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Elite Capital Flight: An Unintended Side Effect of the Global Financial Safety Net?

Bernhard Reinsberg
University of Glasgow

Andreas Kern
Georgetown University

Abstract

What drives elite capital flight into offshore destinations? While existing literature emphasizes the role of regulatory interventions, we focus on the Global Financial Safety Net (GFSN) as a catalyst for elite capital flight. Although the GFSN comprises numerous bailout mechanisms, we concentrate on International Monetary Fund (IMF) programs and swap lines from the People's Bank of China (PBoC). While accessing IMF bailouts requires governments to commit to deep-seated economic reforms, PBoC swap lines come without these strings attached. We hypothesize that where government elites expect to receive a loan from the IMF, they have increased incentives to ex-ante rescue their fortunes and transfer their assets to offshore destinations, while in the case of PBoC swap lines, elites can get hold of these funds and transfer them into offshore financial destinations. Using a dataset of 201 countries from 1990 to 2018, we show that an anticipated IMF program increases the share of bank deposits held in offshore financial destinations by 14.2%. Offshore financial deposits even increase by 92.3% after the introduction of a PBoC swap line. From a policy perspective, our results underscore the importance of closing financial loopholes and strengthening financial governance frameworks to mitigate these unintended side effects of international bailout programs.

Author Information

Bernhard Reinsberg

University of Glasgow

bernhard.reinsberg@glasgow.ac.uk

Andreas Kern

Georgetown University

ak679@georgetown.edu

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1 Introduction

Global financial markets can provide a powerful vehicle to lift nations out of poverty. Despite their merits, allowing governments to access much-needed capital for investment, global financial markets have also opened up possibilities for well-connected *local elites* to plunder the wealth of their countries and expatriate assets into safe havens. This type of ‘elite capital flight’—facilitated by the secrecy of offshore financial destinations (Cooley, Heathershaw and Sharman, 2018)—is different from capital flows related to international trade and investment flows. Previous literature argues that dysfunctional governance frameworks open the floodgates for wealthy elites to move their fortunes abroad. Besides building the bedrock for corrupt business practices, elite capital flight deprives a country of the capital needed to lift countries out of poverty.¹

While ample evidence exists about broad-based capital flight following balance-of-payments crises (Breen and Egan, 2019; Gehring and Lang, 2020; Moon and Woo, 2022), we argue that the availability of financial bailouts—in the form of emergency lending—works as a catalyst for *elites* to siphon funds into offshore financial destinations. Although the GFSN comprises numerous financial bailout mechanisms (Scheubel and Stracca, 2019; Schneider and Tobin, 2020; Romani and Stubbs, 2024), we concentrate on International Monetary Fund (IMF) programs and swap lines from the People’s Bank of China (PBoC). While accessing IMF bailouts requires governments to commit to deep-seated economic reforms, PBoC swap lines come without these strings attached. We hypothesize that where government elites expect to receive a loan from the IMF, they have increased incentives to *ex-ante* rescue their fortunes and transfer their assets to offshore destinations (Kern et al., 2023; Nosrati et al., 2023). By acting on insider information, government elites may use whatever leeway they have to rescue the rents of closely allied business elites (often their family members) before the IMF arrives.² In sharp contrast, PBoC swap lines represent bilateral agreements between a borrowing country’s central bank and the People’s Bank of China (Aizen-

¹There exists substantial literature documenting the adverse effects of elite capital flight on development outcomes (Collier, Hoeffler and Pattillo, 2001; Jayachandran and Kremer, 2006; Ndikumana, Boyce and Ndiaye, 2014; Zucman, 2015; Binder, 2019; Andersen, Johannesen and Rijkers, 2020; Londoño-Vélez and Ávila-Mahecha, 2021; Brandt, 2022; Kalyanpur and Thrall, 2022).

²Despite the IMF’s efforts, neither domestic authorities nor the IMF possess the means to repatriate these offshore funds (IMF, 2019). For a related argument, see Nosrati et al. (2023).

man, Jinjarak and Park, 2011; McDowell, 2019; Sundquist, 2021; Horn et al., 2023). These funds can be used at the discretion of the borrowing country's central bank—without any direct oversight or influence of the PBoC on how these funds will be used. Besides eliminating short-term central bank liquidity constraints, elites can eventually get hold of these funds and transfer them to offshore financial destinations.³ For instance, in the case of Mongolia, the Bank of Mongolia (BoM) used swap lines to stem a sharp depreciation of the Tugrik and implemented numerous aggressive quantitative easing programs targeting the domestic financial system. The IMF (2017) concluded that PBoC swap lines, amid significant governance weaknesses at the BoM, have led to excessive quasi-fiscal spending. Given the Mongolian banking system's troubled history—marked by numerous scandals and known to be a conduit for the laundering of corruption money into offshore financial accounts (APG, 2017, 15)—a substantial share of these BoM loan programs likely benefited wealthy elites. Importantly, for both bailout mechanisms, the fragmented nature of global financial regulation allows elites to funnel funds into offshore financial destinations—where these funds remain shielded.

To test this theoretical prediction, we employ a mixed-methods research design that combines three short case studies and a large-N analysis to test the generalizability of our findings. We selected Angola (2008), Tajikistan (2008), and Mongolia (2011 - 2016). In the cases of Angola and Tajikistan, we demonstrate how elites, anticipating the arrival of an IMF program, move substantial wealth into offshore financial havens. In contrast, we show, in the case of Mongolia, how the ability to draw on PBOC swap lines was a critical enabling force for elite capital flight into offshore financial accounts between 2011 and 2016. For our large-N analysis, we rely on a dataset comprising up to 201 countries between 1990 and 2018. We are particularly interested in capital flight into offshore financial destinations, which we obtained from data on bilateral banking ties from the Bank of International Settlements (BIS, 2022).⁴ We specifically isolate the capital outflows of a

³Elites are likely not able to capture these bailout funds directly. However, these additional funds can be used to 'fake' trade invoices, bankroll fictitious bank loans, or used as bailout funds paying out government guarantees (for a survey of mechanisms, see, for instance, Shea, Reinsberg and Kern (2024)). Theoretically, these swap lines can also be used to pay off kickbacks that are frequently baked into Chinese commercial lending products (Dreher et al., 2022).

⁴Here, we follow a similar approach as proposed in Andersen, Johannesen and Rijkers (2020). For a survey on available definitions and alternative statistical methods measuring elite capital flight, see, for instance, Ndikumana, Boyce and Ndiaye (2014); Reuter (2017); Collin (2021). Furthermore, Kalyanpur and Thrall (2022) and more recently Crippa and Kalyanpur (2024) rely on ICIJ's leaked information on firm registrations in offshore financial destinations.

potential borrowing country into a selected set of offshore tax havens.⁵ By focusing on these jurisdictions, we are unlikely to capture capital flows related to ‘real’ economic activity but rather the financial transactions of country elites (Zucman, 2015; Alstadsæter, Johannesen and Zucman, 2019; Andersen, Johannesen and Rijkers, 2020; Collin, 2021; Londoño-Vélez and Ávila-Mahecha, 2021).

Using multivariate linear regression analysis, we find a moderate positive relationship between an anticipated IMF program and offshore capital flight—measured by the proportion of bank deposits held in offshore financial destinations. Substantively, where government elites expect an IMF program, the *ex-ante* offshore deposit share increases by 14.2% (95%-CI: 5.7%-22.7%). Moreover, we show that when governments have drawn a PBoC swap line, the *ex-post* share of financial deposits in offshore destinations strongly increase by 92.3% (95%-CI: 23.7%-160.5%). If we include both instruments of the GFSN in the same model, the coefficient of the PBoC swap line increases further, whereas the coefficient of IMF programs attenuates. These results are robust against meaningful variation in model specifications. To bolster our inferences, we consider circumstances under which elites can less anticipate international bailouts, notably when these bailouts follow deadly natural disasters. Indeed, we find no evidence of offshore capital flight in the context of international bailouts that follow natural disasters. We also obtain significant findings using shift-share instrumental-variable designs, suggesting that our core relationships can be causally interpreted.

We contribute to several lines of research. First, we contribute to longstanding research in international political economy on global financial markets (Frieden, 2016; Ballard-Rosa, Mosley and Wellhausen, 2021; Bauerle Danzman, Winecoff and Oatley, 2017; Bunte, 2019; Kaplan, 2021; Mehrling, 2022; Ballard-Rosa, Mosley and Rosendorff, 2024). Here, our focus is aligned with a recent surge of research analyzing various aspects of elite capital flight (Pepinsky, 2014; Zucman, 2015; Boyce and Ndikumana, 2017). More specifically, we complement the existing literature has concentrated on its political driving forces (Frantz, 2018; Binder, 2019; Crippa, 2023), underlying illicit financial activities (Sharman, 2017; Kalyanpur and Thrall, 2022; Morse, 2022), and the be-

⁵These countries are Bahamas, Bahrain, Bermuda, Cayman Islands, Chile, Chinese Taipei, Curacao, Cyprus, Guernsey, Hong Kong, Isle of Man, Jersey, Luxembourg, Macao, Ireland, Panama, Singapore, and Switzerland.

havioral mechanics of tax evasion and illicit financial flows (Findley, Nielson and Sharman, 2013; Sharman, 2017; Steinberg and Nelson, 2019). As such, our work is closely related to research analyzing how regulatory shifts drive elites' desire to shield their wealth in offshore jurisdictions (for a recent survey, see Crippa and Kalyanpur (2024)). As we are concentrating on international crisis lending, our approach builds on recent political economy literature on foreign aid, demonstrating that significant amounts of aid get wasted due to corruption (Winters and Martinez, 2015; Heinrich and Kobayashi, 2020; Andersen, Johannesen and Rijkers, 2020).⁶

Second, our manuscript expands the vast literature on the Global Financial Safety Net and the international political economy of bailouts (Roubini and Setser, 2004; Scheubel and Stracca, 2019; Schneider and Tobin, 2020; Stubbs et al., 2021; Horn et al., 2023; Ballard-Rosa, Mosley and Rosendorff, 2024).⁷ Here, our study offers several innovations. Besides being concerned with the unintended consequences of crisis lending concerning capital flight dynamics (Kern et al., 2023; Nosrati et al., 2023), a key innovation is that we analyze these capital flight dynamics also for the case of PBoC swap lines. While McDowell (2019), Sundquist (2021), Horn et al. (2023), and Sahasrabudde (2024) provide in-depth accounts of PBoC swap lines and their *modus operandi*, they do not consider potential moral hazard effects once these swap lines are deployed.⁸ In particular, we show that the lack of conditions attached to using disbursed funds or macro-financial safeguards can build the backbone of elite capital flight dynamics triggered by moral hazard. Insofar our work is well-aligned with findings as suggested in Andersen, Johannesen and Rijkers

⁶In a path-breaking study, Andersen, Johannesen and Rijkers (2020) found evidence for re-routing World Bank aid into offshore financial destinations. Although a recent study finds no evidence for the existence of *ex-post* capital flight in the context of IMF programs (Aiyar and Patnam, 2021), Kern et al. (2023) demonstrate that the availability of an IMF bailout creates a perverse incentive for *ex-ante* capital flight into offshore financial destinations and tax havens.

⁷We also complement previous research that analyzes the dynamic interaction between international financial players, governments, and the IMF (Gould, 2003; Broz and Hawes, 2006; Chwieroth, 2009; Guisinger, Mukherjee and Bagozzi, 2016; Chapman et al., 2017; Rickard and Caraway, 2019; Ferry and Zeitz, 2024). We also complement a substantial literature on international organizations more generally. In particular, we demonstrate that while IMF conditionality has the potential to contain moral hazard constraining *ex-post* elite capital flight, it cannot eliminate *ex-ante* elite capital flight (Copelovitch, 2010; Kentikelenis, Stubbs and King, 2016; Abouharb and Cingranelli, 2007; Reinsberg et al., 2019). Insofar our contribution complements a substantial debate on the moral hazard implications in the context of the Global Financial Safety Net (Roubini and Setser, 2004; Scheubel and Stracca, 2019; Aklin and Kern, 2019).

⁸Insofar we also complement a substantial literature on the increasing importance of China as an important lender and provider of financial bailouts in the Global South (Brautigam, 2011; McDowell, 2019; Dreher et al., 2022; Bennon and Fukuyama, 2022). Here, our work is closely aligned with recent research emphasizing the role of Chinese loans in the context of financial crises and their resolution (Kern and Reinsberg, 2022; Ferry and Zeitz, 2023; Horn et al., 2023; Mosley and Rosendorff, 2023; Kern, Reinsberg and Shea, 2024).

(2020), Kern, Reinsberg and Shea (2024), and Shea, Reinsberg and Kern (2024), who find evidence of similar financial re-rerouting mechanisms for international development assistance and emergency lending. Building on a mixed-methods design, a key innovation of our work is to expand on these insights and provide systemic evidence on the viability of capital flight mechanisms in the context of international financial bailouts.

From a policy perspective, our study emphasizes how the global institutional architecture of emergency lending sets perverse incentives that further elite capital flight into offshore financial destinations, especially under circumstances of moral hazard on the part of government elites (Dreher and Walter, 2010; Lipsky and Lee, 2019; Aklin and Kern, 2019). As financial firms—primarily located in the Global North—frequently facilitate capital flight into offshore financial destinations (Cooley and Sharman, 2017; Cooley, Heathershaw and Sharman, 2018; Prelec and de Oliveira, 2023; Morse, 2022; Nosrati et al., 2023; Crippa and Kalyanpur, 2024), our findings underscore recent transparency rules’ utmost importance and viability.

2 Theoretical considerations

The empirical puzzle underlying our inquiry is that many heavily indebted and crisis-ridden countries are net creditors to the rest of the world. The so-called Panama and Paradise Papers, alongside various leaked financial documents, illustrate how senior political and business leaders from Indonesia, Argentina, Pakistan, and several other prominent debt-ridden economies have managed to shield their wealth in offshore financial destinations (for a survey, see, among others Binder (2019), Morse (2022), and Crippa and Kalyanpur (2024)).⁹ Examining the determinants of elite capital flight into offshore financial destinations, a substantial literature has identified domestic factors such as weak institutions, inadequate fiscal frameworks, and endemic corruption as key enabling forces (Collier, Hoeffler and Pattillo, 2001; Le and Rishi, 2006; Ndikumana, Boyce and Ndiaye, 2014; Zucman, 2015; Reuter, 2017; Collin, 2021; Goldsmith, 2020). It is often powerful business groups and senior policymakers—given their insider knowledge and capabilities to embezzle public funds—who are the direct beneficiaries of offshore financial wealth (Reuter,

⁹For the full documentation, see: <https://offshoreleaks.icij.org/>

2017; Binder, 2019; Andersen, Johannesen and Rijkers, 2020; Morse, 2022).¹⁰ Whereas recent research has focused on various regulatory and tax policy interventions in explaining the increase of elite capital flight to offshore financial destinations (Collin, 2021; Londoño-Vélez and Ávila-Mahecha, 2021; Crippa, 2023; Crippa and Kalyanpur, 2024),¹¹ research linking financial bailout mechanisms to elite capital flight is scant (McDowell, 2016; Schneider and Tobin, 2020; Morse, 2022; Kern et al., 2023; Nosrati et al., 2023; Shea, Reinsberg and Kern, 2024).

Whereas Marchesi and Marcolongo (2023) showcases how financial crises lead to an *ex-post* increase in elite financial deposits in offshore financial sinks, Aiyar and Patnam (2021) cannot detect such an effect for cases with IMF involvement. Kern et al. (2023) show that elites, to shield their wealth, move funds into offshore financial sinks *before* the onset of an IMF program. Furthermore, Kern, Reinsberg and Shea (2024) and Shea, Reinsberg and Kern (2024) find similar results analyzing IMF programs focusing on countries that have borrowed from Chinese commercial lenders. Despite this evidence, it is unclear how different forms of bailout mechanisms impact elites' decision to move funds into offshore accounts. Importantly, it is unclear how a government's ability to draw on different bailout instruments changes elite capital flight dynamics. Building on scholarship analyzing the political economy of foreign aid, which has long argued that a portion of foreign aid gets wasted due to corruption in the recipient country (Boyce and Ndikumana, 2017; Andersen, Johannesen and Rijkers, 2020),¹² we expect a similar effect in the context of bailout lending. We analyze two specific bailout instruments in the GFSN: IMF programs and PBoC swap lines.

Historically, to overcome balance-of-payments crisis, governments have turned to IMF bailout funding. In exchange for fresh capital, governments usually agree to policy conditions aimed at mobilizing revenue and restoring sound macroeconomic policymaking. Indeed, substantial litera-

¹⁰Recent contributions have demonstrated how financial institutions headquartered in the Global North actively facilitate offshore capital flight by advising local government elites on how to hide their wealth abroad (Cooley, Heathershaw and Sharman, 2018; Prelec and de Oliveira, 2023; Nosrati et al., 2023).

¹¹For instance, Crippa and Kalyanpur (2024) show how greater transparency requirements and legal enforcement lead to a reallocation of elite's wealth in offshore financial destinations. Londoño-Vélez and Ávila-Mahecha (2021) show for the case of Colombia how various tax reforms have driven elites' incentives to move their wealth out of the country into offshore financial jurisdictions. Similarly, Zucman (2015) emphasizes the role of tax evasion as a motive for moving funds into offshore financial sinks.

¹²The latest addition to this literature is an influential study showing how government elites siphon off World Bank funds into offshore financial destinations (Andersen, Johannesen and Rijkers, 2020).

ture supports the notion that the IMF is the lender of resort for economies amid financial turmoil, placing it at the center of the GFSN (Schneider and Tobin, 2020; Scheubel and Stracca, 2019; Kern and Reinsberg, 2022). Moreover, the emergence of China as an international lender to countries in the Global South has led to a surge in China-facilitated bailouts (McDowell, 2019; Kern and Reinsberg, 2022; Horn et al., 2023). A key instrument in Beijing's arsenal to lend a helping hand to financially strained borrowers has been to extend so-called PBoC swap lines that allow governments in dire financial straits to tap funds directly from the People's Bank of China (for an in-depth description; see Horn et al. (2023)). Compared to IMF funding, accessing these funds does not come with strings attached. Indeed, the PBoC does not have a mandate or legal means to enforce outstanding positions vis-à-vis corresponding central banks in borrowing countries and thus has no discretion over the use of these funds (McDowell, 2019). This lack of conditionality and subsequent macro-financial safeguards have important theoretical implications.

From a theoretical perspective, IMF bailouts come with strings attached that can potentially threaten the locally-held wealth of these elites. IMF loan conditions, specifically those targeting increased transparency, structural reforms aimed at dismantling monopolistic market structures, and reforms boosting domestic public revenue mobilization and instigating spending cuts, can jeopardize the sustainability of elite financial schemes or result in the seizure of elite wealth. The unifying factor of these conditions is their potential to disrupt existing elite wealth and hinder their capacity to extract economic rents (Bayer et al., 2020; Kalyanpur and Thrall, 2022; Brandt, 2022). We are agnostic about whether wealth results from licit or illicit business activities because such differentiation does not affect the functioning of our proposed mechanisms. Furthermore, we cannot identify the individuals or entities behind these transactions. Nevertheless, there is substantial evidence that elites are behind the bulk of financial transactions into offshore financial destinations. For instance, Londoño-Vélez and Ávila-Mahecha (2021), analyzing Colombian tax data, confirms that a country's elites own offshore financial accounts. Similarly, existing explorations of the Panama and Paradise Papers indicate that wealthy economic elites benefit from these financial schemes (Binder, 2019; O'Donovan, Wagner and Zeume, 2019; Bayer et al., 2020; Kalyanpur and Thrall, 2022; Crippa, 2023; Crippa and Kalyanpur, 2024). At the same time, neither govern-

ments nor the IMF have jurisdiction to seize elite wealth in these offshore financial destinations (Kern et al., 2023). Against this background, local elites have incentives to move funds into these jurisdictions before an impending IMF program. Synthesizing these insights, we formulate our first hypothesis.

Hypothesis 1: Offshore capital flight increases as elites anticipate that their country will undergo an IMF program in the following year.

Several implicit assumptions underpin our argument. First, IMF staff are presumed to be unaware of these schemes. The secrecy surrounding elite capital flight makes this plausible (for a review, see Nosrati et al. (2023)). Second, the IMF continues to provide bailouts even when aware of these perverse incentives. While the IMF cannot legally deny bailout loans to countries in economic distress, it is incentivized to provide loans to avert global financial instability shocks (Tomz, 2007; Nooruddin, 2010; Kaplan and Shim, 2024). Although the IMF does not initiate negotiations, it is approached by government elites seeking assistance (Stone, 2004; McDowell, 2016; Lipsy and Lee, 2019). Once negotiations begin, the IMF cannot legally refuse bailout requests but can impose stringent conditionality to mitigate moral hazard (Dreher, 2009). Given its mandate to uphold global financial stability and the severe consequences of sovereign default (Stone, 2004; Roubini and Setser, 2004; Dreher and Jensen, 2007; McDowell, 2016), the IMF rarely denies bailout requests. Additionally, globally operating banks and international financial institutions benefiting from elite capital flight while having significant exposure to these economies might lobby their home governments for financial bailouts (Ferwerda and Zwiers, 2022; Broz and Hawes, 2006; Gould, 2003; Copelovitch, 2010). Finally, a key assumption is that elites have access to private information about the state of the economy, which investors and citizens do not. In many emerging and developing countries, verifiable data on the actual state of the economy is limited, making it likely that only politically well-connected elites can access this information (Crippa, 2023; Nosrati et al., 2023). If wealthy elites can anticipate the onset of an IMF program and intend to protect their assets, our proposed effect should manifest only for IMF programs triggered by predictable events. Conversely, the offshore capital flight effect should vanish during IMF programs initiated by unpredictable events, such as natural disasters. Although IMF programs following natural disasters

also require negotiation time, they offer faster emergency relief (Ferry and Zeitz, 2024). Moreover, elites cannot easily foresee non-anthropogenic natural disasters like earthquakes, tsunamis, or pandemics, meaning these programs are not driven by elite intentions. For this reason, we expect the hypothesized relationship between ex-ante elite capital flight and IMF programs to disappear in contexts where elites have less control over the occurrence of an IMF program. In contrast, where elites trigger the IMF program after moving their wealth to safe havens, these programs are predictable. Thus, we distinguish between 'disaster-unrelated programs' and 'disaster-related programs.' While both types address economic shocks, only disaster-unrelated programs involve elite intentionality.

In contrast to IMF programs, PBoC swap lines are agreements between the People's Bank of China and the corresponding central bank of a borrowing country. In these instances, the PBoC agrees to provide a line of credit to the recipient's central bank to cover foreign currency shortages with the promise of repayment. As such, the PBoC cannot enforce repayment, nor does it require any macro-financial safeguards when lending a helping hand to a corresponding central bank (Broz and Zhang, 2018; McDowell, 2019; Horn et al., 2023; Sahasrabudde, 2024). As these swap lines help central banks to overcome short-term liquidity shortages and settle bilateral trade transactions, there is no formal constraint concerning the use of these funds (McDowell, 2019). And indeed, several country cases indicate that PBoC swap lines are used to lean against downward pressures on the exchange rate, bail out the domestic financial sector, or bankroll Chinese commercial loan payments (Broz and Zhang, 2018; McDowell, 2019; Horn et al., 2023). For example, in the case of Mongolia, the Bank of Mongolia (BoM) repeatedly used PBoC swap lines to implement its quantitative easing programs and stem the devaluation pressures of the Tugrik (Arnold, 2023).

Given the lack of specificity concerning the use of funds, in some instances, governments have gone even as far as using these as surrogate financing to prevent a full-blown default on outstanding sovereign debt. For instance, in the case of Argentina, the PBoC's swap line allowed the government to prevent defaulting on its IMF payments while maintaining bloated fiscal deficits and being cut off from international debt markets (Wang and Canuto, 2023). While central banks have

substantial discretion for the use of funds, a lack of macro-financial safeguards and enforcement mechanisms is providing fertile ground for moral hazard. From a theoretical perspective, elites can eventually get hold of these funds and transfer funds through ‘gaming the system’ to offshore financial destinations. Although elites are likely not able to capture these bailout funds directly, moral hazard can be reflected in a sudden uptick of ‘fake’ trade invoices, bankrolling fictitious bank loans, ‘evergreening’ of non-performing loans, or used as bailout funds paying out government guarantees (for a survey of mechanisms, see, for instance, Shea, Reinsberg and Kern (2024)). For example, in Mongolia, the Bank of Mongolia (BoM) utilized swap lines to support its financial system, which was rocked by several scandals involving loan embezzlement by high-ranking politicians and their relatives (Arnold, 2023). Theoretically, these swap lines could also be used to cover kickbacks often included in Chinese commercial loans (Horn et al., 2023; Kern, Reinsberg and Shea, 2024).

Against this background, we anticipate that the uptick in elite capital flight will materialize **after** a central bank has drawn on the PBoC swap line. Synthesizing these insights, we formulate our second hypothesis.

Hypothesis 2: Elite capital flight increases **after** a country has drawn on a PBoC swap line.

Our argument is based on several implicit assumptions that we address here. Given these perverse incentives and the potential leakage of PBoC swap lines, it remains unclear why Beijing would provide these bailout funds. There are several reasons for this. First, PBoC officials providing this financial lifeline might not know about severe weaknesses in governance frameworks. For example, in recent Chinese special purpose vehicle lending schemes that benefit local elites, neither the regulatory authorities in the borrowing country nor the IMF have comprehensive information about these schemes and can only detect the balance of payments irregularities (Kern and Reinsberg, 2022; Kern, Reinsberg and Shea, 2024). Thus, when providing a swap line to a central bank in a borrowing country, PBoC officials might not be aware of how these funds are being utilized and not even be aware that these funds are used to feed into elites’ bank accounts in offshore financial sinks.

Second, governments benefiting from PBoC swap lines frequently use these funds as bridge payments to service commercial loans for Chinese projects (Horn et al., 2023). As such, they allow the Chinese government to hide the extent of non-performing loans by funding the ‘evergreening’ of failing projects. For instance, it is well documented that PBoC swap lines played an important role in providing bridge financing for ailing Chinese commercial loan projects and the repayment of Saudi sovereign credit lines in the case of Pakistan (Horn et al., 2023). At the same time, given the lack of transparency in China’s overseas commercial loans, it is well documented that these frequently entail kickback schemes for local elites, which are siphoned off into offshore financial sinks (Dreher et al., 2022; Kern, Reinsberg and Shea, 2024). Thus, (ab-)using PBoC swap lines for ‘evergreening’ commercial loans might facilitate elite capital flight.

Third, as PBoC swap lines can be used to settle trade-related payments between China and recipient countries, this form of bridge finance is important to keep Chinese exports flowing to these economies, independent of their financial state. This is important to enhance the commercial footprint of Chinese businesses and increase their market share in these economies, even when they face financial or economic difficulties (Hao, Han et al., 2022). Importantly, it allows China to expand its commercial footprint and expand the use of the Renminbi (RMB) while increasing its political leverage over these economies (Liao and McDowell, 2015; Broz and Zhang, 2018; McDowell, 2019; Wang and Canuto, 2023; Sahasrabuddhe, 2024). For instance, in the case of Argentina, President Milei had *to bend to reality*¹³, recognizing that his country’s trade and financial exposure (in particular, arising from Argentina’s PBoC swap lines) prevent a full-fledged turn on China.¹⁴

Fourth, in addition to decoupling its trade relations from the US Dollar and expanding the use of the RMB as an international reserve currency (McDowell, 2019; Broz and Zhang, 2018; Sahasrabuddhe, 2024), PBoC swap lines have a short-run stabilizing effect. In particular, for governments in dire financial straits, accessing bailout funding without strings attached provides not only short-term financial relief but also minimized political costs compared to IMF programs

¹³“The Wild Man of Argentina Bends to China Reality” Bloomberg, April 5th, 2024.

¹⁴For instance, in the case of Brazil, the PBoC’s swap line was instrumental in incentivizing the Bolsonaro administration to change its foreign policy stance towards China (Wang and Canuto, 2023).

(Kern, Reinsberg and Shea, 2024; Shea, Reinsberg and Kern, 2024). Although Beijing claims to not interfere in foreign entities' domestic political affairs (Brautigam, 2011; Dreher et al., 2022), China has an interest in maintaining the political *status quo* and preserving good relations with an incumbent government (Shea, Reinsberg and Kern, 2024). In many instances, these governments rely on elites' approval and thus have to curry favor by providing patronage payments or looking the other way with respect to murky business dealings. Thus, providing bailouts without strings attached in the form of PBoC swap lines promises to keep patronage payments flowing while maintaining the political *status quo*.

Finally, a key aspect to consider might be that an IMF program coincides with a PBoC swap line. This situation emerges when a country simultaneously draws on multiple credit lines.¹⁵ Despite advances in analyzing the relationship between Chinese lending and IMF programs (Kern and Reinsberg, 2022; Kern, Reinsberg and Shea, 2024; Ferry and Zeitz, 2023; Ballard-Rosa, Mosley and Rosendorff, 2024), little guidance exists with respect to elite capital flight. Building on previous work, countries tend to approach the IMF for bailout funding when Chinese bailouts (and thus PBoC swap lines) are not sufficient to contain balance of payments crises (Kern and Reinsberg, 2022; Kern, Reinsberg and Shea, 2024). In these cases, elites seem to be siphoning off bailout funds after receiving them from China, whereas the spike in elite capital flight appears to have happened before the onset of an IMF program so that elites can shield their wealth in offshore financial sinks (Kern, Reinsberg and Shea, 2024). Given the lack of transparency surrounding this topic (Ferry and Zeitz, 2023; Horn et al., 2023; Ballard-Rosa, Mosley and Rosendorff, 2024), we are left to speculate that our proposed mechanism might have been the reason why the IMF blocked a \$1.5 billion PBoC swap line for Sri Lanka in 2022.¹⁶ Despite this lack of clarity or guidance, for both bailout mechanisms, we believe that the fragmented nature of global financial regulation enables elites to channel funds into offshore financial destinations, where they remain protected.

¹⁵Here, we would like to note that in recent history, countries have also tapped other nations' central banks to gain access to swap lines (for an overview, see Perks et al. (2021)). For instance, in the recent case of Nigeria, it was Saudi Arabia's monetary authority (SAMA) that provided a \$1 billion swap line to the cash-strapped Central Bank of Nigeria. Similarly, Qatar and other players from the Gulf Cooperation Council and elsewhere have become important players in extending bilateral swap lines to a whole host of nations (Perks et al., 2021).

¹⁶"Sri Lanka Cant Use \$1.5 Billion Swap on China IMF Concerns" Bloomberg, June 2nd, 2022.

3 Research design

To provide evidence for the existence of our proposed mechanism, we present a mixed-methods research design combining three short case studies and large-sample plausibility probes. We select three cases from different world regions. These cases are Angola (2008), Tajikistan (2008), and Mongolia (2011–2016). Focusing on the cases of Angola and Tajikistan allows us to illustrate how elites acted upon insider information and deposited substantial wealth in offshore financial accounts before the arrival of the IMF. In sharp contrast, we show in the case of Mongolia how PBOC swap lines enabled elite capital flight. Considering the widespread corrupt practices within the country's financial sector and significant shortcomings in banking supervision and oversight (APG, 2017; Bauer et al., 2018; Damdinsuren, Dierkes and Luguusharav, 2023), PBOC swap lines, enabling the Bank of Mongolia to implement its quantitative easing programs, were providing the necessary fuel for elite capital flight. Complementing these case studies, we also probe the generalizability of our mechanisms using evidence from a large-N analysis.

Mini Cases

Tajikistan Emerging as an independent state from the Soviet Union, Tajikistan remains one of the poorest countries in Central Asia (Cooley, 2012; Pomfret, 2019; CRS, 2021). Despite rampant poverty and rising debt, the country's elite holds substantial wealth in offshore financial accounts (Heathershaw, 2011; Cooley and Sharman, 2015). Importantly, Tajikistan has been a returning client of the IMF. Although it represents an extreme case, it showcases how a kleptocratic elite colludes with the global financial establishment to siphon a nation's wealth into offshore accounts (Heathershaw, 2011; Cooley and Sharman, 2015). To illustrate these points, we highlight two instances where our mechanism becomes visible.

First, when rescuing Tajikistan from the brink of default in 2005, the IMF audit overlooked a credit guarantee scheme that insured the claims of a consortium of politically well-connected banks and lenders toward the cotton industry.¹⁷ As collateral for this guarantee, the central bank

¹⁷"IMF says Tajikistan Broke Borrowing Rules." Financial Times. March 6th, 2008

pledged almost the entirety of its foreign reserves and thus allowed high-ranking government officials to siphon almost \$300 million out of the country.¹⁸

Second, to unlock much-needed financial relief in 2008, a high-ranking Tajik government official “repeated several times that Tajikistan would be ready to accept any conditions the Fund demanded.”¹⁹ At the same time, the country’s state-owned enterprises—providing “*substantial cash flow to the ruling elite*”(ICG, 2009, 14)—were used to transfer funds out of the country and thereby drained the country’s financial reserves. To illustrate this point, consider the country’s most prominent business, the Tajikistan Aluminium Company, Talco. According to estimates of the Financial Times in 2008, the company accounted “for more than half of Tajikistan’s export revenues.”²⁰ To siphon out profits into offshore accounts, in 2005, the government set up a tolling arrangement: Talco Management Ltd. (TML). Strikingly, the firm is registered in the British Virgin Islands, allowing its owners to repatriate the profits (tax-free) in offshore accounts. According to estimations presented in Heathershaw (2011, 160), “over the period from 2005 to 2008, Talco, and thus the Tajik state lost US\$1.145 billion in revenues due to this trading scheme.” As the government official’s pleading for help indicates, these funds were unavailable when the government approached the IMF for bailout funding.

In line with our expectations, the case illustrates a country’s elites’ ability to siphon wealth into offshore financial destinations before the arrival of the IMF.

Angola Emerging from a devastating civil war, the Angolan government chose a different path and began to borrow heavily from China. Starting with a \$2 billion oil-backed credit line from China Eximbank, the government borrowed a total of \$4.5 billion until 2007 (Brautigam, 2011; Corkin, 2011; Brüttsch, 2014).

Despite the government’s initial investments into the country’s infrastructure, a substantial share of received loans were used for quasi-fiscal operations and elite-funded kickbacks siphoning money into offshore financial sinks (Corkin, 2011, 2016; Ferreira and Soares de Oliveira, 2019).

¹⁸“Banker accused of huge fraud in Tajikistan.” The Guardian. April 13th, 2009.

¹⁹“Tajikistan Pleads for Help to Resolve Self-Inflicted Cotton Finance Crisis.” Wikileaks. Cable ID 08DUSHANBE86.a.

²⁰“The intriguing case of Talco Aluminium.” The Financial Times. October 28, 2008

In this case, the country's state-owned oil company, Sonangol, primarily served as the main vehicle to facilitate these transactions. Whereas most loans were either issued to the company or secured through its proceeds, the crippling of oil-export proceeds brought the first cracks in this debt financing strategy (Corkin, 2011; Jensen and Paulo, 2011). To fend off speculative attacks on the Kwanza, the Angolan monetary authorities burnt some \$8 billion (Jensen and Paulo, 2011; Brütsch, 2014). As previous years' revenues were transferred to bolster foreign exchange reserves and partly siphoned into offshore financial destinations, the government, unable to service its outstanding foreign debt (Corkin, 2016), requested an IMF Stand-by Arrangement.²¹ In line with our theoretical predictions, the government accepted a battery of loan conditions in exchange for fresh capital and signed onto an IMF program (Goes, 2022). On its arrival, the IMF could not locate the whereabouts of \$4.2 billion between 2007 and 2010 that the state-owned oil producer, Sonangol, transferred into offshore escrow accounts before the arrival of the Fund.²²

Although vanished amounts also include legitimate oil export proceeds, existing research supports that part of these transactions reflect kickback schemes linked to elite bank accounts into offshore financial destinations (Salah Ovadia, 2018; Ferreira and Soares de Oliveira, 2019). The recent reporting on the country's financial scandals, such as the Luanda Leaks²³ and the Swiss Leaks²⁴ suggest that influential Angolan elites have siphoned an astonishing amount of wealth into a web of offshore entities while leaving it one of the most debt-laden nations in the world.

Mongolia Being landlocked between Russia and China, Mongolia's main source of revenue is the export of mining products, which also forms the key pillar of its economy. Despite trying to find a balanced approach between Russia and China in foreign political and economic relations, China emerged as a key trading and investment partner since the political transition in the early 1990s (Pieper, 2021; Kumar, 2023; Judge, 2024).²⁵ Seeing a boom in FDI and economic growth throughout the latter part of the 2000s, this economic uplift came to a sudden end in 2012 when

²¹On 29 November 2009, the IMF approved an SBA worth \$1.4 billion (Brütsch, 2014).

²²Angola – Fifth Review Under the Stand-By Arrangement, IMF, December 1, 2011.

²³“What are the Luanda Leaks?” The Guardian, January 20, 2020.

²⁴“Switzerland Freezes Angolan Tycoon's \$900 Million Fortune”, ICIJ, August 28, 2020

²⁵For instance, Pieper (2021) providing a historical overview shows that FDI inflows from China were leading the charts ahead of any other country.

commodity prices started to drop, and FDI inflows significantly declined (Pieper, 2021; Bauer et al., 2018; Arnold, 2023). It was during this period that pressures on the Mongolian Tugrik (MNT) forced the Bank of Mongolia (BoM) to intervene in foreign exchange markets to stabilize the economy.

To strengthen trade and economic relations and, crucially, to access essential foreign reserves, the Bank of Mongolia (BoM) established a swap line with the People's Bank of China in May 2011 (Arnold, 2023). This agreement allowed Mongolian monetary authorities to initially withdraw RMB 5 billion (equivalent to MNT 1 billion).²⁶ Although several reports indicate that these PBoC swap lines have primarily been used as a reserve cushion to stabilize the currency (for a review, see Arnold (2023)), the BoM's management from 2012 to 2016 disbursed MNT 7.2 trillion for at least 17 different credit programs that were directly channeled into the accounts of the banking system with little or no oversight.²⁷ Assessing this situation, the IMF (2018) arrived at the sobering conclusion that the PBoC swap lines, in light of a BoM suffering from significant governance weaknesses, have enabled excessive quasi-fiscal spending. Given that a substantial share of corruption money and illicit finance has been laundered through Mongolia's banking system with a history of financial scandals (APG, 2017), the main beneficiaries of these BoM loan programs have been wealthy elites. Indeed, in their assessment of the Mongolian banking sector for the Financial Action Task Force (FATF), the Asia/Pacific Group on Money Laundering (APG), concluded in 2016 that "*in relation to corruption, bank accounts of family members are mainly used for the receipt of monies, which are then transferred to foreign bank accounts and offshore accounts/financial institutions, and funds are used to establish companies abroad*"(APG, 2017, 15). The case of former Prime Minister Batbold Sukhbaatar is illustrative of the elite capital flight in the case of Mongolia. According to court documents, the former Prime Minister Sukhbaatar created a complex network of both domestic and offshore entities to launder embezzled funds. This network was designed for selling the country's mineral resources, facilitating kickbacks for mining licenses granted to foreign corpo-

²⁶In subsequent years, this swap line was extended, and access conditions were loosened so that repayment of PBoC swaps could be extended up to one year (Arnold, 2023).

²⁷In its assessment, the auditors from KPMG (2023, 12) concluded that "*the processes and internal controls at the BoM are sub-optimal to the level of risks which the BoM undertakes, the high volumes of financing it provides, and the BoMs role and responsibilities.*" Reviewing credit applications resulting from BoM's quantitative easing programs, KPMG (2023, 14) concluded that, next to providing grounds for several conflicts of interest, these loans should have included "*mandatory AML and credit bureau checks of applicants*" before disbursement.

rations and state-owned enterprises, and functioning as corporate shells to disguise and launder bribe payments, allowing millions of US dollars to be siphoned out of the country.²⁸ This case is not an exception but reflects the intimate linkages between private business interests, public officials, and the nation's banking system to siphon money into offshore financial sinks (Bauer et al., 2018; Bulag, 2018; Damdinsuren, Dierkes and Luguusharav, 2023).

Overall, given endemic corrupt practices in the country's financial industry alongside substantial flaws in banking supervision and oversight (APG, 2017; Bauer et al., 2018; Damdinsuren, Dierkes and Luguusharav, 2023), our reading of the Mogolian case is that PBOC swap lines have provided fertile ground for elite capital flight. Interestingly, despite numerous corruption scandals, the governance weaknesses enshrined in the BoM, and the accumulation of substantial debts in its PBOC swap line accounts, the BoM could maintain this position without having to default on these debt obligations (Arnold, 2023). In line with our theoretical predictions, as a member of the Belt and Road Initiative, underscoring Mongolia's vital geopolitical importance to the administration of Beijing, China even expanded its PBOC swap lines and loosened access conditions.

Data

Turning to our large-N analysis, we assembled a dataset of up to 201 countries between 1990 and 2018.²⁹ While data availability for IMF programs is good, there is limited data on Chinese swap lines. For regressions including Chinese swap lines, our effective sample reduces to 38 countries from 2009 to 2018.

Dependent variable

We constructed a measure of offshore capital flight using data on direct cross-border capital flows in private bilateral bank deposits from the Bank of International Settlements (BIS, 2022). A key advantage of our measure is to isolate *de facto* bank transactions instead of relying on measures

²⁸“Agency for Policy Coordination on State Property et al v. Batbold Sukhbaatar et al.”, New York County Supreme Court Case No. 656507/2020.

²⁹We also perform analyses excluding high-income economies, which are unlikely to be in need of international financial assistance and to which our posited mechanism may not apply. The results are qualitatively unaffected by this sampling choice (Table A4).

related to trade mis-invoicing, statistical residuals in balance-of-payments, or incorporation in offshore financial sinks.³⁰

we construct our measure of offshore capital flight in two steps. First, we aggregate the reported bank deposit amounts of a country in 18 selected offshore financial destinations that are commonly considered ‘tax havens’ (Garcia-Bernardo et al., 2017; Damgaard, Elkjaer and Johannesen, 2019; Coppola et al., 2020). As destination countries, we selected the Bahamas, Bahrain, Bermuda, Cayman Islands, Chile, Chinese Taipeh, Curacao, Cyprus, Guernsey, Hong Kong, Isle of Man, Jersey, Luxembourg, Macao, Ireland, Panama, Singapore, and Switzerland. Banking deposits in these jurisdictions can plausibly be connected to wealthy individuals and firms seeking a safe haven for their private wealth (Ndikumana, Boyce and Ndiaye, 2014; Zucman, 2015; Andersen, Johannesen and Rijkers, 2020; Shea, Reinsberg and Kern, 2024).³¹ Second, we divide the deposits in offshore destinations by the deposits in all reporting countries. Using the proportion of deposits held in offshore destinations has the advantage of directly capturing the theoretically relevant concept. Empirically, it can mitigate reporting bias across countries and avoid endogenous scaling effects that were to occur if we divided deposits by the size of the economy (which must be expected to shrink during economic downturns).

Figure 1 shows the evolution of offshore capital flight over time between 1990 and 2018. The median share of capital deposits in offshore financial destinations (OFDs) has been stable between 1990 and 2018. At the same time, multiple outliers register most of their capital deposits in these destinations. The main takeaway from Figure 1 is that global trends are unlikely to drive our results, given the relatively constant share of capital deposits in OFDs (for similar observations, see, Marchesi and Marcolongo (2023) and Andersen, Johannesen and Rijkers (2020)).

To better understand which countries drive offshore capital flight, we calculate mean group differences and conduct t-tests for various background characteristics. Table 1 shows the results. The share of bank deposits held in OFDs is significantly larger in countries that experience fewer

³⁰Ndikumana, Boyce and Ndiaye (2014), Reuter (2017), and more recently, Crippa (2023) provide excellent surveys of different measurement choices.

³¹Our results are robust to variations in the set of tax-haven countries, as discussed below. It is well known that the bulk of bank deposits in these offshore financial destinations belong to country elites (Ndikumana, Boyce and Ndiaye, 2014). Our measurement approach, therefore, follows established practice.

Offshore capital flight between 1990 and 2018

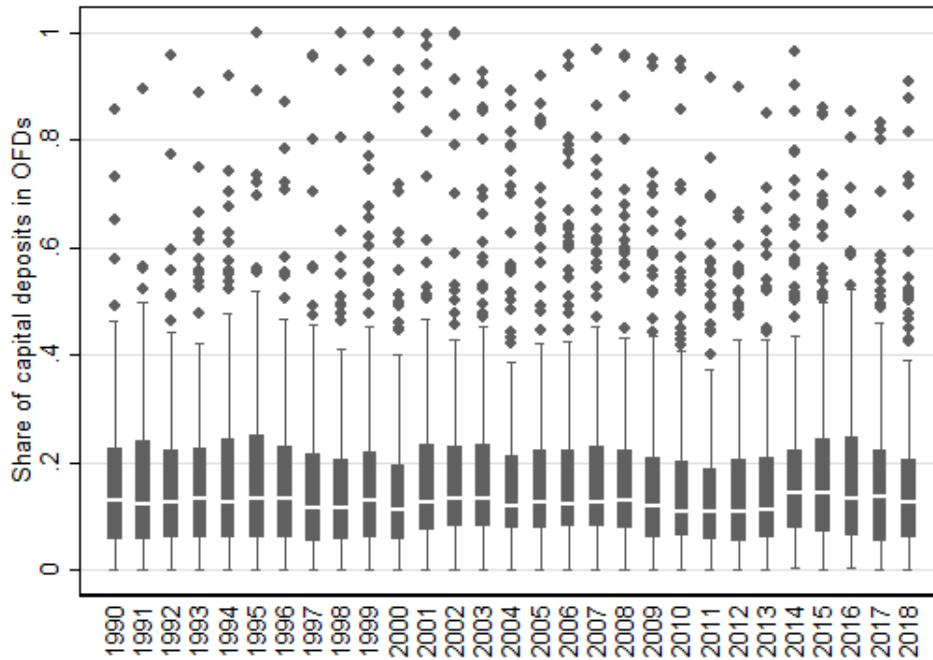


Figure 1: The illustration shows the annual median value of the deposits held in offshore bank accounts as a share of all deposits. Whiskers indicate the 25th percentile and 75th percentile, while dots represent outliers.

financial crises, more corrupt countries, and countries with more foreign banks. To provide a reading example: The second row shows the mean share of bank deposits in offshore accounts for countries that never had an IMF program and for countries that had at least one program from 1980 to 2018. We find no difference in the prevalence of offshore capital flight depending on whether the country had an IMF program. Neither do we find a statistically significant difference in the use of Chinese swap lines across both groups of countries.

Different country characteristics and average offshore capital flight

Condition	Offshore share for group with condition	Offshore share for group without condition	Difference	p-value
Any financial crisis (1980-2018)	0.153	0.202	-0.049	0.007**
Any IMF program (1980-2018)	0.167	0.194	-0.027	0.206
Any Chinese swap line (2008-2018)	0.181	0.156	0.025	0.170
Polity score above 6	0.189	0.166	0.023	0.203
Corruption above median	0.203	0.139	0.064	0.0002***
Above-median UNGA alignment with G7	0.182	0.173	0.009	0.629
Above-median number of foreign banks	0.191	0.157	0.034	0.043*

Table 1: The results represent the results of two-sided t-tests with unequal variance. Significance levels: $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Key predictors

Our main predictors are binary and capture whether a country uses different instruments of the global financial safety net. First, we construct a binary variable indicating whether a country undergoes an IMF program. This variable enters with a one-year lead, following our argument that offshore capital flight will increase when government elites expect to go under an IMF program. We draw information about IMF programs from the IMF Monitor Database (Kentikelenis, Stubbs and King, 2016). To maximize the number of observations for analysis, we updated the list of IMF programs based on publicly available data for the latest years in the sample. Second, we include a binary variable indicating whether a country draws a swap line with the Chinese central bank (Horn et al., 2023). The data are available only for the most recent ten-year period in our sample.

To address inferential threats, we need to identify international bailouts following natural disasters. Such disaster-related bailouts differ from ordinary bailouts that reflect the strategic choices of governments. Compared to the latter bailouts, disaster-related bailouts are more difficult to predict by elites, given that the underlying natural disasters are unpredictable. To identify natural disasters, we draw on the EM-DAT database (CRED, 2020) and measure the incidence of any natural disasters with at least 25 deaths in a given year.³² Disaster-related IMF programs are those programs that follow these disasters. Disaster-related Chinese swap lines involve cases in which governments draw a Chinese swap line following a deadly disaster event.

Control variables

To eliminate confounding bias, we include several control variables organized in three sets. The first is a minimal set of control variables, which includes country-fixed effects, time-fixed effects, and aggregate capital deposits reported by all 48 destination countries in the BIS database (BIS, 2022). Incorporating aggregate capital outflows is important to mitigate concerns that we are picking up an episode of rapid capital outflows.

The second set adds macroeconomic controls, including the percent rate of GDP growth and

³²This threshold follows studies of civil war and reflects major episodes of destruction.

the (logged) inflation rate,³³ reserves in months of imports (WDI, 2020), and a binary indicator for financial crisis (Laeven and Valencia, 2013). These variables jointly capture economically turbulent times. During periods of crisis, countries are more likely to seek international financial assistance but are also likely to suffer abrupt money outflows (Beeson and Broome, 2008).

The third set of controls captures structural variables and political factors. We include the log-transformed GDP per capita (WDI, 2020), the polity score for democracy (Marshall, Jaggers and Gurr, 2015), and the V-Dem sub-index on executive corruption (Coppedge et al., 2016). Incentives for offshore capital flight may increase as countries get richer and political leaders become more corrupt but decrease as democratic accountability increases. At the same time, these variables can affect the likelihood of international bailouts. To complete our modeling setup, we include two-way fixed effects: country-fixed effects absorb time-invariant omitted factors, whereas year-fixed effects absorb common shocks. We report descriptive statistics and further information on data sources in the supplementary appendix (Table A1).

Empirical models

Since our dependent variable is continuous, we estimate Ordinary Least Squares regressions. Compared to a non-linear fractional model, the linear model is easier to interpret. We believe that misspecification bias is unlikely to be an issue, given that there is very little bunching at the extremes. Formally, we estimate models of the following generic form:

$$y_{it} = \alpha + GFSN_{i,t}\beta + X_{it}\gamma + u_i + \varphi_t + \varepsilon_{it} \quad (1)$$

where $y_{it} = \frac{\sum_j^{J_0} d_j}{\sum_j^J d_j}$ is the share of deposits held in offshore destinations J_0 over the deposits in all reporting destinations J , as a function of financial assistance from the global financial safety net ($GFSN_{i,t}$), a vector of control variables (X_{it}), country-specific effects (u_i), and year effects (φ_t). All other terms are estimable parameters, except the idiosyncratic error term (ε_{it}). For the

³³To avoid generating missing values for negative inflation rates, we apply a hyperbolic transformation.

vector of estimands, we expect $\hat{\beta} > 0$, with the timing of effects differing across different financial instruments. Specifically, we expect capital flows into OFDs to increase when governments are about to agree on an IMF program and when governments have already drawn a Chinese swap line.

When distinguishing between ordinary bailouts ($GFSN^O$) and disaster-related bailouts ($GFSN^D$), we estimate the following model:

$$y_{it} = \alpha + GFSN_{i,t}^O \beta_1 + GFSN_{i,t}^D \beta_2 + X_{it} \gamma + u_i + \varphi_t + \varepsilon_{it} \quad (2)$$

where variables are defined in the same way as above. We expect $\hat{\beta}_1 > 0$ but $\hat{\beta}_2 = 0$.

3.1 Illustrative evidence

We first illustrate offshore capital flight patterns around different types of financial insurance mechanisms using quarterly data. To that end, we isolate all 558 episodes of IMF program onsets between 1993 and 2018 and fit a local polynomial to examine the evolution of offshore capital flight around the onset of an IMF program.³⁴ We do the same for all 13 cases between 2008 and 2018 in which countries have drawn a Chinese swap line for the first time.³⁵

Figure 2 shows that while the pre-program offshore capital flight is relatively stable in the three years before an IMF program, it displays an upward spike two quarters before the IMF program onset and drops sharply after that to reach a local minimum by the third quarter of an IMF program. This pattern is consistent with an elite-driven capital flight to offshore destinations in the run-up to an IMF program.³⁶ Even if one considers that it may take up to one quarter to finalize negotiations for an IMF program (McDowell and Steinberg, 2017), the peak of capital outflow still lies before the decision to approach the Fund. After the IMF program onset, we observe a drop in offshore capital flight, likely driven by an uptake in (ordinary) capital flight following IMF program onset (Pepinsky,

³⁴Given that we use capital flight data from 1990 to 2018, this time window ensures that we have complete data over twelve quarters before the quarter of IMF program onset. Twelve quarters reflects the modal duration of an IMF program (Kentikelenis, Stubbs and King, 2016).

³⁵The first swap line was drawn in 2012 (Horn et al., 2023).

³⁶Because we use the exact agreement dates of IMF programs, the patterns cannot be attributed to an announcement effect or IMF-induced policy conditions.

2014; Gehring and Lang, 2020).

Offshore capital flight around IMF programs using quarterly data

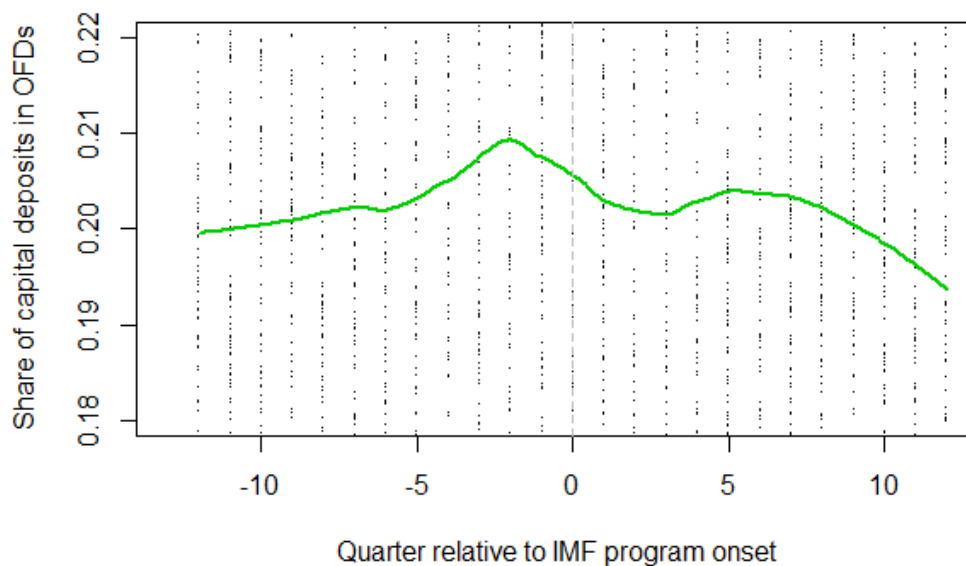


Figure 2: The illustration shows the local polynomial fit of the offshore capital deposit share for 558 IMF program onsets in the sample period.

Figure 3 shows that capital flight into offshore destinations peaks after the fourth quarter after the country has drawn a Chinese swap line. In contrast, offshore financial flows are relatively stable before the use of a Chinese swap line. These patterns are consistent with elite capital flight because Chinese swap lines do not come with fiduciary safeguards that would prevent the siphoning of funds to offshore destinations. In the next sections, we will probe the robustness of these patterns using multivariate analysis at different levels of temporal granularity.

Offshore capital flight around Chinese swap lines drawn using quarterly data

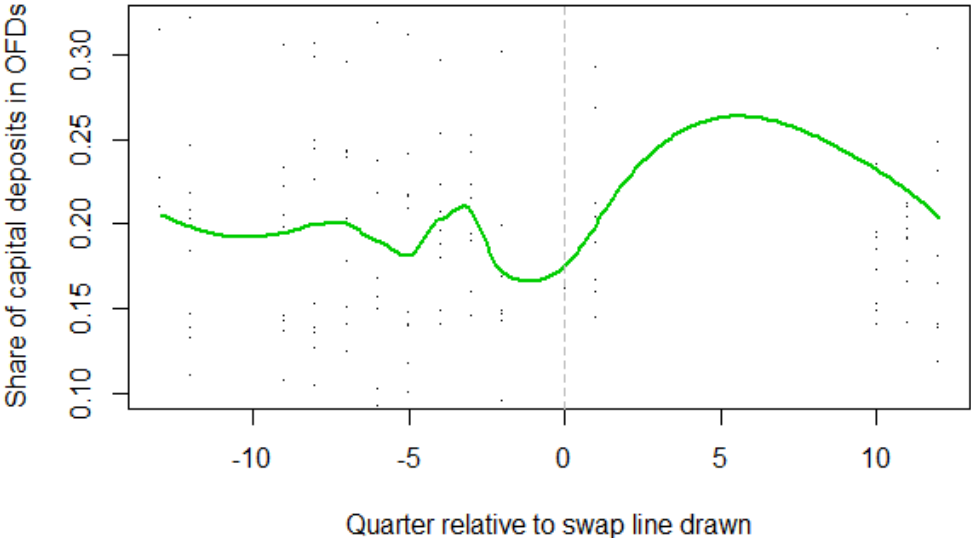


Figure 3: The illustration shows the local polynomial fit of the offshore capital deposit share for 558 IMF program onsets in the sample period.

3.2 Regression analysis

Turning to annual data, we can test the relationship between anticipated bailouts and offshore capital flight with multivariate regression analysis. Table 2 presents the results for IMF programs under three different sets of control variables. We find that the anticipation of an IMF program is related to an increase in the proportion of bank deposits in offshore destinations by about two percentage points—equivalent to 14.2% (95%-CI: 5.7%-22.7%).³⁷ Coefficient magnitudes are remarkably similar across different model specifications, and estimates are statistically significant ($p < 0.05$). Control variables behave in line with theoretical expectations but are mostly insignificant. For example, the proportion of elite capital flight is lower when countries register more bank deposits abroad. Neither economic crisis variables nor political characteristics are consistently related to elite capital flight. Countries with a higher per-capita income register a higher share of offshore deposits.

IMF program anticipation and offshore capital flight						
	(1)		(2)		(3)	
<i>Offshore capital flight</i>						
IMF program _{t+1}	0.018*	(0.008)	0.025**	(0.009)	0.018**	(0.006)
Total deposits _t			-0.019	(0.014)	-0.044***	(0.010)
GDP growth _t			-0.029	(0.059)	-0.060	(0.054)
Inflation growth _t			-0.002°	(0.001)	-0.002°	(0.001)
Reserves _t			-0.002	(0.001)	-0.001	(0.001)
GDP per capita _t					0.078**	(0.026)
Polity score _t					-0.002	(0.002)
Executive corruption _t					0.037	(0.048)
Observations	5412		3651		2975	
Countries	202		161		138	
Adjusted R2	0.574		0.645		0.565	

Table 2: OLS regression with two-way fixed effects and robust standard errors clustered on countries in parentheses. Significance levels: $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 3 presents the results for Chinese swap lines using different sets of control variables. We find that a country registers an increase in the proportion of bank deposits in offshore destinations after having drawn a Chinese swap line by up to 15.6 percentage points—equivalent to

³⁷This can be obtained by relating the percentage-point increase to the sample mean of the offshore deposit share. The percentage-point effect is 2.0 (95%-CI: 0.8-3.2).

92.3% (95%-CI: 23.7%-160.5%).³⁸ Coefficient magnitudes are stronger once we control for crisis variables and political characteristics. Control variables do not generally reach conventional levels of statistical significance but tend to show the expected sign.

IMF program anticipation and offshore capital flight						
	(1)		(2)		(3)	
<i>Offshore capital flight</i>						
Swap line drawn _{t-1}	0.066	(0.050)	0.084°	(0.048)	0.156**	(0.057)
Total deposits _t			0.019	(0.017)	0.010	(0.025)
GDP growth _t			-0.005	(0.163)	0.009	(0.180)
Inflation growth _t			0.001	(0.002)	0.006	(0.004)
Reserves _t			-0.012*	(0.005)	-0.005	(0.005)
GDP per capita _t					0.330	(0.233)
Polity score _t					-0.003	(0.008)
Executive corruption _t					0.009	(0.115)
Observations	380		342		256	
Countries	38		35		33	
Adjusted R2	0.517		0.629		0.695	

Table 3: OLS regression with two-way fixed effects and robust standard errors clustered on countries in parentheses. Significance levels: $p < 0.1$, $*p < 0.05$, $**p < 0.01$, $***p < 0.001$.

Ultimately, we are interested in the combined effect of different financial insurance mechanisms. Table 4 therefore includes both IMF programs and Chinese swap lines in the regression model. We find that only Chinese swap line drawings are significantly related to capital flight into offshore financial destinations. In contrast, an impending IMF program no longer has a significant relationship with offshore capital flight.

In the supplemental appendix, we probe the robustness of the latter set of findings to meaningful variations in our model specification. In particular, we use an extended set of control variables that mirrors the lag-lead structure of our key predictors. Despite this more demanding specification, our results are qualitatively unaffected (Table A3). In addition, we exclude high-income countries from the sample, considering they are unlikely to receive bailouts.³⁹ Our estimates are unchanged, suggesting that our results are not driven by our sampling choice (Table A4). Finally, we use alternative definitions of offshore destinations. Specifically, we corroborate our results us-

³⁸This can be obtained by relating the percentage-point increase to the sample mean of the offshore deposit share.

³⁹To identify high-income countries, we rely on the World Bank classification (WDI, 2020).

Chinese swap line drawings, IMF program anticipation, and offshore capital flight

	(1)	(2)	(3)
<i>Offshore capital flight</i>			
Swap line drawn _{t-1}	0.095° (0.054)	0.109* (0.051)	0.156** (0.057)
IMF program _{t+1}	-0.004 (0.020)	-0.008 (0.023)	0.003 (0.017)
Total deposits _t		0.029° (0.017)	0.010 (0.025)
GDP growth _t		-0.002 (0.143)	0.012 (0.181)
Inflation growth _t		0.003 (0.003)	0.006 (0.004)
Reserves _t		-0.010* (0.004)	-0.005 (0.005)
GDP per capita _t			0.334 (0.230)
Polity score _t			-0.003 (0.008)
Executive corruption _t			0.010 (0.115)
Observations	342	309	256
Countries	38	35	33
Adjusted R2	0.559	0.653	0.694

Table 4: OLS regression with two-way fixed effects and robust standard errors clustered on countries in parentheses. Significance levels: $p < 0.1$, $*p < 0.05$, $**p < 0.01$, $***p < 0.001$.

ing Switzerland as an offshore destination, considering that funds were often pre-routed through Swiss banks to benefit from Swiss banking secrecy. We also use an alternative list of countries dubbed ‘financial sinks’ (Andersen, Johannesen and Rijkers, 2020). As a placebo test, we also consider flows into the United States, which should be an unattractive target for elite capital flight given that the Treasury can sanction financial transactions and freeze the assets of foreign entities in the United States (Bean, 2018; Crippa, 2023; Crippa and Kalyanpur, 2024). In fact, we obtain a negative relationship between Chinese swaps and offshore capital flight into the United States (Table A5).⁴⁰

Finally, we use a counterfactual two-way fixed effects estimator that circumvents the problems of canonical fixed-effects estimation (Liu et al., 2022). The canonical two-way fixed-effects estimator can be biased in the presence of treatment effect heterogeneity, carry-over effects, and treatment reversals (Liu et al., 2022). Our baseline results may be biased given the problem of negative weights, which occurs under staggered treatment adoption and treatment effect hetero-

⁴⁰We also confirm a positive relationship with financial sinks. We do not obtain any significant findings for finances into Switzerland. We suspect that because of greater transparency in recent years, Switzerland is no longer an attractive target for offshore capital flight. Indeed, cases from the Swiss leaks files date back to the period between 1998 and 2008, when HSBC helped clients siphon more than \$100 billion into its subsidiaries’ bank accounts.

geneity, although treatment reversal is less relevant in our setting, given the quasi-absorbing nature of the treatment. The fixed-effects counterfactual estimator addresses this inferential challenge by matching each treated observation with a predicted counterfactual and calculating the average treatment effect using appropriately defined weights (Liu et al., 2022). Using this enhanced estimator, we obtain qualitatively similar results. Focusing on IMF program participation, we appear to find a small positive contemporaneous effect on the OFD share.⁴¹ Focusing on Chinese swap lines, we find a significantly positive effect of the swap line being drawn on the OFD share, which becomes more robust once we balance the sample for IMF program participation (Figure A2).

Threats to inference

A key inferential threat is that offshore capital flight might trigger financial crises requiring countries to seek international financial assistance. To eliminate the possibility of reverse causation, we test whether the offshore capital flight is related to (subsequent) financial crises using our previous model specifications. We find no consistent relationship between (lagged) offshore capital flight and the incidence of a financial crisis (Table A6). Another inferential threat arises from endogeneity due to omitted (unobservable) confounders. Given the difficulty of instrumenting for strategic anticipation effects, our primary strategy to address endogeneity is to exploit situations where government elites are not themselves selecting into international financial assistance. We expect that international financial assistance predicated on natural disasters cannot be anticipated by elites to the same extent as bailouts that elites apply for themselves. There, our posited mechanism would hold only for the latter ones.

Table 5 confirms our expectations, showing that only anticipated IMF programs are consistently related to ex-ante elite capital flight. In contrast, unanticipated IMF programs arising from natural disasters are not consistently linked to capital flight once the models include economic controls. The coefficient estimates for anticipated programs now are larger than in the previous specifications.⁴²

⁴¹Once we balance the sample for participation in Chinese swap lines, we obtain no significant relationship (Figure A1).

⁴²The percentage of deposits held in OFDs is now predicted to increase by up to 2.9 percentage points, equivalent to 20.5% (95%-CI: 7.7%-33.3%).

Anticipated programs, unanticipated programs, and offshore capital flight

	(1)	(2)	(3)
<i>Offshore capital flight</i>			
Disaster-unrelated IMF program $t+1$	0.020* (0.008)	0.028** (0.009)	0.020*** (0.006)
Disaster-related IMF program $t+1$	0.043* (0.019)	0.026 (0.018)	0.008 (0.018)
Total deposits t		-0.019 (0.013)	-0.044*** (0.010)
GDP growth t		-0.027 (0.059)	-0.059 (0.054)
Inflation growth t		-0.002° (0.001)	-0.002° (0.001)
Reserves t		-0.002 (0.001)	-0.001 (0.001)
GDP per capita t			0.079** (0.026)
Polity score t			-0.002 (0.002)
Executive corruption t			0.037 (0.048)
Observations	5412	3651	2975
Countries	202	161	138
Adjusted R2	0.574	0.646	0.565

Table 5: OLS regression with two-way fixed effects and robust standard errors clustered on countries in parentheses. Significance levels: $p < 0.1$, $*p < 0.05$, $**p < 0.01$, $***p < 0.001$.

Table 6 shows similar results with respect to Chinese swap lines. Where ailing governments must draw a Chinese swap line in the context of a natural disaster, we do not see any significant increase in offshore capital flight. However, when governments have drawn Chinese swap lines outside the context of natural disasters, we observe a significant increase in offshore capital flight. The coefficient estimates are larger for anticipated swap line drawings.⁴³

We also probe whether results hold using instrumental variables, addressing concerns about endogeneity. For IMF programs, we construct a compound instrument consisting of the number of countries under IMF programs in a given year and the long-run probability of a country undergoing an IMF program (Forster et al., 2019). During periods of global financial disorder, the Fund should be more likely to provide bailouts given its concern with global financial stability, and IMF bailouts should benefit those countries that are more vulnerable to external shocks as proxied by their likelihood to have an IMF program.⁴⁴ For a compound instrument for Chinese swap lines, we interact the (logged) Chinese US-Dollar reserves with the long-run probability of agreement of a swap line with a given country. The instrument should purge the Chinese swap variable from its

⁴³The percentage of OFD deposits is now predicted to increase by up to 17.0 percentage points, equivalent to 100.6% (95%-CI: 37.2%-163.9%).

⁴⁴An alternative compound instrument using the IMF liquidity ratio was not strong enough to be used (Lang, 2021).

Anticipated swaps, unanticipated swaps, and offshore capital flight

	(1)	(2)	(3)
<i>Offshore capital flight</i>			
Disaster-unrelated swap drawn $t-1$	0.066	(0.057)	0.091 ^o (0.049)
Disaster-related swap drawn $t-1$	0.066	(0.049)	0.118 (0.057)
Total deposits t		0.019	(0.018) 0.011 (0.025)
GDP growth t		0.010	(0.156) 0.045 (0.145)
Inflation growth t		0.002	(0.002) 0.006 (0.004)
Reserves t		-0.011*	(0.004) -0.004 (0.005)
GDP per capita t			0.329 (0.228)
Polity score t			-0.004 (0.009)
Executive corruption t			0.007 (0.116)
Observations	380	342	256
Countries	38	35	33
Adjusted R2	0.516	0.628	0.696

Table 6: OLS regression with two-way fixed effects and robust standard errors clustered on countries in parentheses. Significance levels: $p < 0.1$, $*p < 0.05$, $**p < 0.01$, $***p < 0.001$.

idiosyncratic drivers that might be correlated with offshore financial deposits. We find that both instruments are reasonably strong. Importantly, we corroborate our earlier findings, showing that impending IMF programs and drawn Chinese swap lines increase the share of financial flows into offshore financial destinations (Table A7).

Our final strategy to gain inferential leverage is to increase the temporal resolution of our analyses by using quarterly data (Table A8). We did not present quarterly data in our main analysis because most controls are unavailable. However, the unique benefit of quarterly data is that confounding bias is less likely—especially given that we control for country-fixed effects and quarter-fixed effects. We adapt some of our variables of interest to ensure the correct temporal ordering of events. The share of capital deposits in OFDs and the binary indicators for IMF program participation and Chinese swap line drawings are unchanged but now refer to specific quarters. To pin down the earliest entanglement of IMF officials with government authorities, we rely on new data on the date of the first mission (Ferry and Zeitz, 2024). For Chinese swap lines, we identify the exact quarter in which a country has drawn them. For the annual control variables, we assume they are measured at the end of a given year and interpolate the missing quarters in a linear fash-

ion.⁴⁵ To replicate the results using annual data as closely as possible, we probe the relationship between IMF programs and ex-ante capital flight using a lead of up to four quarters.⁴⁶ For Chinese swap lines, we use up to four lags.⁴⁷

Table 7 shows a modest positive relationship between IMF program onset and elite capital flight. In the fourth quarter leading up to the IMF program, offshore capital flight is estimated to increase by about 1.0 percentage points—a meager 6.2% (95%-CI: 0.8%-11.7%). In Table 8, we present the results for the PBOC swap lines. We find a statistically significant relationship between PBOC swaps and elite capital flight after three quarters.⁴⁸ In the fourth quarter, the share of offshore deposits increased by 7.9 percentage points—an increase of 48.4% (95%-CI: 2.2%-95.0%). Importantly, we can isolate these temporal patterns rather narrowly. Our most demanding specification—presented in the appendix—includes all lags and leads for both GFSN instruments and recovers significantly positive coefficients for future IMF programs and lagged PBoC swaps drawings (Table A12). Given that none of the coefficients outside these lags and leads in the extended lag-lead structure is consistently significant, we are confident that our results can be causally interpreted in line with our theoretical argument. The temporal patterns lend support to the elite capital flight story, given that we cannot think of any confounder that would yield similar patterns.

In the appendix, we submit the quarterly results to additional robustness tests, limiting ourselves to the theoretically relevant lag-lead structure for both types of financial assistance. In particular, our results are similar when excluding high-income economies (Table A13). In addition, our results are similar when using an extended set of control variables (Table A14). Finally, we find no evidence of potential reverse causality, showing that offshore capital flight does not affect the likelihood of (subsequent) financial crises (Table A15). In sum, we find consistent evidence to suggest that the availability of international financial assistance increases elite-driven capital flight

⁴⁵ Different approaches to interpolation yield similar results.

⁴⁶ Table A9 in the appendix shows similar estimates using the full lag-lead structure, which also includes four lags.

⁴⁷ Table A10 in the appendix further includes four lags of an indicator of swap line agreement, which serves as implicit control group given that our theoretical mechanism expects elite theft only when governments have *drawn* a PBoC swap line. We indeed do not find any positive or significant relationship in the swap line agreement.

⁴⁸ We also test a specification with all four leads for both swap line drawing and swap line agreement. We do not find evidence of anticipation effects (Table A11).

IMF program anticipation and elite capital flight using quarterly data

	(1)	(2)	(3)
<i>Offshore capital flight</i>			
IMF program $t+4$	0.009*	(0.004)	0.010* (0.005)
IMF program $t+3$	0.003	(0.002)	0.003 (0.003)
IMF program $t+2$	0.002	(0.002)	0.002 (0.003)
IMF program $t+1$	0.004	(0.002)	0.002 (0.003)
IMF program t	0.006	(0.004)	0.007 (0.005)
Total deposits t	-0.011	(0.011)	-0.020* (0.009)
GDP per capita $t-4$			0.105* (0.042)
Inflation growth $t-4$			-0.000 (0.002)
Reserves $t-4$			-0.002 (0.001)
Financial crisis $t-4$			-0.007 (0.017)
Democracy $t-4$			0.015 (0.016)
Coup d'etat $t-4$			0.018 (0.027)
Ideal-point distance $t-4$			0.007 (0.012)
Refugees $t-4$			-0.000 (0.004)
Observations	13662	8714	8461
Countries	201	158	152
Adjusted R2	0.675	0.751	0.752

Table 7: OLS regression with two-way fixed effects and robust standard errors clustered on countries in parentheses. Significance levels: $p < 0.1$, $*p < 0.05$, $**p < 0.01$, $***p < 0.001$.

into offshore financial destinations. Our results are remarkably consistent, considering qualitatively similar patterns using annual panel data and quarterly analysis.

PBOC swap line and elite capital flight using quarterly data

	(1)	(2)	(3)
<i>Offshore capital flight</i>			
Swap line drawn _t	0.022 (0.023)	0.017 (0.026)	0.020 (0.026)
Swap line drawn _{t-1}	0.020 (0.016)	0.023 (0.016)	0.022 (0.016)
Swap line drawn _{t-2}	-0.011 (0.015)	-0.012 (0.016)	-0.012 (0.016)
Swap line drawn _{t-3}	0.023 [°] (0.013)	0.026 [°] (0.013)	0.028* (0.013)
Swap line drawn _{t-4}	0.054 (0.035)	0.062 [°] (0.035)	0.061 [°] (0.035)
Swap line agreed _t	-0.008 (0.019)	-0.022 (0.020)	-0.025 (0.020)
Swap line agreed _{t-1}	-0.004 (0.008)	-0.002 (0.009)	-0.003 (0.009)
Swap line agreed _{t-2}	0.002 (0.007)	0.006 (0.007)	0.004 (0.007)
Swap line agreed _{t-3}	-0.010 [°] (0.006)	-0.009 (0.006)	-0.010 (0.007)
Swap line agreed _{t-4}	0.001 (0.017)	0.006 (0.018)	0.007 (0.018)
Total deposits _t	-0.007 (0.011)	-0.016 [°] (0.009)	-0.016 (0.010)
GDP per capita _{t-4}		0.088* (0.042)	0.086 [°] (0.044)
Inflation growth _{t-4}		-0.000 (0.002)	-0.000 (0.002)
Reserves _{t-4}		-0.002 (0.001)	-0.002 (0.001)
Financial crisis _{t-4}		-0.005 (0.016)	-0.006 (0.016)
Democracy _{t-4}			0.014 (0.016)
Coup d'etat _{t-4}			0.019 (0.029)
Ideal-point distance _{t-4}			0.009 (0.012)
Refugees _{t-4}			-0.000 (0.004)
Observations	13701	9313	9041
Countries	201	158	152
Adjusted R2	0.681	0.743	0.745

Table 8: OLS regression with two-way fixed effects and robust standard errors clustered on countries in parentheses. Significance levels: $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

4 Conclusion

Building off the empirical puzzle that many crisis-ridden countries are net creditors to the rest of the world, we examine the relationship between IMF programs and elite capital flight. We argue that elite capital flight can be an unintended consequence of the availability of bailout funding. Using mixed methods design, we find evidence of a positive relationship between financial bailouts and elite capital flight—in line with our theoretical expectations. In the context of IMF programs, elites seem to siphon off their wealth into offshore financial destinations before the arrival of the IMF. In the case of PBOC swap lines, elite capital flight happens after the disbursement of bailout funding. Despite these differences, it is the fragmented nature of global financial governance that enables elite capital flight.

As we concentrate on bilateral bank deposits from the BIS, we arguably use a very conservative measure of elite capital flight into offshore financial destinations that underappreciate the true magnitude of these effects. For instance, Collin (2021) analyzing a leaked dataset finds that banks seemingly underreport foreign entities' deposits. Furthermore, as we concentrate on banks, we do not have any information to what extent elites use shadow banks to siphon money into offshore destinations (Ban and Gabor, 2016; Musthaq, 2021). In addition, recent findings indicate that a substantial share of this wealth is re-invested in global equity and housing markets (Allred et al., 2017; Brandt, 2022), rendering a robust estimation of the actual magnitude extremely challenging. Future research using more detailed data—which is not available to researchers—might shed light on these evasive capital outflows and the financial vehicles facilitating these transactions, forming the basis for effective policy measures. Despite these shortcomings, our findings point to a depressing facet of fragmented global financial governance in a globalized financial system: whereas elites can privatize profits and shield their wealth in offshore financial destinations, a country's poor ultimately have to shoulder the costs of this behavior. From a policy perspective, three international-level policy responses stand out. First, policymakers could increase the cost of offshore capital flight by closing financial loopholes in global financial regulation—as long suggested by the related literature on illicit capital flows (Findley, Nielson and Sharman, 2013; Sharman, 2017; Binder, 2019). In particular, as the monitoring and surveillance of financial trans-

actions critically rely on the compliance of globally operating financial institutions (e.g., Morse, 2022),⁴⁹ strengthening international enforcement and regulatory frameworks is essential to close loopholes arising from a lack of financial institutions' compliance with new regulations, digital fund transfer vehicles, and the inconceivably complex web of multinational businesses. Second, the institutional frameworks for accessing bailout funding need to be strengthened. For example, firms and individuals that engage in tax avoidance and 'phantom' FDI schemes might be denied access to bailout funding. To date, "a handful of European governments, including Denmark and France, have barred emergency cash for any companies registered in countries on the EU's list of non-cooperative tax jurisdictions."⁵⁰ Thus, international organizations could require governments to implement similar clauses while also addressing (and redressing) the adverse distributional effects of their policy interventions. Finally, as weak governance and institutional frameworks form the bedrock of elite capital flight, our results hint at the importance of domestic reform measures. Strengthening regulatory oversight mechanisms and institutional reforms to bolster the robustness of financial governance frameworks can have significant positive effects in containing elite capital flight.

⁴⁹Recent whistleblower leaks and the banking scandals involving emerging markets and developing countries (e.g., Tuna Bond Scandal in Mozambique) indicate that current regulatory frameworks need to be strengthened to contain these risks better. The recently published 'U.S. National Strategy for Combating Terrorist and Other Illicit Financing' points in the right direction and provides the basis for significant future upgrades.

⁵⁰"Corporate Bailouts Should Come with Strings." The Financial Times. April 28, 2020.

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Supplementary Appendix

The Unintended Side Effect of the Global Financial Safety Net: Elite Capital Flight

A1 Descriptive Statistics

Descriptive Statistics

Variable	Definition	Obs	Mean	Std Dev	Min	Max
Offshore capital flight	Share of deposits in offshore destinations as of total deposits abroad, drawn from Bank of International Settlements (BIS, 2022). Our list of offshore destinations includes Bahamas, Bahrain, Bermuda, Cayman Islands, Chile, Chinese Taipei, Curacao, Cyprus, Guernsey, Hong Kong, Isle of Man, Jersey, Luxembourg, Macao, Ireland, Panama, Singapore, and Switzerland (Garcia-Bernardo et al., 2017; Damgaard, Elkjaer, and Johannesen, 2019; Andersen, Johannesen, and Rijkers, 2020). For an alternative definition of this variable, used for robustness, we use a list of offshore financial sinks (Garcia-Bernardo et al., 2017) as well as Switzerland based on the fact that elites pre-route funds through Switzerland to benefit from Swiss banking secrecy	5614	0.175	0.169	0.000	1.000
IMF program	Binary indicator for a country being under an IMF program (Kentikelenis, Stubbs and King, 2016)	6125	0.274	0.446	0.000	1.000
Disaster-related program	Binary indicator for a country being under an IMF program that follows a deadly natural disaster. A deadly disaster is one that causes at least 25 deaths. An IMF program is disaster-related if it begins in the year following the disaster. Disaster data come from the EM-DAT database (CRED, 2020)	6264	0.014	0.118	0.000	1.000
Ordinary program	Binary indicator for a country being under an IMF program that does not follow a natural disaster (computed based on all programs and disaster-related programs)	6125	0.268	0.443	0.000	1.000
Total deposits	(Natural logarithm of) total deposits in all reporting destinations, drawn from the Bank of International Settlements (BIS, 2022)	5615	7.992	2.705	0.000	15.472
GDP growth	Annual growth rate (%) of Gross Domestic Product (GDP) (WDI, 2020)	5121	0.020	0.059	-1.050	0.877
Inflation growth	Annual growth of inflation, calculated from consumer price index (WDI, 2020), and hyperbolically transformed	4683	-0.137	1.972	-10.746	10.682
Reserves	Reserves in months of imports (WDI, 2020)	4332	4.415	4.627	0.002	79.237
Financial crisis	Indicator of financial crisis (Laeven and Valencia, 2013)	6264	0.058	0.233	0.000	1.000
GDP per capita	Logged GDP per capita in 2010 constant US Dollars (WDI, 2020)	5166	8.379	1.515	5.102	12.174
Executive corruption	VDem sub-index of executive corruption (https://av-dem.net/weekly_graph/executive-corruption-index) available from QoG dataset (Teorell et al., 2020)	4388	0.512	0.297	0.011	0.979

A2 Robustness Checks

Anticipated bailout and offshore financial deposit share using contemporaneous controls

	(1)	(2)	(3)
IMF program $t+1$	0.019**	(0.008)	0.018***
Total deposits t	-0.015	(0.010)	-0.044***
GDP growth t			-0.056
Inflation growth t			-0.002*
Reserves t			-0.001
Financial crisis t			0.005
GDP per capita t			0.078***
Polity score t			-0.002
Executive corruption t			0.037
Observations	5412	3651	2975
Adjusted-R2	0.580	0.645	0.565

Table A1: Dependent variable is the share of deposits held in offshore destinations. OLS regression with two-way fixed effects and robust clustered errors in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Anticipated bailout and offshore financial deposit share using a more flexible model

	(1)	(2)	(3)
IMF program $_{t+1}$	0.017*** (0.006)	0.018*** (0.007)	0.016*** (0.005)
IMF program $_t$	0.004 (0.006)	0.011 (0.007)	0.007 (0.006)
Total deposits $_t$	-0.015 (0.010)	-0.019 (0.013)	-0.046*** (0.009)
GDP growth $_{t+1}$		-0.030 (0.050)	-0.076 (0.051)
Inflation growth $_{t+1}$		-0.002* (0.001)	-0.002* (0.001)
Reserves $_{t+1}$		-0.001 (0.001)	-0.001 (0.001)
Financial crisis $_{t+1}$		0.003 (0.010)	0.005 (0.009)
GDP per capita $_{t+1}$			0.081*** (0.024)
Polity score $_{t+1}$			-0.002 (0.002)
Executive corruption $_{t+1}$			0.037 (0.048)
Observations	5412	3695	2895
Adjusted-R2	0.580	0.638	0.569

Table A2: Dependent variable is the share of deposits held in offshore destinations. OLS regression with two-way fixed effects and robust clustered errors in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Anticipated program onset and offshore capital flight

	(1)	(2)	(3)
IMF program onset _{t+1}	0.021** (0.009)	0.020** (0.010)	0.017* (0.009)
Total deposits _t	-0.008 (0.011)	-0.019 (0.014)	-0.041*** (0.011)
GDP growth _{t+1}		0.015 (0.049)	-0.057 (0.048)
Inflation growth _{t+1}		-0.001 (0.001)	-0.002 (0.001)
Reserves _{t+1}		-0.000 (0.002)	-0.000 (0.001)
Financial crisis _{t+1}		0.014 (0.009)	0.011 (0.008)
GDP per capita _{t+1}			0.095*** (0.026)
Polity score _{t+1}			-0.003 (0.002)
Executive corruption _{t+1}			0.016 (0.055)
Observations	4027	2706	2018
Adjusted-R2	0.598	0.662	0.549

Table A3: Dependent variable is the share of deposits held in offshore destinations. OLS regression with two-way fixed effects and robust clustered errors in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Anticipated bailout and offshore financial deposit share excluding high-income economies

	(1)	(2)	(3)
IMF program $t+1$	0.021***	0.027***	0.021***
Total deposits t	-0.011	-0.018	-0.046***
GDP growth $t+1$		-0.036	-0.069
Inflation growth $t+1$		-0.002*	-0.002*
Reserves $t+1$		-0.001	0.000
Financial crisis $t+1$		0.002	0.003
GDP per capita $t+1$			0.074***
Polity score $t+1$			-0.002
Executive corruption $t+1$			0.037
Observations	4184	2952	2362
Adjusted-R2	0.574	0.634	0.557

Table A4: Dependent variable is the share of deposits held in offshore destinations. OLS regression with two-way fixed effects and robust clustered errors in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Anticipated bailout and offshore financial deposit share into Switzerland

	(1)	(2)	(3)
IMF program $t+1$	0.010	(0.006)	(0.007) 0.014** (0.005)
Total deposits t	-0.039***	(0.010)	(0.011) -0.035*** (0.006)
GDP growth $t+1$		-0.053	(0.043) -0.077* (0.043)
Inflation growth $t+1$		-0.001	(0.001) -0.001* (0.001)
Reserves $t+1$		-0.001	(0.001) -0.001 (0.001)
Financial crisis $t+1$		-0.005	(0.009) -0.007 (0.008)
GDP per capita $t+1$			0.029* (0.016)
Polity score $t+1$			-0.002 (0.001)
Executive corruption $t+1$			0.001 (0.039)
Observations	5201	3628	2846
Adjusted-R2	0.620	0.717	0.695

Table A5: Dependent variable is the share of deposits held in Switzerland. OLS regression with two-way fixed effects and robust clustered errors in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Placebo check: Anticipated bailout and offshore financial deposit share into US/UK

	(1)	(2)	(3)
IMF program $t+1$	-0.024** (0.011)	-0.024* (0.013)	-0.019* (0.012)
Total deposits t	0.001 (0.011)	0.006 (0.016)	0.037** (0.018)
GDP growth $t+1$		0.130** (0.060)	0.186** (0.072)
Inflation growth $t+1$		0.002 (0.001)	0.002 (0.001)
Reserves $t+1$		0.008*** (0.002)	0.007*** (0.002)
Financial crisis $t+1$		0.012 (0.013)	0.005 (0.014)
GDP per capita $t+1$			-0.052 (0.044)
Polity score $t+1$			-0.000 (0.002)
Executive corruption $t+1$			-0.005 (0.061)
Observations	5412	3695	2895
Adjusted-R2	0.675	0.703	0.728

Table A6: Dependent variable is the share of deposits held in Switzerland. OLS regression with two-way fixed effects and robust clustered errors in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

A3 Inferential Threats

Offshore capital flight does not trigger financial crises

	(1)	(2)	(3)
Offshore capital flight _{t-1}	0.043 (0.040)	0.040 (0.055)	0.069 (0.087)
Total deposits _t	0.025*** (0.009)	0.033*** (0.012)	0.050** (0.021)
GDP growth _t		-0.871*** (0.233)	-0.834*** (0.249)
Inflation growth _t		0.002 (0.003)	0.003 (0.004)
Reserves _t		-0.010** (0.004)	-0.011** (0.005)
GDP per capita _t			-0.071 (0.052)
Polity score _t			-0.002 (0.004)
Executive corruption _t			-0.077 (0.069)
Observations	5575	3789	2974
Adjusted-R2	0.128	0.171	0.173

Table A7: Dependent variable is financial crisis. OLS regression with two-way fixed effects and robust clustered errors in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Unanticipated bailouts do not lead to offshore capital flight

	(1)	(2)	(3)
IMF program $_{t+1}$	0.027*** (0.010)	0.035*** (0.011)	0.028*** (0.007)
Natural disasters (Interaction)	0.008 -0.022** (0.011)	0.011* -0.027** (0.011)	0.008 -0.020** (0.009)
GDP growth $_{t+1}$		-0.028 (0.049)	-0.077 (0.050)
Inflation growth $_{t+1}$		-0.002* (0.001)	-0.002* (0.001)
Reserves $_{t+1}$		-0.001 (0.001)	-0.001 (0.001)
Financial crisis $_{t+1}$		0.004 (0.010)	0.005 (0.009)
GDP per capita $_{t+1}$			0.081*** (0.024)
Polity score $_{t+1}$			-0.002 (0.002)
Executive corruption $_{t+1}$			0.039 (0.048)
Observations	5412	3695	2895
Adjusted-R2	0.580	0.639	0.569

Table A8: Dependent variable is the share of deposits held in offshore destinations. OLS regression with two-way fixed effects and robust clustered errors in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

IMF bailout leads to offshore capital flight when considering the endogeneity of IMF programs to weak fundamentals of the borrowing country

	(1)	(2)	(3)
<i>Offshore capital flight_t</i>			
IMF program _{t+1}	-0.001	-0.073	0.088***
Total deposits _t	-0.015	-0.025	-0.046***
GDP growth _{t+1}		-0.050	-0.059
Inflation growth _{t+1}		-0.002**	-0.001
Reserves _{t+1}		-0.002	-0.000
Financial crisis _{t+1}		0.022	-0.006
GDP per capita _{t+1}			0.079***
Polity score _{t+1}			-0.002
Executive corruption _{t+1}			0.025
<i>IMF program_{t+1}</i>			
Compound instrument	-0.081**	-0.109**	-0.135***
Total deposits _t	0.064***	0.039	0.111**
GDP growth _{t+1}	-0.026*	-0.044*	-0.046
Inflation growth _{t+1}		-0.256*	-0.018
Reserves _{t+1}		-0.010**	-0.007
Financial crisis _{t+1}		-0.005	-0.007*
GDP per capita _{t+1}		0.180***	0.149***
Polity score _{t+1}			-0.341***
Executive corruption _{t+1}			0.000
Observations	5412	3695	2895
F-statistic	4.873	4.824	7.242
Adjusted-R2	0.580	0.638	0.568

Table A9: Dependent variables are the share of deposits held in offshore destinations in the outcome stage and the IMF program in the first stage. Compound instrument refers to the interaction between the logged IMF liquidity ratio and the long-run probability of a country under an IMF program (Lang 2020). Significance levels: * $p < 0.1$, ** $p < 0.05$, * $p < 0.01$.**

	(1)	(2)	(3)
IMF program $t+4$	0.009** (0.004)	0.009** (0.004)	0.009** (0.004)
IMF program $t+3$	0.003 (0.002)	0.002 (0.003)	0.002 (0.003)
IMF program $t+2$	0.001 (0.002)	0.002 (0.002)	0.002 (0.002)
IMF program $t+1$	0.004** (0.002)	0.003 (0.003)	0.003 (0.003)
IMF program t	0.006 (0.004)	0.006 (0.004)	0.006 (0.004)
Total deposits t	-0.011 (0.011)	-0.020** (0.009)	-0.020** (0.009)
GDP growth $t+4$		0.104** (0.042)	0.102** (0.044)
Inflation growth $t+4$		-0.000 (0.002)	-0.001 (0.002)
Reserves $t+4$		-0.002 (0.001)	-0.002 (0.002)
Financial crisis $t+4$		-0.007 (0.017)	-0.008 (0.016)
GDP per capita $t+4$			0.015 (0.017)
Polity score $t+4$			0.018 (0.027)
Executive corruption $t+4$			0.007 (0.012)
Observations	13662	8714	8461
Adjusted-R2	0.675	0.750	0.752

Table A10: Dependent variable is the share of deposits held in offshore destinations. OLS regression with two-way fixed effects and robust clustered errors in parentheses. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.