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# The Lender of First Resort?

## CHINESE SWAP LINES, THE IMF AND THE CHANGING INTERNATIONAL FINANCIAL ARCHITECTURE

**BY JULIAN WATROUS AND STEPHEN PADUANO**

## ABSTRACT

Launched in 2008, the People's Bank of China (PBOC)'s network of bilateral foreign exchange swap lines now includes 40 central banks. While officially established to promote trade and enable cross-border payment in renminbi, China has instead mainly used its swap lines to provide sovereign bailouts to countries facing economic crises. As of the end of 2021, the country had lent $38 billion in balance-of-payments or quasi-fiscal support in a manner akin to International Monetary Fund (IMF) lending.

By analyzing each case of PBOC swap line usage, this paper examines the new role of PBOC swap lines within the Global Financial Safety Net (GFSN), focusing on their usage during macroeconomic crises, their potential as alternatives to IMF financing and their role alongside IMF programs. We find that PBOC swap lines have only rarely substituted for IMF financing. In these cases, swap line access may allow for increased policy autonomy and provide helpful short-term liquidity, but it may also delay macroeconomic adjustment in borrowing countries. Mostly, PBOC swap lines do not function as an alternative to IMF financing due to a series of key shortcomings related to pricing, duration, currency denomination and available financing amounts. Instead, we find that PBOC swap lines are used most often ahead of, or alongside, IMF programs. Swap lines have been a helpful addition to the GFSN in two main contexts: 1) as bridge loans and 2) as supplementary



financing, helping to facilitate and bolster IMF programs. We caution that growing financial risks to China's swap line lending may endanger the network's future usefulness as the country moves to impose stricter conditions or remove access altogether.

## INTRODUCTION AND BACKGROUND

Since its founding, the International Monetary Fund (IMF) has in theory sought to act as the international "lender of last resort," providing financing to countries facing balance-of-payments and macrofinancial pressures. However, in the 21st century, the landscape of international rescue lending has shifted. The United States, which historically often "cofinanced" IMF programs with supplementary funds, no longer provides sovereign bailouts (McDowell 2019a). The Paris Club (PC) group of developed country sovereign creditors, which historically played a large role in bilateral lending, now makes up only a fraction of overall sovereign debt (Horn, Reinhart and Trebesch 2021). Instead, China has become the world's largest bilateral lender, now providing assistance comparable to the IMF and acting as a lender of last resort: providing large balance-of-payments loans and foreign exchange (FX) swap lines.

At the center of China's provision of sovereign emergency financing is its network of bilateral swap lines, administered by the People's Bank of China (PBOC) and denominated mostly in renminbi (RMB). Established in 2008 and extended to 40 central banks around the world since, PBOC swap lines were officially established to promote trade and cross-border investment, promote financial stability and enable cross-border payment in RMB. While we cannot definitively identify the full scope of RMB swap line usage—i.e., if there are short-term trade and investment use cases that net out before a quarterly or annual reporting period—it appears that they have instead predominantly been used for emergency balance-of-payments support (Bahaj and Reis 2020; Horn et al. 2023; Perks et al. 2021). Swap line draws for macrostabilization purposes have been large: As of the end of 2021, 13 countries had drawn $38 billion in balance-of-payments support, excluding swap line rollovers (or $170 billion including rollovers).[1] Since 2009, PBOC swap line draws (excluding rollovers) have amounted to 12 percent of overall IMF lending (or 55 percent if including rollovers) in terms of disbursements over the same period ($310 billion), though overall access nearly rivals IMF resources (IMF 2024b; Horn et al. 2023; McDowell 2019b). In terms of credit outstanding, by the end of 2023, PBOC swap line outstanding balances amounted to 11 percent of outstanding IMF credit (PBOC 2023; IMF 2024b).

The emergence of new sources of crisis lending has changed the composition of the Global Financial Safety Net (GFSN), which previously functioned in coordination between the IMF, the World Bank and PC lenders (Schneider and Tobin 2020). Historically, the IMF has led the implementation and design of sovereign bailouts, with other sources of financing (from multilateral development banks (MDBs) and bilateral support from advanced economies, especially the United States) closely coordinating with the IMF as supplementary financing. Countries with access can now tap PBOC swap lines for emergency financing as an outside option, and, crucially, these swaps require few (if any) policy conditions, whereas the IMF applies strict conditionalities on its loans (Dreher 2004; Hernandez 2017). Our research attempts to make sense of this new and important development in the GFSN landscape. How exactly have swap line counterparties made use of PBOC swap lines while in crisis? Do they present an alternative to the IMF as a source of emergency financing, and do they bolster or hinder IMF programs? How have PBOC swap lines changed the GFSN overall, and what might their future look like?

[1] While Horn et al. (2023) tend to include rollovers and cite $170 billion in PBOC swap line lending, we prefer to exclude rollovers and only count new financing.

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Notably, some countries facing economic crises have drawn on swap line financing from China to avoid IMF programs and the associated policy conditions. This has established some degree of policy autonomy, allowing a few countries to buck IMF advice while borrowing from China to stay afloat. However, countries using PBOC swap lines for emergency financing needs have nonetheless mostly approached the IMF for bailouts—PBOC swap lines do not appear to function as fully equivalent replacements for IMF financing.

We find that PBOC swap lines do not represent a true substitute to the IMF for countries in macroeconomic crisis due to a few key shortcomings. Although the relative lack of conditionality may be attractive to borrowers, PBOC swap lines naturally have a much shorter duration than IMF loans, which can exacerbate countries' macroeconomic stress. Cost comparisons are difficult to make, but in certain contexts PBOC swaps have also been considerably more expensive than IMF financing, which may further compound debt sustainability issues (though we caution data limitations and note that PBOC swaps may have become relatively cheaper recently as IMF loans have become more expensive). Beyond pricing points, the amount of financing available through PBOC swap lines is in some cases insufficient (mostly, swap line access limits are far below IMF access limits), and they are also denominated in RMB, which is less useful than more easily convertible Special Drawing Rights (SDRs), unless a second internal dollar facility has been agreed with the PBOC for it to conduct the conversion (which was a helpful component of the Argentina swap; see Arnold 2023a).

Finally, they may be cancelled or subject to new conditionalities. In some cases, even where countries have attempted to substitute IMF loans with PBOC swap line draws, PBOC swaps have allowed countries to only delay, but not avoid, going to the IMF. It is important to note that policy autonomy through short-term liquidity and the ability to pursue macroeconomic adjustment (and default) more flexibly may be valuable and desirable from the vantage point of borrower countries. Yet we should identify the tendency of borrower countries to make use of available, unsustainable financing—whether it is from new creditors (e.g., the use of PBOC swaps) or capital markets (e.g., Kenya's FY24 Eurobond issuance)—as a growing pain of the global financial architecture. Financing made available through swap lines, as with financing made available from private creditors, may in some cases worsen borrowers' debt sustainability, requiring deeper and more painful adjustments.

We also find that RMB swap lines are used most often ahead of, or in conjunction with, IMF programs, and in this role, they have proven to be helpful additions to the GFSN. Specifically, RMB swap lines have been useful in two main (and related) cases: 1) as bridge loans to secure IMF programs and 2) as supplementary financing to bolster existing IMF programs. In the first case, RMB swap lines enable programs by meeting short-term liquidity needs as IMF programs are negotiated, helping countries meet IMF programs' prior conditions or helping countries clear IMF arrears ahead of new programs. In the second case, RMB swap lines bolster IMF programs by acting as "supplementary financing," helping to close external financing gaps.

Our findings also raise doubts about the long-term future of the PBOC's swap line network, bringing into question whether China may withdraw its swap lines (as it recently did in Argentina) or apply new conditions on their usage (as it recently did in Sri Lanka). Indeed, swap line draws have been concentrated in a group of heavily indebted Belt and Road Initiative (BRI) borrowers, and the financial risks to China implied by its large footprint are significant. China may choose to mitigate financial risks by limiting swap line draws to alongside or in advance of IMF programs, as the Chiang Mai Initiative has done and as the US Treasury historically required of its sovereign bailouts of the 1980s and 1990s. More formal integration into the GFSN would provide more clarity for international financial institutions (IFIs) and other creditors, which should ultimately enable more financing from multilateral and official creditors that will be less wary of opaque and unsustainable financing arrangements with other creditors, while also enabling more expeditious and collaborative restructurings should those need to occur.

## LITERATURE REVIEW

The questions we ask—how swap line counterparties have made use of PBOC swap lines during crisis; how these lines have enabled, bolstered or substituted for IMF financing; and how they are shaping the evolution of the GFSN—builds upon a well-developed literature on Chinese overseas lending as well as a literature on the IMF and the changing creditor landscape. By integrating elements of these literatures and analyzing the interaction terms of PBOC swap lines and IMF programs, we aim to develop a more concentrated understanding of the dynamics and implications of swap line usage.

Horn et al. (2023) provide a thorough empirical study of China's swap line network as well as a political economy analysis that has taken hold in academic and policy circles. The authors construct the first comprehensive dataset of China's overseas "bailout lending," covering $240 billion in liquidity support from 2000-2021. This broad-brush term of "bailout lending" is subdivided by the authors into more precise categories: "rescue loans" from policy banks; "commodity prepayment facilities" by which Chinese oil importers provide "large upfront cash payments" that serve a similar stabilization function; "drawings from PBOC swap lines," which constitute the form of lending with which we are most focused; and "central bank deposit loans," which take the shape of dollar deposits made by the PBOC at foreign central banks.

The empirical significance of Horn et al. (2023) lies in their documentation of the reach and scale of China's lending toolkit. Forty central banks have received swap lines from the PBOC, and China's overseas "bailouts" over the past decade are found to total more than 20 percent of total IMF lending—denoting China's singular prominence in the GFSN as a provider of bilateral financing. The political analysis of Horn et al. (2023) rests on comparisons of the costs, transparency and objectives of Chinese financing relative to multilateral financing. The authors highlight that Chinese policy banks' lending rates have averaged roughly 5 percent, whereas the IMF's nonconcessional lending rate over the past decade has averaged 2 percent and the United States' central bank swap line rates have averaged 25 basis points (bps) over the LIBOR reference rate; PBOC swap rates have averaged 200 to 400 bps above Shanghai Interbank Offered Rate (SHIBOR). We believe that these PBOC swap rates should be further decomposed, as they differ significantly across different country contexts, and changes in the underlying reference rates (SHIBOR, the Special Drawing Rights interest rate (SDRi) or the Effective Federal Funds Rate) can result in greater differences in financing costs than the authors communicate. Moreover, the authors note that, whereas IMF lending is extended to a very broad set of countries, China's "bailout lending" has been concentrated in BRI countries, which they suggest raises questions not only about the geopolitical drivers of Chinese financing but also, more importantly, the sustainability of BRI financing.

While the concerns surfaced by Horn et al. (2023) have made an impression in the academic literature and policy discourse, they have been challenged by more sober assessments of the patchy state of the GFSN (e.g., Muhlich et al. 2022). Although it may be the case that Chinese swaps come at a premium to US swaps, the Federal Reserve has only extended swap lines to central banks of the most advanced economies and two robust emerging market economies (Brazil and Mexico). By contrast to Horn et al. (2023), Muhlich et al. (2022) highlight the much broader reach of China's swap line network. This includes China's participation in other regional and multilateral financial arrangements (such as the Chiang Mai Initiative, the Contingent Reserve Arrangement of the New Development Bank and the Eurasian Fund for Stabilization and Development) that covers countries excluded from the GFSN. Further, as Zucker-Marques and Kring (2023) note, China provides 40 percent of the world's central bank swaps, accounting for $400 billion. From this perspective, the primary political significance of

China's swaps is how they fill in significant gaps in the GFSN. This was perhaps made clearest by Argentina drawing on its PBOC swap line ($2.7 billion) as bridge financing needed to access its IMF program. The higher costs and geopolitical motivations flagged by Horn et al. (2023) appear less distressing when weighed against the systemic role that Chinese swaps play.

The literature has also considered how the rise of Chinese lending, including through swap lines, may disrupt the IMF's central role in administering sovereign bailouts. Some have seen Chinese lending as representing an "outside option," a genuinely independent alternative to IMF financing (Chandrasekhar 2021a; Sundquist 2021). Both China and its emerging market borrowers have reason to create independent financial rescue mechanisms: Both have been historically dissatisfied with the IMF. Emerging market borrowers have long taken issue with IMF structural adjustment programs and their policy requirements. After the Asian financial crisis, countries even attempted to create an Asian Monetary Fund to gain independence from the IMF, eventually establishing the Chiang Mai Initiative (a regional swap line network) (Sussangkarn 2010; Chandrasekhar 2021b). For the most part, emerging market borrowers do their best to avoid IMF programs since policymakers must sacrifice policy autonomy and implement unpopular policies (Kentikelenis, Stubbs and King 2016; Nooruddin and Woo 2014). China remains underrepresented in IMF and World Bank governance, with vote shares of just around 6 percent in each institution, fueling the incentive to exit the status quo system (IMF 2023a). The rise of China as an official lender, including its swap line network and through multilateral initiatives (like the BRICS Contingence Reserve Arrangement), can therefore be seen in this context (Chandrasekhar 2021b; Henning 1999).

A substantial body of literature has explored the political and economic determinants of swap lines and bilateral bailouts (e.g., Schneider and Tobin 2020; Zhitao, Wenjie and Cheung 2016; Perks et al. 2021), but relatively few studies have empirically examined how the rise of China as a bilateral lender has affected the preexisting GFSN and the IMF. Sundquist (2021) provides a key insight into how some countries have managed to substitute IMF funding with Chinese loans, finding that larger Chinese financial commitments decrease the likelihood of countries seeking IMF assistance. His analysis, while broader than only bailout loans, suggests that Chinese loans can sometimes offer a viable alternative to IMF financing. He even quantifies this dynamic, showing that loans from China equivalent to 1 percent of a borrower's GDP lower the chances of turning to the IMF by 6 percent. He also hypothesizes that China receives two key benefits in return: access to natural resources and geopolitical advantages (namely, switching diplomatic recognition from Taipei to Beijing). Sundquist's work underscores how Chinese bailouts can serve as an alternative to IMF funding and highlights the broader question of what China gains from providing liquidity.

Kern and Reinsberg (2022) find that countries that had previously borrowed from China received more conditions when borrowing from the IMF. There is tension within this finding as it relates to the interactions between Chinese financing and the GFSN. Most notably, Hernandez (2017) finds that the more Chinese development loans countries receive, the fewer conditions they face when receiving World Bank loans, likely because borrowing countries gain negotiating leverage through having outside financing options and exit threats. Kern and Reinsberg (2022) and Hernandez (2017) appear to have competing claims. The former suggests that Chinese financing does not offer an alternative to IMF finance, instead creating pressures on borrowers when dealing with the IMF (by increasing the number of conditionalities they face), while the latter suggests that Chinese financing eases and perhaps undermines future World Bank programs (by decreasing the number of conditionalities) by acting as a viable outside option. Finally, Clark (2022) finds that regional financing agreements (which may have an effect equivalent to PBOC swap lines) that compete with the IMF serve as credible alternatives, allowing countries with access to bargain with the IMF for lower conditionality. To summarize, the literature has produced only ambiguous findings related to how the rise of China as a bilateral bailout lender may have affected the GFSN. By focusing on

PBOC swap lines rather than Chinese financing writ large, and focusing on IMF programs rather than IFIs altogether, we hope to resolve some of the internal tension in the literature regarding the ability of Chinese swap lines to function as independent financial rescue mechanisms and address unanswered questions about China's role in the evolving GFSN.

## The Landscape and Uses of PBOC Swap Lines

The PBOC launched its first bilateral swap line in 2008. Since then, it has signed 40 swap lines with other central banks—ranging from large central banks in developed economies like the European Central Bank (ECB) and Bank of Japan to central banks in small, less-developed jurisdictions like Suriname and Laos. The PBOC has extended PBOC swap lines to a wide range of central banks but disproportionately to countries with which it has large trade relationships, strategic political partnerships and larger economies, with swap size correlated with trade intensity and countries with free trade agreements (Zhitao, Wenjie and Cheung 2016; Perks et al. 2021). The bank established its network of bilateral swap lines for the explicit goal of boosting cross-border trade and investment, as well as promoting RMB internationalization to encourage the use of RMB in international transactions (Perks et al. 2021). Swap lines could help internationalize the RMB by addressing a key barrier to its use abroad: capital controls. Due to China's capital controls, trade finance and entry and exit into its debt markets (including for the purposes of maintaining FX reserves) is more difficult and costly, and PBOC swap lines were meant to boost RMB liquidity for firms and central banks engaged in cross-border transactions involving China (Bahaj and Reis 2020; Destais 2016).

Although PBOC swap lines have rarely been used for cross-border trade and investment purposes, their signing places a ceiling on trade finance interest rates, lowering both RMB borrowing costs and interest rate volatility. As a result, they have led to a significant increase in the use of RMB in cross-border payments, such as trade invoicing (Bahaj and Reis 2020). They have also boosted bilateral trade overall (Song and Xia, 2020; Zhan et al. 2017).

As mentioned earlier, it is more difficult than some researchers and policymakers let on to definitively determine PBOC swap line use cases—given the possibility that short-term trade or investment financing is netted out before the end of the reporting period—though it appears that the more significant open draws on PBOC swap lines by counterparty central banks have largely been for macroeconomic stabilization purposes during economic crises, not for trade and investment uses. Indeed, 13 of the 17 total swap line draws have been by countries in states of macroeconomic crisis, with low levels of foreign reserves and weak sovereign credit ratings (Horn et al. 2023). Only four countries (Korea, Thailand, Malaysia and Singapore) drew on their PBOC swap lines outside of macroeconomic distress but in smaller amounts, likely for trade and investment transactions (Horn et al. 2023). We find that among swap line draws to mitigate macroeconomic distress, all have been by emerging market central banks, concentrated in three main (and often, overlapping) contexts: sovereign debt crises and external default episodes (as in Argentina, Mongolia, Suriname and Sri Lanka); balance-of-payments or currency crises, especially when foreign reserves are dangerously low (as in Pakistan, Egypt and Turkey); or during geopolitical crises, including draws by Russia and Ukraine. Notably, countries that have drawn on their PBOC swap lines for macrostabilization purposes have generally had large debts owed to China. In general, swap line users had borrowed heavily from Chinese policy banks under the BRI over the previous decade (Horn et al. 2023).

While it is difficult to establish empirically, the PBOC may have been deploying its swap line network as a way to reprofile debts owed to its own state banks—transferring risk onto the PBOC balance sheet—by allowing swap line draws to "bail out" its own BRI debts. For example, in Sri Lanka (in 2019) and Pakistan, China only extended or expanded swap line agreements once the two countries were on the verge of default, with large debts owed to Chinese policy banks (Reuters 2018, 2021).



These 13 recipient central banks appear to have drawn on their PBOC swap lines as a new source of external financing to help close financing gaps when new external bond issuance was prohibitively expensive. As of the end of 2021, swap line recipients had drawn around $38 billion for macrostabilization purposes (excluding rollovers, or $170 billion including rollovers). While a lack of transparency limits a comprehensive understanding of specific usage, it is clear that central banks have used the RMB proceeds for two main purposes: to shore up gross foreign reserves and to make external debt payments—to China, multilateral creditors or private sector creditors—to avoid default.

Shoring up gross foreign reserves has been the most common use case and fits under general balance-of-payments support. In some cases, PBOC swap draws have represented more than half of a given country's gross reserves (as in Argentina and Mongolia; see Arnold 2023b, 2023c). Importantly, swap lines do not augment net reserves, as swaps must be paid back (they are *net* negative). Nonetheless, this reserve function has served useful purposes, raising gross reserves above key macroprudential thresholds in terms of import cover, directly paying for imports and financing FX intervention, and perhaps bolstering market confidence.

In the second type of use case—making external debt payments—swap line usage in and around external default episodes implies their use as a debt repayment tool. This may be direct, where countries draw on their PBOC swap lines to repay debt coming due. For example, Pakistan did so to pay down maturing debt to Saudi Arabia in 2021, and Argentina drew on its swap to make payments to external bondholders and repay IMF debt in 2023 (IMF 2023a; Arnold 2023a; AidData n.d.b). Argentina's use of PBOC swap lines to repay IMF debt is a relatively novel use case since the IMF only began to include RMB as an SDR currency in 2016. Even when RMB drawn through a PBOC swap line are not used directly for external debt service, draws can still facilitate debt payment due to the fungibility of foreign reserves, freeing up other reserves for debt service (Obstfeld, Shambaugh and Taylor 2009; Horn et al. 2023).

In both of these main cases—bolstering foreign reserves and external debt service—recipient central banks have often converted their RMB into dollars, either to repay dollar-denominated debt or to conduct FX intervention in dollars (Arnold 2023b; Bahaj and Reis 2020; McDowell 2019b). This requires a recipient country to perform two transactions: 1) to borrow RMB through its swap line and 2) to perform a second swap, in private markets or through a supplementary PBOC facility, of RMB for a second currency (usually dollars).

## PBOC SWAP LINES AS AN ALTERNATIVE TO IMF FINANCING

While PBOC swap lines have generally been used in conjunction with IMF programs, a number of countries have drawn on their PBOC swap lines as an alternative to IMF financing. As mentioned earlier, four countries used their swap lines outside of macroeconomic distress, likely for trade or investment reasons or to satisfy local banking sector demand for RMB—a use case quite distinct from the IMF's mandate. More relevantly, several countries have used their PBOC swap lines as balance-of-payments support during macroeconomic crises while neglecting to seek IMF support. These include Nigeria (though it tapped an IMF rapid financing instrument but not an upper-credit tranche program), Russia, Turkey, Belarus and Laos. While Horn et al. (2023) compare China's role in providing bilateral bailouts to the role of the US Treasury in the 1980s and 1990s, the latter always lent in advance of, or alongside, IMF programs, while the PBOC has allowed countries to draw funds outside of them (Schneider and Tobin 2021). Figure 1 shows the full breakdown of emergency financing choices by countries with access to PBOC swap lines, including those that only borrowed from the IMF, only from the PBOC and from both.

**Figure 1: Emergency Financing Choices among PBOC Swap Line Counterparties**

| Only IMF | Only PBOC Swaps | IMF and PBOC |
|---|---|---|
| Albania | Belarus | Argentina |
| Armenia | Laos | Egypt |
| Georgia | Russia | Nigeria |
| Serbia | Turkey | Mongolia |
| Uzbekistan | | Pakistan |
| South Africa | | Sri Lanka |
| Tajikistan | | Suriname |
| | | Ukraine |
| | | Nigeria |

**Source:** IMF (2023), PBOC (2023).

In two of these cases, authorities' decisions to use PBOC swap lines outside of IMF programs is clear. In 2021, when Turkey first began drawing on its swap line in large amounts, it was pursuing a heterodox macroeconomic policy that responded to high inflation and currency depreciation with low central bank policy rates and FX intervention (The Economist 2023). As a currency crisis ensued, with steep lira depreciation and dwindling reserves, Turkey drew the maximum amount, $5.5 billion in USD, from its PBOC swap line to bolster gross reserves, alongside swap lines from the United Arab Emirates and Qatar (Butler 2022). The IMF had publicly opposed Turkey's interest rate policy, as well as its scheme to protect FX bank deposits, and called for sharp monetary policy tightening and the unwinding of unorthodox macroprudential measures (IMF 2023c). Turkey therefore likely rejected the possibility of an IMF program because it would have required fundamental changes of policies, to which President Erdogan was deeply committed. PBOC swap lines, in this case without any reported conditionalities, were therefore a way for Turkey to maintain autonomy to pursue a heterodox policy stance and resist the policy conditions that the IMF would have demanded. Additionally, between 2015 and 2017, in the context of low global oil prices and international sanctions following Russia's invasion of Crimea, Russia drew smaller but significant amounts on its PBOC swap line totaling $137 million (Horn et al. 2023). It on-lent these RMB draws to domestic commercial banks for import payments rather than lend its increasingly scarce dollar reserves. In this case, Russia was able to draw on PBOC swap lines to access foreign liquidity at a time when IMF financing would have been impossible due to geopolitical tensions with IMF board members.

The two other cases of PBOC swap line usage outside of IMF programs—Belarus, Nigeria and Laos—are more ambiguous. Nigeria first drew on its PBOC swap line in 2018 and continuously increased its drawings through 2021. PBOC swap draws helped bolster reserves at a time when Nigeria faced considerable external pressure due to low oil prices, which had led to naira depreciation and low reserves. It also faced large debt maturities to Chinese creditors between 2018 and 2021. While Nigeria did not enter an IMF program in 2020, it did borrow through the IMF's Rapid Financing Instrument, a loan facility with very few conditions, which was made available to emerging market countries during the COVID-19 pandemic. Laos drew on its PBOC swap line in 2020 when its reserves were far below prudential thresholds and when it was on the verge of default to external (mostly Chinese) creditors. PBOC swap draws helped it shore up FX reserves and avert default. Laos declined to even seek financing through the IMF's low-conditionality emergency credit facilities, only seeking balance-of-payments support from China. Belarus' decision to draw on PBOC swap lines rather than IMF financing may also have been due to geopolitical hurdles.

Two key features of PBOC swap lines may make the option more attractive than signing onto IMF programs, perhaps explaining cases like Laos, Belarus and Nigeria: 1) PBOC swap lines generally lack policy conditionalities, unlike IMF programs (besides the Rapid Credit Facility and the Rapid Financing Instrument (RFI)), and 2) they avoid the potentially negative domestic political effects of IMF programs. It has been posited that IMF programs come with "sovereignty costs," which can encumber certain political constituencies depending on the adjustments required and provide opportunities to domestic opposition parties to blame incumbents for economic mismanagement and ceding sovereignty (Nooruddin and Woo 2014). Even without material "sovereignty costs"—particularly as the IMF (and other IFIs) strive to make programs more "demand driven" or "country led"—there is sufficient historical animosity toward the IMF among many members so as to resist IMF programs independent of the terms, duration or conditionalities attached to IMF financing. This is likely to be particularly the case for countries that underwent particularly severe and unsuccessful programs in the 1980s and 1990s—most notably countries like Indonesia, where IMF programs precipitated regime change, as well as countries like Laos, which entered into structural adjustment programs with the IMF from 1989-1994. It is among these reasons why incumbent governments may tend to avoid IMF programs, particularly ahead of elections (Dreher 2004), with Laos of course opting to draw from a PBOC swap line instead.

While some literature has compared PBOC swap lines to other central bank swap line facilities, especially the Federal Reserve's bilateral swap lines (Horn et al. 2023; Perks et al. 2021), we view them as more comparable to IMF lending—not in form but in the contexts in which they are deployed. The Federal Reserve's swap lines have been tapped by advanced economy counterparties to satisfy demand for dollar liquidity in their local financial sectors and to on-lend dollars to commercial banks. Likewise, Fed swap line maturities are much shorter, often seven days, and so they cannot serve as balance-of-payments financing. By contrast, both IMF loans and PBOC swap draws are concentrated mainly in emerging market economies, aimed at balance-of-payments financing, with much longer repayment schedules. The significance of PBOC swap lines being used for balance-of-payments support has in fact contributed to the IMF updating its guidance on the Sovereign Risk and Debt

Sustainability Framework for market access countries to reflect the difference between the use case of swap lines versus the more conventional provision of short-term liquidity.

The role of PBOC swap lines as an alternative source of emergency balance-of-payments support may risk encouraging the delay of necessary macroeconomic adjustment when tapped outside of IMF programs, even if they can helpfully perform a short-term liquidity function and provide needed fiscal space. Given PBOC swap lines' lack of policy conditionalities, they may allow countries to draw on new financing while potentially continuing unsustainable policies, withstanding balance-of-payments pressures in the short term but only delaying requiring deep adjustments in the long term. This should be perceived as a problem even if it is partially a function of the lack of a strong and efficient restructuring architecture: i.e., if countries cannot reliably restructure their debt through mechanisms like the Group of 20 (G20) Common Framework, the impulse to tap short-term financing is naturally greater. While PBOC swap lines are by no means the cause of the world's faulty restructuring architecture, their existence very likely compounds what we perceive to be a problem: that countries that ought to default find ways to carry their unsustainable debt burdens forward. Indeed, countries tend to sign, tap and roll over bilateral swap lines (both PBOC swaps and in general) when their external debt is growing and international reserves are falling (Perks et al. 2021). Argentina and Mongolia, and to a lesser extent Suriname, may fit this pattern. In these cases, countries that delay macroeconomic adjustment and hope to avoid IMF programs may end up needing IMF support at some point in the future—after years of relatively expensive PBOC swap draws, their external and debt positions may have worsened or remained stressed.

In 2014 Argentina defaulted on its external debt and found itself on the cusp of a full-blown balance-of-payments crisis as external financing dried up, foreign reserves were low and the peso had lost much of its value. It began to draw down its RMB swap line in 2014, increased its drawings in 2015 and continuously rolled over its swap obligations through 2017. The PBOC swap line draws played a role in stabilizing Argentina's external position, as it refilled depleted reserve coffers and, through the dollar swap facility established in 2015, facilitated FX intervention. They also allowed the country to meet foreign currency debt payments at a time when it was shut out of international capital markets (Arnold 2023c). To mitigate pressures and keep its economy afloat, Argentina continuously drew on its PBOC swap line through 2017, for a total of $10.9 billion. Over this period, Argentina continued to run large fiscal and current account deficits, and in 2018, facing severe balance-of-payments pressures and a loss of any remaining market confidence, it began borrowing from the IMF under a massive 1,100 percent-of-quota exceptional-access $50 billion Stand-By Arrangement (SBA) program (IMF 2018). By then, it had already drawn the maximum amount through its swap line. At this point, in a rare requirement, even usage under its PBOC swap line became conditional on IMF SBA implementation (Arnold 2023b). Argentina's choice to turn to the IMF was especially difficult given the Fund's troubled track record in the country (Gillespie and Doll 2018).

Mongolia may be another such case. It likewise faced balance-of-payments pressures and dwindling reserves and began drawing on its PBOC swap line in 2012, increasing its borrowing each year through 2016. In 2015, the IMF expressed concerns that Mongolia had reached a high risk of public debt distress, partially because of PBOC swap drawings, which constituted 41 percent of the country's overall public debt (IMF 2015a; Arnold 2023a). It also argued that Mongolia's continued drawdown of FX reserves—enabled by PBOC swap lines—to finance current account deficits was unsustainable (IMF 2015a). Eventually, Mongolia turned to the IMF and began a three-year Extended Fund Facility (EFF) program in 2017.

Finally, as Suriname's reserves fell to what the IMF considered "perilously low" levels in 2015, the central bank drew on its PBOC swap line to bolster reserves. Around a year later, in 2016, it subsequently entered a two-year IMF SBA. These cases show how countries may have used swap lines to delay, but not ultimately avoid, seeking IMF support and the policy adjustments required by IMF programs. Speculation continues that even Turkey and Nigeria, which have thus far declined to seek financing under IMF programs, may ultimately need to turn to the IMF (Olurounbi 2023; Lachman 2023).

From one point of view, the tendency for PBOC swap lines to allow countries to stay afloat while running unsustainable macroeconomic policies is problematic. According to this view, PBOC swap lines allow countries to continue servicing debt and maintain sufficient reserves to support their currencies and international trade while digging themselves into deeper economic problems that they will eventually be forced to address. By that point, debt burdens or currency imbalances will be greater, and required adjustments may become even more painful. Viewed from another perspective, PBOC swap lines add a layer of insulation for emerging market countries, which are vulnerable to external shocks and often volatile global capital markets. PBOC swap lines allow them to build policy space and weather short-term external shocks they may otherwise respond suboptimally and prematurely with austerity measures (either independently or under the auspices of the IMF) (Ocampo 2001). They may thereby help countries maintain current policies in the midst of adverse external shocks that are only temporary or implement macroeconomic adjustment programs more gradually—strategies termed by Cohen (2008) as "the power to delay."

## WHY HAVE COUNTRIES TURNED DOWN FINANCING THROUGH PBOC SWAP LINES?

A larger list of countries with access to PBOC swap lines neglected to use them during times of macroeconomic stress, instead exclusively seeking support through IMF financing. These include Albania (RFI), Armenia (SBA), Georgia (SBA), Serbia (SBA), Uzbekistan (RFI) and South Africa (RFI). The main disadvantages of PBOC swap lines, which likely inhibited their use in favor of IMF financing in these cases, relate to cost, currency denomination, size of available financing and reliability. Overall, these country cases suggest that Chinese swap lines mostly do not offer a fully viable alternative to IMF programs. For some countries, IMF financing is preferable to PBOC swap lines despite the conditionalities imposed (though some listed countries drew on low-conditionality IMF instruments available in the wake of COVID-19).

### Instrument Comparisons

As financial instruments, IMF loans and central bank swap lines differ in important ways.

With swap lines, one central bank (the borrowing party) exchanges its own currency for the equivalent amount of another central bank's (the lending party) currency based on market exchange rates. During the swap period, the borrowing country's currency is held as collateral at the lending central bank—in this sense, a swap is a loan, or repurchase agreement, against foreign currency collateral (Setser 2020). At maturity, the swap is reversed, with the two central banks returning the same amount of currency initially exchanged and at the same exchange rate as the first transaction. At maturity, the borrower central bank pays an interest rate, contractually agreed upon in advance. As exchange rate moves do not influence the final payment amount, FX swaps do not carry any exchange rate risk, unless the borrower counterparty defaults, and the lender is left holding the foreign currency collateral (Setser 2020; Perks et al. 2021).

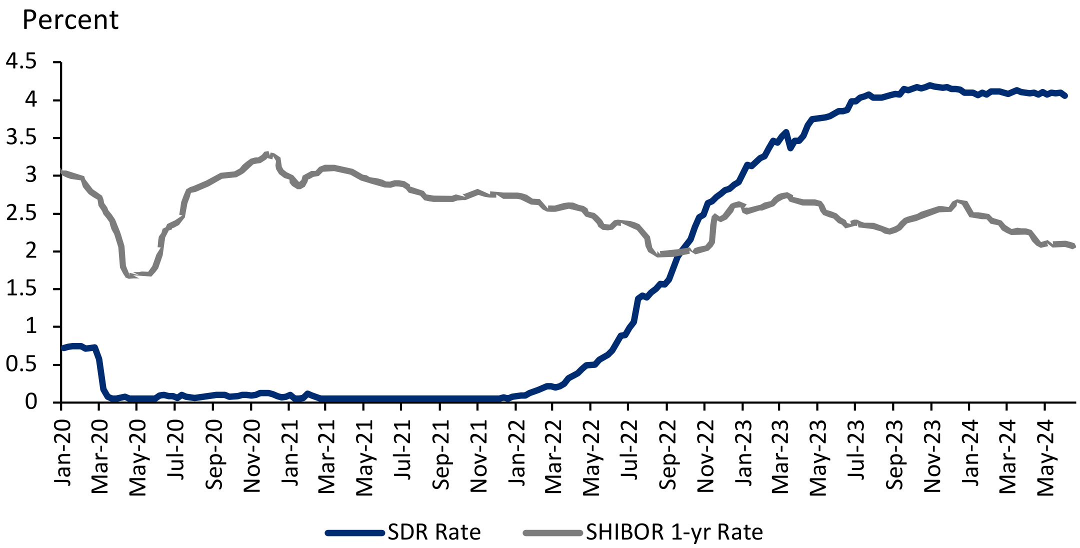
In contrast, IMF loan facilities disburse simple uncollateralized loans, generally with long repayment periods—stretching up to 20 years through a Resilience and Sustainability Facility, which includes a 10.5-year grace period. Throughout a program, the IMF makes multiple loan disbursements contingent on the continued implementation of program conditions. IMF loans are denominated by SDRs, which are easily exchanged for hard currency (either USD, euros, RMB or JPY) within the IMF's internal exchange market (Voluntary Trading Arrangements). While the structure of central bank swap lines seems quite distinct on the surface, their role as a source of external financing is quite similar: The swap line requirement to post domestic currency collateral is not cumbersome since central banks can easily credit their own currency. Rather, differences between PBOC swap lines and IMF loans center around policy conditionality, pricing, the volume of available financing and the reliability of long-term lending. The IMF loan facilities that most approximate PBOC swap lines are the Flexible Credit Line and the Short-Term Liquidity Line, where access and terms are agreed upon in advance for one- or two-year periods, and borrower countries can access credit on demand with no ex-post conditionalities. However, these are limited to countries with strong economic fundamentals and policy frameworks.

## Price Comparisons

The PBOC does not publish the interest rates of each of its bilateral swap lines, though a few recipient central banks have published interest rates on their PBOC swap lines. Rates differ based on counterparty, but for those swap lines with publicly available data, interest rates tend to be much more expensive than IMF loans. Nevertheless, as we detail below, large fluctuations in reference rates—i.e., the decline in SHIBOR, rise in the SDRi and rise in the Effective Federal Funds Rate—complicate price comparisons.

IMF interest rates for nonconcessional loans averaged around 2 percent between 2011 and 2022, and for concessional loans for Poverty Reduction and Growth Trust (PRGT) countries, loans are interest free (however, most PBOC swap line counterparties are middle- or upper-income countries, so this only applies to Tajikistan and Laos). In contrast, Argentina's interest rate was 400 bps above SHIBOR, and for Turkey and Mongolia, swap lines are priced at 200 bps above SHIBOR (Arnold 2023b, 2023c). Otherwise, we know that PBOC swap lines are priced using SHIBOR as the benchmark, with spreads mostly determined according to a country's credit profile. SHIBOR has consistently been over 2 percent (and often over 4 percent)—even the most generous pricing would still have been above historical IMF loan rates (Figure 2). Adding to the costs of RMB swap lines are the fact that central banks, after drawing RMB, often convert them into more internationally useful currencies, like US dollars. For example, the PBOC provided Argentina with a second swap arrangement to convert RMB into dollars, which cost an additional 400 bps on top of the initial RMB swap. Private market operations may be similarly costly, though it is important to note that RMB swaps tend to be less expensive than private market operations.

**Figure 2: SDR and SHIBOR Rates: 2019–Present**




**Source:** IMF (2024), SHIBOR (2024).

Nevertheless, it is important not to overstate the cost comparison point as PBOC swaps carry different margins with different counterparties, and while the Argentina swap may have a spread of 400 bps over SHIBOR, the Korea swap carries no margin (Table 1). Moreover, changes in the underlying reference rates—i.e., more recent declines in SHIBOR relative to the rise in the SDRi over the same period—mean that PBOC swaps have become comparatively less expensive, while IMF credit has become more expensive, which has indeed been a problem for the IMF's borrowers and for the GFSN more broadly. Indeed, the pricing advantage of IMF lending has declined in recent years as the SDRi rate has risen. The SDRi rate is a function of a basket of three-month government bonds of the SDR currency-issuing countries (the United States, the United Kingdom, Japan, China and the Eurosystem countries). As most of these countries have significantly raised interest rates, the SDRi rate has risen considerably—by 350 bps over the past four years, from its statutory minimum of 0.5 percent to 4.06 percent today. As the SDRi rate is the benchmark rate for IMF lending (besides the zero-rate lending of the PRGT), this has put significant upward pressure on IMF lending. When combined with surcharges, some countries are thus exposed to effective financing costs of up to 8 percent (Krahnke and Tordoir 2023).

Moreover, it is notable that China has been unique among the SDR basket countries to keep interest rates low in recent years, even as the Bank of Japan has allowed rates to rise, as China has sought to stimulate domestic economic activity to support its property sector and address attendant financial difficulties. This has created an anomalous situation that confounds present-day analysis: The effective PBOC swap rate is holding constant or falling as the effective IMF lending rate on non-PRGT lending is rising. While historically the relative pricing would create a financial incentive for non-PRGT-eligible countries to prefer an IMF program, the current interest rate divergence is negating this. As central banks, led by the ECB, now move to cut interest rates, it will be interesting to follow whether the coming fall in the SDRi rate supports any meaningful uptick in IMF programs as their lending rates fall.

### Table 1: Cost Comparison of China's Bilateral Swap Lines and Eurobond Financing

| Recipient Country | PBOC Swap Cost (bps Above SHIBOR) | JP Morgan Emerging Bond Index (EMBIG) Spread |
|---|---|---|
| Argentina | 400 | 616 |
| Mongolia | 200 | 484 |
| Turkey | 200 | 541 |

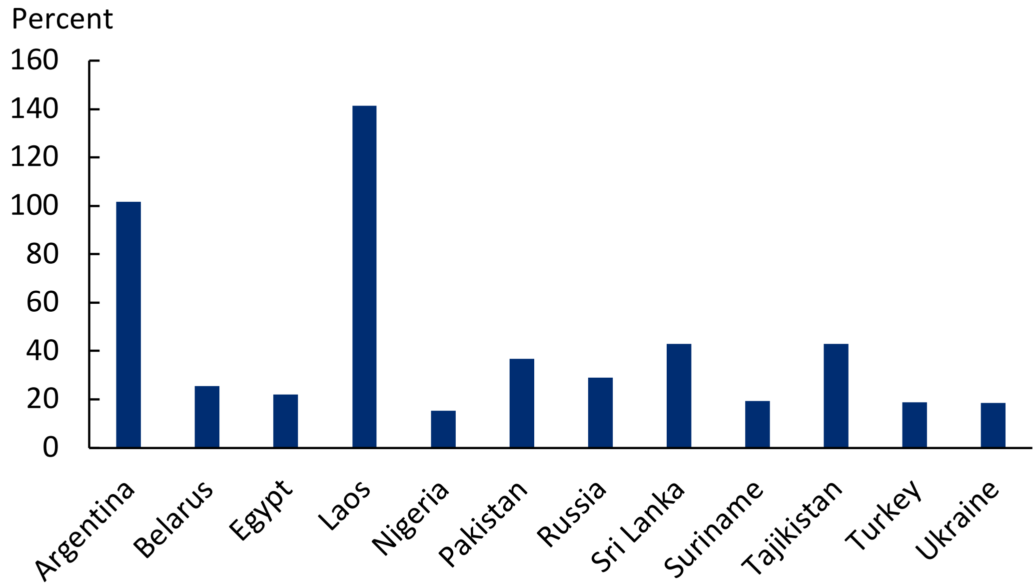
**Source:** Perks et al. (2021).

**Note:** While PBOC swap lines can be critiqued for their relative cost against other central bank swap lines, their opacity, and the potential for them to enable counterparties to delay adjustment, it is important to note that PBOC swap lines often remain significantly more favorable than conventional Eurobond financing. We note this to reaffirm that the critique of PBOC swap lines is only made within the context of other central bank swap lines and official sector financing more broadly, not against commercial financing.

## Financing Availability

With some exceptions, PBOC swap line counterparties can access greater amounts of financing from the IMF than they can from their PBOC swap line. Excluding advanced economies, for countries with access to PBOC swap lines, swap line access limits amounted to 61 percent of IMF cumulative access limits at the end of 2021, on average (Figure 3). The median ratio of PBOC swap limits to IMF access is even lower, at 36 percent. And in some cases, this underrepresents the real amount of IMF financing, as in the case of Argentina, whose current IMF program amount is 1,000 percent of quota (more than twice its cumulative access limit). Available financing amounts may explain why PBOC swaps are seldom used outside of IMF programs—they simply are not large enough to fill external financing gaps and satisfy balance-of-payments needs on their own.

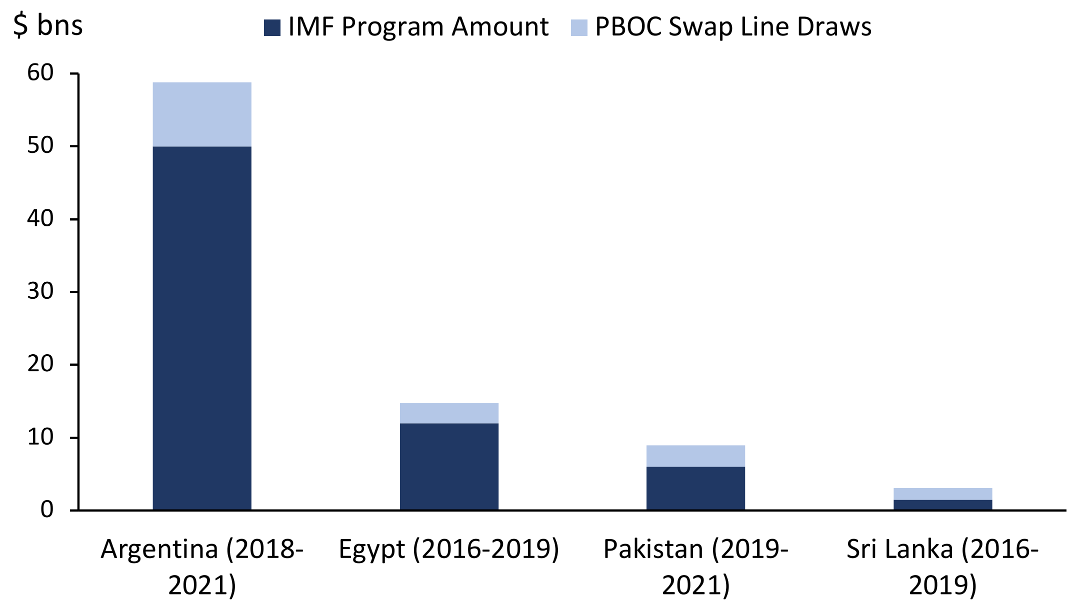
**Figure 3: PBOC Swap Line Access as % of Cumulative IMF Access**




**Source:** AidData (2021), IMF (2021), authors' calculations.

Indeed, in most cases where borrowing countries accessed IMF programs and PBOC swap lines simultaneously, financing amounts through the former represented the bulk of overall financing (Figure 4). Given the size of external financing gaps in these cases, relying only on PBOC swap line financing would have been unviable. A few notable examples bear this out. During Egypt's 2016–2019 IMF program, concurrent PBOC swap line draws ($2.8 billion) were substantial but only amounted to around a quarter of IMF financing. And despite bilateral financing from other sources, Egypt needed the IMF to address its urgent balance-of-payments gaps (IMF 2017). In Pakistan's 2019–2021 IMF program, swap line draws amounted to only around half of IMF financing. Even in Argentina, which had the largest PBOC swap line, Chinese cofinancing amounted to only a fraction of its IMF program amount for its 2018–2021 program.

**Figure 4: Selected Financing Amount Comparisons**




**Source:** IMF (2021), AidData (2021), authors' calculations.

## Tenor and Reliability

As previously mentioned, IMF loans carry long maturities, with gradual repayment schedules due years after program completion—ranging from 3.25 years to 20 years, plus 10.5 grace periods, depending on the IMF facility. Likewise, they are fully transparent and predictable, with standard schedules across IMF lending arrangements. In contrast, PBOC swap lines have relatively short maturities, ranging from 3 to 12 months, with the latter being more common. Due to frequent rollovers, the average effective maturity rises to three years, which is considerable but still significantly shorter than what countries can access through IMF programs (Horn et al. 2023).

Although rollovers meaningfully extend the effective maturities of PBOC swaps, the rollovers are discretionary and subject to refusal. Worse, the PBOC has declined to establish standing swap line facilities (unlike the Federal Reserve), instead establishing bilateral swap line contracts that expire within two or three years (Wiggins et al. 2023). At expiration, the PBOC generally renews its swap line contracts—for example, both Argentina and Mongolia's PBOC swaps have renewed three times for a total longevity of nine and 12 years, respectively—but the inherent uncertainty of the arrangements limits their use as a reliable source of long-term financing (Arnold 2023c; Wiggins et al. 2023). Because Chinese bailouts tend to have geopolitical rather than technocratic goals, as politics shift, so does the availability of financing. The withdrawal of Argentina's swap line equally demonstrated this reliability challenge. In contrast, IMF financing is in theory available to all member states in a predictable manner as long as borrowing countries agree to policy adjustments. While the Federal Reserve and other advanced economy central banks could in theory unilaterally withdraw swap lines, this has never occurred and there has been no public discussion of swap lines being pulled from partner countries. As a result, we consider the reliability factor of other forms of financing to be a nonissue.

Furthermore, in a few identifiable cases, PBOC swap line financing only materialized after a country had agreed to an IMF program, indicating that China may often prefer IMF involvement to safeguard its resources, thereby limiting its possible usage as an independent alternative to IMF financing. In this way, IMF programs may have actually catalyzed bilateral financing through PBOC swap lines, in line with the logic of the catalytic effect of IMF programs (Krahnke 2023). In 2016, China extended a swap line to Egypt only as it was finalizing an IMF program. And in Argentina (2018) and Pakistan (2022), China expanded the size of its swap lines as supplementary financing for their IMF programs (IMF 2022a). Taken together, these cases indicate China's hesitancy about acting as a sole bilateral bailout provider, likely due to the financial risks involved.

## RMB SWAP LINES ALONGSIDE IMF PROGRAMS

As we have shown, countries in macroeconomic crises have drawn on their PBOC swap lines most often in conjunction with IMF programs—often in advance of, and also during, the program period. In this context, PBOC swap lines have played a helpful role, enabling and bolstering IMF programs and strengthening the GFSN in the process. They have helped in two key ways: 1) by providing bridge financing to facilitate IMF programs and fill short-term financing needs before programs begin and 2) by providing supplementary cofinancing to help close external financing gaps. The two use cases are similar and not mutually exclusive, but they serve as a helpful categorization of whether PBOC swap financing enabled an IMF program that may otherwise not have materialized (bridge financing) or whether PBOC swap lines served to simply supplement existing IMF programs with additional funding. In both cases, the role of PBOC swap lines is not novel but rather mimics the role that the US Treasury played in the 1980s and 1990s emerging market debt crises.

During these decades, the US Treasury made extensive and creative use of the Exchange Stabilization Fund (ESF), largely beginning with a series of seven loans to Argentina from 1984 to 1989 that totaled $4.2 billion. The most notable use case of the ESF's bilateral bailouts came subsequently during Mexico's peso crisis in 1994–1995, when the ESF authorized $48 billion, of which $20 billion was drawn down in the form of loans and credits, having previously extended $12.3 billion in financing to Mexico from 1982 to 1990 (McDowell 2016). Extensive and large-scale use of US financing during the peso crisis fit squarely within the legal authority given to the ESF, which was revised in 1976 after the end of the dollar-gold peg, as the conventional role of the ESF (managing the exchange rate) had faded.

Yet the US' "bilateral bailouts" during the 1980s and 1990s did not resonate with Congress since the US Treasury was able to undertake significant international economic policy decisions and exercise this financing without formally consulting Congress. While Mexico was the final straw, pressure had built over time as the United States' bilateral financing became wider in reach—with the Treasury extending ESF financing to Bolivia, Brazil, Costa Rica, Ecuador, Guyana, Honduras, Hungary, Indonesia, Jamaica, Korea, Macedonia, the Netherlands, Nigeria, Panama, Peru, the Philippines, Portugal, Romania, Uruguay, Venezuela and Yugoslavia during these years.

This led to the passage of the Mexican Debt Disclosure Act of 1995, a clear rebuke of the Treasury's bilateral financing efforts, that created significant and onerous reporting requirements for the ESF (Henning 1999). While this did not formally tie the hands of the US Treasury in using the ESF, it put pressure on the Clinton administration and reframed how the ESF was meant to be used. This pressure was subsequently heightened by an amendment put forward by then-US Representative Bernard Sanders, who proposed a rider in a Postal Service appropriations bill intended to block all ESF transactions going forward. The House voted 245-183 in favor of it, yet the Senate voted it down. Instead, the Senate put forward a measure to require congressional authorization for any ESF loan

with a maturity longer than six months, effectively requiring congressional authorization (that was unlikely to be obtained) for any macrostabilization effort akin to the peso crisis operations.

The attacks on and changes to the ESF in the mid-1990s did not comprehensively block the use cases of the ESF, but they have loomed large in the mind of the US Treasury in the three decades since. Barring the ESF's use to backstop money market mutual funds during the global financial crisis (a domestic operation that was more outside of the ESF's legal scope yet more politically viable with respect to congressional sentiment) and its use in supporting the CARES Act during COVID-19, policymakers have been disinclined to touch the ESF since the 1990s. It is largely as a result of this political history—a tug-of-war over international economic policy between the US Treasury and Congress—that bilateral financing from the US has come to an end. It is also against the backdrop of this political history that the rise of Chinese bilateral financing may be partially read: Chinese policy and commercial banks, along with arrangements from the PBOC, may be perceived to fill a void that the US intentionally and haphazardly created in 1995.

There are two other similarities between China's contemporary role and the US Treasury's historical role in the provision of bilateral bailouts. Like bailouts provided through Chinese swap lines, which are mostly in advance of, or alongside, IMF programs, so too did the US Treasury mainly act as a supplementary financier to the IMF. In the US case, the Treasury was even more reluctant to act independently and nearly always lent alongside the IMF (Schneider and Tobin 2020). Another similarity is that a key determinant of US bilateral bailout provision was the degree of US financial sector exposure to a given country, just as China has prioritized BRI borrowers (Schneider and Tobin 2020).

## Bridge Loans: Facilitating IMF Programs

As bridge loans, PBOC swap lines can facilitate the establishment of IMF programs by allowing countries to satisfy prior action conditions (especially arrears clearance) and meeting short-term liquidity needs as programs are negotiated. They can also ensure that IMF programs remain on track by helping countries make debt payments during the course of IMF programs. The most direct way PBOC swap lines can enable IMF programs is by allowing countries to stay current on debt payments owed to official creditors covered by the IMF's arrears policies.

Generally, the IMF's Non-Toleration and Lending into Official Arrears policies prevent it from lending to countries with arrears to official creditors, whether bilateral or multilateral (such as the World Bank) (IMF 2022e). As a result, default episodes often delay the establishment of IMF programs. Under these policies, the IMF can make certain exceptions, lending to countries despite arrears if the creditors consent and in the context of a comprehensive and credible debt restructuring plan. Nonetheless, the ability for countries on the verge of debt crises to draw on new sources of emergency financing to continue making timely debt payments enables the swift agreement of IMF programs.

In some cases, PBOC swap lines have allowed countries on the verge of default to continue servicing external debt (including to the IMF itself) before or during IMF programs. For example, in the midst of an ongoing IMF program in 2022, Argentina drew twice, for a total of $2.7 billion, on its RMB swap line to repay IMF debts from a past IMF program (Arnold 2023b). This allowed Argentina's program to remain on course, facilitating the completion of IMF reviews and therefore further disbursements under the program (IMF 2023c). Argentina's use of PBOC swap lines to repay the IMF was the first publicly announced such a use case. Since the RMB is one of five currencies that the IMF accepts to settle payments, a Chinese correspondent bank was able to pay the IMF directly on behalf of Argentina.

In other cases, countries tapped PBOC swap lines to pay bilateral or commercial creditors before or during IMF programs. For example, in 2021, during an ongoing EFF program, Pakistan drew $1.5 billion on its PBOC swap line to pay back the bulk of $2 billion in debt maturities owed to Saudi Arabia—failure to do so would have jeopardized upcoming IMF disbursements under the EFF (AidData n.d.b; Rana 2020). Finally, Sri Lanka tapped its new PBOC swap line for the full amount of 10 billion RMB ($1.6 billion) in 2021, which it may have used to make payments on $4.5 billion in maturing debts in 2022, including Eurobond payments and, more importantly, IMF debt service from prior programs (AidData n.d.a; IMF 2022c). At this point, Sri Lanka had lost access to international bond markets and was using dwindling reserves to continue servicing external debt (IMF 2022c). While the country ultimately defaulted on its foreign currency bonds in April 2022, the PBOC swap line may have helped it remain current on IMF debt service, enabling it to access an IMF program in March 2023.

PBOC swap lines have also helped crisis countries stay afloat, by bolstering reserves and alleviating external pressures, as they negotiate for longer-term IMF financing. The speed with which countries can access swap line financing (if an agreement is already in place) represents a key advantage of swap lines relative to IMF programs and speaks to their potential role in strengthening the GFSN by layering and sequencing different kinds of financial support. IMF programs take time to put in place, sometimes allowing macroeconomic crises to worsen as program conditions are negotiated. In the context of debt restructurings, negotiations can take even longer, as the IMF waits for financing assurances before beginning to lend. Mody and Saravia (2013) find that, on average, 17 months passed between the onset of a macroeconomic crisis and the first IMF program disbursement in the case of SBAs, the IMF's main instrument for dealing with short-term balance-of-payments pressures. Even after a country decides to begin negotiating for an IMF loan, negotiations and subsequent IMF board approval take time: Ferry and Zeitz (2022) estimate that the median IMF program process lasts 120 days, from first IMF program mission to board approval. It is during this interim period that PBOC swap lines may be most helpful.

## Supplementary Financing

Under IMF programs, the Fund itself provides only a portion of the overall financing required to fill balance-of-payments gaps and ensure program success (Gould 2003; Tobin and Schneider 2020). Indeed, IMF loans are generally only large enough to cover the most urgent external financing needs (Setser and Roubini 2004, 19). Instead, the IMF relies on a host of "supplementary financiers" to fill overall external financing gaps during the program period—generally a combination of MDBs (e.g., the World Bank, the Asian Development Bank, the Inter-American Development Bank), private sector creditors and often bilateral creditors (Schneider and Tobin 2020). Without supplementary support, which can smooth out the macroeconomic adjustment process over time, required policy shifts become more difficult. In turn, the IMF tends to catalyze bilateral bailouts, which are historically rare absent an IMF loan program. Between 1975 and 2020, just over a third (34 percent) of IMF financial rescue packages have involved Group of 7 (G7) bilateral creditors, and the portion becomes much higher by including non-G7 creditors (Tobin and Schneider 2020). One of the most common uses for PBOC swap lines has been to play this role as a source of supplementary financing for IMF programs. PBOC swap lines have bolstered some of IMF's largest bailouts in recent history: Egypt, Pakistan and Argentina. In some cases, financing through PBOC swap lines have formed indispensable parts of overall financing plans, helping to bring IMF programs to board that may have otherwise failed due to financing shortfalls.

In the case of Egypt's ongoing balance-of-payments crisis, PBOC swap line financing played a crucial role in enabling an IMF program. As Egypt entered a full-blown currency crisis in 2016, it began negotiating with the IMF for an EFF program. To bring the program to the Executive Board for approval, the IMF required that 1) Egypt boost its foreign reserves and 2) negotiate supplementary "financing assurances" to fully finance the first year of the program (El-Tablawy 2016). In turn, Egypt negotiated a new $2.8 billion swap line with the PBOC to meet IMF conditions for reserves and program cofinancing. In its EFF staff report, the IMF commented that "timely and generous support from China ... [has] made it possible to close the financing gap and bring this program to the Board" (IMF 2017).

Supplementary financing through PBOC swap lines also played a key role in supporting Pakistan's two recent three-year EFF programs, between 2013–2016 and 2019–2022, respectively. PBOC swap line draws added $1.6 billion in supplementary financing between 2013 and 2021. In its next program, PBOC swap line draws ($1.6 billion in 2021)—along with a swap line augmentation from $3 billion to $4.5 billion in 2022—ensured full program financing and enabled Pakistan to meet its debt sustainability objectives under the program (IMF 2022a). The IMF considered bilateral financing (including from China) as crucial in covering external financing needs and "encouraged all key bilateral creditors to maintain their exposure to Pakistan in line with program commitments" (IMF 2022a).

Swap line draws also bolstered Argentina's three-year SBA program (2018–2021), which at the time was the largest program in the IMF's history. In 2018, the country drew $8.8 billion—the largest PBOC swap line draw as of the end of 2021—and rolled over its swap line debt every year through the end of the program. Argentina used the swap line draws to repay the Fund on prior debt, conduct FX intervention to stabilize the peso (through conversion to dollars) and dramatically shore up reserves—swap line draws amounted to 51 percent of the country's gross FX reserves in 2021 (Arnold 2023b).

Finally, synergies between swap lines and IMF financing have the potential to develop further, with the IMF working with the PBOC to provide technical advice. Reis (2019) highlights that the IMF is best positioned to assess default risks and calculate margin requirements for exchange rate risk in emerging market countries. He argues that IMF programs can catalyze swap financing through de-risking, acting as a kind of backstop in the case of swap line default.

## Debt Sustainability and Transparency Concerns

Horn et al. (2023) raised concerns that the rise of PBOC swap lines as a tool for the provision of sovereign bailouts had made "cross-border rescue operations become less institutionalized, less transparent and more piecemeal." Indeed, China fails to publish systematic data on the footprint, uses and terms of its swap line network. In turn, borrowing countries only occasionally publish the full details of their swap line draws, oftentimes declining to publish the duration or pricing of swap line debt (Wiggins et al. 2023). And when borrower central banks categorize swap line draws simply as gross reserves, this may obscure that swap line draws are also public debt liabilities. Kern and Reinsberg (2022) therefore find that countries with large debts to China face more stringent IMF programs, with more conditions, given IMF concerns about debt transparency and the large amount of off balance sheet debt. Such debt transparency concerns likewise apply to swap line debt, which could delay IMF program negotiations.

Further complicating matters, the IMF has taken an ambiguous view on whether swap lines should be considered as public debt and, in the case of debt distress, whether they should be included in debt restructurings. In its 2022 debt sustainability framework guidance note, the IMF laid out its recommended criteria for when swap line debt should be considered public debt: 1) if the amount of the draw surpasses 1 percent of GDP and 2) if the swap constitutes medium-term balance-of-payments financing rather than financial sector stability purposes. It then identified medium-term balance-of-payments financing as operations with maturities longer than one year, which are not on-lent to commercial banks (as would be the case with short-term financial sector liquidity support) and may be used for government financing. The IMF argued that swap debt should be *excluded* from public debt if the central bank swap position is not likely to add to government debt (the government would not need to borrow to pay down the swap), which is often the case for a reserve currency issuer or an otherwise financially strong central bank. The IMF criteria would therefore often categorize PBOC swap draws as public debt since they frequently surpass the de minimis threshold and given their role in medium-term balance-of-payments support (with de facto maturities mostly longer than one year).

In practice, PBOC swap debt has mostly, though not always, counted toward public debt in the IMF's debt sustainability analysis (DSA). For example, IMF DSAs for Pakistan (2024) and Sri Lanka (2023) explicitly include central bank external liabilities, including bilateral swap line debt, in overall public debt. In other DSAs, the IMF does not explicitly state whether PBOC swap debt is included: For example, in Egypt (2023 and 2024), the IMF included central bank liabilities but did not specify further. In DSAs for Argentina, the IMF has included swap line debt as a central bank (and therefore public) liability, but in its most recent 2024 country report, it did not include PBOC swap debt given that the expected repayment schedule would bring swap amounts below 1 percent of GDP within several months (IMF 2023a; IMF 2024a). In addition to debt transparency concerns, PBOC swap lines have created unresolved debt policy questions that complicate accurate accounting and treatment of debt. The IMF's judgment to include PBOC swap line debt in Sri Lanka's DSA did not lead to its inclusion in the country's ongoing public debt restructuring (IMF 2023a). This creates a potentially dangerous precedent since countries may increase their debt burdens through PBOC swap lines (with relatively expensive financing) and later be unable to include such debt in the context of a wider restructuring.

## The Shared Risks of China's Swap Line Network

As China's footprint grows as a balance-of-payments lender, so do the financial risks it faces. Swap lines carry both default and exchange rate risk for the country. Namely, swap lines carry default risks for the lender if the borrower central bank fails to repay the foreign currency swap amount. In that case, the lender central bank is left with foreign currency collateral (i.e., denominated in the borrower's domestic currency), which therefore entails exchange rate risk if the value of the collateral currency declines. Outside of default, swap lines do not carry exchange rate or interest rate risk for either the lender or borrower central bank (Bahaj and Reis 2020; Federal Reserve Board 2017). However, in any case where a borrower central bank might default on its swap obligations, it would likely be in the context of a fiscal or currency crisis: The country's currency would likely be in steep decline as well. As a result, the value of any foreign currency collateral would likely be diminished in the case of a default.

The US Federal Reserve's standing swap line network is mainly composed of advanced economy borrowers; during the global financial crisis and the COVID-19 pandemic, it expanded temporarily to include a few large emerging markets. The Fed therefore bears little credit or currency risk as advanced economy central banks are unlikely to default on swap obligations. In contrast, PBOC swap line bailouts have been concentrated in countries with low credit ratings and high debt burdens, often in the midst of fiscal and balance-of-payments crises (Horn et al. 2023), with some borrower countries undergoing external debt restructurings. The PBOC's financial risks are therefore often quite high, as it continuously lends and rolls over swap obligations to crisis countries. Whereas the

Fed's swap line network is mainly collateralized by hard currency, and IMF loan repayment is secured through conditionality and the IMF's super-senior creditor status, the PBOC generally benefits from neither in its swap operations.

In turn, China has begun to place safeguards on borrowing from some of its most risky borrowers, likely foreshadowing a trend toward swap usage restrictions and new kinds of conditionality. So far, China's swap restrictions have taken three forms: safeguards around reserve levels, higher margin requirements and, most notably, requirements for IMF financing. In one indicative case, the PBOC allowed Sri Lanka (under its 2021 swap line agreement) to use its swap line only if it maintained gross reserves above three months of imports (around $4 billion) (AidData n.d.a). This may have reassured the PBOC that Sri Lanka would have the capacity to repay swap line debt even as it defaulted on its external debt in April 2022. It also required Sri Lanka to post additional collateral if the Sri Lankan rupee declined by more than 5 percent against the RMB, as a way to mitigate FX risk in the event of a default (AidData n.d.a). In the case of Mongolia, the PBOC placed unusually tight restrictions on usage by requiring approval for every specific use of RMB accessed through the swap (Arnold 2023c).

For Argentina, the PBOC conditioned swap line access for its secondary dollar facility (which allowed Argentina to convert pesos into RMB and RMB into dollars) on the implementation of an IMF SBA program (Arnold 2023b). Specifically, the PBOC could reject any Argentine drawings if the SBA went off track, was suspended or was cancelled. Far from replacing IMF financing, in this case, PBOC swap draws were only available as supplementary financing, implying the PBOC may have viewed an IMF program as safeguarding swap line resources. This requirement is reminiscent of the history of the Chiang Mai Initiative bilateral swap line network. Although initially intended to act independently from the IMF as a regional crisis lender, the Chiang Mai Initiative eventually conditioned borrowing (past 20 percent of access amounts) on IMF program participation to mitigate repayment concerns by applying IMF conditionality (Hoffner 2023; Chandrasekhar 2021a).

As described earlier, the PBOC's swap lines are not standing facilities but rather consist of temporary contracts that must be renewed every one to three years (Wiggins et al. 2023), and therefore their reliability is not guaranteed. This has allowed the PBOC to suspend swap line access to borrowing countries for political reasons, following electoral turnovers. After the election of Javier Milei, who had run on a staunchly anti-China platform in Argentina in 2023, China responded by suspending its swap line agreement until Milei adopted a more cooperative stance toward China (Patrick 2023; Reuters 2024). Argentina's swap line was later reinstated following a thawing of relations. Short of such dramatic steps as in Argentina, the PBOC could also allow preexisting swap lines to expire, though thus far, it generally has opted to renew them.

Overall, as more troubled borrowers continuously draw on their swap lines, in the context of often-sustainable policies, China may become a more cautious lender: The recent developments described above suggest that the country may apply more conditions on its swap bailouts or, in outlier cases, even withdraw access entirely. As China drains its USD reserve stockpile through FX intervention in an effort to prop up the RMB, it may grow even more cautious and pull back its USD swap facilities to safeguard FX reserves. If China's heightened caution manifests in higher interest rates or collateral requirements, PBOC swap lines would become less useful to borrowing countries and even worsen their debt sustainability. However, if new PBOC safeguards take the form of policy conditionalities or IMF-linkage requirements (as with the Chiang Mai Initiative), they could play a stronger role as a force for coordination within the GFSN.

## CONCLUSION AND POLICY TAKEAWAYS: WHAT IS NEXT FOR PBOC SWAP LINES AND THE GFSN

To the extent that the rising prominence of PBOC swap lines has been recognized by US and Washington-based lenders, it was, until very recently, part of the broader discourse on China's overseas lending, with swaps folded into preexisting narratives about Chinese commercial and policy bank loans. However, Argentina's drawing on its swap line prior to its IMF program has slightly shifted this discourse. As access to the PBOC swap proved necessary for clearing arrears with the IMF, and thus for receiving new IMF financing, it became clear that PBOC swap lines play a certain role that the US and other PC creditors have either ceased to play or never played at all: providing short-term bilateral stabilization loans.

Geopolitical competition, or the semblance thereof, has a unique ability to make states better—and, of course, worse—versions of themselves. In this paper, we have not discussed geopolitical competition as a prime driver or consequence of PBOC swap lines, as it is difficult to identify where geopolitical gain has followed the extension of PBOC swap lines. Instead, we recognize how these swap lines can serve as a goodwill-building exercise, as well as a tool for servicing debts incurred through BRI lending; for financing—albeit not necessarily increasing—trade with China; and, more broadly, as one of many alternative reserve management practices arising from China's domestic economic balances and large official reserves. However, this straightforward assessment is unlikely to be adopted by China's strategic competitors. As a result, it is likely that the rising utility of PBOC swap lines instead pushes those competitors into better or worse foreign economic practices.

The better foreign economic practice is, of course, to "compete with China" in the sense of scaling up both conventional lending and swap line financing. A welfare-enhancing approach to geoeconomic competition can already be seen in the creation initiatives such as the US Development Finance Corporation, which provides various forms of financing to low- and middle-income partner countries and was framed as an effort to compete with China's BRI. While China's strategic competitors will most likely have to turn to IFIs to ramp up their conventional lending (e.g., by pushing forward with capital adequacy framework reform at the MDBs and increasing loan and grant contributions to the IMF), they would likely have to match China's swap line network through their own domestic institutions. However, as previously noted, the FX risk borne by the provider of the swap line is not insignificant, and it remains highly unlikely, under almost any circumstance of geopolitical competition, that central banks such as the Federal Reserve, the ECB and the Bank of England extend their swap line networks to countries like Nigeria or Argentina.

Instead, the growing prominence of the PBOC's swap line network may motivate these countries to extend short-term stabilization loans out of their finance ministries—in essence, returning to how the US used the ESF in the 1990s. The United Kingdom would be able to do this through its Exchange Equalisation Account, which is similarly purposeless in the era of floating currencies but retains $186 billion that the UK Treasury can use at its discretion (Paduano 2023). Eurosystem finance ministries are more constrained as their old reserve funds were transferred over to their national central banks, making them more bound by European Union law (and ECB rulings), and thus less capable of being used in creative and ambitious ways. However, the Eurosystem countries, the US and the United Kingdom may also take it upon themselves to "match" Chinese swap lines by developing other central banking tools that would play a similar function as swap lines. Most notably, the US' Foreign and International Monetary Authorities Repo Facility (FIMA Repo) and the ECB's Eurosystem Repo Facility (EUREP) service this role, allowing foreign central banks to post their dollar- and euro-denominated government securities in exchange for dollars and euros—though these are limited since they require borrowers to already have foreign currency-denominated assets and are not credit-creating mechanisms.

In a world of what may be considered welfare-enhancing geoeconomic competition, we may begin to see that central banks make such facilities more generous—e.g., accept a wider range of eligible securities, lower the haircut and interest rates, extend the tenors, and, of course, encourage use by a wider range of low- and middle-income countries—to provide an alternative to the financing that the PBOC is providing. With respect to multilateral financing, geoeconomic competition could theoretically lead to a similarly welfare-enhancing outcome by encouraging the IMF to reduce its lending rates (Krahnke and Tordoir 2023). This could be achieved in several ways: by establishing a ceiling on the SDRi rate (which may be as low as zero), reducing or eliminating the surcharges policy, selling a portion of the IMF's $176 billion in gold reserves to subsidize current lending (including but not limited to PRGT lending), or, more generally, reducing service fees on IMF lending (as the Fund charges a spread above the SDRi rate on the majority of its lending).

However, geoeconomic competition is rarely welfare-enhancing, and it of course remains possible that PBOC swap lines do not elicit efforts to match and supplant Chinese financing.

Instead, as PBOC swap lines rise in prominence, they may trigger little more than rhetoric to discourage countries from using them. This would be unfortunate and reflect a significant misunderstanding of the role of PBOC swap lines within the GFSN. While we have hypothesized that some countries draw on swap lines to avoid IMF programs, which may allow unsustainable macroeconomic policies to continue and thus enable a deterioration of those countries' external positions, PBOC swap lines are, to a very considerable degree, a reflection of the patchiness of the existing GFSN. Countries draw on them most often because they need to—whether because they do not have access to the bilateral financing that the US discontinued after the 1990s, must clear arrears to the IMF before accessing new financing or need supplementary commitments on top of IMF financing. Absent bilateral and multilateral policy reforms by China's strategic competitors, however, attempts to discourage the use of PBOC swap lines will fall short.

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