

Article

Structural adjustment and the political economy of capital flight

Elias Nosrati,^{1,2,*} Andreas Kern ,³ Bernhard Reinsberg ⁴ and Dilec Sevinc³

¹Fafo Institute for Labour and Social Research, Oslo, Norway, ²Institute of Human Sciences, University Oxford, Oxford, UK, ³McCourt School of Public Policy, Georgetown University, Washington, DC, USA and ⁴School of Social and Political Sciences, University of Glasgow, Glasgow, UK

*Correspondence: elias.nosrati@ihs.ox.ac.uk

Abstract

The financial haemorrhaging of lower income countries in the form of capital flight is a leading cause of global economic inequality. On an annual basis, trillions of dollars bypass the already starved fiscal spaces of nations mired in poverty, making their way instead to lucrative offshore bank accounts governed by secrecy jurisdictions. The present article relates this phenomenon to the institutional architecture of the global financial system and provides causal evidence that structural adjustment programmes implemented at the behest of international financial organizations amplify such capital flight. In particular, by isolating exogenous variation in policy conditionalities through the use of instrumental variables, we find that trade liberalization, financial sector reforms and privatization measures mandated by the International Monetary Fund in developing contexts substantially increase financial outflows occurring via current and capital account transactions. Our findings thus document the contribution that structural adjustment makes to an underappreciated facet of contemporary global inequality.

Key words: capital flight, structural adjustment, the IMF, global inequality

JEL classification: D73, F02, F32, F33, H81, P16

1. Introduction

Sub-Saharan Africa, one of the world's most deprived geographical regions, is a net creditor to high-income countries. Such is the conclusion of an extensive body of research comparing sub-Saharan African nations' external assets—as measured by the cumulative stock of private wealth deposited abroad—to their external debts, with the former exceeding the latter by nearly \$2 trillion (Ajayi and Ndikumana, 2015). This empirical observation extends

beyond the African continent, with recent estimates suggesting that net financial outflows across all low- and middle-income countries amount to approximately \$2 trillion annually, with over \$16 trillion having been drained out in total since 1980 (Global Financial Integrity (GFI), 2016). A substantial portion of this offshore wealth is deposited in bank accounts in secrecy jurisdictions by well-connected domestic elites. The latter successfully siphon off their privatized fortunes through the deliberate manipulation of current and capital account transactions, including the use of trade mis-invoicing or simple money laundering (Ndikumana and Boyce, 2011; Ajayi and Ndikumana, 2015; Shaxson, 2016). Previous evidence suggests that capital flight, especially from the world's poorest countries, is debt-fuelled, as for every dollar of loan inflows, between 60 and 80 cents flow out in the same year (Ndikumana *et al.*, 2015). Growing financial outflows since the turn of the century thus involve a 'revolving door' linking external borrowing to capital flight through the transformation of public loans into private assets by local ruling classes (Ndikumana and Boyce, 2003; Ndikumana *et al.*, 2015).

Much of the extant literature on the financial haemorrhaging of low-income countries laments the institutional backwardness of kleptocratic polities in the global periphery, as epitomized by the persistence of endemic corruption, the lack of democratic accountability and ultimately 'poor governance' (Abed and Gupta, 2002; Kar, 2011; Stephenson *et al.*, 2011; see discussion in Ayogu and Gbadebo-Smith, 2015). However, little attention is paid to how capital outflows on such a striking scale are facilitated by the normative and organizational integration of such polities into the institutional architecture of the global financial system.¹ The systematic offshoring of embezzled wealth is predicated on the durable provision of exclusive private banking services by a tight-knit, yet globally operant cartel of commercial entities typically headquartered in London, New York or Paris (Massa, 2015; Shaxson, 2016; Musthaq, 2021). These very same entities tend to accumulate foreign government debt on their internal balance sheets—leading to the seemingly paradoxical scenario in which international creditors help facilitate the clandestine appropriation by private individuals of the funds they themselves have extended to public authorities. In the words of one commentator, 'the borrowers [steal] the money and the lenders [help] them steal it' (Raymond Baker quoted in Ndikumana and Boyce, 2011, p. 30).

Anchored in a historically distinctive but durably embedded incentive structure at the core of global credit markets, this apparent conundrum derives from a unique alignment of the material and ideological interests of creditors and debtors whereby clandestine capital acquisition and capital movement form part of an interlocking (and highly profitable) dynamic. On the borrower side, the contraction of public liabilities is motivated by the privatization of their monetary value and the socialization of the corresponding cost: whilst a powerful and wealthy upper stratum of society appropriates incoming financial assets for

1 Following the literature on illicit finance (Collin, 2020; Musseli and Bürgi Bonanomi, 2019; Brandt, 2022), we apply a broad definition of illicit financial flows that encompasses '[potentially] unethical acts that are deemed to be formally lawful' (Musseli and Bürgi Bonanomi, 2019, p. 3). During an IMF programme, a country usually relies on the Fund's bailout funding because tax revenues and other sources of public financial revenues are not sufficient to shoulder the government's expenditures. In these situations, financial funds leaving the country would be needed to strengthen public finances and boost a country's recovery. For this reason, it can be argued that capital flight in response to an IMF programme can be considered unethical and thus constitute an illicit financial flow.

personal gain, the attendant debt burden is borne by the general population through the national government (Kern *et al.*, 2023). On the lender side, the issuance of loans—typically effected through the indexed purchase of sovereign bonds at a significant discount to par—is motivated by the prospect of their return in the form of financial deposits made abroad by foreign elites and through multilaterally enforced debt servicing by fiscally distressed yet politically constrained foreign governments.

This article focuses on the international institutional forces that underpin the phenomenon of capital flight. By drawing on previous scholarship in political economy, we construe capital flight as deriving from a dual dynamic, characterized by the structural integration of lower income countries into the financial architecture of the world economy on the one hand and, on the other, by the globalized yet concentrated capacity of financial capital to extract economic surplus through the reproduction of core–periphery relations. Our empirical focus is on the International Monetary Fund (IMF), which constitutes a distinctive institutional vehicle by which global financial arrangements are moulded and magnified. In its capacity as lender of last resort, as provider of technical assistance, and as an agent of economic surveillance, the IMF is somewhat ambiguously positioned with respect to the phenomenon of capital flight. On the one hand, its policy interventions in developing contexts target widespread corruption and financial crime by instigating cooperative efforts to enhance transparency in the financial system and to build domestic state capacities to address capital flight. On the other hand, the Fund fashions and furnishes the policy scripts that provide the political and economic conditions under which extensive capital mobility, and hence capital flight, can take root.² Its power to impose a comprehensive array of domestic policy reforms—known as ‘conditionalities’—is closely tied to its active protection of international creditor rights and the vested interests of its shareholders. Its bailout loans to countries in fiscal disarray are made conditional upon wide-ranging structural adjustments that align domestic policy arrangements with those of dominant forces in the world economy—most notably via trade liberalization, privatization and financial sector reforms—and shift national revenue away from public investment and towards external debt servicing (Babb, 2005; Babb and Carruthers, 2008; Kentikelenis *et al.*, 2016; Babb and Kentikelenis, 2018; Reinsberg *et al.*, 2020; Roos, 2019). We hypothesize that structural adjustment policies are causally related to the rapid outflow of capital from its client countries, and we empirically validate our hypotheses through an instrumental variable approach. Using a unique data set capturing (a) all foreign deposits held in reporting jurisdictions by private individuals in lower income countries and (b) all policy reforms stipulated in all IMF programmes between 2000 and 2018, we isolate exogenous variation in policy conditionalities across 180 countries, and we identify an amplifying effect of IMF intervention on capital flight.

2. The political economy of capital flight

Capital flight from developing contexts is a major global economic phenomenon (Shaxson, 2016; Cobham *et al.*, 2017, Sharman, 2017). On an annual basis, trillions of dollars bypass

2 The IMF in its global policy discourse has acknowledged that capital controls can be a tool for crisis resolution under certain circumstances (for a discussion, see Gallagher 2014). Notwithstanding this debate, we find that the IMF includes significantly more external sector and capital account conditions in its lending programmes in countries with relatively closed capital accounts.

the already starved fiscal spaces of nations mired in poverty, making their way instead to lucrative offshore bank accounts governed by secrecy jurisdictions. Hence, capital flight is an important determinant of global social inequality, yet it remains an inchoate domain of social scientific investigation. What are its root causes and what are the mechanisms by which it takes place?

2.1 The mechanics of capital flight

Capital flight can be broadly defined as the rapid transferral of economic assets and claims thereto from one jurisdiction to another—typically in response to speculative attacks on local currencies, as a means of shielding private wealth or corporate profits from regulatory scrutiny, or in pursuit of lucrative offshore services (or indeed all of the above). Such financial flows are of two principal kinds: those that appear in the official record of transactions between a country and the rest of the world, and those that do not.

The mutually reinforcing relations between foreign borrowing and capital flight are anchored in a singular incentive structure at the heart of global financial markets. From the perspective of international creditors, the purchase of sovereign debt—typically at a significant discount—is a lucrative business, as floating interest rates, commonly indexed to the London Interbank Offered Rate, generate substantial net gains upon repayment whilst additional profits accrue from loan origination fees (sums subtracted upfront from loan disbursements) and interest rate spread (Ndikumana and Boyce, 2011). Moreover, financial capital in high-income countries can rely on strong governments and powerful multilateral organizations—such as the IMF and the World Bank—to sanction its claims and enforce continued debt servicing by foreign governments (Roos, 2019). This allows a select group of financial institutions to serve as international creditors, even to countries with severely underdeveloped financial institutions, and to do so at a profit regardless of whether the loaned funds are embezzled by private individuals (Financial Accountability, Transparency and Integrity (FACTI), 2020; Gabor, 2021). Next to traditional commercial banks, other non-bank financial entities have emerged in recent years, providing similar financial services as traditional banks. Assembled under the umbrella of shadow banking (Mehrling *et al.*, 2013; Pozsar, 2015; Ban and Gabor, 2016), hedge funds, private equity firms and non-bank financial institutions have taken a prominent role in lending to developing countries (Braun, 2016; Gallagher and Wang, 2020; Musthaq, 2021).

Importantly, these very same commercial entities that purchase sovereign debt typically also provide exclusive international financial services to debtor country elites who are looking to deposit their private assets abroad (Ban and Gabor, 2016; Shaxson, 2016; Musthaq, 2021).³ Meanwhile, from the borrowers' perspective, the usage of kickbacks and padded procurement contracts (*inter alia*) impel the continued amassing of public liabilities. As the

3 Besides providing these direct financial services to developing countries, these 'shadow banks' provide a myriad of new financial products. Frequently, these financial vehicles can either be used to take on more off-the-books debt or alternatively siphon money out of a country. For example, special purpose vehicles and other modes of financial engineering allow governments to borrow off the books and build kickback systems into these borrowing products. The existence of such schemes has recently been reported in the context of Chinese loans in Sub-Saharan African countries (Horn *et al.*, 2021). Thus, concentrating on traditional financial instruments (e.g. loans, sovereign bonds) lends itself to underestimating the true size and magnitude of these financial activities. For this

monetary value of borrowed funds is extracted by wealthy elites, attendant costs are shouldered by ordinary citizens through their national governments. In socially and politically unstable countries without adequate bureaucratic and organizational capacities to durably protect private property rights, embezzled goods are then siphoned off to foreign financial destinations.⁴ Although the sovereign bond market has recently been (re)shaped by the rising repo market and the associated financialization of debt—resulting in an amplification of cyclical leverage and time-critical liquidity (Gabor, 2016; Hardie, 2011)—it appears that these changes have not unmoored capital flight dynamics from the international banking system (Ndikumana and Boyce, 2011; Ajayi and Ndikumana, 2015; Shaxson, 2016). Rather, international banking ties and local banking operations play a critical role for monetary policy in emerging markets and developing countries (Kern and Amri, 2021; Kern and Reinsberg, 2022). Despite recent advances (Seabrooke and Tsingou, 2014; Tsingou, 2015), bond and asset markets tend to be underdeveloped in challenging institutional and financial environments, hence enhancing the importance of international banks as vehicles for capital flight. Indeed, numerous cases from the recent Swiss Leaks, FINCEN Files and the Pandora Papers illustrate how international banks are (ab)used as powerful conduits for facilitating capital flight from developing and emerging market economies into offshore financial sinks. durably linked to international banking ties (Ndikumana and Boyce, 2011; Ajayi and Ndikumana, 2015; Shaxson, 2016).

Thus, capital inflows and outflows are structurally entangled through the workings of global financial markets. The ultimate crux of this entanglement is the network of offshore banking centres that form globalized hubs of capital accumulation, anchored in politically stable secrecy jurisdictions that are designed to aid wealthy entities—be they private individuals or multinational corporations—seeking to shield their assets from any form of external scrutiny (Massa, 2015; Shaxson, 2016; Zucman, 2015). The world's leading secrecy jurisdictions fall into three main categories: continental Europe (including Luxembourg, the Netherlands and Switzerland), a prominent British zone (centred on London but extended across a grid of offshore satellites, including Bermuda, the Cayman Islands and the Virgin Islands) and the USA (which has grown into a leading tax haven in recent decades). According to the Tax Justice Network (TJN), up to a quarter of all global wealth is held in such offshore locations, where special banking services include asset management and protection, invoicing services and tax optimization schemes (TJN, 2012).

3. The IMF and global financial (dis)order: pathways and mechanisms

At first sight, the IMF is uniquely positioned as a leading vanguard of global financial stability. Besides advocating for the implementation of traditional quantitative measures to reduce speculative pressures on local currencies, the Fund cooperates with authorities to enhance transparency in the financial system and concentrates its efforts on capacity-building

reason, analysing recently established special purpose vehicles as borrowing entities in developing countries represents an important area of future research.

- 4 Besides siphoning out money from public procurements, business and political elites have become increasingly creative in rerouting export revenues from a variety of activities. Tajikistan is a case in point: since the early 2000s, the country's most important source of export revenues—aluminium producer Talco—has entered a tolling system with a holding in the Cayman Islands that allows well-connected political elites to appropriate revenues for private gain (Financial Times, 2008).

measures targeting financial authorities (IMF, 1999; Guisinger *et al.*, 2016; Kern *et al.*, 2019). Furthermore, the IMF often supports large-scale anti-corruption campaigns, trains revenue administrations to limit the scope for tax evasion, assists in drafting anti-money laundering legislation, and assists in stolen asset recovery programmes (IMF, 2011, 2019, 2020a,b). The Fund's executive board has also approved a new framework that widens its mandate to engage with a broad range of governance-related issues pertaining to capital flight, especially its clandestine forms (IMF, 2018).⁵

However, the extant literature suggests that the kind of comprehensive overhaul of a country's state administration that is associated with the IMF's structural loan conditions has the potential to impose concentrated losses on key social groups, including the upper echelons of society. Designed to eliminate previously granted privileges, structural conditions can impel private actors and civil servants alike to seek novel ways of maintaining their upper hand (Callaghy, 1989; Coate and Morris, 2006). As such, various types of conditionalities can incentivize local elites to engage in corrupt practices (Reinsberg *et al.*, 2021a,b)—for instance by offshoring their private wealth.

Moreover, key features of structural adjustment programmes—including those that in theory are meant to prevent capital outflows—have the potential to facilitate capital flight through various pathways. For instance, the push for financial liberalization since the 1980s has been premised upon the assumption that financial reforms would improve resource allocation, encourage savings and strengthen the rate of return to domestic investment, thereby reducing capital outflows. However, there is little evidence to support this prediction (Hermes and Lensink, 2015), especially since capital flight seems unrelated to portfolio choice. This is conveyed by how risk-adjusted rates of return on capital in low-income countries compared to the rest of the world fail to predict the magnitude of financial in- and outflows (Ndikumana *et al.*, 2015). Instead, wide-ranging financial reforms, including the removal of restrictions on international banking practices, can foster a high presence of foreign banks within a setting characterized by underdeveloped financial institutions, weak banking regulatory and supervisory frameworks and fragile (or abrogated) capital controls (Hermes and Lensink, 2015, Massa, 2015), all of which may ease the exit of capital from a country (Joyce and Noy, 2008; Mukherjee and Singer, 2010; Moschella, 2012; Chapman *et al.*, 2017).⁶ For instance, capital flight dynamics in the wake of the Asian financial crisis of 1997–1998 have been associated with the IMF's financial sector reforms (Beja *et al.*, 2002). Similarly, the IMF's financial sector reforms in Russia during the 1990s eased the burden on

5 For instance, in the recent case of Ukraine, the IMF has threatened the administration in Kyiv to withhold much needed financial relief because 'because it is worried the country's president won't recoup billions of dollars allegedly looted from banks' (Wall Street Journal, 2019).

6 To be clear, we do not expect all globally operating financial institutions to be involved in the same way. Rather, we are concerned with global financial institutions with postcolonial connections and/or those that operate in high institutional risk contexts (Sharman, 2017; Collin, 2021). For example, the recently available FINCEN Files—made available through the Consortium of Investigative Journalists (ICIJ)—document how five major global banks (JPMorgan, HSBC, Standard Chartered Bank, Deutsche Bank, Bank of New York Mellon) have facilitated capital flight. To illustrate this point, a key finding of the report on the financial dealings of JP Morgan reveals how the bank 'moved money for people and companies tied to the massive looting of public funds in Malaysia, Venezuela and Ukraine' (ICIJ, 2020). We would like to thank an anonymous referee for bringing this point to our attention.

elites to siphon wealth out of the Russian economy, further boosting capital flight (Perotti, 2002, Desai, 2005, Slobodian *et al.*, 2022).

In a similar vein, privatization measures can in theory be employed to block the diversion of funds from the public to private hands, just as fiscal austerity can preempt artificially inflated public procurement costs, yet evidence suggests that such policies typically foster higher market concentration and attendant rent extraction (Bjorvatn and Søreide, 2005; Drazen, 2006; Reinsberg *et al.*, 2021a), above and beyond their other deleterious effects (Stuckler and Basu, 2013). Other examples include premature external sector reforms geared towards trade liberalization that ease the manipulation of current and capital account transactions, notably in the case of trade mis-invoicing (GFI, 2010; Patnaik *et al.*, 2012), and IMF reforms that hollow out the state and precipitate bureaucratic decline (Reinsberg *et al.*, 2021b). Such reforms can readily undermine a government's corruption control capacities (Reinsberg *et al.*, 2021a) and thus facilitate further capital flight.

77 Considering the above, we espouse an analytic approach that connects theory and evidence surrounding structural adjustment and capital flight. We posit a unified framework in which capital flight derives from a dual dynamic, characterized by the structural integration of countries into the financial architecture of the world economy (including the growing importance of offshore secrecy jurisdictions) on the one hand and, on the other, by the globalized, yet concentrated capacity of financial capital to extract economic surplus through the reproduction of core-periphery relations. This involves a tangled triangular connection between financial capitalists in high-income countries, domestic elites in low- and middle-income countries, and the increasingly central mediating role of multilateral financial organizations. The IMF's principal role in this process is to meet a structural need, wrought by the growing reach of an international creditors' cartel, to operate as a global lender of last resort capable of conditionally extending much-needed credit to fiscally distressed borrowers in order to prevent, at all cost, a wave of sovereign default in the global periphery that would cause major financial upheaval amongst overexposed banks in Western countries (Roos, 2019). The Fund thus embodies an institutional complex of disciplinary control whereby credit market access is carefully regulated, and debtor compliance is vigorously enforced to protect the rights of international creditors. Its policy interventions form part of an extensive 'action repertoire' (Tilly, 2006) reflecting collective organization 'from above'. However, we also posit that the IMF is not a monolithic block whose interventions exert homogeneous effects across all contexts. Rather, the Fund itself is a multilayered organizational space of social struggle, involving the contentious politics of internationalized policy-making. As demonstrated by organization scholars, institutional actors—including of the kind embodied by the IMF—are shaped by rival social groups vying to obtain key strategic advantages (e.g. Fligstein and McAdam, 2011). These competing intra-organizational efforts will easily translate into a concatenation of relatively autonomous policy spaces that may or may not coalesce into a coherent whole. As we detail in the following section, we therefore expect the effects of structural adjustment programmes to be heterogeneous across policy domains, with some interventions offsetting or working at cross-purpose with others due to varying policy objectives.

4. Hypotheses, data and methods

Robust empirical evidence relating capital flight to the operations of the IMF is scarce. There is suggestive evidence that some policy interventions, notably financial sector reforms, have

contributed to capital outflows in select countries (e.g. [Beja *et al.*, 2002](#); [Perotti, 2002](#); [Breen and Egan, 2019](#); [Musthaq, 2021](#)). It remains hard to gauge, however, the extent to which these estimates lend themselves to causal interpretation. To our knowledge, there are no systematic investigations of this topic that utilize cross-national panel data to isolate exogenous variation in policy conditionalities. In this article, we fill this gap using previously unavailable data and an instrumental variable approach.

Against the empirical and theoretical backdrop provided above, we hypothesize that

- participation in IMF programmes leads to an uptick in capital flight.

However, we also expect these effects to be heterogeneous across policy domains. In particular, we hypothesize that

- conditionalities designed to curb money laundering and related financial flows will reduce capital flight, though such mitigating effects may very well be offset by broader institutional reforms that weaken state capacities. We also expect increases in capital outflows where IMF programmes include specific policy measures:
- external sector reforms that liberalize trade and ease the exit of capital via current account transactions;
- financial sector reforms promoting foreign bank penetration, private-sector control of major financial institutions and capital account liberalization, which further facilitate the transfer of wealth to foreign destinations in order to shield against devaluations and other market shocks;
- privatization measures that facilitate market concentration and rent extraction, such as in the case of Zambia. During the 1980s, the IMF actively supported the privatization of the economy and, in particular, the Zambian mining industry ([Gewald and Soeters, 2010](#)). For instance, [Gewald and Soeters \(2010, p. 155\)](#) find that ‘the privatization of Zambia’s national assets brought about enormous profits for well-placed Zambian businessmen.’ As a result, these businessmen and foreign investors siphoned millions of US Dollars out of the country, depriving the country of much-needed capital. In 2017, the country’s leading economist, Chibamba Kanyama, estimated that approximately ‘9000 Zambians held offshore accounts’ ([Lusaka Times, 2017](#)).

To test our hypotheses, we employ a novel data set comprising 180 countries between 2000 and 2018. Our outcome variable is a measure of cross-border capital flows in the form of bilateral bank deposits, which we coded from the Bank of International Settlements (BIS) database (BIS, 2020). The database provides information on the total quarterly sum of bilateral flows between commercial banks within a reporting country and commercial banks in each of the other countries. This information was then compiled to generate annualized flow measures.⁷ These data constitute an important advance in the study of capital flight in that they allow us to isolate *de facto* bank transactions from national entities residing in

7 To illustrate the structure of these bilateral data, consider the example of the UK and Ghana. The UK would report the value of deposits in British banks owned by Ghanaian residents. This, however, does not include deposits held in British banks by Ghanaian firms that own a subsidiary in a third country—such deposits would be assigned to the third country ([Andersen *et al.*, 2020](#)).

emerging and developing countries into financial offshore destinations instead of relying on rough estimates of trade mis-invoicing derived from statistical residuals in a country's balance of payments. However, we note from the outset that the typically clandestine character of our object of analysis heightens the likelihood of measurement error.⁸ We therefore focus our analysis on relative within-unit deviations from average capital flows (as opposed to absolute changes) and consider this approach as offering a snapshot of what is likely to be a much broader empirical reality. This is because, given the underground nature of the matter at hand, we can never fully observe the absolute value of relevant flows. However, relative within-country shocks in *de facto* bank transactions provide a meaningful indicator of exogenous variation (see Section 4).

We employ two sets of treatment variables to assess the effects of structural adjustment, both drawn from the IMF Monitor Database (Kentikelenis *et al.*, 2016). On the one hand, we use a dichotomous indicator of whether a country is under an IMF programme to estimate the overall average treatment effect of IMF intervention. On the other hand, to further probe the specific impact of IMF policy conditions on the outcome, we assess, in turn, the role of external sector reforms oriented towards trade liberalization; financial sector reforms oriented towards the privatization and liberalization of financial institutions; governance-related institutional reforms that target corruption and money laundering; and IMF-mandated privatizations of state-owned enterprises.

Our data also include a series of control variables that may covary both with IMF programme participation and financial outflows. These may confound the relation between our treatment and outcome variables through economic pathways—for instance in the case of a financial crisis that precipitates both capital flight and the solicitation of financial assistance from the IMF—or through political pathways—as when political instability resulting in a coup d'état leads holders of capital to offshore their wealth for fear of having it seized, whilst countries experiencing such instability might simultaneously be more likely to rely on externally obtained credit for their economic survival. We thus include measures of the size of loan disbursements by the IMF, measured in millions of special drawing rights, to ensure that we are able to isolate policy-related treatment effects rather than general embezzlement patterns that are unrelated to IMF programmes; per capita gross domestic product (GDP) in constant 2010 US dollars; the annual inflation rate (WDI, 2020); a binary financial crisis indicator (Laeven and Valencia, 2013); total reserves in months of imports (WDI, 2020); a binary indicator for the incidence of a coup d'état (Powell and Thyne, 2011); the Polity IV democracy index; a global financial market volatility index (Scheubel and Stracca, 2019); the US interest rate; the number of nationals residing abroad as refugees, asylum seekers or humanitarian migrants (UNHCR, 2020); and United Nations General Assembly (UNGA) voting alignment with the G7 countries (Bailey *et al.*, 2017). The latter variable is construed as a proxy for geo-strategic alignment and is known to predict IMF programme

8 As we rely on data from the BIS, we only have access to data that banks have reported to the BIS. Recent research indicates that banks, especially in offshore financial sinks tend to underreport the amount of deposits (Collins, 2021). For instance, Collins (2021) analysing leaked data from a financial intermediary in the Bahamas shows that the bank only reported a fraction of their clients' financial holdings to the BIS. Furthermore, our measure does not include deposits in non-bank financial institutions (e.g. private equity firms, hedge funds). This implies that our results underappreciate the true extent of capital flight.

Table 1 Descriptive statistics

Statistic	N	Mean	St. Dev.	Min	Max
Capital flight (\$)	3775	3,484,490	14,394,687	-450	168,758,791
IMF programme participation	4058	0.25	0.43	0	1
External sector conditionality	4022	0.6	1.5	0	19
Financial sector conditionality	4104	0.036	0.33	0	11
Privatization conditionality	4022	0.03	0.29	0	6
Institutional reform conditionality	4022	0.04	0.26	0	6
Anti-money laundering conditionality	4104	0.01	0.11	0	2
IMF loan size (millions of SDR)	3240	202	1790	0	47,714
GDP per capita (\$)	3489	13,414	21,188	195	193,745
Inflation rate (%)	3787	6.9	44.2	-29.7	2,630
Reserves in months of imports	3021	4.9	5.1	0.01	79.2
Polity IV democracy index	3592	4.2	6.2	-10.0	10.0
Coup d'état indicator	2842	0.015	0.122	0.000	1.000
Market volatility index	2925	20.2	7.5	11.6	40
UNGA voting alignment	3648	-1.5	0.89	-3.7	1.4
US interest rate	3888	2.2	1.9	0.5	6.0
Financial crisis indicator	4104	0.033	0.180	0	1
External migrant population	4104	152,219	748,383	0	13,211,097

SDR: special drawing rights.

participation (Dreher *et al.*, 2015). In addition, it may plausibly relate to financial outflows to G7 countries. The rationale for including a measure of migrant populations is to eliminate the possibility that cross-border movements of natural persons would account for capital outflows. Descriptive statistics for all our variables are provided in Table 1.

To empirically examine the relation between structural adjustment and capital flight, we posit the following data-generating process:

$$\text{CAPFLIGHT}_{it} = \text{IMFPROG}_{it}\tau_1 + X_{it}\theta + \mu_i + \phi_t + \varepsilon_{it}, \quad (1)$$

where CAPFLIGHT_{it} denotes capital flight from country i in year t ; IMFPROG is our dichotomous indicator of IMF programme participation; X is a vector of control variables (described above and in Table 1); μ captures time-invariant country-specific effects; ϕ measures time-fixed effects; and ε is a stochastic error term. Our principal quantity of interest is τ_1 , which measures the effect of IMF programmes on the outcome variable. However, in an observational study such as this, we do not control the source of variation in the treatment variable, nor can we know for sure if our controls are sufficient to isolate exogenous variation in the treatment. Corresponding parameter estimates may therefore suffer from endogeneity bias. To address such concerns, we follow recent methodological advances in the study of IMF programmes (Lang, 2021; Stubbs *et al.*, 2020) by instrumenting for IMF programme participation. To do this, we adopt a compound instrument derived from the interaction between the Fund's annual budget constraint and the country-specific average exposure to IMF programmes over the sample period. This instrument is relevant to the treatment insofar as liquidity concerns lead the IMF to impose more stringent loan conditions (Vreeland,

2003; Lang, 2021), yet it isolates exogenous variation in that annual budget constraints operate independently of any given country after netting out its correlation with the country-specific average exposure to IMF programmes (Stubbs *et al.*, 2020). We thus obtain a two-stage regression model, with the following selection equation:

$$\text{IMFPROG}_{it} = \text{mIMFPROG}_i \times \text{mIMFBUDG}_t \beta + X_{it} \eta + \alpha_i + \delta_t + \epsilon_{it}. \quad (2)$$

Here, mIMFPROG_i is country i 's mean exposure to structural adjustment over the sample period and mIMFBUDG_t is the Fund's budgetary constraint in a given year, measured by proxy through the number of countries with an IMF programme in that year (Vreeland, 2003). We then proceed to re-specifying Model (1) as follows:

$$\text{CAPFLIGHT}_{it} = \text{IMFPROG}_{it} \mathcal{T}_1 + X_{it} \theta + \mu_i + \varphi_t + \varepsilon_{it}. \quad (3)$$

In this expression, IMFPROG is a vector of fitted values from Model (2). To empirically assess the strength of the chosen instrument, we compare the model in Equation (2) to a restricted first-stage regression in which the effect β is set to be null, obtaining a χ^2 test statistic of 54 on 1 degree of freedom ($P < 0.001$). Hence, Z comfortably satisfies the benchmark for identifying a strong instrument (Staiger and Stock, 1997). We adopt the same approach when assessing the effects of specific conditionalities by replacing the IMF programme indicator with a measure of individual policy domain conditions:

$$\text{CAPFLIGHT}_{it} = \text{IMFCOND}_{IT} \mathcal{T}_2 + X_{it} \theta + \mu_i + \varphi_t + \varepsilon_{it}, \quad (4)$$

with IMFCOND denoting the fitted values of an alternative selection equation—analogue to Equation (2)—where a chosen structural condition is regressed against the interaction between the average country-specific conditionality exposure over the sample period and the number of countries with an IMF programme in that year. In this model, the causal parameter τ_2 becomes the principal quantity of interest. Unit- and time-fixed effects are included in all models, thereby isolating changes—measured as deviations from the mean—in foreign deposits held in offshore bank accounts *within* countries over time and eliminating any time-invariant confounders, whilst also controlling for any aggregate trends in capital movement affecting all countries simultaneously. Time-fixed effects also serve to account for other aggregate trends that may thus confound the association between IMF programme participation and capital flight. For instance, many countries—regardless of their participation status—have implemented trade liberalization policies in recent decades, with varying economic outcomes. Our joint usage of an instrumental variable and two-way fixed effects allows us to isolate shifts in capital flight that derive from IMF-induced shocks to key policy domains, including trade liberalization. Thus, although trade liberalization policies as such may have heterogeneous effects across contexts, our model seeks to capture those effects that are caused by (potentially harsh) structural adjustment conditionalities. Our model estimates are therefore not reducible to effects that would occur regardless of IMF interventions.

We also emphasize that our instrument gains its validity within a two-way fixed effects framework in which emphasis is placed on within-unit unit deviations over time. In such a framework, the relevant exogenous variation is derived from a within-country shock to IMF exposure induced by the Fund's budgetary constraint. This within-country shock picks up variation that is located above and beyond a country's default (endogenous) selection into

IMF programmes. All variance estimators are consistent with serial autocorrelation, heteroscedasticity and country-level clustering effects. All analyses are conducted in R, version 4.0.2 (R Core Team, 2020).

A central threat to causal inference is the persistence of residual confounding. Given that we cannot empirically verify that our instrument is strictly exogenous, the probability of such unmeasured confounding is non-zero. To address this concern, we conduct a simple non-parametric sensitivity analysis that allows us to precisely quantify the amount of unmeasured confounding that would in theory be required to eliminate our estimated treatment effect τ^{\wedge} . For example, let

$$\hat{\tau} = E(\text{CAPFLIGHT}|\text{IMFPROG} = 1, X) - E(\text{CAPFLIGHT}|\text{IMFPROG} = 0, X)$$

denote the expected difference in the outcome variable CAPFLIGHT for treatment and control units, respectively, net of our matrix of controls X , and let U denote an unmeasured confounder. Then the bias factor, B , is defined as the difference between τ^{\wedge} and what τ^{\wedge} would have been had we controlled for U as well. We make the simplifying assumptions that U is binary and that the effect of U on CAPFLIGHT is the same across both treatment states (i.e. no U -by-IMFPROG interaction). We now define

$$\gamma = E(\text{CAPFLIGHT}|U = 1, \text{IMFPROG}, X) - E(\text{CAPFLIGHT}|U = 0, \text{IMFPROG}, X)$$

as the effect of the unmeasured confounder on the outcome, net of the treatment and control variables. We also define

$$\delta = P(U = 1 | \text{IMFPROG} = 1, X) - P(U = 1 | \text{IMFPROG} = 0, X)$$

as the difference in the prevalence of the unmeasured confounder between the treatment and control groups. The bias factor is then readily obtained as the product of these two sensitivity parameters: $B = \gamma \times \delta$ (VanderWeele and Arah, 2011; VanderWeele, 2015, pp. 68–69). In assessing the sensitivity of our model coefficients to unmeasured confounding, we ask how large γ would have to be in order to reduce our estimated effect size τ^{\wedge} to zero. We address this question by visualizing how B changes as the two sensitivity parameters (co)vary across a range of possible values.

5. Results

We standardize the outcome variable such that all parameter estimates are interpreted as a standard deviation (SD) change in capital flight. Table 2 displays results for Model (3). Column (A) shows estimates for a baseline model with a minimal set of control variables, indicating that participation in IMF programmes causes capital outflows to increase by 1.6 SD (95% confidence interval: [0.2, 3.0]; $P = 0.019$). In a two-way fixed-effects regression, this is interpreted as the excess increase in capital flight within treated countries over the sample period that is attributable to their participation in IMF programmes, other things being held constant. Due to our limited sample size and the increasing probability of multicollinearity when adding more control variables, this is our preferred model specification. However, for the sake of comparison, columns (B) and (C) show results for models with additional controls, to which the baseline effect estimate proves robust. That the estimated effect size increases across the three specifications might indicate attenuation bias caused by negative

Table 2 Impact of IMF programmes on capital flight

	(A)	(B)	(C)
IMF programme	1.60 SD (0.7; $P = 0.019$)	2.00 SD (1.0; $P = 0.037$)	2.10 SD (1.0; $P = 0.038$)
IMF loan size	-0.0001 (0.0000)	-0.0001 (0.0001)	-0.0001 (0.0001)
GDP per capita (logged)	0.55 (0.32)	0.96 (0.62)	0.97 (0.63)
Inflation rate	0.001 (0.001)	0.004 (0.002)	0.004 (0.002)
Coup d'état	0.01 (0.10)	-0.004 (0.17)	0.01 (0.17)
Financial crisis	0.16 (0.18)	0.06 (0.19)	0.05 (0.19)
Reserves		0.001 (0.01)	0.002 (0.01)
Market volatility index		-0.03 (0.01)	-0.05 (0.03)
Polity IV democracy index		-0.04 (0.03)	-0.04 (0.03)
UNGA voting alignment			-0.15 (0.14)
US interest rate			0.08 (0.09)
External migrant population			0.00 (0.0000)
Observations	2668	2191	2183

The outcome variable is capital flight in US dollars from 180 countries, as measured by within-country changes in private deposits held in offshore bank accounts; column (A) displays the outcome of a baseline regression with minimal control variables; the models shown in columns (B) and (C) adjust for additional covariates; all models are adjusted for unit- and time-fixed effects; the IMF programme variable is instrumented as described in the Methods section; the outcome is standardized such that parameter estimates are interpreted as within-country changes in capital outflows in millions of dollars measured in SD; country-clustered standard errors consistent with serial autocorrelation and heteroscedasticity are shown below each parameter estimate; P -values are provided for the estimated treatment effect.

correlations with the previously omitted control variables. However, such bias can be considered negligible when taking estimation uncertainty into account. The estimated effect size is more than five-fold that of the average country-year outflow observed in our data (Table 1). In separate model specifications not displayed here, we find that virtually this entire effect is accounted for by direct capital flows into the world's most prominent offshore secrecy jurisdictions.⁹ Overall, this result confirms our principal hypothesis, namely that—on average—IMF programmes amplify capital flight.

To unpack and better understand the policies driving this average effect, we now turn to the study of specific conditionalities as per Model (4). To render our results more interpretable, we dichotomize the conditionality measures such that outputs can be interpreted as the

9 These are the Bahamas, Bahrain, Bermuda, the Cayman Islands, Chile, Curaçao, Cyprus, Guernsey, Hong Kong, Isle Jersey, Luxembourg, Macao, Ireland, Panama, Singapore and Switzerland.

average difference in capital flight between countries that do or do not receive a particular type of structural condition attached to their bailout loans. We begin with external sector reforms that are typically oriented towards trade liberalization, the results for which are displayed in [Table 3](#). The baseline model, shown in column (A), suggests that IMF-mandated external sector reforms increase capital outflows by 1.4 SD (95% confidence interval: [0.1, 2.8]; $P=0.037$), net of IMF loan size, GDP per capita, rates of inflation, political instability, and the incidence of financial crises. The estimated effect is robust to additional controls, as indicated by the results in columns (B) and (C). The overall result suggests that trade liberalization likely forms a central component of the IMF's contribution to capital flight.

Next, we study the effects of financial sector conditions on capital outflows. As shown in [Table 4](#), our baseline model suggests that the IMF's reform packages targeting the privatization and liberalization of financial institutions increase capital flight by 0.9 SD (95% confidence interval: [0.1, 1.7], $P=0.025$). The parameter estimate is robust to additional controls, as evidenced by results shown in columns (B) and (C). We complement these results with the analysis of privatization measures, as shown in [Table 5](#). We note that this model fails to converge when including the measure of external migrants, and hence omits this control variable from the final model specification. The privatization of state-owned enterprises is associated with 2 SD (95% confidence interval: [0.1, 4.0]; $P=0.041$)—in excess outflows in the baseline model. The estimate itself is robust to additional controls—in fact, as in the previous models, the estimated effect size increases—but as evidenced by widening confidence intervals around the null across columns (B) and (C), it is subject to substantial estimation uncertainty.

We now assess whether IMF conditions that target corruption and money laundering have a significant impact on capital flight. We first run a model using a variable that aggregates across all institutional reforms, including anti-corruption policies and private sector development. We find no robust effects on the outcome variable and hence omit the result from display. However, this null finding is revelatory in and of itself insofar as it indicates that the IMF's broader efforts to combat corruption on an institutional scale may be ineffective. Subsequently, we disaggregate such institutional reforms by focusing only on policies targeting money laundering. Results from this analysis are shown in [Table 6](#). We find that anti-money laundering policies decrease capital outflows by around 0.9 SD (95% confidence interval: [-1.7, -0.02]; $P=0.043$), though the estimated effect is accompanied by substantial estimation uncertainty with additional controls. Taken together, these findings suggest that certain conditionalities may help prevent capital flight, but they appear to be outsized—by a substantial margin—by other policy effects working in the opposite direction. In addition, the latter finding lends further credence to our causal identification strategy, since if our models were merely picking up endogenous associations between IMF interventions and capital flight, we would expect all parameter estimates to have the same sign across all conditionalities. The fact that the estimated impact of policies targeting money laundering differs from that of other policies suggests that we can distinguish between substantively heterogeneous policy domains and their respective impacts on our outcome of interest.

We proceed to assessing the robustness of our estimated treatment effect to the presence of unmeasured confounding. [Figure 1](#) visualizes variation in the bias factor B , as defined earlier, for each of our treatment variables across a range of possible values of the two sensitivity parameters δ and γ . The X-axis denotes the degree of selection on the unmeasured confounder across the two treatment states (ranging from 0 to 1, with higher values

Table 3 Impact of IMF-mandated external sector reforms on capital flight

	(A)	(B)	(C)
External sector conditions	1.44 SD (0.7; $P = 0.037$)	1.74 SD (0.9; $P = 0.047$)	1.74 SD (0.9; $P = 0.047$)
IMF loan size	-0.00002 (0.00002)	-0.00002 (0.00002)	-0.00002 (0.00002)
GDP per capita (logged)	0.39 (0.29)	0.59 (0.50)	0.55 (0.48)
Inflation rate	0.0005 (0.001)	0.003 (0.002)	0.003 (0.002)
Coup d'état	0.16 (0.12)	0.23 (0.22)	0.23 (0.22)
Financial crisis	0.27 (0.23)	0.18 (0.25)	0.19 (0.24)
Reserves		-0.01 (0.01)	-0.01 (0.01)
Market volatility index		-0.04 (0.02)	-0.04 (0.02)
Polity IV democracy index		-0.03 (0.02)	-0.04 (0.02)
UNGA voting alignment			-0.13 (0.11)
US interest rate			0.02 (0.06)
External migrant population			0.0000 (0.0000)
Observations	2298	1897	1897

The outcome variable is capital flight in US dollars from 180 countries, as measured by within-country changes in private deposits held in offshore bank accounts; column (A) displays the outcome of a baseline regression with minimal control variables; the models shown in columns (B) and (C) adjust for additional covariates; all models are adjusted for unit- and time-fixed effects; the External sector conditions variable is instrumented as described in the Methods section; the outcome is standardized such that parameter estimates are interpreted as within-country changes in capital outflows in millions of dollars measured in SD; country-clustered standard errors consistent with serial autocorrelation and heteroscedasticity are shown below each parameter estimate; P -values are provided for the estimated treatment effect.

indicating a higher prevalence of the confounder in the treatment group, i.e. in countries with IMF programmes), whereas the Y -axis denotes the magnitude of the effect of U on the outcome (measured in SDs), above and beyond that of the treatment and the control variables, that would be required to completely eliminate the effect of programmes on capital flight. Considering whether or not our instrument is exogenous, we believe it is plausible that the amount of residual confounding—if there is any—remains moderate. As such, the most likely values of δ would be at the lower end of the X -axis in Figure 1. At $\delta = 0.1$, U would have to cause an excess within-country outflow of capital that lies at around 10 or more SDs for all treatment variables, except for anti-money-laundering reforms, for which U would have to reduce outflows by roughly the same amount. This amounts to a net effect that outweighs the average country-year outflow in our sample by a factor of nearly 40. Even at higher levels of selection on the unmeasured confounder, the net impact of U would

Table 4 Impact of IMF-mandated financial sector reforms on capital flight

	(A)	(B)	(C)
Financial sector conditions	0.91 SD (0.41; $P = 0.025$)	0.95 SD (0.45; $P = 0.033$)	0.99 SD (0.46; $P = 0.032$)
IMF loan size	-0.00001 (0.00001)	-0.00001 (0.00001)	-0.00001 (0.00001)
GDP per capita (logged)	-0.15 (0.11)	-0.29 (0.20)	-0.31 (0.21)
Inflation rate	0.0001 (0.0001)	0.0004 (0.0005)	0.001 (0.001)
Coup d'état	-0.02 (0.05)	-0.07 (0.09)	-0.05 (0.08)
Financial crisis	0.36* (0.20)	0.32* (0.19)	0.32* (0.19)
Reserves		-0.005 (0.004)	-0.004 (0.004)
Market volatility index		-0.03** (0.01)	-0.02 (0.01)
Polity IV democracy index		-0.01 (0.01)	-0.005 (0.01)
UNGA voting alignment			-0.10 (0.06)
US interest rate			-0.03 (0.04)
External migrant population			-0.0000 (0.0000)
Observations	2668	2191	2183

The outcome variable is capital flight in US dollars from 180 countries, as measured by within-country changes in private deposits held in offshore bank accounts; column (A) displays the outcome of a baseline regression with minimal control variables; the models shown in columns (B) and (C) adjust for additional covariates; all models are adjusted for unit- and time-fixed effects; the Financial sector conditions variable is instrumented as described in the Methods section; the outcome is standardized such that parameter estimates are interpreted as within-country changes in capital outflows in millions of dollars measured in SD; country-clustered standard errors consistent with serial autocorrelation and heteroscedasticity are shown below each parameter estimate; P -values are provided for the estimated treatment effect.

have to be substantively large in order to explain away our estimated treatment effects. As such, the sensitivity analysis suggests that a substantial amount of unmeasured confounding would be needed to cast serious doubt on our causal estimates.

6. Concluding discussion

Our analysis has provided causal evidence that structural adjustment programmes implemented in low- and middle-income countries at the behest of international financial organizations amplify capital flight. In particular, by isolating exogenous variation in policy conditionalities through the use of instrumental variables, we find that trade liberalization, financial sector reforms and privatization measures mandated by the International Monetary Fund in developing contexts increase financial outflows occurring via current and

Table 5 Impact of IMF-mandated privatization reforms on capital flight.

	(A)	(B)	(C)
Privatization conditions	2.06 SD (1.01; $P = 0.041$)	2.41 SD (1.24; $P = 0.052$)	2.41 SD (1.25; $P = 0.054$)
IMF loan size	-0.00002 (0.00002)	-0.00002 (0.00002)	-0.00002 (0.00002)
GDP per capita (logged)	-0.09 (0.16)	-0.11 (0.29)	-0.11 (0.29)
Inflation rate	0.0001 (0.0001)	0.0003 (0.001)	0.0003 (0.001)
Coup d'état	0.07 (0.05)	0.07 (0.07)	0.07 (0.07)
Financial crisis	0.39* (0.22)	0.35 (0.23)	0.35 (0.23)
Reserves		-0.003 (0.004)	-0.003 (0.004)
Market volatility index		-0.04 (0.02)	-0.03 (0.02)
Polity IV democracy index		0.003 (0.01)	0.003 (0.01)
UNGA voting alignment			-0.001 (0.08)
US interest rate			-0.02 (0.05)
Observations	2298	1897	1897

The outcome variable is capital flight in US dollars from 180 countries, as measured by within-country changes in private deposits held in offshore bank accounts; column (A) displays the outcome of a baseline regression with minimal control variables; the models shown in columns (B) and (C) adjust for additional covariates; all models are adjusted for unit- and time-fixed effects; the Privatization conditions variable is instrumented as described in the Methods section; the outcome is standardized such that parameter estimates are interpreted as within-country changes in capital outflows in millions of dollars measured in SD; country-clustered standard errors consistent with serial autocorrelation and heteroscedasticity are shown below each parameter estimate; P -values are provided for the estimated treatment effect.

capital account transactions. We also find that certain institutional reforms targeting corruption and money laundering may help prevent financial haemorrhaging, but their effects seem to be largely offset by incongruous interventions in other policy domains—notably when it comes to rapid and potentially disruptive deregulation of the external and financial sectors—that dwarf any mitigating impact. Thus, the counterfactual that is stipulated by our empirical analysis is not so much a world without capital mobility as such but one in which fiscally distressed nations are not subjected to stringent external sector (and related) conditionalities. Our findings thus document the contribution that structural adjustment makes to a major yet underappreciated facet of contemporary global inequality.

Our findings have potentially profound implications, both for the empirical understanding of the causes of capital flight and for the assessment of structural adjustment policies. These policies play a vital role in shaping the developmental trajectories of low- and middle-income countries and our analysis suggests that their politically controversial nature is well-founded. We have related the causal nexus between structural adjustment and capital flight

Table 6 Impact of IMF-mandated anti-money laundering reforms on capital flight

	(A)	(B)	(C)
Anti-money-laundering conditions	-0.86 SD (0.43; $P = 0.043$)	-0.86 SD (0.44; $P = 0.052$)	-0.89 SD (0.46; $P = 0.052$)
IMF loan size	-0.000007 (0.000006)	-0.000007 (0.000006)	-0.000007 (0.000006)
GDP per capita (logged)	-0.24 (0.13)	-0.41 (0.24)	-0.42 (0.24)
Inflation rate	0.0001 (0.0001)	0.0003 (0.0002)	0.0003 (0.0002)
Coup d'état	0.03 (0.03)	-0.01 (0.04)	-0.005 (0.04)
Financial crisis	0.44 (0.21)	0.41 (0.22)	0.42 (0.22)
Reserves		-0.003 (0.004)	-0.002 (0.004)
Market volatility index		-0.03 (0.01)	-0.03 (0.01)
Polity IV democracy index		-0.01 (0.01)	-0.01 (0.01)
UNGA voting alignment			-0.06 (0.04)
US interest rate			-0.01 (0.02)
External migrant population			0.0000 (0.0000)
Observations	2668	2191	2183

The outcome variable is capital flight in US dollars from 180 countries, as measured by within-country changes in private deposits held in offshore bank accounts; column (A) displays the outcome of a baseline regression with minimal control variables; the models shown in columns (B) and (C) adjust for additional covariates; all models are adjusted for unit- and time-fixed effects; the Anti-money laundering conditions variable is instrumented as described in the methods section; the outcome is standardized such that parameter estimates are interpreted as within-country changes in capital outflows in millions of dollars measured in SD; country-clustered standard errors consistent with serial autocorrelation and heteroscedasticity are shown below each parameter estimate; P -values are provided for the estimated treatment effect.

to the broader institutional infrastructure of the global financial system wherein the continued commodification of debt fuels an upward distribution of wealth from borrowers to lenders, from public hands in the developing world to private hands in the advanced core (Hickel, 2017; Roos, 2019).

The IMF's persistent enforcement of debtor compliance amongst its clients matches poorly with our finding that its own policies substantially aggravate their acute financial haemorrhaging (cf. Reinsberg *et al.*, 2022). Its efforts to address corruption, to enhance financial transparency and to promote economic development are undermined by its continued alignment with a powerful conglomerate of international creditors that seem to benefit from the subjection of financially ailing countries to socially disruptive economic policy reforms (Ndikumana and Boyce, 2011). Meanwhile, in their current form, structural adjustment policies appear to do little but bolster the mechanisms by which the economic value of sovereign liabilities are privatized by the already privileged, who subsequently shift their

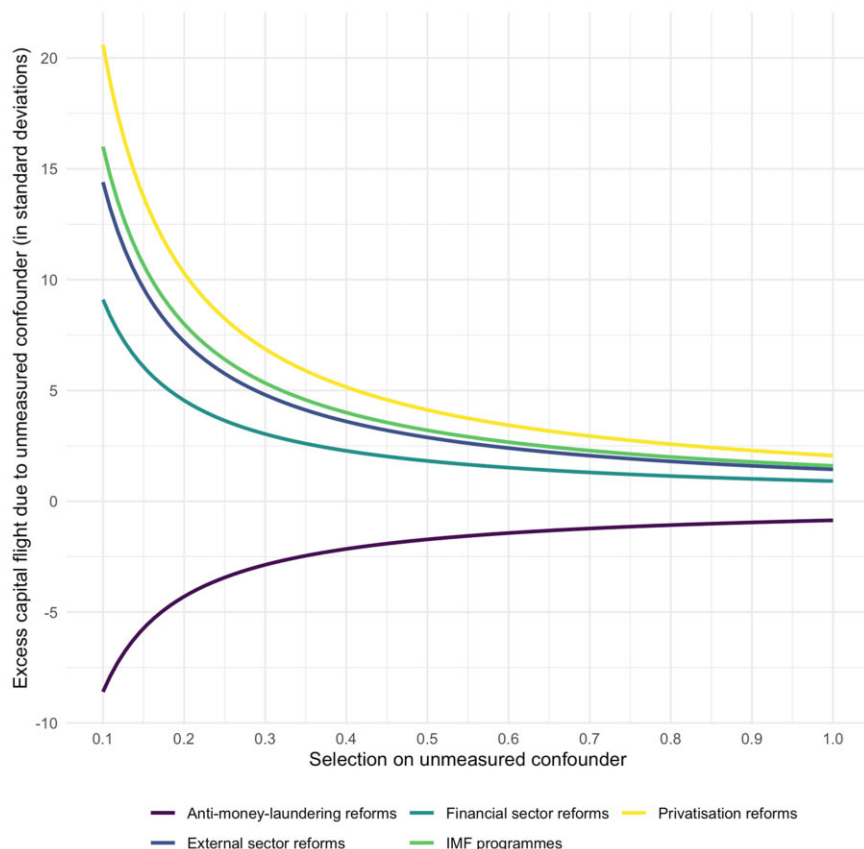


Figure 1. Sensitivity analysis plot to assess residual confounding of the estimated effect of IMF programmes and conditionalities on capital flight as per Tables 2–6, column (A). Values of δ (X-axis) and γ (Y-axis) that lie on the solid lines would completely eliminate the estimated treatment effects.

wealth abroad, whilst the attendant burden—both political and economic—is thrust upon ordinary citizens.

We acknowledge the limitations of our analysis. Given the clandestine nature of a substantial portion of all capital flight, our data do not capture all relevant dynamics of substantive interest and our analysis is likely to suffer from measurement error. Banking reports compiled by the BIS are submitted on the basis of data specifications that can vary between reporting countries, which places limits on the harmonization and cross-national comparability of our capital flight data. In addition, as noted before, our data do not cover capital flows through non-bank financial institutions, which play an increasingly central role in the private finance-led development model (Gabor, 2021; Musthaq, 2021). Our analysis thus only deals with a small portion of a much larger phenomenon and we hope that future research may fruitfully extend our work in that direction. Moreover, the limited sample size undermines our statistical power to probe various causal relations of interest. Our lack of power is compounded by a large number of missing values that follow a pattern that renders

multiple imputation techniques potentially unreliable. We recognize the substantial amount of estimation uncertainty accompanying our model estimates and the lack of means to further explore substantively important pathways and interactions. Finally, we acknowledge that capital flight can emerge in a myriad number of ways that do not always lend themselves to the kind of macroscopic econometric analysis conducted here.

Nevertheless, we have drawn on a unique data set that significantly advances the study of cross-border financial flows over time, and our ability to isolate exogenous variation in IMF policies through the use of a compound instrumentation technique allows us to derive unbiased estimates of the causal parameters of interest. Our findings withstand a range of sensitivity checks and they extend and amend previous findings in the field. In short, despite its inevitable limitations, our analysis offers novel empirical evidence that policy reforms diffused by international multilateral organizations like the IMF actively contribute to the amplification of capital flight—and hence to the reproduction of global inequality.

References

- Abed, G. T. and Gupta, S. (2002) 'The Economics of Corruption: An Overview'. In *Governance, Corruption, and Economic Performance*, Washington DC, International Monetary Fund.
- Ajayi, S. I. and Ndikumana, L. (2015) 'Scale, Causes and Effect of Capital Flight from Africa'. In Ajayi, S.I. and Ndikumana, L. (eds) *Capital Flight from Africa: Causes, Effects and Policy Issues*, Oxford, Oxford University Press, pp. 1–11.
- Andersen, J. J., Johannesen, N. and Rijkers, B. (2020) *Elite Capture of Foreign Aid: Evidence from Offshore Bank Accounts*, World Bank Group Policy Research Working Paper No. WPS 9150.
- Ayogu, M. D. and Gbadebo-Smith, F. (2015) 'Governance and Illicit Financial Flows'. In Ajayi, S. I. and Ndikumana, L. (eds) *Capital Flight from Africa: Causes, Effects and Policy Issues*, Oxford, Oxford University Press, pp. 277–299.
- Babb, S. (2005) 'The Social Consequences of Structural Adjustment: Recent Evidence and Current Debates', *Annual Review of Sociology*, **31**, 199–222.
- Babb, S. L. and Carruthers, B. G. (2008) 'Conditionality: Forms, Function, and History', *Annual Review of Law and Social Science*, **4**, 13–29.
- Babb, S. L. and Kentikelenis, A. E. (2018) 'International Financial Institutions as Agents of Neoliberalism'. In Cahill, D., Cooper, M., Konings, M. and Primrose, D. (eds) *The SAGE Handbook of Neoliberalism*, London, SAGE, pp. 16–27.
- Bailey, M., Strezhnev, A. and Voeten, E. (2017) 'Estimating Dynamic State Preferences from United Nations Voting Data', *Journal of Conflict Resolution*, **61**, 430–456.
- Ban, C. and Gabor, D. (2016) 'The Political Economy of Shadow Banking', *Review of International Political Economy*, **23**, 901–914.
- Beja, E. L. Jr, Junvith, P. and Ragusett, J. (2002) 'Capital Flight from Thailand, 1980–2000'. In Epstein, G. A. (ed.) *Capital Flight and Capital Controls in Developing Countries*, Northampton, MA, Edward Elgar, pp. 143–172.
- Bjorvatn, K. and Søreide, T. (2005) 'Corruption and Privatization', *European Journal of Political Economy*, **21**, 903–914.
- Braun, B. (2016) 'From Performativity to Political Economy: Index Investing, ETFs and Asset Manager Capitalism', *New Political Economy*, **21**, 257–273.
- Breen, M. and Egan, P. J. W. (2019) 'The Catalytic Effect of IMF Lending: Evidence from Sectoral FDI Data', *International Interactions*, **45**, 447–473.

- Callaghy, T. M. 1989. 'Toward State Capability and Embedded Liberalism in the Third World: Lessons for Adjustment'. In Nelson, J. M. (ed.) *Fragile Coalitions: The Politics of Economic Adjustment*, New Brunswick, Transaction Books.
- Chapman, T. et al. (2017) 'Mixed Signals: IMF Lending and Capital Markets', *British Journal of Political Science*, 47, 329–349.
- Coate, S. T. and Morris, S. E. (2006) 'Policy Conditionality'. In Stephen, K., Gustav, R. and Vreeland, J. R. (eds) *Globalization and the Nation State: The Impact of the IMF and the World Bank*, New York, NY, Routledge, pp. 36–50.
- Cobham, A., Davis, W., Ibrahim, G. and Sumner, A. (2017) 'Hidden Inequality: How Much Difference Would Adjustment for Illicit Financial Flows Make to National Income Distributions?', *Journal of Globalization and Development*, 7, 20160022.
- Coppola, A. et al. (2020) *Redrawing the Map of Global Capital Flows: The Role of Cross-border Financing and Tax Havens*, National Bureau of Economic Research, Working Paper No. 26855.
- Collin, M. (2020) 'Illicit Financial Flows: Concepts, Measurement, and Evidence', *The World Bank Research Observer*, 35, 44–86.
- Collin, M. (2021) *What Lies Beneath: Evidence from Leaked Account Data on How Elites Use Offshore Banking*, Brookings Global Working Paper Series.
- Desai, P. (2005) 'Russian Retrospectives on Reforms from Yeltsin to Putin', *Journal of Economic Perspectives*, 19, 87–106.
- Drazen, A. (2006) 'Conditionality and Ownership in IMF Lending: A Political Economy Approach'. In Kosack, S., Ranis, G. and Vreeland, J. R. (eds) *Globalization and the Nation State: The Impact of the IMF and the World Bank*, New York, NY, Routledge, pp. 51–81.
- Dreher, A., Sturm, J.-E. and Vreeland, J. R. (2015) 'Politics and IMF Conditionality', *Journal of Conflict Resolution*, 59, 120–148.
- Financial Accountability, Transparency and Integrity [FACTI]. (2020) FACTI Panel Interim Report. Financial Times. (2008, November 1) *Murk Comes to Surface in Tajik Smelter Case*.
- Fligstein, N. and McAdam, D. (2011) 'Toward a General Theory of Strategic Action Fields', *Sociological Theory*, 29, 1–26.
- Gallagher, K. P. (2014) *Ruling Capital: Emerging Markets and the Reregulation of Cross-Border Finance*, Ithaca, Cornell University Press.
- Gallagher, K. P. and Wang, Y. (2020) *Sovereign Debt Through the Lens of Asset Management: Implications for SADC Countries*, GEGI Working Paper 042, accessed at https://www.bu.edu/gdp/files/2020/11/GEGI_WorkingPaper_042.pdf on 24 September 2022.
- Gabor, D. (2021) 'The Wall Street Consensus', *Development and Change*, 52, 429–459.
- Gewald, J.-B. and Soeters, S. (2010) 'African Miners and Shape-Shifting Capital Flight: The Case of Luanshya/Baluba'. In Fraser, A. and Larmer, M. (eds.) *Zambia, Mining, and Neoliberalism*, New York, NY, Palgrave Macmillan, pp. 155–183.
- Global Financial Integrity [GFI]. (2010) *Illicit Financial Flows and the Problem of Net Resource Transfers from Africa: 1980-2009*, Joint report by African Development Bank and Global Financial Integrity.
- Global Financial Integrity [GFI]. (2016) *Financial Flows and Tax Havens: Combining to Limit the Lives of Billions of People*, Centre for Applied Research, Norwegian School of Economics, Global Financial Integrity, Jawaharlal Nehru University, Instituto de Estudos Socioeconômicos, Nigerian Institute of Social and Economic Research.
- Gabor, D. (2016) 'The (Impossible) Repo Trinity: The Political Economy of Repo Markets', *Review of International Political Economy*, 23, 967–1000.
- Guisinger, A., Mukherjee, B. and Bagozzi, B. E. (2016) *The IMF, Finance Interest Groups, and Capital "Flight" in Developing States*, The Kellogg Institute for International Studies Working Paper #410, accessed at https://kellogg.nd.edu/sites/default/files/working_papers/410.pdf

- Hardie, I. (2011) 'How Much Can Governments Borrow? Financialization and Emerging Markets Government Borrowing Capacity', *Review of International Political Economy*, **18**, 141–167.
- Hermes, N. and Lensink, R. (2015) 'Financial Liberalization and Capital Flight: Evidence from the African Continent'. In Ajayi, S. I. and Ndikumana, L. (eds) *Capital Flight from Africa: Causes, Effects and Policy Issues*, Oxford, Oxford University Press, pp. 164–198.
- Hickel, J. (2017) *The Divide: A Brief Guide to Global Inequality and Its Solutions*, London, William Heinemann.
- Horn, S., Reinhart, C. M. and Trebesch, C. (2021) 'China's Overseas Lending', *Journal of International Economics*, **133**, 103539.
- International Monetary Fund [IMF]. (2020a) *IMF and Good Governance*, IMF Factsheet.
- International Monetary Fund [IMF]. (2020b) *The IMF and the Fight Against Illicit Financial Flows*, IMF Factsheet.
- International Monetary Fund [IMF]. (2018) *Review of 1997 Guidance Note on Governance – A Proposed Framework for Enhanced Fund Engagement*, IMF Policy Paper.
- International Monetary Fund [IMF]. (2019) *2018 Review of Program Design and Conditionality*, IMF Policy Paper.
- International Monetary Fund [IMF]. (2011) *Anti-Money Laundering and Combating the Financing of Terrorism (AML/CFT) – Review of the Effectiveness of the Program*, IMF Policy Paper No. 4571.
- International Monetary Fund [IMF]. (1999) *Code of Good Practices on Transparency in Monetary and Financial Policies*, IMF Official Document.
- Joyce, J. P. and Noy, I. (2008) 'The IMF and the Liberalization of Capital Flows', *Review of International Economics*, **16**, 413–430.
- Kar, D. (2011) *Illicit Financial Flows from the Least Developed Countries: 1990–2008*, Global Financial Integrity Discussion Paper.
- Kentikelenis, A. E., Stubbs, T. H. and King, L. P. (2016) 'IMF Conditionality and Development Policy Space, 1985–2014', *Review of International Political Economy*, **23**, 543–582.
- Kern, A. and Reinsberg, B. (2022) 'The Political Economy of Chinese Debt and IMF Conditionality', *Global Studies Quarterly*, **2**, ksac062.
- Kern, A. and Amri, P. (2021) 'Political Credit Cycles', *Economics & Politics*, **33**, 76–108.
- Kern, K., Nosrati, E., Reinsberg, B. and Sevinc, D. (2023) 'Crash for Cash: Offshore Financial Destinations and IMF Programs', *European Journal of Political Economy*. <https://doi.org/10.1016/j.ejpoleco.2023.102359>.
- Kern, A., Reinsberg, B. and Rau-Göhring, M. (2019) 'IMF Conditionality and Central Bank Independence', *European Journal of Political Economy*, **59**, 212–229.
- Laeven, L. and Valencia, F. (2013) 'Systemic Banking Crises Database', *IMF Economic Review*, **61**, 225–270.
- Lang, V. (2021) 'The Economics of the Democratic Deficit: The Effect of IMF Programs on Inequality', *The Review of International Organizations*, **16**, 599–623.
- Lusaka Times. (2017, November 14) 'Over 9,000 Zambians Have Offshore Accounts-Chibamba Kanyama'.
- Massa, I. (2015) 'Capital Flight and the Financial System'. In Ajayi, S. I. and Ndikumana, L. (eds) *Capital Flight from Africa: Causes, Effects and Policy Issues*, Oxford, Oxford University Press, pp. 200–235.
- Mehrling, P. *et al.* 2013. 'Bagehot Was a Shadow Banker: Shadow Banking, Central Banking, and the Future of Global Finance', Central Banking, and the Future of Global Finance, 5 November.
- Moschella, M. (2012) 'IMF Surveillance in Crisis: The Past, Present and Future of the Reform Process', *Global Society*, **26**, 43–60.
- Moschella, M. (2012) 'Seeing Like the IMF on Capital Account Liberalisation', *New Political Economy*, **17**, 59–76.

- Mukherjee, B. and Singer, D. A. (2010) 'International Institutions and Domestic Compensation: The IMF and the Politics of Capital account Liberalization', *American Journal of Political Science*, 54, 45–60.
- Musselli, I. and Bürgi Bonanomi, E. (2019) 'Illicit Financial Flows: Concepts and Definition', *Revue Internationale de Politique de Développement*. <https://doi.org/10.4000/poldev.3296>.
- Musthaq, F. (2021) 'Development Finance or Financial Accumulation for Asset Managers? The Perils of the Global Shadow Banking System in Developing Countries', *New Political Economy*, 26, 554–573.
- Ndikumana, L. and Boyce, J. K. (2003) 'Public Debts and Private Assets: Explaining Capital Flight from Sub-Saharan African Countries', *World Development*, 31, 107–130.
- Ndikumana, L. and Boyce, J. K. (2011) *Africa's Odious Debts: How Foreign Loans and Capital Flight Bled a Continent*, London, Zed Books.
- Ndikumana, L., Boyce, J. K. and Ndiaye, A. S. (2015) 'Capital Flight from Africa: Measurement and Drivers'. In Ajayi, S. I. and Ndikumana, L. (eds) *Capital Flight from Africa: Causes, Effects and Policy Issues*, Oxford, Oxford University Press, pp. 15–54.
- Patnaik, L., Sen Gupta, A. and Shah, A. (2012) 'Determinants of Trade Misinvoicing', *Open Economies Review*, 23, 891–910.
- Powell, J. and Thyne, C. (2011) 'Global Instances of Coups from 1950–Present', *Journal of Peace Research*, 48, 249–259.
- Pozsar, Z. (2015) *A Macro View of Shadow Banking: Levered Betas and Wholesale Funding in the Context of Secular Stagnation*, Available at SSRN 2558945.
- Perotti, E. (2002) 'Lessons from the Russian Meltdown: The Economics of Soft Legal Constraints', *International Finance*, 5, 359–399.
- R Core Team (2020) *R: A language and environment for statistical computing*, R Foundation for Statistical Computing, Vienna, Austria. <https://www.R-project.org/>.
- Reinsberg, B., Stubbs, T. and Kentikelenis, A. (2022) 'Compliance, Defiance, and the Dependency Trap: International Monetary Fund Program Interruptions and Their Impact on Capital Markets', *Regulation & Governance*, 16, 1022–1041.
- Reinsberg, B., Kentikelenis, A. and Stubbs, T. (2020) 'Taxing the People, Not Trade: The International Monetary Fund and the Structure of Taxation in Developing Countries', *Studies in Comparative International Development*, 55, 278–304.
- Reinsberg, B., Kentikelenis, A. and Stubbs, T. (2021a) 'Creating Crony Capitalism: Neoliberal Globalization and the Fueling of Corruption', *Socio-Economic Review*, 19, 607–634.
- Reinsberg, B., Kern, A. and Rau-Göhring, M. (2021b) 'The Political Economy of IMF Conditionality and Central Bank Independence', *European Journal of Political Economy*, 68, 101987.
- Roos, J. (2019) *Why Not Default?: The Political Economy of Sovereign Debt*, Oxford and Princeton, NJ, Princeton University Press.
- Seabrooke, L. and Tsingou, E. (2014) 'Distinctions, Affiliations, and Professional Knowledge in Financial Reform Expert Groups', *Journal of European Public Policy*, 21, 389–407.
- Sharman, J. C. (2017) 'Illicit Global Wealth Chains after the Financial Crisis: Micro-States and an Unusual Suspect', *Review of International Political Economy*, 24, 30–55.
- Shaxson, N. (2016) *Treasure Islands: Tax Havens and the Men Who Stole the World*, London, Penguin.
- Scheubel, B. and Stracca, L. (2019) 'What Do We Know about the Global Financial Safety Net? A New Comprehensive Data Set', *Journal of International Money and Finance*, 99, 102058.
- Slobodian, Q., Plehwe, D., Nartok, E. E., Balasubramanian, A., Rupprecht, T., Weber, I. M., von Schnitzler, A., Walker, J., Chamon, P., Fischer, K., Jonjic, M., Pantelic, N., Mjøset, L., Hofmann, R., and Klausen, J. C. (2022) *Market Civilizations: Neoliberals East and South*, Princeton, NJ, Princeton University Press.

- Staiger, D. and Stock, J. H. (1997) 'Instrumental Variables Regression with Weak Instruments', *Econometrica*, **65**, 557–586.
- Stephenson, K. M., Gray, L., Power, R., Brun, J.-P., Dunker, G. and Panjer, M. (2011) *Barriers to Asset Recovery. An Analysis of the Key Barriers and Recommendations for Action*, Stolen Asset Recovery Initiative, World Bank, UNODC.
- Stubbs, T. *et al.* (2020) 'How to Evaluate the Effects of IMF Conditionality', *The Review of International Organizations*, **15**, 29–73.
- Stuckler, D. and Basu, S. (2013) *The Body Economic: Eight Experiments in Economic Recovery, from Iceland to Greece*, London, Penguin.
- Tilly, C. (2006) *Regimes and Repertoires*, Chicago, IL, Chicago University Press.
- Tax Justice Network [TJN]. (2012) *The Price of Offshore Revisited*, Report by James Henry.
- Tsingou, E. (2015) 'Club Governance and the Making of Global Financial Rules', *Review of International Political Economy*, **22**, 225–256.
- UNHCR. (2020) *UNHCR Statistical Online Population Database*, United Nations High Commissioner for Refugees.
- Vanderweele, T. J. (2015) *Explanation in causal inference: Methods for mediation and interaction*, Oxford University Press.
- Vanderweele, T. J. and Arah, O. A. (2011) 'Bias formulas for sensitivity analysis of unmeasured confounding for general outcomes, treatments, and confounders', *Epidemiology*, **22**, 42–52.
- Vreeland, J. R. (2003) *The IMF and Economic Development*, Cambridge, Cambridge University Press.
- Wall Street Journal*. (2019, October 31) 'Ukraine Corruption Concerns Stall IMF Bailout'.
- WDI. (2020) *World Development Indicators 2020*, World Bank.
- Zucman, G. (2015) *The Hidden Wealth of Nations: The Scourge of Tax Havens*, Chicago, IL, University of Chicago Press.