



Crash for cash: Offshore financial destinations and IMF programs

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ABSTRACT

A growing body of literature scrutinizes the harmful consequences of capital flight to offshore financial destinations. While financial integration is a well-known facilitator of capital flight, we shed light on an under-appreciated determinant—the availability of an IMF bailout. Expanding on previous literature analyzing moral hazard in the context of IMF programs, we introduce a socially even more destructive mechanism that we label the ‘crash for cash’ effect. We argue that by drawing on the IMF, elites can benefit from accumulating excessive debt to extract rents and hide these safely in offshore financial destinations while steering their countries into financial disaster. To test this mechanism, we show that elite wealth in offshore bank accounts has a first-order impact on a captured government’s willingness to draw on a lender of last resort. From a policy perspective, our analysis underscores the importance of closing financial loopholes to mitigate the devastating socio-economic effects of sophisticated financial engineering in a financially integrated global economy.

1. Introduction

Capital flight is a key obstacle to sustainable development. While policymakers often point the finger at financial investors, in many cases, well-connected *local elites* drive capital flight into offshore financial destinations. These elites plunder the wealth of their countries and expatriate assets into safe havens (Jayachandran and Kremer, 2006; Garcia-Bernardo et al., 2017; Andersen et al., 2020).¹ Depriving a country of investible capital can lead to a loss of tax revenues and rising inequality, to the effect that elite capital flight ultimately undermines macroeconomic stability (Alesina and Tabellini, 1989; Ndikumana et al., 2014; Frantz, 2018): notwithstanding its ethical status, such behavior undermines the quality of governance, furthering endemic corruption and crony business practices that amplify financial vulnerabilities (Cerra et al., 2008; Meierrieks and Schneider, 2021).

Previous literature analyzing the determinants of elite capital flight identifies dysfunctional governance frameworks that provide a fertile breeding ground for criminal activities such as embezzlement, trade misinvoicing, and tax evasion (for a review, see Cooley

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et al. (2018)). Weak institutions facilitate capital flight because they allow wealthy elites to move embezzled funds abroad without punishment (Collier et al., 2001; Ndikumana and Boyce, 2003; Le and Rishi, 2006).

We shift attention to a hitherto neglected aspect in the debate on capital flight—the availability of a ‘Global Financial Safety Net’ (GFSN) (Drezner and McNamara, 2013; Scheubel and Stracca, 2019; Schneider and Tobin, 2020) and specifically bailout funding from the International Monetary Fund (IMF) as the most important international institution in this financial safety net. Our inquiry is motivated by the fact that many IMF borrowing countries are *net creditors* to the rest of the world. These countries register a substantial share of funds located in offshore financial destinations.²

We believe that this association is not coincidental. We argue that a captured government can benefit from accumulating excessive debt to extract rents and hide these in offshore financial destinations while allowing their nations to drive toward financial disaster. We label this phenomenon as the ‘cash for crash’ effect. Anecdotal evidence highlights several cases where governments “have borrowed from abroad, expropriated the funds for personal gain, and left the debts to the population” (Jayachandran and Kremer, 2006, 34). As a result, countries have weakened economic fundamentals that increase their vulnerability to economic shocks. In such cases, the Fund is often the only viable option to obtain crisis relief and restore market confidence. Our argument has the empirically testable implication that offshore capital flight increases the likelihood of a subsequent IMF program.

We also derive conditions under which this mechanism is more pronounced. Our theoretical framework predicts that the relationship between capital flight and IMF programs is more salient under circumstances of high corruption, natural resources, and an impending regime breakdown. In these cases, elites have high-powered incentives for rent extraction. At the same time, the institutional mechanisms for punishing the embezzlement of public assets are less effective. Another important implication of our argument is that governments will likely accept a ‘whatever-it-takes’ number of conditions, given that the durable effects of a bailout are shouldered not by the elites but by ordinary citizens.

To test these theoretical predictions, we rely on a dataset comprising 162 countries between 2000 and 2018. In contrast to prior analyses on capital flight—which primarily rely on export misinvoicing measures—we are particularly interested in capital flight into offshore financial destinations.³ To measure capital flight, we use data on bilateral banking ties from the Bank of International Settlements (BIS, 2020). We specifically isolate the capital outflows of a potential IMF client country into a selected set of offshore tax havens.⁴ By focusing on these jurisdictions, we likely capture the financial transactions of country elites rather than the capital flows related to international trade and foreign direct investments (Zucman, 2015; Alstadsæter et al., 2019; Andersen et al., 2020).

Using a variety of methodological approaches, including instrumental variables, our regression results indicate that an increase in elite capital flight into offshore financial destinations by one standard deviation increases the predicted probability for an IMF program by up to 8.4% ($p < 0.05$). Strikingly, this financial rescue tends to come with more strings attached: a one-standard-deviation increase in offshore elite wealth is associated with at least 1.5 more binding conditions in an IMF program ($p < 0.05$). These results withstand a battery of robustness checks. Importantly, we demonstrate that the relationship disappears in financial crises in which the Fund is not involved, and hence no bailout mechanism is invoked.

Our research extends existing knowledge of the dynamics of capital flight (Pepinsky, 2014; Zucman, 2015; Boyce and Ndikumana, 2017; Steiner et al., 2019). Previous studies on capital flight have focused on its institutional and political driving forces (Frantz, 2018; O'Donovan et al., 2019; Bayer et al., 2020; Kalyanpur and Thrall, 2022), underlying illicit financial activities (Reuter, 2017; Bean, 2018; Kubinec and Pandya, 2019; Collin, 2020; Meierrieks and Schneider, 2021), and the behavioral mechanics of tax evasion and illicit financial flows (Allred et al., 2017; Sharman, 2017; Bruno, 2019; Morse, 2022). Our study builds on the political economy literature on foreign aid, which has long noted that significant amounts of aid get wasted due to corruption (Winters and Martinez, 2015; Heinrich and Kobayashi, 2020). Our study complements this literature by focusing on offshore capital flight as a related local corruption pattern, following the lead of two recent studies. One finds evidence for rerouting World Bank aid into offshore financial destinations (Andersen et al., 2020), while another finds no evidence for offshore capital flight in the context of IMF programs (Aiyar and Patnam, 2021). In contrast to these works, we concentrate on *ex-ante* elite capital flight as part of a ‘crash for cash’ mechanism.

Concerning the literature on IMF programs, we complement previous research that analyzes the dynamic interaction between international financial players, governments, and the Fund (Gould, 2003; Broz and Hawes, 2006; Chwieroth, 2009; Guisinger et al., 2016; Chapman et al., 2017; Rickard and Caraway, 2019; Ferry and Zeitz, 2021). While there is an ongoing debate about whether IMF bailouts catalyze foreign investment and global financial integration (Chapman et al., 2017; Breen and Egan, 2019; Gehring and Lang, 2020), little is known about the destination of elite capital flight and its impact on the likelihood of IMF programs and the terms of such programs. Here, our findings support that capital flight into offshore financial destinations is important in predicting an IMF program.

From a policy perspective, our findings underscore an under-appreciated facet of offshore elite capital flight. While our findings undergird the usefulness of global (coordinated) efforts to close financial loopholes and pressure financial institutions and tax havens to adopt greater transparency, they also highlight the need to strengthen the Fund's capacity and mandate to support member countries' efforts to enhance fiscal transparency and upgrade their governance frameworks.

² Although the exact amount of these funds is unknown, global elites' estimated wealth in these jurisdictions is estimated to reach up to \$36 trillion (Shaxson, 2019).

³ For a survey on available definitions and statistical methods measuring capital flight, see, for instance, Ndikumana et al. (2014).

⁴ These 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.

2. Background and hypotheses

Globalization has intensified cross-border flows of capital. While capital inflows have brought development opportunities (Alfaro et al., 2010; Pinto and Zhu, 2016; Bunte, 2019), they have also increased the vulnerability of countries to global shocks (Tomz, 2007; Frieden, 2016; Steiner et al., 2019; Mosley, 2020). A key concern is that sudden stops of capital inflows and short-term capital flight undermine the exchange rate, resulting in balance of payments crises (Dreher and Walter, 2010; Gourinchas and Obstfeld, 2012; Walter, 2013). In these situations, IMF programs provide much-needed financial relief. For IMF policymakers, the success of these programs hinges on restoring market confidence and catalyzing capital inflows (Gehring and Lang, 2020; Breen and Egan, 2019).

While capital flows can originate from many sources—portfolio investors, multinational enterprises, and sovereign financiers—we are particularly interested in capital outflows into offshore financial destinations, such as the Bahamas, Cayman Islands, Hong Kong, and Panama (Alstadsæter et al., 2019; Andersen et al., 2020; Aiyar and Patnam, 2021). Known for their secrecy, these destinations make it difficult to identify the owner of offshore funds, freeze assets, and repatriate assets even if there is good reason to believe that they originate from corrupt dealings (Sharman, 2017; Allred et al., 2017; Collin, 2020). Therefore, these destinations are attractive locations for harboring the wealth of a nation's elites (Zucman, 2015; Alstadsæter et al., 2019; Andersen et al., 2020). From here on, we refer to 'elite capital flight' as the capital deposits in offshore financial destinations.⁵

Aside from potential ethical issues involved, elite capital flight into offshore financial destinations is a significant development challenge. Depriving a country of investible capital, it can lead to a loss of tax revenues, ballooning public debt, and rising inequality, ultimately increasing macroeconomic vulnerabilities (Alesina and Tabellini, 1989; Ndikumana et al., 2014; Frantz, 2018; Collin, 2020). Examining its determinants, the existing literature focuses on dysfunctional governance frameworks that provide a fertile breeding ground for embezzlement, trade misinvoicing, and tax evasion, thereby further aiding and abetting corruption and crony business practices (Collier et al., 2001; Le and Rishi, 2006; Boyce and Ndikumana, 2017; O'Donovan et al., 2019; Bayer et al., 2020; Kalyanpur and Thrall, 2022).

Given that financial markets in many developing countries are underdeveloped, external debt from global capital markets is an important source of finance (Mosley, 2013; Bunte, 2019; Ballard-Rosa et al., 2021).⁶ When countries pile up large amounts of foreign debt to fund government operations and domestic investment (Ndikumana and Boyce, 2003; Ndikumana et al., 2014; Goldsmith, 2020), starved fiscal spaces render these nations vulnerable to adverse economic shocks. These vulnerabilities increase further when international debt inflows are misappropriated and deposited abroad, as in the case of many African economies (Boyce and Ndikumana, 2017). To illustrate this point, consider the case of Equatorial Guinea. Finding itself in economic woes—due to declining oil export receipts—the country unlocked a \$40 million bail-out loan from the IMF in 2018. According to estimates of the US Treasury, this amount is what "[President] Obiang's oldest son and vice-president, Teodoro Nguema Obiang Mangue, spent between 2000 and 2011 buying luxury properties on four continents and assets including Michael Jackson memorabilia".⁷ Similarly, Jayachandran and Kremer (2006, 34) document several instances where governments "have borrowed from abroad, expropriated the funds for personal gain, and left the debts to the population".

Our key premise is that elites can benefit from accumulating debt to extract rents and hide these in offshore financial destinations while steering a country toward financial disaster.⁸ Here, we expand on existing literature and argue that the ability of elites to siphon funds into offshore accounts allows them to misappropriate funds, privatize the benefits of these transactions, and rollover costs of financial turmoil to an international lender of last resort and society writ large. When elites embezzle borrowed funds, the adverse social costs of this hazardous behavior far exceed the effects of moral hazard behavior. As a result, we argue that the ability to tap an international lender of last resort allows one to embezzle borrowed funds and leave investors in debt overhang (for a related argument, see Akerlof and Romer (1993)). In our case, it is a country's elites leaving citizens at the mercy of an international lender of last resort.⁹

⁵ To be clear, we do not claim that elite capital flight constitutes an illegal or criminal act. Instead, we apply a broad definition of illicit financial flows that encompasses "unethical acts that are deemed to be formally lawful" (Musselli and Bürgi Bonanomi, 2020, 3). In line with substantial literature on illicit financial flows (Collin, 2020; Musselli and Bürgi Bonanomi, 2020; Brandt, 2022), elite capital flight—being a part of our proposed 'cash for crash' mechanism can be considered to fall into the category of illicit financial flows.

⁶ For instance, Bunte (2019) provides an extensive overview of financial arrangements through which developing and emerging market economies borrow in international financial markets.

⁷ "World's Longest-Serving Ruler Must Reveal His Assets for an IMF Bailout". Bloomberg, December 26, 2019.

⁸ We do not explicitly model elite capture and thus do not account for the heterogeneity of actors involved (O'Donovan et al., 2019; Bayer et al., 2020; Kalyanpur and Thrall, 2022). Recently leaked documents in the Panama/Paradise papers, FinCen Leaks, and Swiss Leaks, as well as research based on these sources, indicate that the beneficiaries of these financial accounts are "royals, presidents, prime ministers, ministers, political leaders, public bureaucrats, and elites" (Bhuiyan, 2022, 2). Our reading of the existing literature supports the notion that it is only insiders (individuals with direct or close ties to a government) that (a) can act on the information about an incoming IMF program and (b) can circumvent—when necessary—existing capital controls.

⁹ An implicit assumption is that international lenders are playing along. There are several reasons to believe this is the case. First, private investors can often charge above-market interest rates and further benefit when they become the vehicle for elite capital flight (Reuter, 2017; Bean, 2018; O'Donovan et al., 2019). Relying on leaked documents from the so-called FinCEN files, a group of investigative journalists estimates that global banks have helped to move more than \$2 trillion of elite wealth into offshore financial accounts. As an illustrative example, they report that JP Morgan "moved money for people and companies tied to the massive looting of public funds in Malaysia, Venezuela, and Ukraine (ICJ2020)". Second, even official lenders often pursue political goals in lending relationships and consequently override red flags allowing governments to accumulate substantial foreign debt (Stone, 2002; Copelovitch, 2010; Kern and Reinsberg, 2022). Besides providing direct loans, donors might back up funds by issuing implicit and explicit guarantees incentivizing private investors to lend.

To illustrate this mechanism, consider the case of Tajikistan. In November 2007, a World Bank representative—in an off-the-record conversation—commented that President “Rahmon now knows he is going to have to request the instrument—the International Monetary Fund’s Poverty Reduction and Growth Facility program”.¹⁰ It was not until March 2009 (or five quarters later) that the Tajik government officially submitted its letter of intent to request financing through this instrument.¹¹ From the last quarter of 2007 to the first quarter of 2008, Tajikistan’s bank deposits in offshore financial destinations rose by more than \$222 million. To put these numbers into context: Capital flight was almost double the amount of the IMF bailout loan of \$116 million in March 2009. We believe that the case of Tajikistan is not the exception but reflects a common pattern. Our first hypothesis reads as follows:

Hypothesis 1: Elite capital flight increases the likelihood that a country will enter into an agreement for an IMF program.

There are several reasons why the Fund is playing along despite knowing about these perverse incentives. First, it is not the IMF that initiates the negotiations but is approached by the leadership of a country seeking financial or technical assistance (Stone, 2004; McDowell, 2016; Lipsy and Lee, 2019). Second, given the consequences of full-fledged sovereign default (Kaplan and Shim, 2020; Walter, 2013; Shea and Poast, 2018; Borensztein and Panizza, 2009), the IMF is rarely declining bailout requests. In particular, when governments agree to a ‘what-ever-it-takes’ number of loan conditions, the Fund is not inclined to turn away authorities seeking financial relief (Bird, 2007; McDowell, 2016).

We argue that IMF-borrowing countries whose elites have siphoned off money into offshore financial destinations will face a ‘higher-than-usual’ number of loan conditions. This prediction is based primarily on demand-side considerations but is also consistent with supply-side considerations that play a secondary role.

From a demand side, we argue that government elites who have funneled their wealth into safe havens have no more stakes in the financial well-being of their countries.¹² They will therefore be ready to accept a higher number of conditions and socialize adjustment costs on the population. As a direct consequence of elite capital flight, countries face aggravated macro-financial vulnerabilities and limited capacities for debt repayment. Therefore, they must call upon the Fund in a financially worse situation than without offshore capital flight, having limited financial breathing space when entering negotiations with the Fund. The need for such governments to reach a rapid agreement on an IMF bailout undermines their bargaining power, forcing them to accept a higher-than-usual number of conditions (Ferry and Zeitz, 2021).

From a supply side, the IMF is forced to demand more conditions and deeper adjustment to ease pressures on the balance of payments and the exchange rate as a result of offshore capital flight (Kern et al., 2019). While the Fund may suspect that financial troubles were due to offshore capital flight, it cannot seize offshore wealth but only prevent future misdealing by requiring more transparency and closing shadow accounts (Hyde and OMahony, 2010; Brown, 2022; Kern and Reinsberg, 2022). Based on these insights, we formulate the following hypothesis:

Hypothesis 2: Elite capital flight is associated with a greater number of IMF loan conditions.

Our theory has additional observable implications. We anticipate that the linkage between *ex-ante* capital flight and IMF bailouts is more pronounced under three conditions.

First, weak institutions make it easier for political and business groups to infiltrate the policymaking process and evade capital controls (Kang, 2002; Méon and Sekkat, 2005; Aleksynska and Havrylchyk, 2013). Furthermore, institutional weaknesses form a comfortable breeding ground for all sorts of criminal activities (Bruno, 2019), effectively functioning as a trigger for investors to deposit their profits in offshore accounts for safekeeping (Hessami, 2014; Sharman, 2017; Binder, 2019). An empirical implication is that elite capital flight should be more pronounced in countries with relatively closed capital accounts. In these countries, only well-connected elites can evade these controls (Pond, 2018).

Second, elites have greater opportunities to siphon off rents in countries with a greater abundance of natural resources. This increases incentives for elite capital flight. The greater vulnerability to economic shocks of resource-based economies is an amplifying factor. These economies are less diversified and thus are more likely to run into balance-of-payments crises during global commodity price downturns (Hlaing and Kakinaka, 2018). In many instances, elites have siphoned out remaining capital buffers so that these countries have to turn to the IMF as a lender of last resort (Goes, 2022). For instance, in the case of Angola in 2008, the Fund’s auditors could not locate the whereabouts of \$4.2 billion that Sonangol transferred into offshore escrow accounts, and the government could not provide receipts for spending \$32 billion.¹³ Existing research supports the notion that vast portions of this money were siphoned into elite bank accounts in offshore financial destinations (Salah Ovdia, 2018; Ferreira and Soares de Oliveira, 2019).

Finally, elite capital flight is likely at the end of a government’s tenure. As crony business practices critically depend on the intimate linkages between a wealthy elite and the government in office (Sharman, 2017), the elite capital flight effect around IMF programs is most pronounced at the end of a political regime. To illustrate this point, consider the case of Indonesia. Before Suharto’s resignation in 1998, “his friends and children exported several billion dollars [...] as the political and economic crisis worsened” (Hale, 1998, 10).

¹⁰ “Weekend Update on Tajik Liquidity Crisis”. Wikileaks. Cable ID 07DUSHANBE1589_a.

¹¹ “Republic of Tajikistan: Letter of Intent, Memorandum of Economic and Financial Policies, and Technical Memorandum of Understanding”. March 31, 2009.

¹² Building on a substantial literature on leader tenure in the context of IMF programs (Bienen and Gersovitz, 1985; Dreher et al., 2012; Kern et al., 2022) find that countries’ governments in which elites harbor more deposits in offshore financial destinations are more likely to leave office and move into exile after the onset of an IMF program.

¹³ Angola--FifthReviewUndertheStand-ByArrangement,IMF,December1,2011.

3. Research design

3.1. Data

To test our hypotheses, we construct a dataset comprising 162 countries between 1980 and 2018.¹⁴ Our outcome is a binary variable indicating whether a country is under an IMF program. As a narrow reading of our argument would limit our mechanism to the initial decision to implement an IMF program, we verify that a drop in all IMF program observations other than the first year of a respective IMF program does not affect our results.¹⁵ We believe our current operationalization is sensible because elites may well consider before every IMF program review whether or not to continue an ongoing IMF program as a function of whether they have expatriated their financial assets. Moreover, we count the total number of binding conditions, which includes prior actions, quantitative performance criteria, and structural performance criteria. Both pieces of information are available from the IMF Monitor Database (Kentikelenis et al., 2016). To maximize the sample period, we updated the list of IMF programs based on publicly available data through 2018.

To measure capital flight, we use data on direct cross-border capital flows in the form of private bilateral bank deposits, which we coded from the Bank of International Settlements databases (BIS, 2020). A key advantage of our measure is that we can isolate *de facto* bank transactions instead of relying on measures related to trade misinvoicing or a statistical residual in a country's balance of payments.¹⁶ Given that the lion's share of bank deposits in offshore financial destinations belongs to a country's elites (e.g., Alstadsæter et al., 2019), we can capture elite wealth and not government transactions or bank deposits of the general population. In support of our claim, Alstadsæter et al. (2019, 2074)—relying on leaked banking data for a sample of Scandinavian individuals—report that “the top 0.01 percent of the wealth distribution owns about 50 percent” of the wealth hidden in these offshore financial accounts.¹⁷

Using this data source, we construct our measure of elite capital flight in three steps. First, we aggregate a country's reported bank deposit amounts in 18 selected offshore financial destinations that are commonly considered ‘tax havens’ (Garcia-Bernardo et al., 2017; Damgaard et al., 2019; Coppola et al., 2020). As destination countries, we selected the Bahamas, Bahrain, Bermuda, Cayman Islands, Chile, Chinese Taipei, Curacao, Cyprus, Guernsey, Hong Kong, Isle of Man, Jersey, Luxembourg, Macao, Ireland, Panama, Singapore, and Switzerland. A distinct advantage of restricting our sample to banking deposits in these jurisdictions—as opposed to analyzing all countries at once—is that we capture capital flight derived not from ‘real’ economic activity but from wealthy individuals and firms seeking a safe haven (Zucman, 2015).¹⁸ We scale the sum of these capital flows by Gross Domestic Product (GDP). We source GDP data from the Penn World Tables because they have the largest coverage for our sample (Feenstra et al., 2015). Furthermore, to mitigate concerns that we are merely picking up endogenous trends in international financial markets and not the dynamic nature of ‘exiting’ capital, we analyze deviations of these banking transactions from the country mean instead of taking the absolute values.

To eliminate confounding bias, we include a battery of controls that we organize in three sets.

The first is a minimal set of control variables, which includes aggregate capital outflows obtained from adding up the annual capital flows reported by all 48 destination countries in the BIS database (BIS, 2020), and country-fixed effects and year fixed effects.¹⁹ Incorporating aggregate capital outflows is important to mitigate concerns that we are picking up an episode of rapid capital outflows.

The second is our baseline set of macroeconomic controls, including log-transformed GDP per capita, the (logged) inflation rate,²⁰ reserves in months of imports (WDI, 2020), and a binary indicator for financial crisis (Laeven and Valencia, 2020). Previous studies have used these economic variables to predict IMF programs (Vreeland, 2003; Nooruddin and Simmons, 2006; Moser and Sturm, 2011). We include the financial crisis indicator because countries are more likely to turn to the Fund during periods of crisis but are also likely to suffer abrupt money outflows (Beeson and Broome, 2008).

The third set of controls captures political factors. In particular, we include a binary indicator of democracy (Coppedge et al., 2008), available from the IPE dataset (Graham and Tucker, 2019). We also include a binary indicator for the incidence of any coup d'états (Powell and Thyne, 2011), as political instability may increase the likelihood of capital flight as well as the need for IMF assistance (Collier et al., 2001). Furthermore, we measure the UN General Assembly voting alignment with the G7 countries (Bailey et al., 2015). UN voting patterns—viewed as a proxy for geostrategic alignment—are known to predict IMF programs (Dreher et al., 2015), but may also relate to financial outflows to G7 countries. Our final control variable is the (logged) number of nationals residing abroad as refugees, asylum-seekers, and humanitarian migrants (UNHCR, 2020). The rationale for including this variable

¹⁴ We exclude high-income economies, which have not been under IMF programs and to which our posited mechanism does not apply.

¹⁵ We report the results in Table A2. These models do not include a lagged dependent variable because the series no longer exhibits serial correlation.

¹⁶ For a survey of competing measures, see, for instance, Ndikumana et al. (2014), Collin (2020).

¹⁷ There is substantial evidence that a country's economic elites benefit from offshore financial schemes. Similarly, existing explorations of the Panama and Paradise papers indicate that wealthy economic elites benefit from these financial schemes. O'Donovan et al. (2019), Bayer et al. (2020), Collin (2020), and Kalyanpur and Thrall (2022) analyzing leaked documents arrive at a similar conclusion. Furthermore, single-country case studies confirm these results (Binder, 2019; Cooley et al., 2018; Londoño-Vélez and Ávila-Mahecha, 2021). For instance, Londoño-Vélez and Ávila-Mahecha (2021) analyzing Colombian tax data confirm that a country's elites own offshore financial accounts.

¹⁸ Our results are robust to variations in the set of tax-haven countries (Table A3, A4), such as using only Switzerland and the 16 tax-haven countries identified by Andersen et al. (2020).

¹⁹ As discussed below, country-fixed effects can be approximated by correlated random effects in the context of probit-type models.

²⁰ To avoid generating missing values for negative inflation rates, we apply a hyperbolic transformation.

Capital flight around IMF programs using quarterly data

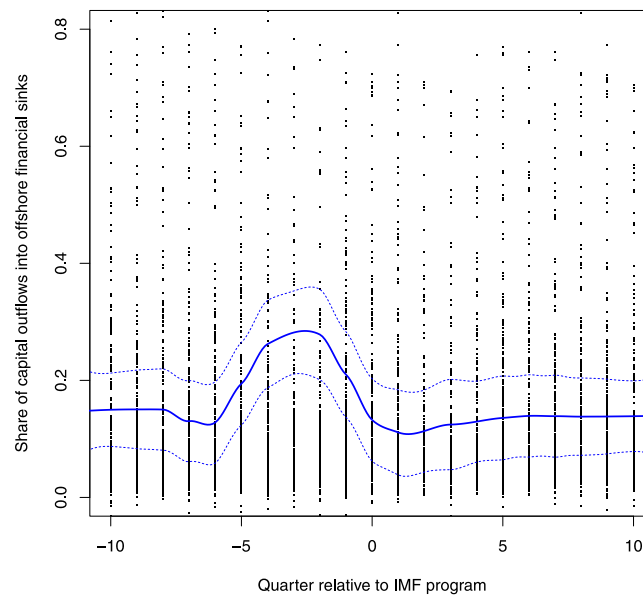


Fig. 1. The illustration shows the local polynomial fit of capital outflows to tax havens around all 322 IMF program onsets in the sample period.

is that it helps us dismiss a potential alternative explanation whereby cross-border movements of natural persons would account for capital flight.²¹ We include the descriptive statistics and further information on data sources in the supplementary appendix (Table A1).

3.2. Empirical model

The appropriate statistical model to test the relationship between capital flight and IMF programs is a time-homogeneous Markov model—a probit-type model with a lagged dependent variable that captures the multi-annual nature of these programs and the tendency of most borrowing countries to be repeat borrowers (Vreeland, 2003). We also include random intercepts for countries as well as the country-specific means of all predictors to allay concerns about non-zero covariance between the predictors and the random intercept (Wooldridge, 2005; Skrondal and Rabe-Hesketh, 2014; Albarran et al., 2019). Our empirical model is an advancement over simple probit models as the predominant choice in the related literature (Nooruddin, 2010; Moser and Sturm, 2011; Vreeland, 2003).²² Formally, our simplest empirical model can be expressed as follows:

$$\Pr(y_{it}|y_{i,t-1}, k_{it}, X_{it}, u_i) = \Phi(y_{i,t-1}\alpha + k_{it}\beta + X_{it}\gamma + u_i + \phi_t + \varepsilon_{it}) \quad (1)$$

where $\Pr(y_{it})$ is the probability that a country is under an IMF program, as a function of whether it has been under a program last year ($y_{i,t-1}$), elite capital flight (k_{it}), 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}).

4. Results

4.1. Elite capital flight and IMF program participation

To illustrate elite capital flight patterns around IMF programs, we first provide some descriptive statistics. We isolate all 322 episodes of IMF program onsets and fit a local polynomial to extract the general trend of capital outflows around the onset of an IMF program.²³ We illustrate these findings in Fig. 1.

²¹ A similar variable would be remittance inflows as a percentage of GDP (WDI, 2020), but data coverage is lower.

²² Following common practice in IMF program research, we also specify a linear probability model with country-fixed effects for the likelihood of being under an IMF program, obtaining similar results to the probit specification (Table A5). Including fixed effects in a probit-type model is impossible due to the ‘incidental parameters’ problem (Greene, 2002), but our multi-level correlated random effects model performs well in capturing country heterogeneity.

²³ Our relevant time window spans twelve quarters on both sides of the point of IMF program onset. This reflects the modal three-year duration of IMF adjustment programs (e.g., Reinsberg et al., 2019).

Table 1

The dependent variable takes the value 1 if a country is under an IMF program and 0 otherwise across all model specifications. The results were obtained using correlated random-effects probit regressions with year effects and predictor means. Robust standard errors clustered on countries in parentheses.

Elite capital flight and IMF programs						
	(1)		(2)		(3)	
<i>IMF program</i>						
Capital flight	0.030***	(0.010)	0.036***	(0.013)	0.034***	(0.013)
IMF program (lagged)	2.370***	(0.105)	2.250***	(0.106)	2.246***	(0.105)
Capital outflow	−0.001	(0.001)	−0.002	(0.001)	−0.002	(0.001)
GDP per capita			−1.311***	(0.312)	−1.287***	(0.331)
Inflation growth			0.031	(0.023)	0.031	(0.023)
Reserves			−0.047**	(0.022)	−0.048**	(0.023)
Financial crisis			0.856***	(0.193)	0.889***	(0.195)
Democracy					0.086	(0.237)
Coup d'état					−0.597	(0.460)
UNGA alignment with G7					0.297**	(0.148)
Refugees					0.034	(0.026)
Observations	2543		2005		1984	
Pseudo-R2	0.511		0.532		0.538	

Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

We find that average elite capital outflows peak four quarters before the IMF program onset and drop sharply after that until the first quarter of an IMF program, where they reach their local minimum. This pattern cannot be attributed to an announcement effect or IMF-induced policy conditions. Even if one considers that it may take up to one quarter to finalize negotiations for an IMF program (McDowell, 2017), the peak of elite capital flight still lies before the decision to approach the Fund.

4.2. Main results

We present results on the relationship between elite capital flight and IMF programs in Table 1. In column (1), we report the results without control variables; column (2) features the results with a minimal set of controls, whereas column (3) displays the results with a full set of control variables.

We find that an increase in elite capital flight by one standard deviation increases the predicted probability for an IMF program by 4.9%—from 27.9% to 32.8% ($p < 0.05$)—in the model with baseline controls. Most notably, in the final model specification with the complete set of controls, an increase in elite wealth raises the probability of IMF program participation by 4.5%—from 27.4% to 31.9% ($p < 0.05$). Control variables behave as expected. For example, countries are more likely to be under an IMF program when their per-capita income is lower, when they run short of foreign reserves, when there is a financial crisis, and when they are more aligned with G7 countries (Copelovitch, 2010; Moser and Sturm, 2011; Dreher et al., 2015). We observe a negative coefficient on our capital outflow variable. We verify in additional tests that this effect is not driven by a national central bank's or domestic banks' efforts to mobilize their foreign deposits to lean against speculative forces (e.g., Bruno and Shin, 2014).²⁴ We also find strong evidence of recidivism (Vreeland, 2003; Bird et al., 2004; Conway, 2007). Note that the means of all predictors are included but suppressed from the output, which implies that our coefficients can be interpreted as within-country effects.

4.3. Scope conditions

If elites induce financial vulnerabilities and subsequent IMF programs, our results should hold more strongly under certain scope conditions. First, elites will find it easier to siphon funds into offshore accounts in weakened institutional settings. Besides leading to dysfunctional financial incentive structures, weak institutions allow wealthy elites to infiltrate the policymaking process and evade capital controls, forming a comfortable bedrock for tax evasion, embezzlement, and capital flight (Hessami, 2014; Allred et al., 2017; Sharman, 2017). We, therefore, expect the relationship of interest to be stronger in poorly governed countries. Our measure of governance quality is the ICRG index, available from the QoG database (Teorell et al., 2018). We indeed find this is the case for both of our measures of capital flight (Table A6).

Second, we expect the relationship of interest to occur primarily in resource-rich countries, considering their less-diversified economies and susceptibility to corruption (Hlaing and Kakinaka, 2018). To test for this possibility, we split the sample at the median of natural resource rents. Consistent with our expectation, we find a significantly positive relationship between elite capital flight and IMF program participation only in resource-rich countries (Table A7).

Third, if elites expect to lose their intimate government connections, they will have greater incentives for capital flight and less concern for its socially disruptive effects. The CHISOLS database is ideally suited to test this mechanism because it captures changes in the underlying support coalition of a leader (Mattes et al., 2016). As the measure is continuous, we include an interaction effect

²⁴ We would like to thank several reviewers for pointing this out to us.

between capital flight and the CHISOLS measure, which we find to be positively significant. Our analysis in the appendix shows that elite capital flight is significantly positively related to IMF programs if old elites lose power completely (Figure A1).²⁵

4.4. Robustness checks

There are several inferential threats to our analysis. We discuss the most important here and report the results of additional robustness checks in the supplementary appendix. First, a key threat to our results is measurement error. To mitigate such concerns, we construct an alternative capital flight measure based on deviations from cross-border banking transactions that would be predicted if these were the outcome of legitimate (real) economic transactions (i.e., these would correspond to closer trade ties between two countries). We report our results in Table A8.²⁶ We find that an IMF program is 16.4% more likely (up from 24.2% to 40.6%) compared to circumstances of no excess capital outflows in the model with baseline controls ($p < 0.05$). To mitigate concerns that our results reflect ‘phantom FDI’ (Damgaard et al., 2019), we include FDI flows and migration when constructing our proposed measure. Hence, we repeat the analysis using excess deposits based on a positive residual in a two-way fixed effects regression of capital flows on the common (latent) factor derived from total flows of exports, net FDI inflows, and immigration. We confirm that all these flows load onto a single factor (Eigenvalue > 1.56). Our refined measure of excess deposits has a positively significant relationship with IMF program participation (Table A10), supporting our initial findings. To further bolster the robustness of our analysis, we confirm that our results hold when relying on quarterly data (Table A11), data on trade-related value gaps derived from Global Financial Integrity (GFI) (Table A12), and Boyce and Ndikumana’s (2014) measure of real capital flight, available for 30 African economies from 1980 to 2015 (Table A13). Using quarterly data, we can verify that the peak of capital flight occurs three quarters before an IMF program ($p < 0.01$), which is consistent with our initial findings.

Second, omitted variables—such as weak fundamentals—might drive both IMF program participation and elite capital flight. If our argument is correct, we should be able to corroborate its underlying assumptions. To the extent that elite capital flight is fueled by debt accumulation (Jayachandran and Kremer, 2006), we should observe a positive correlation between elite capital flight and external debt. Because elite capital flight undermines the viability of debt-financed projects, we should also observe a greater incidence of non-performing loans. From a macroeconomic perspective, elite capital flight increases the demand for foreign currency and thus exerts downward exchange rate pressure. For this reason, we should also observe a higher incidence of currency crises. We confirm these expectations. Table A14 shows a positive correlation between the (logged) external debt and elite capital flight using two-way fixed effects and different sets of controls. Table A15 confirms that elite capital flight is positively related to currency crises and the portion of non-performing loans if the country is under an IMF program but not otherwise. This aligns with our theoretical notion that through their ability to draw on an IMF bailout, elites can potentially ‘go broke for profit’ (Akerlof and Romer, 1993).²⁷

Third, if elite capital flight is intended to shield wealth in offshore accounts before the IMF’s arrival, we expect a relative peak of capital outflow before the crisis onset for countries requesting IMF assistance. In contrast, we would expect elite capital flight to set in later for crisis episodes without any IMF involvement (Pepinsky, 2014). To make our comparisons as plausible as possible, we only consider episodes of financial crises (Laeven and Valencia, 2020) and trace capital outflows around such crisis events (see Fig. 2).²⁸ Our findings confirm these expectations. For IMF countries, capital flight peaks six quarters before the crisis and consistently decreases thereafter. In contrast, for non-IMF countries, capital outflows accelerate in the run-up to the crisis event. In addition, we perform two regression-based tests using annual data. First, we control for an alternative indicator of financial crises (Reinhart and Rogoff, 2009).²⁹ Our results are unaffected (Table A16). We also seek to capture the severity of crises by interacting the crisis dummy with the share of non-performing loans. Again, our results are qualitatively unaffected (Table A17).

²⁵ To mitigate concerns that an anticipated regime failure results from financial crises (Shea and Poast, 2018), we remove all those regime failures that were preceded by an episode of financial turmoil (Laeven and Valencia, 2020). This does not affect our results. Furthermore, it might be that elite capital flight—through elite infighting or anti-regime protest—leads to the ouster of the incumbent regime (Kern et al., 2022). We do not find evidence for either, suggesting that the positive relationship between elite capital flight and leadership change is driven by elites voluntarily leaving office after having moved their money into safe havens.

²⁶ To create this measure, we proceed in three steps. First, we run a two-way fixed effects regression in which we predict capital outflows by the total level of exports. Both variables should be positively related. According to macroeconomic theory, a current account surplus (a country exports more than imports) must be matched by a capital account deficit (the country effectively provides credit to its export destinations). Here we use reported flows from all 47 destination countries in the BIS database and find that exports are strongly positively associated with capital outflows ($p < 0.001$). Second, based on this regression, we predict the level of capital outflows associated with a given level of exports, allowing for country-specific means and common global shocks. We then take the difference between actual outflows and predicted outflows. Here, an abnormally high positive outflow likely reflects elite capital flight that is not rooted in ‘real’ economic transactions. Third, we dichotomize the measure by creating a dummy variable for positive excess outflows. A key advantage of this measure is that the need for scaling disappears, rendering it more robust against measurement error. Our results are unaffected when considering actual deviations (Table A9).

²⁷ Here, we borrow this term from Akerlof and Romer (1993) who show that it becomes profitable for firms to default on their loan obligations once they do not have to should the burden of their default. A similar logic applies in our case, as elites can roll over the costs of an IMF bailout to the population writ large. At the same time, they do not have to sacrifice their own wealth because it is stashed away in offshore financial destinations. For this reason, we expect rising NPLs and a currency crisis to occur only when elites engage in capital flight.

²⁸ To identify crises with IMF involvement, we require an IMF program to be concluded not before the crisis outbreak and up to one year after it.

²⁹ We thank our reviewers for pointing out that the Laeven and Valencia (2020) indicator may not pick up certain crises, and we, therefore, employ the Reinhart–Rogoff indicator for robustness that we have retrieved from the BFFSPROject at Harvard University. We prefer the Laeven and Valencia (2020) data because they have more extensive coverage. Similar to the updated Reinhart–Rogoff data distinguish, Laeven and Valencia (2020) systemic banking crises, currency crises, and sovereign debt crises.

Capital outflows around financial crises with different IMF involvement

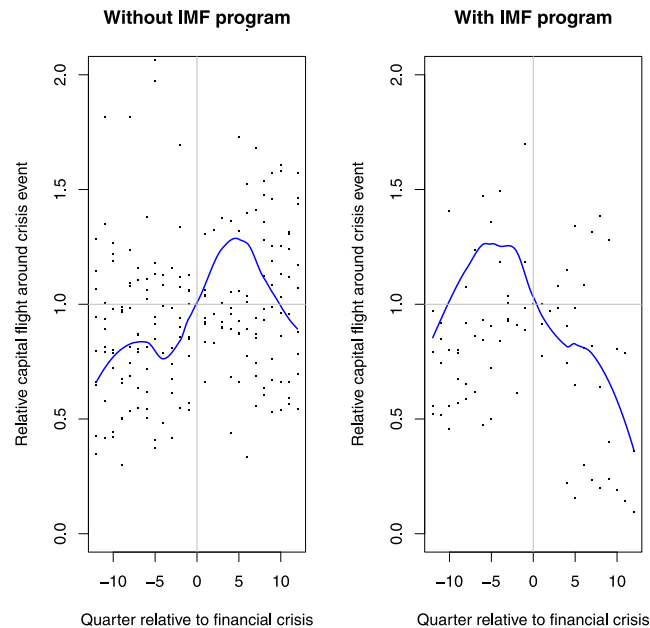


Fig. 2. The left-hand graph shows elite capital flight around financial crises onsets without IMF involvement. The right-hand graph captures elite capital flight around financial crises onsets involving a subsequent IMF program. Elite capital flight is normalized to 1 at the time of crisis onset. In both graphs, cases with an IMF program onset in the pre-crisis period were excluded.

Finally, our argument considers IMF programs to be endogenously driven by elites seeking to enrich themselves through excessive external borrowing and leaving their economies in financially vulnerable conditions. If this ‘crash for cash’ mechanism holds, we should observe no relationship between elite capital flight and IMF programs for those not endogenously triggered by elites. To that end, we leverage information on IMF programs following natural disasters. We identify IMF programs agreed in the year after a natural disaster with at least 25 deaths (CRED, 2020).³⁰ As an alternative measure, we sample those IMF facilities designed to address natural disasters, like the Catastrophic Contingency Reserve. Our results show that the relationship between capital flight and IMF programs holds only for regular IMF programs but not those following deadly disasters and disaster facilities (Table A18).

4.5. Elite capital flight and IMF conditionality

We verify that captured governments agree to more extensive conditionality if under IMF programs. To account for selection into IMF programs, we estimate a system of two equations: one IMF program equation and one outcome equation for the number of binding conditions defined only for observations under IMF programs.³¹ We report the results in Table 2.

Our findings indicate that increasing elite capital flight by one standard deviation is related to 1.7 more binding conditions in an IMF program ($p < 0.01$). The result holds consistently across various control variables, although few control variables consistently affect the number of conditions.

Our modeling setup for IMF conditions is advantageous because it only compares countries already under IMF programs, which arguably have greater macroeconomic vulnerabilities, weak institutions, and moral hazard. Our results, therefore, identify the additional effect of bank deposits held in offshore accounts on the number of conditions. The drawback of this setup is that the sub-sample of IMF borrowers is not randomly selected. If left unaccounted, this compromises our ability to generalize findings beyond the narrow sub-sample of IMF borrowers. To address this challenge, we estimate two-stage least squares instrumental-variable regressions in which we instrument for IMF program participation using the interaction between the IMF liquidity ratio and the country-specific probability of an IMF program (Lang, 2021). The IMF liquidity ratio proxies the likelihood for any country to obtain an IMF loan, which will benefit irregular IMF borrowers the most. The excludability of this instrument hinges on the fact

³⁰ This death threshold is in line with civil war studies, and we verify that our results do not hinge upon it.

³¹ The two-equation setup assumes that capital flight is exogenous concerning IMF conditions.

Table 2

The results were obtained using correlated random-effects probit regressions with year effects and predictor means included. Robust standard errors clustered on countries in parentheses.

Elite capital flight, IMF programs, and IMF conditionality						
	(1)		(2)		(3)	
<i>IMF conditions</i>						
Capital flight	0.423***	(0.075)	0.435***	(0.059)	0.439***	(0.084)
GDP per capita			−26.411***	(8.316)	−27.102***	(7.854)
Inflation growth			−0.063	(0.302)	−0.070	(0.296)
Reserves			1.561**	(0.717)	1.483**	(0.685)
Financial crisis			4.671	(3.141)	4.707	(2.920)
Democracy					3.332	(3.792)
Coup d'état					−3.222	(7.660)
UNGA alignment with G7					1.234	(2.155)
Refugees					−0.646	(0.980)
<i>IMF program</i>						
Compound instrument	−0.172***	(0.053)	−0.139*	(0.075)	−0.142*	(0.076)
IMF liquidity ratio	0.002	(0.022)	0.048	(0.037)	0.056	(0.040)
GDP per capita			−0.912***	(0.222)	−0.914***	(0.227)
Inflation growth			−0.002	(0.005)	−0.003	(0.005)
Reserves			−0.002	(0.008)	−0.002	(0.008)
Financial crisis			0.325***	(0.066)	0.321***	(0.068)
Democracy					−0.046	(0.110)
Coup d'état					−0.087	(0.068)
UNGA alignment with G7					0.025	(0.068)
Refugees					−0.012	(0.020)
Conditionality observations	825		629		621	
Adjusted R2	0.307		0.344		0.346	
IMF observations	2224		1612		1583	
Adjusted R2	0.443		0.442		0.440	
F-statistic	10.404		3.444		3.507	

Notes: Maximum-likelihood estimation of a system of two equations. Both equations include country-fixed effects and year-fixed effects. Robust standard errors clustered on countries in parentheses.

Significance levels: * $p < .1$ ** $p < .05$ *** $p < .01$.

that IMF budget expansions are unrelated to country-specific outcomes (Lang, 2021; Stubbs et al., 2020; Nunn and Qian, 2014). Using this instrument, we find our relationship of interest is qualitatively unaffected (Table A19).³²

Overall, we find supporting evidence that elite capital flight triggers a subsequent IMF program. In addition, we reveal that captured governments of countries that undergo an IMF program tend to agree to more stringent conditions. Taken together, the results support our political economy argument emphasizing the first-order effect of elite capital flight on the incidence and design of IMF programs.

5. Conclusion

The IMF plays a vital role in supporting countries during times of economic hardship, earning it a reputation as “a global payday loan company for countries who have got into trouble and can’t meet their financial commitments — the difference being that instead of charging sky-high interest rates, it demands radical economic reforms”.³³

Researchers have analyzed the circumstances under which the IMF decides to intervene and the conditions it imposes in exchange for financial relief (e.g., Reinsberg et al., 2019). We analyze the role of international capital flight and its impact on IMF involvement and program design. We argue that the ability to draw on the IMF creates perverse economic incentives so that a country’s elites can privatize economic gains by moving funds into offshore financial destinations before the arrival of the Fund. Although the Fund possesses numerous instruments to address economic crises, it does not have any means to seize elite wealth in offshore financial destinations, so the costs of elite capital flight are passed onto the population at large.

Our empirical contributions rest on a series of econometric models producing robust results, even when considering different measures of capital flight and numerous model specifications. At the same time, our findings leave ample room for future research. While our empirical analysis has focused on IMF bailouts, our theoretical mechanisms should generalize to other bailouts. Specifically, we expect a similar dynamic for World Bank structural adjustment loans, which may involve equally intrusive conditionality but do not effectively allow the World Bank to control elite capital flight. Replicating our findings on World Bank

³² In the appendix, we further probe the relationship between elite capital flight and IMF conditions in different policy areas (Table A20). Our results indicate that IMF conditions primarily target fiscal accounts and the country’s financial sector. Furthermore, we verify our results using Boyce and Ndikumana’s (2014) dataset for measuring capital flight (Table A21). We leave an in-depth analysis to future research.

³³ “Christine Lagarde: Can the Head of the IMF Save the Euro?” The Guardian. May 25, 2012.

loans using data from [Clark and Dolan \(2021\)](#), we indeed find that the likelihood of a World Bank bailout is significantly higher after an elite capital flight (Table A22). In addition, governments submit to a higher number of World Bank conditions in such circumstances (Table A23).³⁴ These results increase our confidence in the general validity of our theoretical mechanism. Future research might analyze the linkages between capital flight and bilateral bailouts, regional financial agreements, and central bank swaps, albeit under more specific circumstances ([Schneider and Tobin, 2020](#)). Although our result supports the notion that politically connected elites are driving our observed outcome, due to a lack of ownership data, we cannot entirely ascertain that the recorded outflows to offshore financial destinations can be solely attributed to these elites. Deciphering the ultimate beneficiaries of these accounts provides an important avenue for future research.

From a policy perspective, our findings underscore the importance of governance reforms in IMF-program countries and strengthening global coordination and collaboration. On one hand, the IMF's engagement and support for large-scale anti-corruption campaigns, capacity building and training of revenue administrations to limit the scope for tax evasion, assisting in drafting anti-money laundering (AML) legislation, and support in stolen asset recovery programs is of vital importance to put a stop-gap on this type of financial meddling ([Damgaard et al., 2018](#); [IMF, 2019](#)). In this respect, the IMF's updated "framework for engagement on governance"³⁵ points into a promising direction to address governance issues related to elite capital flight. On the other hand, our findings are also a call for greater regulatory harmonization and international collaboration across financial jurisdictions to combat illicit financial flows. International financial institutions and advisory service providers are vital in facilitating this type of elite capital flight, and thus, strengthening regulatory coordination and oversight would be needed to address existing corporate governance challenges and existing financial loopholes ([Bean, 2018](#); [Zabyelina, 2020](#)). Considering the increasing importance of new international financial players for many developing and emerging market economies (e.g., China Eximbank) and geopolitical fragmentation ([Kern and Reinsberg, 2022](#)), coordination of these efforts is becoming increasingly challenging. At the same time, with debt burdens increasing for many countries, enhanced policy coordination and cooperation are vitally important.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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Appendix A. Supplementary data

Supplementary material related to this article can be found online at <https://doi.org/10.1016/j.ejpoleco.2023.102359>.

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³⁴ This result also holds when instrumenting for capital flight as before (see Table A24).

³⁵ This updated framework provides more expansive coverage of: (i) fiscal governance; (ii) financial sector oversight; (iii) central bank governance and operations; (iv) market regulation; (v) rule of law; and (vi) AML/CFT[Combating the Financing of Terrorism]" ([IMF, 2019](#), 36).

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