Capital Flight and The Political Economy of IMF Conditionality

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Abstract

As international lender of last resort, the International Monetary Fund (IMF) injects fresh capital into countries in economic troubles and in exchange requires borrowing governments to accept a myriad of policy conditions. Complementing a substantial literature on IMF programs, we hypothesize that a country's hidden treasures in foreign bank accounts – in part arising from *ex ante* illicit financial flows and capital flight – have a first-order impact on a government's willingness to call upon the IMF and to accept more loan conditions. Relying on a novel dataset comprising 162 countries between 1980 and 2018, we show that an increase in capital flight by one standard deviation increases the predicted probability of participating in an IMF program by up to 8.4%, even when this comes with greater conditionality attached. Our analysis offers empirical insights into the connection between capital flight to offshore financial destinations and submission to structural adjustment.

Keywords: IMF, IMF conditionality, capital flight, international political economy

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1 Introduction

The International Monetary Fund (IMF) — as international lender of last resort — lends a helping hand to countries in economic turmoil. In exchange for fresh credit, borrowing governments must typically agree to a comprehensive and enduring overhaul of a country's policy arrangements known as 'structural adjustment,' including a myriad of domestic policy reforms collectively known as 'conditionality' (Babb and Carruthers, 2008). Intellectual debates surrounding IMF conditionality are almost as old as the Fund itself. Besides a plethora of factors such as political connections to the United States and geopolitical considerations (Thacker, 1999; Dreher, Sturm and Vreeland, 2015; Reinsberg et al., 2019), evidence suggests that international financial linkages – especially debt owed to the financial industry of the main shareholders of the Fund — significantly influence the extent of conditionality (Gould, 2003; Stone, 2008; Copelovitch, 2010).

We argue that an important dimension of international capital markets remains neglected in the study of IMF conditionality: the (hidden) external wealth of nations. To date, several heavily indebted and crises-ridden countries on the Fund's client list are net creditors to the rest of the world. According to recent estimates, offshore financial destinations and tax havens harbor somewhere between $8.7 and $36 trillion, with a substantial share of these funds stemming from IMF client countries (Shaxson, 2019). While there exists an ongoing debate as to whether IMF programs catalyze foreign investment and global financial integration (Breen and Egan, 2019), little is known about how a country's external financial wealth and capital flight affect the nature of and submission to structural adjustment. We hypothesize that a country's hidden treasures in foreign bank accounts — in part arising from *ex ante* capital flight — have a first-order impact on a government's ability and willingness to surrender to the Fund's demands for enhanced conditionality. Our prediction rests on several complementary theoretical considerations.

First, capital flight can have devastating socio-economic effects which are even more pronounced in emerging markets and developing countries. Besides putting a stop-gap on economic development and employment, it creates a toxic mix of lower tax revenues in combination with rising inequality demanding higher public expenditures/debt (Alesina and Tabellini, 1989; Ndikumana, Boyce and Ndiaye, 2014; Alstadsæter, Johannesen and Zucman, 2018). Ramping up debt on these shaky

foundations, governments accumulate substantial macrofinancial vulnerabilities over time, making them more likely to seek external assistance.

Second, dysfunctional governance and economic frameworks foster distorted financial incentives and thus provide a fertile breeding ground for various criminal activities such as embezzlement, trade mis-invoicing, and tax evasion, opening the floodgates for capital flight (Collier, Hoeffler and Pattillo, 2001; Ndikumana and Boyce, 2003; Le and Rishi, 2006; Boyce and Ndikumana, 2012). Capital flight, in turn, contributes not only to eroding the institutional infrastructure and economic stability of low-income countries, but further aids and abets endemic corruption coupled with crony business practices that amplify financial vulnerabilities (Boyce and Ndikumana, 2017).

Third, a particularly important aspect of capital flight is that political and well-connected business elites channel their wealth into tax havens and offshore financial destinations where they remain shielded from any fiscal or regulatory scrutiny. In a deregulated global financial system characterized by high levels of capital mobility, neither domestic authorities nor the IMF possess the logistical means of repatriating these offshore funds. While the IMF retains its focus on implementing short-run stabilization measures in the form of monetary tightening and fiscal austerity (for a survey, see Stubbs et al. (2018)), local government figures may use whatever leeway they have to rescue the rents of closely allied business elites (who are often their own family members) at the expense of the population at large.

Synthesizing these theoretical mechanisms, we expect countries with high capital flight to be particularly vulnerable to additional financial shocks and thus be more likely to find themselves on the IMF's client list. Furthermore, we expect governments to accept a greater number of conditions when the durable effects can be shouldered not by political and economic elites but by ordinary citizens.

To test these theoretical predictions, we rely on a novel dataset comprising 162 countries between 1980 and 2018. In contrast to prior analyses — which primarily rely on export mis-invoicing measures — we capture capital flight using data on bilateral banking ties from the Bank of International Settlements (BIS, 2020).[1] In particular, we isolate bilateral banking transactions (scaled

[1]For a survey on available definitions and statistical methods measuring capital flight, see for instance, Ndikumana, Boyce and Ndiaye (2014), Zucman (2015), and Goldsmith (2020).

to GDP) between a (potential IMF client) country and a selected set of offshore tax havens.[2] A distinct advantage of restricting our sample is that we are more likely to capture capital flight that is unrelated to 'real' economic activity but serves as a safe haven for wealthy individuals and firms (Zucman, 2015). Using a variety of methodological approaches, including instrumental variables, our regression results indicate that an increase in capital flight 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 that are reflected in more conditions: a one-standard deviation increase in capital flight 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 and hold across different model specifications and varying modeling assumptions.

Our analysis complements several streams of the extant literature. First, we complement previous research on IMF conditionality (Kentikelenis, Stubbs and King, 2016; Beazer and Woo, 2016; Rickard and Caraway, 2019). Our paper is most related to prior work that analyzes the dynamic interaction between international financial players, governments, and the IMF (Gould, 2003; Broz and Hawes, 2006; Chwieroth, 2009; Chapman et al., 2017). However, our approach differs markedly. Instead of studying this catalytic effect and/or the role of international investor behavior in explaining variation in IMF-sponsored programs, we focus on *ex ante* capital flight and thus on countries' external financial wealth. A distinct insight from our research is that capital flight can lead to more complacent government behavior vis-à-vis the Fund.

Second, our research extends existing knowledge of the dynamics of capital flight (Pepinsky, 2014; Zucman, 2015; Boyce and Ndikumana, 2017). A recent part of the existing literature has concentrated on the political driving forces of capital flight (Frantz, 2018), on underlying illicit financial activities (Kubinec and Pandya, 2019), and on the behavioral mechanics of tax evasion (Findley, Nielson and Sharman, 2013). Our approach, however, is related to another strand of research analyzing the rerouting of foreign aid (Andersen, Johannesen and Rijkers, 2020), yet it differs in important respects. Instead of studying the direct drivers of capital flight and/or exploring its direct consequences on socio-economic outcomes, a key innovation of our research is that we

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

isolate a 'perverse' knock-on effect: harsher IMF conditionality once a country runs into financial difficulties.

Finally, we contribute to the ongoing policy debate on capital flight. Our findings underscore an under-appreciated facet of the global fragmentation in financial regulation and the importance of closing financial loopholes to mitigate the adverse consequences and side-effects of IMF conditionality that are disproportionally levied on lower-income segments of society. As these cannot shield their assets and wealth abroad, but have to absorb the brunt of adjustment programs, our results lend support to existing proposals for global cooperation and coordination geared towards an equitable strengthening of financial governance frameworks.

2 Background and hypotheses

What determines cross-national variation in IMF conditionality? The extant literature is largely focused on two salient factors. First, it has been shown that political considerations of the IMF's shareholders — in particular those of the United States — often trump economic realities and the prescriptions of Fund staff (Thacker, 1999; Oatley and Yackee, 2004; Dreher, Sturm and Vreeland, 2015). For instance, Aklin and Kern (2019) find that US security considerations increase the likelihood of an IMF bailout with less strings attached. Similarly, Stone (2004) shows how alignment of some African countries with the United States undermines the credibility of conditionality and related punishments for missing key adjustment targets. Furthermore, substantial evidence suggests that international financial linkages — especially debt owed to the financial industry of the main shareholders of the Fund — shape the nature and extent of structural adjustment programs (Gould, 2003; Stone, 2008; Copelovitch, 2010). The main argument is that international financial institutions can pressure national governments and/or the IMF into greater concessions to secure the viability of their investments. Yet individual countries have to agree to the terms of a bailout (Nooruddin and Simmons, 2006). Facing mounting financial pressures when bargaining for their rescue, governments often fear the political costs of adjustment programs (for a survey, see Stubbs et al. (2018)). For instance, while negotiating with the IMF in 2019, Pakistani Prime Minister Imran Khan openly admitted that his administration "was not prepared to inflict pain on the

Pakistani people."[3]

Besides these domestic political considerations, a country's bargaining power is often determined by the urgency of mobilizing funds (Stone, 2008). In particular, cash-stripped governments tend to be more willing to sign on to a host of loan conditions and accept wide-ranging austerity measures and structural reforms to access much-needed financial relief (McDowell, 2017). Besides delivering immediate financial relief, IMF programs often help a country to take speculative heat off the balance-of-payments.[4] Illustrative of this point is the case of Tajikistan in January 2008. To unlock much-needed financial relief, a high-ranking Tajik government official "repeated several times that Tajikistan would be ready to accept any conditions the Fund demanded."[5]

We extend and amend the study of IMF conditionality by construing the (hidden) external wealth of nations, mediated by the institutional design of international capital markets, as a significant yet largely neglected determinant of selection into structural adjustment. Robust empirical evidence relating capital flight and a country's external financial wealth to IMF conditionality is scarce. Some authors find that investors across several asset classes flee the borrowing country once an IMF program is implemented (Jensen, 2004; Chapman et al., 2017). In these situations, capital flight derives from the IMF's removal of capital controls, easing the exit of capital from a country.[6] On the other hand, the IMF cooperates with authorities to enhance transparency in the financial system and concentrates its efforts on capacity-building measures targeting financial authorities. For instance, Kern, Reinsberg and Rau-Göhring (2019) show that the Fund requests financial audits of the central bank to prevent rerouting of funds into offshore financial accounts or outright theft.[7] Furthermore, the Fund often supports large-scale anti-corruption campaigns, trains revenue administrations to limit the scope for tax evasion, assists in drafting anti-money

[3] "Pakistan to Accept $6 Billion Bailout From IMF." The New York Times. May 12th, 2019.

[4] Some scholars find a dampening effect of IMF program participation on sovereign bond spreads, even though this relationship is far from robust (**?**).

[5] "Tajikistan Pleads for Help to Resolve Self-Inflicted Cotton Finance Crisis." Wikileaks. Cable ID $08DUSHANBE86\_a$.

[6] Furthermore, fiscal austerity and the subsequent rise in political uncertainty have the potential to make investors run into safe financial havens (Frantz, 2018).

[7] For instance, the government of Mauritania recently agreed "to improve the transparency of the BCM financial position and [...] publish a quantification of its 2017 accounts based on the International Financial Reporting Standards (IFRS) by end-December 2018 (structural benchmark)." (IMF, 2018*b*, 6).

laundering (AML) legislation, and assists in stolen asset recovery programs (IMF, 2011, 2019).[8] In the recent case of Mongolia, attempts to rein in capital flight and contain illicit financial flows led IMF staff to demand further progress on the implementation of "[...] an effective AML-CFT framework" (IMF, 2018*a*, 20).[9]

The Fund thus aims to limit capital flight and stabilize the balance of payments — and yet the association between IMF intervention and capital flight remains ambiguous. Countries suffering from capital flight tend to pile up large amounts of foreign debt to fund government operations, domestic investment, and to recycle these funds for fueling capital flight (Ndikumana and Boyce, 2003; Ndikumana, Boyce and Ndiaye, 2014; Goldsmith, 2020). In the face of starved fiscal spaces, deepening inequality, and social and political uncertainty, governments often resort to further external borrowing. In several instances, international debt inflows are directly recycled and deposited abroad. For example, Boyce and Ndikumana (2017, 263) report, for a selected sample of African economies, that "each dollar of new external borrowing is associated with 60 to 80 cents of additional capital flight in the same year." Importantly, stacking up foreign debt on shaky fiscal foundations, governments become more susceptible to run into financial troubles once economic prospects worsen and/or investor expectations turn sour (Ndikumana, Boyce and Ndiaye, 2014). As result, we expect these governments more frequently find themselves on the IMF's list of clients.

In those countries that are likely to enroll in IMF programs while suffering from capital flight, elites tend to be reluctant to mobilize their own funds for bailout purposes and try to socialize the costs of financial crises (thus free-riding on bailouts). Capital is therefore siphoned off into tax havens and offshore financial destinations. There are reasons to suspect that this effect might be particularly pronounced in the face of an incoming IMF program, as indicated by the case of Indonesia. At the outset of the financial crisis in 1997 "Suharto's friends and children exported several billion dollars [...] as the political and economic crisis worsened"(Hale, 1998, 10).[10] The so-

[8]The Fund's executive board approved "a new framework for engagement on governance, with 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). These new regulations widen the IMF's mandate to engage in addressing governance issues in direct relation to capital flight.

[9]CFT stands for "Combating the Financing of Terrorism."

[10]Interestingly, the names of Suharto's children also re-appear in the so-called Panama Papers. Besides aggravating speculative pressures on the balance of payments, this behavior deprives a country financial resources and weakens a

called Panama Papers list accounts of numerous senior political and business leaders from Indonesia, Argentina, Pakistan, and several other prominent IMF clients.[11] Although the IMF has a multitude of instruments to support a country's efforts to stop the financial bleeding from capital flight, it does not have a mandate or the legal means to seize a country's external wealth, freeze looted funds, or repatriate stolen assets (Smallwood, 2005).[12]

In short, there is reason to believe that intervention by the IMF can help address and redress important aspects of capital flight, notably via those policies explicitly designed to curb illicit outflows and corruption. Nevertheless, the effects of such policies may readily be offset by various institutional mechanisms — many of which the IMF itself helps develop and implement through other parts of its extensive reform packages — whereby the underlying problem is magnified. Domestic elites may not only shield their wealth in offshore financial destinations to pre-empt potential losses incurred via structural adjustment but may even directly benefit from the revolving door linking increased external debt to illicit financial outflows by privatizing public loans and socializing their consequences.[13]

To our knowledge, no previous study sought to assess whether capital flight predicts selection into IMF programs (rather than the other way round). Against this background, we formulate two complementary hypotheses. First, we expect that greater capital flight increases the likelihood that a country will enter into an agreement for an IMF program. Second, we hypothesize that this program will entail a greater than default number of loan conditions.

government's bargaining position towards the Fund.

[11] For a full documentation and list of names, please, see: https://offshoreleaks.icij.org/

[12] Commenting on the Bank of Kabul crisis in Afghanistan in 2008, IMF (2011, 86) states that "asset recovery, for example, which is a complex and difficult process even for the most advanced countries, may prove particularly difficult in this case." As in the case of Afghanistan, the IMF usually cooperates with local authorities and the Stolen Asset Recovery Initiative, which is a joint program of the World Bank and the UNODC, to recover stolen funds but has no means to seize these assets.

[13] In fact, in several instances, business and political elites are often *de facto* foreign investors and can even directly benefit from an IMF bailout and access funds using round-tripping schemes (Aykut, Sanghi and Kosmidou, 2017). An indication of the viability of this mechanism is the recent growth of so-called 'Phantom' FDI, which is often domestic money funneled through tax havens back into the economy. Recent research suggests that Phantom FDI "accounts for around $15 trillion, almost 40 percent of Total FDI, globally." (Damgaard, Elkjaer and Johannesen, 2019, 26).

3 Research design

3.1 Data

To test our hypotheses, we employ on a novel dataset comprising 162 countries between 1980 and 2018. Our outcome is a binary variable indicating whether a country is under an IMF program. In addition, 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, Stubbs and King, 2016).[14]

To measure capital flight, we use data on direct cross-border capital flows in the form of 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 from national entities residing in emerging and developing countries into financial offshore destinations instead of relying on measures related to trade mis-invoicing or a statistical residual in a country's balance of payments.[15] To illustrate this point in our context, consider the case of Ukraine. It is well-documented that wealthy individuals and firms use accounts in the Netherlands, Cyprus, Switzerland, and several island states to evade taxes and shield their wealth (Sakwa, 2014; Aykut, Sanghi and Kosmidou, 2017). From a purely empirical perspective, such transactions would lead to greater Ukrainian deposits in these countries, but do not necessarily correspond to enhanced trade ties or any closer economic cooperation between them. For example, at the outset of the global financial crisis in 2008, Ukrainian entities harbored $29.8 billion in Switzerland alone (whereas Swiss imports from Ukraine stood at $125 million) (BIS, 2020),[16] almost double the amount of the requested IMF bailout package of $16.5 billion (IMF, 2008).

Using this data source, we construct our measure of capital flight in three steps. First, we aggregate the reported bank deposit amounts of a country in 18 selected offshore financial destinations that are commonly considered 'tax havens' (Garcia-Bernardo et al., 2017; Damgaard, Elkjaer

[14] To maximize the sample period, we updated the list of IMF programs based on the IMF website through to 2018.

[15] For a survey of competing measures, see, for instance, Ndikumana, Boyce and Ndiaye (2014), Zucman (2015), and Goldsmith (2020).

[16] The data for these bilateral trade estimates has been retrieved from the Observatory of Economic Complexity (OEC).

and Johannesen, 2019; Coppola et al., 2020). As destination countries, we selected the Bahamas, Bahrain, Bermuda, Cayman Islands, Chile, Chinese Taipeh, Curacao, Cyprus, Guernsey, Hong Kong, Isle of Man, Jersey, Luxembourg, Macao, Ireland, Panama, Singapore, and Switzerland. A distinct advantage of restricting our sample to banking deposits in these jurisdictions — as opposed to analyzing all countries at once — is that we are well-positioned to capture capital flight derived not from 'real' economic activity but from wealthy individuals and firms seeking a safe haven for their private wealth (Zucman, 2015). 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, Inklaar and Timmer, 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 its absolute values.

A key threat to our results is measurement error. Measuring capital flight is difficult because the actors who are capable of it have incentives to eliminate the trails of their activities (Zucman, 2015). To mitigate concerns that our results are merely an artefact due to measurement error, we test our key predictions using alternative measures. We first construct an alternative capital flight measure, the precise details of which we describe below. In brief, to translate the logic of prior research on capital flight into our data context, we use 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). In addition, given the paucity of available data on capital flight, we perform two additional tests corresponding to different measures of capital flight on two restricted samples. First, we collected data on trade-related value gaps (measured in millions of U.S. dollars) as a proxy measure of trade mis-invoicing from Global Financial Integrity (GFI) for up to 99 countries from 2008 to 2017 (GFI, 2020). To compile the data, we downloaded the most recently updated report from the GFI website. Second, we use a measure of real capital flight, available for 30 African economies from 1980 to 2015 (Boyce and Ndikumana, 2012). [17] These two complementary data sets are used to run additional sensitivity

[17] As with our main predictor, we scale the variable by GDP and subtract the within-country mean, while controlling for the mean itself. As further detailed below, we include the mean of capital outflows to ensure that our results are

analyses pertaining to measurement error.

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 just includes country-fixed effects and year-fixed effects. The second is our baseline set of macroeconomic controls, including log-transformed GDP per capita, the (logged) inflation rate,[18] reserves in months of imports (WDI, 2020), and a binary indicator for financial crisis (Laeven and Valencia, 2013). 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 during periods of crisis, countries are more likely to turn to the Fund but are also likely to suffer abrupt money outflows (Beeson and Broome, 2008). A third set of controls captures political factors. In particular, we include a binary indicator of democracy (Coppedge, Alvarez and Maldonado, 2008), available from the IPE dataset (Graham and Tucker, 2019). We also include a binary indicator for the incidence of any coup d'état (Powell and Thyne, 2011), as political instability may increase the likelihood of capital flight as well as the need for IMF assistance (Collier, Hoeffler and Pattillo, 2001). Furthermore, we measure the UN General Assembly voting alignment with the G7 countries (Bailey, Strezhnev and Voeten, 2015). UN voting patterns — viewed as a proxy for geostrategic alignment — are known to predict IMF programs (Dreher, Sturm and Vreeland, 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 is that it helps us dismiss a potential alternative explanation whereby cross-border movements of natural persons would account for capital flight.[19]

We report descriptive statistics in Table 1 and refer readers to the appendix for full information on variable definitions and data sources (Table A1).

not biased by general capital outflow surges.

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

[19] A similar variable would be remittance inflows as a percentage of GDP (WDI, 2020) but its available data coverage is lower.

Summary Statistics

	N	Mean	Sd	Min	Max
IMF program	5910	0.364	0.481	0.000	1.000
IMF conditions	5853	7.339	13.400	0.000	124.000
Capital flight	2544	0.000	3.849	-55.827	39.101
Excess deposits	2177	0.390	0.488	0.000	1.000
Capital flight to safe havens	2544	0.000	4.154	-78.023	65.725
Capital flight to US/UK	1483	0.000	2.828	-36.477	35.992
Trade misinvoicing	995	19.587	5.841	4.320	82.040
Capital flight from Africa	1058	0.000	15.621	-95.911	148.179
GDP per capita	5314	7.814	1.191	4.898	11.250
Inflation growth	4446	-0.146	2.218	-10.746	10.682
Reserves	4400	4.223	4.331	0.002	79.237
Financial crisis	6318	0.059	0.235	0.000	1.000
Democracy	5967	0.450	0.498	0.000	1.000
Coup d'état	6318	0.025	0.157	0.000	1.000
UNGA alignment with G7	6162	-1.681	1.017	-3.996	1.340
Refugees	6318	5.802	4.665	0.000	16.397
Capital outflow	2544	8.461	34.078	-0.056	477.385
VIX	3875	19.732	6.852	11.560	40.000
External debt	3551	70.078	86.800	0.239	1380.765
Financial globalization	5385	49.877	18.395	3.062	98.684
Outward capital openness	3379	0.796	0.343	0.000	1.000
Inward capital openness	3379	0.784	0.316	0.000	1.000
US interest rate	6156	4.572	3.251	0.500	13.417
IMF liquidity ratio	5508	288.141	285.360	60.322	1223.155

Table 1: This table includes the summary statistics underlying our analysis. For full information on variable definitions and data sources, see Table A1 in the supplementary Appendix.

3.2 Empirical Model

To test whether greater capital flight increases the likelihood of participating in an IMF program, an ordinary probit model is not appropriate because the data exhibit path dependence — a country i that is under an IMF program in year t is likely to remain under an IMF program in year $t+1$ (Vreeland, 2003). Furthermore, we also want to distinguish path dependence from unobserved heterogeneity — idiosyncratic factors that make some countries more likely to require IMF assistance, such as weak institutions, malign governance practices, and crisis vulnerability. However, due to the non-linear nature of the outcome variable, it is not possible to identify the model using country-fixed effects; the well-known 'incidental parameters problem' (Greene, 2002). Our second-best solution is a correlated random-effects probit model, which is essentially a probit model with a lagged dependent variable and a random intercept (Wooldridge, 2005; Skrondal and Rabe-Hesketh, 2014; Albarran, Carrasco and Carro, 2019). To mitigate endogeneity concerns arising from non-zero covariance between the predictors and the random intercept, we further include the country-specific means of all predictors (Albarran, Carrasco and Carro, 2019). This serves to partition the variance into within- and between-unit components, thereby isolating country-specific variation that is exogenous to time-invariant confounders. We allow the random intercepts to be freely correlated and compute robust standard errors clustered on countries.[20] Formally, our preferred estimation approach can be represented as follows:

$$\mathsf{Pr}(y_{it} = 1 \mid y_{i[t-1]}, k_{it}, X_{it}, u_i) = \Phi(y_{i[t-1]}\alpha + k_{it}\beta + X_{it}\gamma + u_i + \varphi_t + \varepsilon_1). \tag{1}$$

This is a time-homogenous Markov model with random country-specific intercepts, where y_{it} corresponds to a binary response variable for IMF programs and $y_{i[t-1]}$ to its one-year lag, k_{it} is our measure of capital flight, X_{it} are individual entries of a matrix collecting all time-varying predictors and common time shocks, u_i is an element of a vector of a random country-specific intercept, φ_t is an element of a vector of time-fixed effects, ε_1 is a stochastic error term, and Φ is the cumulative distribution function of the standard Normal distribution. We assume the random intercepts are

[20] Following common practice in IMF program research, we also specify a linear probability model for the likelihood of being under an IMF program, obtaining similar results to the probit specification (Table A8).

multivariate Normally distributed, such that $u_i \sim \mathcal{N}(0, \sigma^2)$, with a fully flexible covariance matrix. In equation (1), α, β, and γ are estimable parameters.

As this is a Markov chain, it is sufficient to condition on the dependent variable lagged by one year and contemporaneous covariates. Formally, we have $\mathsf{Pr}(y_{it} \mid y_1, \ldots, y_{i[t-1]}, X_{it}, u_i, \varphi_t) = \mathsf{Pr}(y_{it} \mid y_{i[t-1]}, X_{it}, u_i, \varphi_t)$. The Markov chain may not be stationary, as it is driven by time-varying covariates. Initially, we proceed under the assumption that our covariates are exogenous. However, we wish to relax the assumption that X_{it} must be independent of the country-specific effects u_i. To this end, as noted above, we follow the "Chamberlain approach" and include the predictor means $\overline{X}_i$ as an additional regressor to the model, thereby obtaining a "within-between" specification wherein within-unit effects can readily be distinguished from between-unit effects.[21] To account for endogenous capital flight, we estimate a maximum-likelihood model consisting of two equations:

$$k_{it} = Z_{it}\kappa + \varphi_t + u_i + \varepsilon_2, \tag{2}$$

$$y_{it} = y_{i[t-1]}\alpha + \hat{k}_{it}\beta + X_{it}\gamma + u_i + \varphi_t + \varepsilon_3. \tag{3}$$

Equation 2 is a linear model involving a compound instrument Z used to isolate exogenous variation in capital flight. In our context, a valid instrument is a variable that correlates with capital flight while affecting IMF programs only through its impact on capital flight. Following recent advances in the political economy literature (e.g., Nunn and Qian, 2014), we construct a compound instrument consisting of the interaction between a country's level of international indebtedness and the (lagged) Volatility Index (VIX) (Scheubel and Stracca, 2019). There are several factors that motivate our approach. First, shocks in global financial markets — reflected in increases in the VIX — are arguably exogenous to a country's policy environment (Forbes and Warnock, 2012; Miranda-Agrippino and Rey, 2020). For instance, Forbes and Warnock (2012) analyzing 50 emerging and developed economies in the time span between 1980 and 2009 find that global risk aversion (or changes in the VIX) trump domestic macroeconomic factors and outperform specifications based on U.S. interest rate dynamics when predicting capital outflow dynamics. Second, increases in

[21] The IMF literature often estimates simpler probit models without correlated random effects and predictor means included. We believe that our approach is a considerable improvement as it addresses potential bias arising from correlation between country-specific effects and the covariates.

the VIX reflect increasing global investor aversion leading to a drying up of funds in global equity markets and thus making it less attractive to move funds abroad (Miranda-Agrippino and Rey, 2020). A caveat in using a global VIX measure is a lack of variation across countries over time. Furthermore, using it as a sole instrument would (most certainly) violate the exclusion restriction due to the fact that increases in the VIX have been associated with sudden stops in capital inflows (Eichengreen, Gupta and Mody, 2008). To compensate for these shortcomings, we interact this variable with a measure of the level of foreign indebtedness. Besides capturing a country's vulnerability to changing investor sentiments, foreign debt is an important fuel component for capital flight (Boyce and Ndikumana, 2017; Andersen, Johannesen and Rijkers, 2020). International debt inflows seem to disappear through an almost invisible revolving door into offshore financial destinations. For example, Andersen, Johannesen and Rijkers (2020, 1) estimate that official World Bank lending corresponds to a 7.5% increase in offshore bank deposits. Thus, the instrument identifies the differential effect of capital flight on the propensity of IMF programs in countries with high indebtedness versus countries with low indebtedness. We would expect that less global financial market volatility better predicts capital flight in countries that are relatively more indebted, as it becomes more attractive to recycle debt inflows in international financial markets (given higher returns in light of lower volatility). The compound instrument is plausibly excludable given that we control for its constituent terms which may be related to factors that predict IMF programs independently from capital flight. We also include fixed effects, and control variables, but due to loss of observations, our compound instruments became too weak when we included the full set of control variables. We therefore use a model with minimal controls in the instrument equation. Equation (2) is used to generate $\hat{k}_{it}$ in equation (3), which is a linear probability model with a lagged dependent variable and country- and time-fixed effects, with errors allowed to freely correlate (Roodman, 2011).

Finally, we wish to assess the role of capital flight not only in relation to IMF programs as such but also in relation to specific conditionality clauses. For this purpose, we derive two more

equations with unequal observations, jointly estimated by maximum likelihood:

$$y_{it}^{P} = I_{it}\mu + X_{it}\eta + u_i + \varphi_t + \varepsilon_4, \tag{4}$$

$$(y_{it}^{C} \mid y_{it}^{P} = 1, \hat{y}_{it}^{P}, \hat{k}_{it}, X_{it}, u_i, \varphi_t) = \hat{k}_{it}\tau + X_{it}\lambda + u_i + \varphi_t + \varepsilon_5. \tag{5}$$

Equation (4) is an IMF program equation where P denotes program participation. Following Lang (2016), we linearize this program equation and use the interaction between the IMF liquidity ratio and the long-run probability of being under an IMF program as an instrument I to predict IMF program status, further including country-fixed effects, year effects, and control variables (where applicable). The results are qualitatively similar when we use a probit-type model with a lagged IMF program indicator to model selection into the sample. Equation (5) allows us to model the final quantity of interest, namely the expected conditionality burden y^C (where C stands for conditionality) as given by:

$$\mathbb{E}(y_{it}^{C} \mid y_{it}^{P} = 1, \hat{y}_{it}^{P}, y_{i[t-1]}^{C}, \hat{k}_{it}, X_{it}, u_i, \varphi_t).$$

The flexible cross-equation dependence structure allows for efficiency gains with respect to equation (4).

4 Results

4.1 Results for IMF program participation

Table 2 displays our estimates capturing the relationship between capital flight and IMF programs. 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 capital flight by one standard deviation increases the predicted probability for an IMF program by 3.2% — from 63.1% to 65.2% ($p < 0.05$) — in the model with baseline controls. Most notably, in the final model specification with the complete set of controls, an increase in capital flight raises the probability of IMF program participation by 3.45%

Capital flight and IMF programs

	(1)		(2)		(3)	
IMF program						
Capital flight	0.034***	(0.013)	0.040***	(0.013)	0.038***	(0.012)
IMF program (lagged)	2.372***	(0.105)	2.251***	(0.106)	2.247***	(0.106)
Capital outflow	-0.007	(0.011)	-0.009	(0.010)	-0.008	(0.010)
GDP per capita			-1.301***	(0.313)	-1.277***	(0.330)
Inflation growth			0.031	(0.023)	0.031	(0.023)
Reserves			-0.045**	(0.022)	-0.047**	(0.023)
Financial crisis			0.835***	(0.189)	0.870***	(0.191)
Democracy					0.089	(0.238)
Coup d'état					-0.592	(0.462)
UNGA alignment with G7					0.299**	(0.148)
Refugees					0.035	(0.026)
Observations	2543		2005		1984	
Pseudo-R2	0.511		0.531		0.537	

Table 2: 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 included. Robust standard errors clustered on countries in parentheses. Significance levels: $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

— from 60.8% to 62.9% ($p < 0.05$). Control variables behave as expected. For example, countries are more likely 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, Sturm and Vreeland, 2015). We also find strong evidence of recidivism — the tendency of countries to be repeat borrowers (Vreeland, 2003; Bird, Hussain and Joyce, 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. In terms of overall fit, the models do a decent job, given a moderately high McFadden Pseudo-R^2.

To create our alternative measure of capital flight, 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.[22] Second, based on this regression, we predict the level of capital outflows that is 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, again, an abnormally high positive outflow likely reflects capital flight that is not rooted in 'real' economic transactions. Third, we dichotomize the measure by creating a dummy variable for positive excess outflows.[23] Our proposed measure has its methodological roots in Rodrik (2008), who applies this logic for capturing real exchange under- and overvaluations. A key advantage of this measure is that the need for scaling disappears, rendering it more robust against measurement error.[24] We present our results in Table 3.

We find that an IMF program is 8.4% more likely (up from 62.0% to 67.2%), compared to circumstances of no excess capital outflows in the model with baseline controls ($p < 0.05$). As

[22] Both variables should be positively related for the following reason. According to macroeconomic theory, a current account surplus (a country has more exports 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 ($p < 0.001$).

[23] Our results are unaffected when considering actual deviations (Table A7). We prefer a dichotomized predictor because it would probably be more valid if measurement error was indeed present.

[24] Although it is intuitive, the drawback is that the measure cannot be instrumented, as it is based on the 'residual approach' whereby all meaningful information is derived from deviations from a baseline predicted value based on exports. For example, if we were to instrument capital flight using exports, this would yield no results because we would effectively have eliminated all abnormal deviations that cannot be explained by exports and that are likely driven by illicit activities.

Capital flight and IMF programs using excess deposits as an alternative measure

	(1)		(2)		(3)	
IMF program						
Excess deposits	0.488***	(0.129)	0.462***	(0.138)	0.473***	(0.137)
IMF program (lagged)	2.582***	(0.097)	2.402***	(0.108)	2.361***	(0.110)
Capital outflow	-0.002	(0.002)	-0.001	(0.001)	-0.001	(0.001)
GDP per capita			-1.290***	(0.356)	-1.370***	(0.403)
Inflation growth			0.036	(0.025)	0.039	(0.024)
Reserves			-0.066***	(0.024)	-0.063**	(0.025)
Financial crisis			0.625***	(0.208)	0.650***	(0.207)
Democracy					0.110	(0.222)
Coup d'état					-0.464	(0.510)
UNGA alignment with G7					0.328**	(0.138)
Refugees					0.036	(0.029)
Observations	2022		1606		1606	
Pseudo-R2	0.542		0.553		0.556	

Table 3: The dependent variable takes the value 1 if a country is under an IMF program and 0 otherwise across all model specifications. *Capital flight* takes the value of 1 if bank deposits exceed their predicted value — based on a country's exports — in a given year and 0 otherwise. The results were obtained using a correlated random-effects probit regressions with year effects and predictor means included. Robust standard errors clustered on countries in parentheses. Significance levels: $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

seen in Table 3, our result holds across different model specifications. Control variables conform to theoretical expectations. We also verify that controlling for differences of the capital flight variable does not alter our main result. For the export-based measure, even the difference is positively significant (Table A9).

We repeat our analysis using two alternative data sources. Using the GFI measure of trade-related value gaps between developing countries and all their trade partners, we find a positive relationship between capital flight and the likelihood of an IMF program, although the estimates are statistically significant at conventional levels only in the minimal model (Table A2). Using the data on real capital flight in 30 African countries, we find a weakly positive relationship between capital flight and IMF programs, albeit only when dropping the first decile of the least corrupt African countries (Table A3). While these results are consistent with the evidence thus far, we note the weak level of statistical significance and the apparent lack of effect homogeneity across the Africa sample.[25]

Another key threat for the robustness of our findings is that capital flight is unlikely to be exogenous with respect to IMF programs. This is to say that IMF intervention and capital flight might be jointly determined by a third factor — such as extensive corruption — impacting both variables and hence biasing our results. In our context, it could also be the case that capital flight is a result of an IMF program — i.e., reverse causality. To address these concerns, we perform a series of robustness checks.

First, to mitigate concerns about potential reverse causality biasing our results, we perform an analysis using quarterly data. To illustrate capital flight patterns around IMF programs, 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.[26] We find that average capital outflows peak

[25]However, in preview of our later results, we note here that there is a strong positive relationship between real capital flight and the number of conditions in an IMF program (Table A10). Since many African countries are under IMF programs most of the time, this is a strong finding that cannot be explained by sample selection effects. It also provides some intuition for the weak results on the African sample: because most African countries are under IMF programs most of the time, there is less variation left to explain.

[26]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). In the right panel of Figure 1, we exclude cases where there are other IMF program onsets in the three preceding years. The results are qualitatively unaffected, given that we again obtain a marked peak in capital outflow three quarters prior to program onset.

four quarters prior to IMF program onset and drop sharply thereafter, until the first quarter of an IMF program, where they reach their local minimum (see Figure 1).

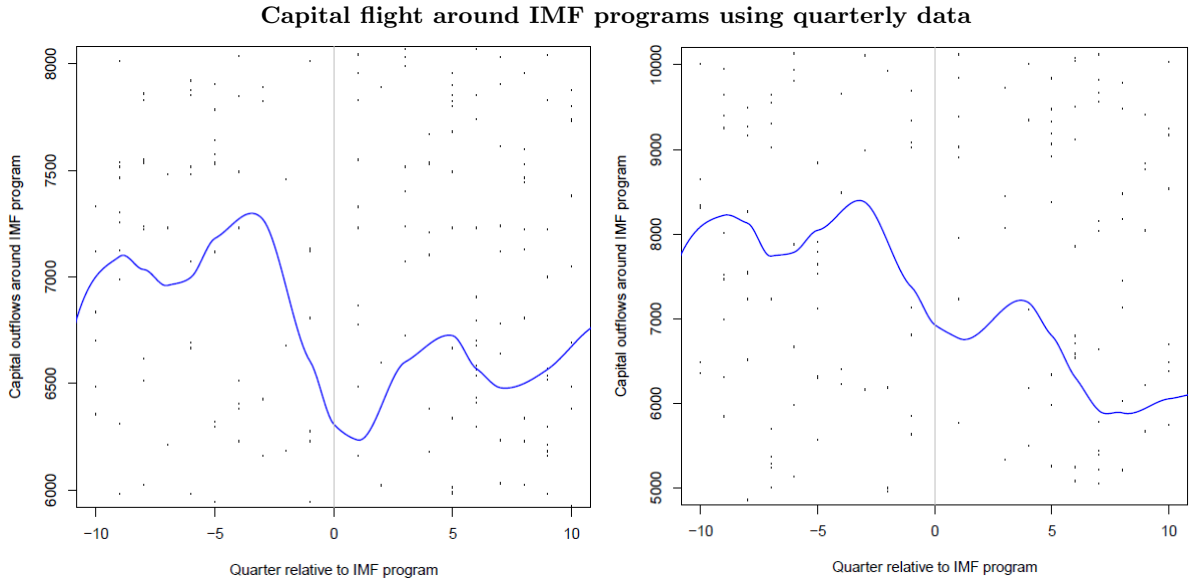

Figure 1: The left-hand graph shows the local polynomial fit of capital outflows around all 322 IMF program onsets in the sample period with available data on capital outflows to tax havens. The right-hand graph excludes all program cases where there was another IMF program onset in the three years prior.

After an IMF program is in place, average capital outflows tend to pick up again. This pattern cannot be attributed to an announcement effect and/or IMF induced policy conditions. We believe this pattern reflects a strategic anticipation of an IMF program and subsequent capital flight that ensures wealth is hidden in offshore accounts in advance of meeting the Fund at the bargaining table. Even if one considers that it may take up to one quarter to finalize negotiations for an IMF program (McDowell, 2017), the peak of capital outflow still lies before the decision to approach the Fund. To illustrate this point, we 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."[27] Leaving ample room for capital flight, it was not until March 2009 (or five quarters later) that the Tajik government officially submitted its letter of intent

[27] "Weekend Update on Tajik Liquidity Crisis." Wikileaks. Cable ID $07DUSHANBE1589\_a$.

to request funds through this instrument.[28]

Second, in an attempt to parse out capital flight driven by the behavior of wealthy elites, we exploit cross-country variation in capital account controls to distinguish illicit financial flows from other capital flight. Our assumption is that if capital flight serves to shield the assets of a wealthy elite before the arrival of the IMF, then the persistence of such an effect in the presence of capital controls is likely to capture illicit financial flows. Indeed, a rich literature on tax evasion and capital flight has clearly documented that it is politically well-connected, wealthy individuals who can effectively move funds abroad quickly and overcome cumbersome capital controls (Loungani and Mauro, 2001; Epstein, 2005; Zucman, 2015).[29] We therefore hypothesize that, in the presence of capital controls, any observed excess flight likely derives from illicit operations enacted by wealthy and well-connected elites to protect their private fortunes by circumventing regulatory protocols. To test for the viability of this mechanism, we perform a split-sample analysis wherein we discriminate between countries with open and closed capital accounts (Table A5). To further sharpen this analysis, we inspect cases where restrictions on capital outflows but not necessarily on capital inflows exist. The data for these analyses come from Gygli et al. (2018) and Eichengreen and Rose (2014). First, we find that the positive relationship between capital flight and IMF programs persists in the sub-sample of countries at relatively low levels of financial openness. This result holds for our main predictor as well as the alternative predictor based on excess capital flows. Second, consistent with our expectation, we also find a persistent effect in the sub-sample of countries with restrictions on outward capital flows but not inward capital flows.[30]

Finally, we perform an instrumental-variable analysis, the results of which are displayed in Table 4. We find that (instrumented) capital flight significantly increases the propensity of being under an IMF program. In substantive terms, an increase in capital flight by one standard deviation makes an IMF program more likely by 6.2% (up from 38.2% to 40.6%) in the baseline model ($p < 0.05$). All control variables remain unaffected. The instrument behaves exactly as expected and is moderately

[28] "Republic of Tajikistan: Letter of Intent, Memorandum of Economic and Financial Policies, and Technical Memorandum of Understanding." March 31, 2009.

[29] For example, Loungani and Mauro (2001) document for the case of Russia the ineffectiveness of capital outflow controls — in particular for well connected elites — to curb capital flight in the 1990s.

[30] Due to severely limited time-series overlap with our BIS measure, we took the within-country average of the Eichengreen-Rose measure and used the mean to split the sample.

strong, passing the conventional threshold of the Kleibergen-Paap statistic ($F > 10$).

In times of higher global financial market volatility, capital flight reacts more strongly in countries with lower levels of external indebtedness. We verify that our results hold for two alternative compound instrument specifications. Specifically, we use the average level of financial openness, as measured by the KOF index of financial globalization, interacted with the lagged VIX indicator. The rationale for this measure is that in times of global market distress capital flight reacts more strongly in financially less integrated countries (Forbes and Warnock, 2012). Similarly, we interact the lagged VIX with the average level of capital outflows to tax havens. The logic behind this instrument is that, in times of global financial market distress, capital flight should be better predicted for countries where capital flight is less common in general. In both cases, the results are qualitatively unaffected (Table A6). The results also hold when substituting the lagged VIX by the differenced VIX as well as for the lagged change in the U.S. interest rate instead of the VIX measure (Table A6).[31]

In sum, we find substantial evidence that capital flight increases the likelihood for an IMF program. This relationship holds across alternative sets of control variables, different measures and different samples, and when considering a series of threats to inference. In the next section, we examine for the subset of IMF borrowers whether capital flight is associated with a higher number of binding conditions, in line with our theoretical prediction.

4.2 Results for IMF conditionality

We now turn to our second hypothesis: country elites agree to more stringent conditionality in the wake of capital flight. To do so, we require more complex models given that countries must first select into IMF programs before they can be assigned any conditions. The simplest possible model now has two equations: one IMF program equation and one outcome equation for the number of binding conditions, defined only for observations under IMF program. The two-equation setup assumes that capital flight is exogenous with respect to IMF conditions. We report the results in Table 5.

[31] For all instruments, we also verified that they are plausibly excludable. Included in the outcome stage, the instruments were never significant (Conley, Hansen and Rossi, 2012).

Capital flight and IMF programs using instrumental variables

	(1)		(2)		(3)	
IMF program						
Capital flight	0.005**	(0.002)	0.005**	(0.002)	0.005**	(0.002)
IMF program (lagged)	0.615***	(0.022)	0.585***	(0.025)	0.585***	(0.024)
Capital outflow	0.000	(0.000)	0.001***	(0.000)	0.002***	(0.000)
GDP per capita			-0.305***	(0.092)	-0.304***	(0.090)
Inflation growth			0.005	(0.004)	0.004	(0.004)
Reserves			-0.006	(0.004)	-0.006	(0.004)
Financial crisis			0.204***	(0.036)	0.200***	(0.038)
Democracy					-0.063	(0.064)
Coup d'état					-0.098	(0.091)
UNGA alignment with G7					0.071*	(0.039)
Refugees					-0.003	(0.009)
Capital flight						
Compound instrument	-0.001***	(0.000)	-0.001***	(0.000)	-0.001***	(0.000)
VIX (lagged)	0.067**	(0.027)	0.067**	(0.026)	0.067**	(0.026)
External debt (lagged)	0.038***	(0.007)	0.038***	(0.007)	0.038***	(0.007)
IMF program (lagged)	0.346	(0.269)	0.345	(0.264)	0.347	(0.264)
IMF observations	2543		2005		1984	
Pseudo-R2	0.511		0.523		0.531	
Capital flight observations	1682		1682		1682	
Wihtin-R2	0.006		0.018		0.018	
F-statistic	11.817		11.800		11.838	

Table 4: 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 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: $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Capital flight and IMF programs using instrumental variables

	(1)		(2)		(3)	
IMF conditions						
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)
IMF program						
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	

Table 5: The dependent variable captures the number of IMF program conditions across all model specifications. The results were attained using 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: $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Our findings from a two-equation model — using only IMF program observations in the outcome stage while controlling for non-random selection into IMF programs — indicate that capital flight is positively associated with the number of conditions. In substantive terms, increasing capital flight by one standard deviation is related to 1.8 more binding conditions in an IMF program ($p < 0.01$). The result holds consistently across various sets of control variables, although only two control variables exert a consistent effect on the number of conditions. Specifically, countries obtain more conditions when they are relatively poor.

A potential caveat of our two-stage analysis is that we assume that capital flight is exogenous with respect to IMF conditions. To relax this assumption, we further consider a three-equation model in which we use the aforementioned instrument for capital flight (as per equation (2)) to calculate the predicted capital flight in the outcome equation. We report the results in Table 6.

We find a substantively similar effect of (instrumented) capital flight on the number of conditions, albeit at a lower level of statistical significance across models. Only in the baseline model do we find a statistically significant effect, amounting to about 1.5 additional conditions for an increase in capital flight by one standard deviation ($p < 0.05$). The instrument for capital flight is moderately strong ($F = 11$).[32] In the appendix, we probe robustness of our results on conditionality. Using the alternative sample of capital flight from Africa, we find a positively significant effect of capital flight and the number of IMF conditions across different model specifications (Table A10).

[32]The instrument for IMF programs collapses under inclusion of baseline controls, which is likely due to the short sample period.

Capital flight and IMF conditionality accounting for endogeneity

	(1)		(2)		(3)	
IMF conditions						
Capital flight	0.269	(0.199)	0.357**	(0.147)	0.324**	(0.146)
GDP per capita			-26.126***	(8.282)	-26.704***	(7.793)
Inflation growth			-0.059	(0.302)	-0.064	(0.295)
Reserves			1.562**	(0.716)	1.485**	(0.684)
Financial crisis			4.625	(3.137)	4.640	(2.911)
Democracy					3.390	(3.799)
Coup d'état					-3.171	(7.676)
UNGA alignment with G7					1.246	(2.159)
Refugees					-0.658	(0.980)
Capital flight						
Compound instrument	-0.001***	(0.000)	-0.001***	(0.000)	-0.001***	(0.000)
VIX (lagged)	0.065**	(0.027)	0.066**	(0.027)	0.065**	(0.027)
External debt (lagged)	0.038***	(0.007)	0.038***	(0.007)	0.038***	(0.007)
IMF program						
Compound instrument	-0.163***	(0.054)	-0.138*	(0.075)	-0.141*	(0.076)
IMF liquidity ratio	-0.001	(0.022)	0.048	(0.037)	0.055	(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					-0.088	(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	
Capital flight observations	1683		1683		1683	
Adjusted R2	0.091		0.350		0.358	
F-statistic	10.827		10.727		10.713	
IMF observations	2224		1612		1583	
Adjusted R2	0.443		0.442		0.440	
F-statistic	9.148		3.341		3.392	

Table 6: The dependent variable captures the number of IMF program conditions across all model specifications. The results were obtained using maximum likelihood estimation of a system of three equations. All equations include country-fixed effects and year-fixed effects. Robust standard errors clustered on countries in parentheses. Significance levels: $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Synthesizing our empirical findings, we find supporting evidence that countries are more likely to come under an IMF program in the wake of capital flight. In addition, we reveal that under these circumstances, countries tend to agree to more stringent conditionality. Taken together, the results lend support to our political economy argument emphasizing a first-order effect of capital flight on the incidence and design of IMF programs.

5 Conclusion

The IMF plays a potentially vital role in supporting countries during times of economic and financial hardship. In this role, the Fund has been described 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] Ever since assuming the role of a financial lifeguard for countries in need, political economists 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).

Complementing this extensive literature, we analyze the role of international capital flight and its impact on IMF involvement and program design. Given (seemingly) endless possibilities of sophisticated financial engineering, we argue that a country's elites can privatize economic gains moving funds into offshore financial destinations, thereby increasing a country's vulnerability to financial shocks and thus the likelihood of appearing on the client list of the Fund. At the same time, in its attempts to stop the financial bleeding and capital flight, the IMF has a narrow repertoire and often attaches more conditions. Thus, we argue that the costs of capital flight are socialized and levied – under the auspices of the IMF – onto the population at large. From a policy perspective this implies that it is the wealthy of a country that can benefit from IMF bailouts without necessarily having to share the burden of these IMF-induced adjustments.

Our insights rest on a series of econometric models producing results that are remarkably robust, even when considering different measures of capital flight and numerous model specifications. At the same time our findings leave ample room for future research. In particular, our analysis is silent

[33] "Christine Lagarde: Can the Head of the IMF Save the Euro?" The Guardian. May 25, 2012.

on the question of whether domestic investors fleeing the country before the arrival of the IMF ever return — and if so, it is unclear in what shape or form (e.g., FDI investors)? Furthermore, it is unknown which conditions will deter or incentivize investors to return. Although existing literature tries to address these questions (Breen and Egan, 2019), we believe that analyzing capital flight dynamics in the context of IMF programs represents an important avenue for future research.

Besides strengthening governance structures and anti-corruption measures in lending programs, we believe that formulating financing clauses denying bailouts for firms and individuals that engage in tax avoidance and 'Phantom' FDI schemes might produce tangible program outcomes. To date, "a handful of European governments, including Denmark and France, have barred emergency cash for any companies registered in countries on the EU's list of non-cooperative tax jurisdictions."[34] Thus, international organizations could require governments to implement similar clauses, while also addressing (and redressing) the adverse distributional effects of their own policy interventions. Our findings stress the importance of IMF program design features that are disproportionally levied on lower income segmentsthat cannot shield their wealth abroad. Consequently, a stronger focus on socially equitable reform measures in combination with greater emphasis on closing financial loopholes are warranted to reduce unwanted side-effects of IMF programs. Finally, the IMF has the potential to enhance global cooperation and coordination to mitigate the deleterious effects of international capital flight. With more than 100 countries currently awaiting financial relief, these policy implications for program access and design are of utmost importance to reduce the global economic fallout from the current COVID-19 pandemic.

[34] "Corporate Bailouts Should Come with Strings." The Financial Times. April 28, 2020.

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