1

Source: International Debt Statistics.

Table C7: Public Debt Levels, Total and External, for Low-Income Countries

Country	Latest Date of DSA Publication	Level of Risk of Debt Distress	General Government Debt as Percentage of GDP		External General Government Debt as Percentage of GDP	
			2019	2021	2019	2021
Chad	12/15/2021	Debt Distress	52.3	103.6	25.0	25.5
Congo, Rep.	7/18/2022	Debt Distress	84.8	103.6	38.9	47.1
Grenada	5/10/2022	Debt Distress	58.6	70.3	39.2	47.1
Malawi	11/23/2022	Debt Distress	45.3	63.9	18.2	18.7
Mozambique	4/29/2020	Debt Distress	99.1	106.4	61.3	60.4
Sao Tome and Principe	9/20/2022	Debt Distress	71.6	73.3	51.6	43.6
Somalia	7/19/2022	Debt Distress	N.A.	N.A.	31.7	38.8
Sudan	7/1/2021	Debt Distress	200.4	182.0	50.8	44.6
Zambia	9/6/2022	Debt Distress	99.7	119.1	47.2	56.4
Zimbabwe	4/8/2022	Debt Distress	93.2	66.9	17.6	14.4
Afghanistan	6/28/2021	High Risk	6.1	N.A.	10.3	12.9
Burundi	7/29/2022	High Risk	60.0	66.6	17.1	18.3
Cameroon	8/4/2022	High Risk	41.6	45.5	26.0	27.4
Central African Republic	2/1/2021	High Risk	47.2	47.6	18.9	17.3
Comoros	10/29/2021	High Risk	N.A.	N.A.	19.4	21.0
Djibouti	5/12/2020	High Risk	42.0	46.0	15.1	15.9
Dominica	2/14/2022	High Risk	89.3	108.6	37.0	52.4
Ethiopia	5/6/2020	High Risk	54.7	53.0	17.4	17.0
Gambia, The	6/27/2022	High Risk	83.0	83.8	38.4	39.6
Ghana	7/23/2021	High Risk	62.7	82.1	28.6	33.9
Guinea-Bissau	6/27/2022	High Risk	64.0	78.5	41.3	58.0
Haiti	7/1/2022	High Risk	25.8	24.2	13.4	9.9
Kenya	12/22/2021	High Risk	59.1	67.8	29.1	30.6
Kiribati	1/24/2019	High Risk	20.1	17.6	N.A.	N.A.
Lao PDR	8/8/2019	High Risk	62.0	93.5	53.6	53.8
Maldives	4/23/2020	High Risk	78.8	124.8	25.5	41.6
Marshall Islands	5/27/2021	High Risk	24.8	19.8	N.A.	N.A.
Mauritania	9/16/2020	High Risk	55.7	51.7	N.A.	N.A.
Micronesia, Fed. St.	11/1/2021	High Risk	17.8	15.0	N.A.	N.A.
Papua New Guinea	9/20/2022	High Risk	41.2	50.9	17.4	22.7
Samoa	3/19/2021	High Risk	44.3	46.3	42.5	45.1
Sierra Leone	7/29/2022	High Risk	72.5	79.3	28.6	32.3
South Sudan	8/3/2022	High Risk	28.1	64.7	N.A.	N.A.

St. Vincent and the Grenadines	11/17/2022	High Risk	68.1	88.4	36.3	51.3
Tajikistan	2/18/2022	High Risk	43.1	44.4	34.0	36.3
Tonga	8/26/2022	High Risk	41.3	47.6	34.7	39.7
Tuvalu	8/4/2021	High Risk	11.5	6.0	N.A.	N.A.
Benin	7/25/2022	Moderate Risk	41.2	49.9	25.0	34.0
Bhutan	5/24/2022	Moderate Risk	106.5	132.4	98.8	113.5
Burkina Faso	11/18/2020	Moderate Risk	42.5	52.4	20.7	21.9
Cabo Verde	7/21/2022	Moderate Risk	114.0	142.3	91.2	102.3
Congo, Dem. Rep.	7/5/2022	Moderate Risk	15.0	16.1	8.3	8.6
Cote d'Ivoire	7/1/2022	Moderate Risk	38.4	52.1	26.0	31.8
Guinea	7/6/2021	Moderate Risk	38.6	42.5	16.9	21.7
Guyana	9/27/2022	Moderate Risk	43.6	42.9	23.6	16.3
Kyrgyz Republic	8/2/2021	Moderate Risk	51.6	61.1	41.9	46.4
Lesotho	6/7/2022	Moderate Risk	50.5	53.5	34.7	38.4
Liberia	9/14/2022	Moderate	48.5	53.2	24.8	28.9
Madagascar	3/16/2022	Moderate Risk	40.6	53.1	21.2	24.4
Mali	3/30/2021	Moderate Risk	40.7	51.9	25.8	28.4
Nicaragua	11/20/2020	Moderate Risk	41.7	49.4	35.8	40.3
Niger	12/20/2021	Moderate Risk	39.8	51.2	24.5	28.5
Rwanda	1/13/2022	Moderate Risk	49.8	66.6	37.9	50.5
Senegal	6/27/2022	Moderate Risk	63.6	73.2	52.4	52.3
Solomon Islands	1/21/2022	Moderate Risk	7.9	16.5	6.1	8.6
St. Lucia	9/9/2011	Moderate Risk	62.1	96.0	25.1	39.9
Tanzania	8/5/2022	Moderate Risk	39.0	40.7	27.5	27.8
Timor-Leste	9/22/2022	Moderate Risk	11.3	14.1	9.4	6.4
Togo	4/16/2020	Moderate Risk	52.4	63.7	18.9	20.9
Uganda	3/15/2022	Moderate Risk	37.6	51.8	24.4	29.5
Vanuatu	9/14/2021	Moderate Risk	45.1	48.2	38.7	43.1
Yemen, Rep.	9/24/2014	Moderate Risk	76.5	69.7	N.A.	N.A.
Bangladesh	3/7/2022	Low Risk	31.7	35.5	11.5	12.9
Cambodia	12/9/2021	Low Risk	28.2	36.3	27.9	35.1
Honduras	9/14/2021	Low Risk	42.9	50.2	29.4	29.4
Moldova	5/13/2022	Low Risk	28.8	33.1	12.1	13.2
Myanmar	1/28/2021	Low Risk	38.8	62.3	9.8	12.7
Nepal	1/27/2022	Low Risk	33.1	45.8	17.1	21.5
Uzbekistan	6/22/2022	Low Risk	28.4	35.8	17.0	23.4

Source: Calculated by using debt data from International Debt Statistics and the GDP data from the World Development Indicators.

Table C8: Countries in G20 and in Paris Club

Both in G20 and Paris Club	In G20 but Not in Paris Club	In Paris Club but Not in G20
Australia	Argentina	Austria
Brazil	China	Belgium
Canada	India	Denmark
France	Indonesia	Finland
Germany	Mexico	Ireland
Italy	Saudi Arabia	Israel
Japan	South Africa	Netherlands
South Korea	Turkey	Norway
Russia	European Union	Spain
United Kingdom		Sweden
United States		Switzerland

Table C9: Data and Sources

Variable	Definitions	Source	Links
General government debt to GDP (%)	All liabilities that require future payment of interest and/or principal.	Fiscal Monitor, October 2022	Fiscal Monitor (October 2022) - Gross debt position (imf.org)
External debt stocks, general government sector (current US\$)	To estimate the portion of general government debt raised externally, we use external debt stock, general government sector (as % of GDP) from the International Debt Statistics (IDS) database. This includes long-term external obligations of national governments of all levels, political subdivisions, or any agency of either. Short-term debt raised externally is not included in this variable, as the latter is not available separately for debt raised by the public sector and by the private sector.	International Debt Statistics	International Debt Statistics DataBank (worldbank.org)
Gross Domestic Product, in US\$		World Development Indicators	
General government, bilateral debt (current US\$)	Long-term obligations from governments and their agencies (including central banks), loans from autonomous bodies, and direct loans from official export credit agencies.	International Debt Statistics	International Debt Statistics DataBank (worldbank.org)
General government, multilateral debt (current US\$)	Loans from the World Bank, regional development banks, and other multilateral and intergovernmental agencies.	International Debt Statistics	International Debt Statistics DataBank (worldbank.org)
General government debt from private creditors (current US\$)	Publicly issued or privately placed bonds; loans from private banks and other private financial institutions; private credits from manufacturers, exporters, and other suppliers of goods; bank credits covered by a guarantee of an export credit agency.	International Debt Statistics	International Debt Statistics DataBank (worldbank.org)



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