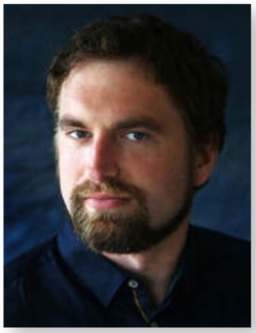
BOSTON UNIVERSITY Global Development Policy Center

GEGI WORKING PAPER 046 • 04/2021

Poverty, Inequality, and the International Monetary Fund

How Austerity Hurts the Poor and Widens Inequality

THOMAS STUBBS[1], ALEXANDER KENTIKELENIS, REBECCA RAY, KEVIN P. GALLAGHER



Thomas Stubbs *is a Senior Lecturer in International Relations at Royal Holloway, University of London, and a Research Associate in Political Economy at the Centre for Business Research, University of Cambridge.*

ABSTRACT

Among the drivers of socio-economic development, this article focuses on an important yet insufficiently understood international-level determinant: the spread of austerity policies to the developing world by the International Monetary Fund (IMF). In offering loans to developing countries in exchange for policy reforms, the IMF typically sets the fiscal parameters within which development occurs. Using an original dataset of IMF-mandated austerity targets, we examine how policy reforms prescribed in IMF programs affect inequality and poverty. Our empirical analyses span a panel of up to 79 countries for the period 2002-2018. Using instrumentation techniques, we control for the possibility that these relationships are driven by the IMF imposing harsher austerity measures precisely in countries with more problematic economies. Our findings show that stricter austerity is associated with greater income inequality for up to two years, and that this effect is driven by concentrating income to the top ten percent of earners while all other deciles lose out. We also find that stricter austerity is associated with higher poverty headcounts and poverty gaps. Taken together, our findings suggest that the IMF neglects the multiple ways its own policy advice contributed to social inequity in the developing world.

Keywords: poverty, inequality, International Monetary Fund, austerity

[1] Centre for Business Research, University of Cambridge, Cambridge, CB2 1AG, UK. * Correspondence to ths27@cam.ac.uk

Alexander Kentikelenis *is an Assistant Professor of Political Economy and Sociology at Bocconi University in Milan. His research focuses on the links between global processes, national responses, and local- or individual-level outcomes.*

Rebecca Ray *is an economist and senior research associate at the Boston University Global Development Policy Center. She is lead editor of 'China and Sustainable Development in Latin America: The Social and Environmental Dimension' and 'Development Banks and Sustainability in the Andean Amazon.'*

Introduction

The ongoing Covid-19 crisis has thrust millions into poverty and exacerbated already wide inequalities around the world. To assist countries in dealing with the fallout of the pandemic, global economic governance organizations have sprung into action. Both the International Monetary Fund (IMF) and the World Bank have approved a large number of new programs—albeit far below estimated need (Stubbs et al., 2021)—and are expected to scale up their lending over 2021. In particular, the IMF—the world's guardian of balanced budgets and debt service—has even given a green light to low- and middle-income countries opening the public coffers in order to handle the economic fallout of the pandemic. In April 2020, IMF Managing Director Kristalina Georgieva encouragingly told developing countries to "spend as much as you can, but keep the receipts" (IMF, 2020b). At the end of the year, she clarified that these emergency-spending receipts "cannot be stacked in a drawer and forgotten. They should be tracked, publicized, and audited" (IMF, 2020c). These comments point to growing fears of a coming austerity shock: the IMF has already advised countries to restart fiscal consolidation in 2021 (Gallagher, 2020; Munevar, 2020), and—through its loan-for-reform programs—it can ensure that this takes place. A rapid, radical, and premature return to austerity could further worsen poverty and inequality.

Given the centrality of the IMF in guiding economic recovery in developing countries, it is worth revisiting its record on poverty and inequality: how have they been impacted by IMF lending programs and their mandated policy reforms? This has been a topic of sustained controversy. In recent years, the IMF has styled itself as a champion of meeting Sustainable Development Goals pertaining to reducing poverty and inequalities (IMF, 2020a). This self-promoted profile builds on the organization's reputation following the publication of high-impact research on the determinants and consequences of inequality over the 2010s (Dabla-Norris et al., 2015; Fabrizio et al., 2015, 2017; IMF, 2014; Ostry et al., 2014), and even a volte-face on the merits of pursuing neoliberal reforms: as senior officials from the IMF's research department summarized, "*instead of delivering growth, some neoliberal policies have increased inequality, in turn jeopardizing durable expansion*" (Ostry et al., 2016, p. 38).

This rebranding of the IMF as an inequality-combating champion was a sharp departure from the reputation of the organization across developing countries. Both scholars and civil society have long highlighted the adverse social consequences of IMF-mandated reforms (e.g., Cornia et al., 1987; Pastor, 1987). Invariably, this work pointed to IMF-mandated austerity as a key culprit. Under its tutelage, countries had to institute drastic reductions in public spending, which directly and disproportionately impacted the poor and the vulnerable.

We revisit these controversies and innovate by examining the impact of the scale of mandated fiscal consolidation in IMF programs on poverty and inequality using a panel of up to 79 countries between 2002 and 2018. Leveraging novel data on IMF fiscal conditionality (Ray et al., 2020), we find that stricter austerity targets are associated with increases in income inequality for up to two years. Further analyses reveal that this effect is driven by the concentration of income into the top ten percent of earners, while all other income deciles lose out. In addition, we find that stricter austerity targets are associated with increases in both the share of the population living in poverty and the average distance the poor are from the poverty line. By using Heckman estimation techniques throughout, we also account for the possibility that these relationships are driven by the IMF imposing harsher austerity measures precisely in countries prone to socio-economic turmoil. Therefore, our results can be interpreted as causal.

The article is structured as follows. First, we describe recent debates on the social consequences of IMF programs, and explore the mechanisms via which austerity can exert influence on inequality and poverty. Second, we describe the data employed and our adopted identification strategy. Third, we present the results of our quantitative analysis. In the final section, we contextualize these findings and identify some limitations, policy implications, and directions for future research.

Poverty, Inequality, and the Role of the IMF

The controversies surrounding the impact of IMF programs on poverty and inequality have persisted over time. A key role in these debates is accorded to the role of fiscal consolidation policies, more simply known as "austerity." This refers to measures to secure debt service and reduce budget imbalances—commonly achieved through a mix of cuts in public spending and increases in taxation. While the IMF accepts that these policies require tough choices by politicians, it considers them nonetheless essential. As former IMF Managing Director Dominique Strauss-Khan explained, "countries only need IMF resources when they are 'sick'—when they face serious balance of payments problems requiring policy adjustment. If you go to the doctor with a liver problem, the doctor will treat you, yes, but will also insist that you stop drinking. So policy conditions are necessary" (Atkinson, 2009).

The IMF claims vulnerable populations are sheltered from austerity via "measures to increase spending on, and improve the targeting of, social safety net programs" (IMF, 2015). These predominantly take the form of social spending minima on health and education, a cornerstone in the IMF's purported attention to the social consequences of austerity (Clegg, 2014). Indeed, recent studies by IMF staff find their programs are associated with increases in social spending (Clements et al., 2013), and that social spending floors are "helpful in ensuring adequate allocations for poverty … in the short term in an environment of tight budgetary position" (Gupta et al., 2020, p. 6351).

However, the track record of IMF-mandated austerity has not lived up to its promise. Social spending floors are only implemented around half the time and have not protected social spending from austerity measures (Stubbs & Kentikelenis, 2018). In addition, most scholarship on the impact of IMF programs on poverty and inequality—summarized in Table 1—reveals adverse effects that persist over the medium term. Most recently, Lang (2020) documented causally that increases in inequality due to IMF programs result both from relative and absolute losses of income by the poor. Only one study finds no effects, and—in some specifications—inequality and poverty-reducing effects for IMF interventions (G. Bird et al., 2020). However, they use propensity score matching methods, which—among other issues—are not able to account for selection bias due to unobservable factors like political will (Bas & Stone, 2014; Stubbs et al., 2020; Vreeland, 2003).

How does the purported impact of austerity measures on poverty and inequality manifest? The mechanisms can be direct or indirect. Direct pathways refer to effects on individuals' incomes and livelihoods. Stark reductions in government spending lead to contractions in economic activity, which have follow-on implications for employment levels and salaries. This debate has been raging for years within and outside the IMF in relation to the so-called "fiscal multipliers"—that is, estimates of changes in government spending or tax revenues on the level of GDP (Batini et al., 2014). A persistent criticism has been that—depending on the method used—multipliers are sometimes estimated as being too low (Blanchard & Leigh, 2014). As a result, IMF projections can show that austerity measures are unlikely to have adverse effects on economic activity. The implications of wrong estimates can be devastating. For instance, in the case of IMF lending to Greece in the early 2010s, the organization severely miscalculated the effect of government

Kevin P. Gallagher *is a Professor of Global Development Policy at Boston University's Pardee School of Global Studies and Director of the Global Development Policy Center. Gallagher also serves on the United Nations' Committee for Development Policy and co-chairs the T-20 Task Force on International Financial Architecture at the G-20.*

Table 1. Empirical Evidence on the Relationship between IMF Programs, Poverty and Inequality

	Span	Countries	Sample composition	Method	Dependent Variable	Results: IMF programs associated with…
Pastor (1987)	1965-1981	18	Latin American countries	Yearly absolute and relative comparisons	Labour share of income	Absolute and relative reductions in labour share of income
Garuda (2000)	1975-1991	39	Low- and middle-income countries	Propensity score estimation	Gini coefficient and income of the poorest quintile	Adverse effects on poverty and inequality
Vreeland (2002)	1961-1993	110	All countries	Heckman-corrected regression	Labour share of income from manufacturing	Reductions in labour share of income
Easterly (2003)	1980-1998	65	Low- and middle-income countries	Ordinary and two-stage least-squares regression	Poverty spells	Poor benefit less from economic expansions during a programme compared to economic expansions without a programme, but they are also hurt less by contractions
Oberdabernig (2013)	1982–2009	86	Low- and middle-income countries	Treatment effect regressions and model averaging	Various poverty indicators and inequality indices	Adverse short-run effects on poverty and inequality, while for a 2000–09 subsample the results are reversed for inequality
Forster et al. (2019)	1980-2014	135	Low- and middle-income countries	Two-stage least-squares regression	Gini coefficient of disposable income	Increases in inequality after an IMF programme, and these effects persist in the medium term
Bird et al. (2020)	1990-2015	48	Low- and middle-income countries	Propensity score estimation	Various poverty indicators and inequality indices	No significant association with poverty and inequality
Lang (2020)	1973–2013	155	Low- and middle-income countries	Two-stage least-squares regression	Gini coefficient of net income	Increases in inequality for up to five years

spending cuts on the economy, plunging the country into a deep recession (Wyplosz & Sgherri, 2016). Further, austerity measures are also accompanied by cuts in the number and wages of public sector personnel—another direct effect on the disposable income of those holding such jobs.

Increased taxes also impact levels of economic activity and individual income and wealth. IMF programs are associated with increases in value-added taxes (Reinsberg et al., 2020), which place a greater burden on poorer households. Instead, opting for value-added taxes may mean that alternative forms of taxation—like income and corporate taxes—are not pursued; this favours business interests and can contribute to improved economic fortunes of the wealthy (R. M. Bird & Gendron, 2007; Emran & Stiglitz, 2005; Stewart, 2016; Stiglitz, 2010).

Turning to indirect mechanisms, these pertain to the impact of austerity on the availability of social protection policies, which can help cushion shocks to livelihoods. Closures of social services and reductions of staff, and the discontinuation of or cuts in social assistance programs can all lead to social groups having inadequate support at a time of heightened need (Stubbs et al., 2017). While these policies certainly affect the poor, individuals higher up on the income distribution are not immune. For instance, changes to social assistance programs might not be relevant to poor people in the informal sector, but they will impact the ability of those with lost formal sector jobs to maintain their livelihoods.

Data and Methods

Variables

We investigate the effects of IMF austerity on several inequality and poverty measures for countries between 2002 and 2018, controlling for known confounders. Data sources and summary statistics for all variables are reported in the Web Appendix (Table A1). As discussed earlier, our expectation is that IMF programs that require a greater fiscal adjustment and include more conditions will result in greater increases in poverty and inequality. Previous studies model such fiscal adjustment as homogenous, using either an IMF programme participation dummy or a count of the number of fiscal conditions. Allowing for such effect heterogeneity, we employ two IMF measures to isolate the effect of austerity.

For our main explanatory variable, we use a new dataset on IMF fiscal conditionality measuring the intensity of fiscal adjustment required by countries participating in IMF programs (Ray et al., 2020). The IMF fiscal adjustment indicator measures implied changes in the fiscal balance incorporated in so-called 'Quantitative Performance Criteria' (QPC) on headline fiscal deficit targets. QPCs are binding, such that failure to implement them results in suspension of the programme (Kentikelenis et al., 2016).[2] For each QPC, the fiscal target is measured as a share of the borrower's gross domestic product (GDP) and then compared to the baseline level from the calendar year prior to the signing of the programme. The IMF fiscal adjustment indicator is then calculated as the cumulative, annualized change in government fiscal balances between the baseline and the target, expressed in percentage points of GDP per year increase. An increase in a surplus or decrease in a deficit is shown as a positive value (i.e., more austerity), whereas a decrease in the surplus or increase in the deficit is shown as a negative value (i.e., less austerity).

A limitation of the dataset is that it *only* captures binding fiscal targets set for end-December, thereby omitting fiscal adjustment in country-years where binding targets are set for end-March, end-June, or end-September but *not* for end-December.[3] In addition, the dataset does not include QPCs that are one step removed from the fiscal balance, such as limits on credit to the government. These forms of measurement error necessitate additional steps to our identification strategy, described further below. In total, the dataset contains a maximum of 355 observations across 79 countries between 2002 and 2018.[4] To ensure results are not unduly impacted by outliers, we exclude nine observations that are more than three standard deviations from the mean.[5]

We also include a measure for the total number of IMF conditions in a given country-year, based on a newly updated version of the IMF Monitor's conditionality dataset (Kentikelenis et al., 2016). We only count binding conditions, following established procedures in this field of study (Stubbs et al., 2017). If jointly included with the fiscal conditionality measure, the coefficient estimate will capture all remaining aspects of conditionality. It therefore allows us to empirically isolate the effect of fiscal adjustment from other IMF-mandated policy reforms.

[2] The IMF frequently revises QPC targets, so the dataset records the fiscal balance target value that actually applied on the assessment date. The dataset also omits fiscal balance targets that were granted a waiver.

[3] The dataset omits mid-year fiscal deficit QPCs because there are no mid-year comparison points for annualizing.

[4] While the dataset includes some observations for the IMF fiscal adjustment indicator in 2001, we begin from 2002 because it is the first year of complete coverage. Total observations in regression analyses are fewer than the value reported here due to missing data on dependent and control variables.

[5] Outliers are as follows: Armenia in 2009 (-0.0965), Antigua and Barbuda in 2010 (0.1680) and 2011 (0.1780), Burkina Faso in 2010 (-.1116), Croatia in 2004 (-0.0930), Iraq in 2005 (0.2880) and 2006 (0.1557), Iceland in 2009 (-0.0954), and the Maldives in 2009 (-0.1111). In robustness checks, we add outliers to the analyses.

Our main measure of inequality is the Gini coefficient of disposable (post-tax, post-transfer) income reported by the Standardized World Income Inequality Database (SWIID) (Solt, 2020). SWIID is among the most widely used in studies on inequality (e.g., Afesorgbor & Mahadevan, 2016; Bergh & Nilsson, 2010; Forster et al., 2019; Kerrissey, 2015; Oberdabernig, 2013; Pleninger & Sturm, 2020), and provides more extensive coverage than other established sources (e.g., Deininger & Squire, 1998; Milanovic, 2019). In addition to using the Gini coefficient, we take advantage of underutilised data on income decile shares from the Global Consumption and Income Project (GCIP), in order to locate where changes in the income distribution occur. The income decile share is defined as the proportion of a country's total income held by a particular income decile in a given year. For example, for South Africa in 2015, decile one—the sum of incomes of the bottom ten percent of population—had 0.75 percent of the country's total income, decile five had 3.33 percent, and decile ten had 54.57 percent. GCIP data combine several sources to generate extensive time-series cross-sectional income data for all ten deciles (Lahoti et al., 2016).

Following previous research on inequality, we include a set of control variables for economic, political, and demographic factors that could plausibly affect the income Gini or decile shares: the natural logarithm of GDP per capita and its quadratic, because inequality is expected to rise in early stages of economic development and then decline in later stages (Afesorgbor & Mahadevan, 2016; Dreher & Gaston, 2008; Kuznets, 1955); average years of schooling, since more people with higher education implies that a larger share of the population will enjoy a wage premium (Bergh & Nilsson, 2010; Jaumotte et al., 2013; Meschi & Vivarelli, 2009; J. Woo et al., 2013); trade openness measured as exports plus imports as a share of GDP, because countries may weaken labour market policies and lower taxes—thereby reducing resources for social programs —in a race-to-the-bottom to improve global competitiveness (Dreher & Gaston, 2008; Meschi & Vivarelli, 2009); life expectancy, which could be either positively or negatively associated with inequality as previous studies find mixed results (Forster et al., 2019; Lang, 2020; Oberdabernig, 2013); and levels of democracy, since democratic governments are more inclined to help lower and middle classes with progressive taxes, minimum-wage laws, price subsidies, and public works provision, thereby having more equitable income distributions (Afesorgbor & Mahadevan, 2016; Dreher & Gaston, 2008; Reuveny & Li, 2003).[6] As current levels of inequality are heavily dependent on previous levels, we also include a lagged dependent variable (Lang, 2020; Meschi & Vivarelli, 2009; Oberdabernig, 2013; Pleninger & Sturm, 2020). In addition, the inclusion of country fixed effects account for time-invariant country-level characteristics, and year fixed effects control for common external shocks across all countries.[7]

For poverty, our main dependent variables are headcount ratios at various dollar-a-day values as a share of the population: the well-established $1.90 and $3.20 indicators from the World Bank's (2020) World Development Indicators dataset; and the $1.44, $1.86, and $2.50 measures from GCIP. The latter offer the advantage of greater data coverage, although are not yet as widely adopted by practitioners. We also use World Bank data on the poverty gap—how far, on average, the poor are from the poverty line—at $1.90 and $3.20 a day.

We include a standard set of controls in the analyses on poverty: GDP per capita (logged) and GDP growth, because better economic circumstances are expected to lift people out of poverty

6 Additional control variables for inequality analyses are included in robustness checks in the results section.

7 We are aware that the inclusion of a lagged dependent variable in the presence of fixed effects can produce biased estimates (Nickell, 1981). In our multiple-equation setup, we are unable to use the bias-corrected Anderson-Hsiao estimator for unbalanced dynamic panel data (Bruno, 2005). Nevertheless, this bias concentrates in the lagged dependent variable coefficient, which is not of substantive interest to us. In addition, since our data covers up to 16 years, any bias is likely to be negligible (N. Beck & Katz, 2011; Nunn & Qian, 2014).

(Adams, 2004; Easterly & Fischer, 2001; Oberdabernig, 2013; Ravallion & Chen, 1997); the income Gini and its interaction with GDP growth, as inequality exercises downward pressure on the extent to which growth benefits the poor (T. Beck et al., 2007; Dabla-Norris et al., 2015; Easterly, 2003; Mosley et al., 2004); and a corruption perception index, since corruption can reduce the share of government spending that reaches the poor (Hajro & Joyce, 2009; Mosley et al., 2004).[8] We also include country and year fixed effects. Unlike inequality, poverty rates are not heavily path dependent, so there is no need for a lagged dependent variable. Omitted from our list of controls is government social spending (Mosley et al., 2004), as it is a key channel by which IMF fiscal adjustment is hypothesized to influence poverty; by including it, we would block this pathway, giving rise to post-treatment bias (Angrist & Pischke, 2008).[9]

Estimation Techniques

We estimate inequality and poverty equations separately with Ordinary Least Squares (OLS) regression, set-out formally as follows:

$$INQ_{it} = \alpha_1 INQ_{it-1} + \alpha_2 IMFADJ_{it-1} + \alpha_3 IMFCOND_{it-1} + \alpha_4 X_{it-1} + \mu_i + \delta_t + u_{it} \quad (1)$$

$$POV_{it} = \beta_1 IMFADJ_{it} + \beta_2 IMFCOND_{it} + \beta_3 Y_{it} + \mu_i + \delta_t + v_{it} \quad (2)$$

where *INQ* and *POV* are the respective measures of inequality and poverty, i is the country, t is the year, *IMFADJ* is the IMF fiscal adjustment indicator, *IMFCOND* is the number of IMF conditions, μ_i is a set of country dummies and δ_t a set of year dummies, X and Y are vectors of control variables for inequality and poverty, α and β are the vectors of coefficients, and u and v the error terms. For inequality models, a lagged dependent variable is included and all other variables are lagged one year, following previous studies (Lang, 2020; Meschi & Vivarelli, 2009; Oberdabernig, 2013; Pleninger & Sturm, 2020); we also test on deeper lag structures for explanatory variables in additional regressions—at *t-2* and *t-3*—as research shows some effects unfold only after a substantive period of time has elapsed (Lang, 2020).

With regard to identification strategy, a key issue we face is that our IMF fiscal adjustment indicator does not capture targets set outside of end-December or that have fiscal implications that are one step removed from the budget balance. To account for this form of measurement error, we adopt two interlinked strategies: first, we restrict analyses only to country-years with a fiscal deficit condition in end-December; and, second, we perform a Heckman (1979) correction to account for non-random assignment into the sample.

Restricting analyses to observations with fiscal adjustment in end-December means that we capture a conditioned effect, or average treatment effect on the treated (ATET). This strategy is well-established in research investigating the effects of IMF conditionality at large, where analyses are confined to country-years featuring IMF programme participation (e.g., Beazer & Woo, 2016; Casper, 2017; Rickard & Caraway, 2019). In such an econometric setting, we can then make claims about the kind of socio-economic outcomes that a country under an IMF programme *with a different level of fiscal adjustment* might experience. However, a shortcoming of this approach is that results can *only* be interpreted within the context of country-years requiring fiscal adjustment.

[8] Although subjective measures can give rise to perception biases (i.e., halo effects), controlling for economic growth should capture any biases in the evaluation of corruption levels (Stubbs et al., 2014).

[9] Additional control variables for poverty analyses—including government social expenditures—are included in robustness checks in the results section.

We also face methodological challenges to identifying the ATET of IMF fiscal adjustment due to non-random assignment into the sample. There exist multiple sources of potential bias. On the one hand, measurement error on the adjustment variable would introduce bias if it were systematically correlated with the outcome, although we find this possibility unlikely. For example, if countries that are more likely to experience higher (or lower) poverty or inequality are also more likely to have headline fiscal deficit conditions for either March, June, or September, and not for December, then our sample would be biased toward a subset of stronger (or weaker) performers. Similarly, if the IMF is more (or less) likely to assign headline fiscal conditions to poor performers, instead allocated conditions with indirect fiscal implications, then we would again have a biased sample of stronger (or weaker) performers. On the other hand, the circumstances of countries receiving more severe IMF fiscal adjustment may be systematically different from those receiving more lenient adjustment, and these underlying differences may in turn affect inequality or poverty. While we can—and do—control for known observable factors, it may be that some of them are unknown or inherently unobservable, such as a country's political will to implement adjustment (Vreeland, 2003). Failure to account for factors that codetermine fiscal adjustment and inequality or poverty would result in a biased estimate of the effect of fiscal adjustment.

To deal with these endogeneity challenges, we employ a standard Heckman two-step correction. This technique is suitable when the outcome equation is limited to observations *only* where the country has selected into the treatment (Stubbs et al., 2020), in our case a headline condition on fiscal adjustment for end-December. It corrects for endogeneity bias by treating non-random assignment of countries into the treatment as an omitted variable problem (Heckman, 1979). In effect, the omitted variable is a catch-all term that captures the qualities that make the entity prone to selection into the treatment, including on unobservable variables. The approach entails initially estimating a probit model to predict a country's selection into the sample of observations with IMF fiscal adjustment values:

$$Pr(\ |IMFADJ|_{it} > 0) = F(\gamma_1 W_{it} + \gamma_2 Z_{it} + \delta_t + \varepsilon_{it}) \tag{3}$$

where *IMFADJ* denotes the absolute value of our IMF fiscal adjustment indicator, *i* is the country, *t* is the year, *F*(…) is the cumulative distribution function, *W* is a vector of control variables from the outcome equation for either inequality or poverty, *Z* is an excludable instrument that influences selection into IMF fiscal adjustment but not inequality or poverty, δ_t is a set of year dummies, γ_1 and γ_2 are the respective vectors of coefficients on the controls, and ε is the error term.[10] We are unable to introduce country dummies due to the well-known incidental parameter bias found in limited dependent variable models (Greene, 2004).

We then compute the inverse-Mills ratio or hazard, λ, for each observation in the sample:

$$\hat{\lambda}_{it} = \frac{\varphi\big((W_{it}+Z_{it})\widehat{\psi}\big)}{\Phi\big((W_{it}+Z_{it})\widehat{\psi}\big)} \tag{4}$$

where φ denotes the standard normal density function, Φ the standard normal cumulative distribution function, and $\hat{\lambda}$ is an estimated value taken from Equation 3. The inverse-Mills ratio is then added to our set of controls for inequality and poverty in Equations 1 and 2.

For selection into IMF fiscal adjustment, we incorporate two excludable instruments based on insights from the established literature on IMF programme participation. A valid instrument

[10] For inequality, explanatory variables for IMF fiscal adjustment enter lagged one year (at *t-1*), whereas for poverty they enter contemporaneously (at *t*), as is consistent with respective lag structures in the outcome equations.

ought to explain whether or not a country has an IMF fiscal adjustment condition (the relevance criterion), but must not be correlated with income inequality or poverty except through fiscal adjustment (the exclusion criterion). First, we use United Nations General Assembly (UNGA) voting distance with the United States. All else equal, countries that vote similarly to the US receive favourable treatment from the IMF (Steinwand & Stone, 2008; Stubbs et al., 2020; Thacker, 1999), so we expect them to be less likely to contain a fiscal adjustment condition; and UNGA voting is also unlikely to affect poverty and inequality except via adjustment. However, doubts have been cast on whether the Local Average Treatment Effect (LATE) of the instrument is representative of all IMF programs, not just politically motivated ones (Dreher et al., 2018). For this reason, we incorporate a second instrument. Drawing on recent methodological innovations in political science, we construct a compound instrument for selection into IMF fiscal adjustment (Forster et al., 2019; Lang, 2020; Nunn & Qian, 2014; Reinsberg et al., 2019; Stubbs et al., 2020). This entails interacting the mean country-specific fiscal adjustment indicator with the IMF's budget constraint, approximated by the natural log of its liquidity ratio. Using a compound instrument is akin to a continuous difference-in-difference design: the impact of fiscal adjustment on income inequality and poverty is compared between country-years with high and low exposure. The instrument is excludable to the extent that variables correlated with IMF fiscal adjustment do not affect inequality differently in low- versus high-exposure countries, conditional on controls.[11] In addition, we include a standard set of economic and political determinants specific to selection into IMF programs: current account balance as a share of GDP, foreign reserves in months of imports, and binary variables for legislative and executive elections.[12]

Likewise, the number of conditions may be endogenous as selection into conditionality is not random (Stone, 2008; Stubbs et al., 2020). With regard to inequality and poverty, the IMF may be more lenient towards poorer performing countries not necessarily because of distributional concerns *per se*, but to maintain social and political stability (Forster et al., 2019). Such systematic differences between countries that receive more conditions and those that receive fewer would mean the uncorrected estimates of IMF coefficients underestimate the true effect. The established approach to account for endogeneity of conditionality is to adopt an instrumental variable design and then use maximum likelihood estimation over a system of three simultaneous equations—conditionality, participation, and outcome equations (Stubbs et al., 2020). However, because analyses are restricted to non-zero values of fiscal adjustment, we lack the requisite number of observations for model convergence using MLE. Results on the effect of the number of conditions should therefore be interpreted with care, since our method is unable to purge the coefficients of bias—a common limitation in studies on conditionality effects (e.g., Rickard & Caraway, 2019; B. Woo, 2013). Nevertheless, it is plausible that some of the same qualities that make a country prone to selection into IMF fiscal adjustment also impact the number of conditions, incorporated in the Inverse-Mills ratio.

Results

Inequality

In Table 2, we present the results of our quantitative analyses on the Gini coefficient of disposable income on six variants of our model. Models 1 and 2 examine the impact of our explanatory variables on the income Gini coefficient after one year. In Model 1, we initially exclude the

[11] This econometric strategy is supported in analytical proofs that show the interaction of an endogenous variable (i.e., country-specific exposure to IMF fiscal adjustment) with an exogenous (i.e., IMF budget constraint) one can be interpreted as exogenous under mild assumptions (Bun & Harrison, 2019; Nizalova & Murtazashvili, 2016).

[12] Alternative control variables for the selection equation are included in robustness checks in the results section.

Table 2. Effect of IMF Fiscal Adjustment on Gini Coefficient of Disposable Income

	(1)	(2)	(3)	(4)	(5)	(6)
	t-1	t-1	t-2	t-2	t-3	t-3
Outcome equation	.	.	.	.	.	.
L.IMF fiscal adjustment	2.4792**	2.5686**	1.5341+	1.8158*	1.5764	1.5042
	[0.9598]	[0.9689]	[0.8965]	[0.8914]	[1.3834]	[1.3777]
L.Number of conditions	.	0.0010	.	0.0032*	.	-0.0007
	.	[0.0016]	.	[0.0014]	.	[0.0019]
L.Income Gini	0.9154***	0.9173***	0.9300***	0.9349***	0.9119***	0.9110***
	[0.0227]	[0.0229]	[0.0205]	[0.0202]	[0.0297]	[0.0295]
L.GDP per capita (log)	0.5533	0.4280	3.1580*	2.6833+	4.8104*	4.9181**
	[1.5550]	[1.5663]	[1.3783]	[1.3714]	[1.8684]	[1.8794]
L.GDP per capita^2 (log)	-0.0433	-0.0344	-0.1887*	-0.1549+	-0.2457*	-0.2535*
	[0.0964]	[0.0974]	[0.0844]	[0.0843]	[0.1139]	[0.1152]
L.Years of schooling	-0.1569*	-0.1518*	-0.0818	-0.0607	0.0569	0.0511
	[0.0750]	[0.0753]	[0.0707]	[0.0702]	[0.1233]	[0.1234]
L.Trade	0.0025+	0.0025+	0.0004	0.0004	0.0040*	0.0040*
	[0.0013]	[0.0013]	[0.0012]	[0.0012]	[0.0018]	[0.0018]
L.Life expectancy	-0.0448	-0.0456	-0.0576*	-0.0610*	-0.0489	-0.0480
	[0.0279]	[0.0278]	[0.0260]	[0.0256]	[0.0394]	[0.0390]
L.Democracy	0.0164	0.0162	-0.0486	-0.0484	-0.1342**	-0.1342**
	[0.0399]	[0.0399]	[0.0360]	[0.0354]	[0.0519]	[0.0514]
Inverse Mills ratio	-0.0919	-0.0927	-0.1189	-0.1273	-0.3552*	-0.3513*
	[0.0934]	[0.0933]	[0.0874]	[0.0867]	[0.1647]	[0.1635]
Constant	6.4438	6.7776	-4.8723	-3.5016	-14.8690+	-15.1852+
	[6.5082]	[6.5229]	[5.9346]	[5.8641]	[8.2166]	[8.1906]
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Selection equation	.	.	.	.	.	.
L.Income Gini	0.0008	0.0008	0.0023	0.0023	0.0035	0.0035
	[0.0085]	[0.0085]	[0.0088]	[0.0088]	[0.0092]	[0.0092]
L.GDP per capita (log)	2.4912***	2.4912***	2.4280***	2.4280***	2.2437***	2.2437***
	[0.5444]	[0.5444]	[0.5489]	[0.5489]	[0.5614]	[0.5614]
L.GDP per capita^2 (log)	-0.1801***	-0.1801***	-0.1738***	-0.1738***	-0.1625***	-0.1625***
	[0.0324]	[0.0324]	[0.0327]	[0.0327]	[0.0334]	[0.0334]
L.Years of schooling	0.0237	0.0237	0.0140	0.0140	0.0051	0.0051
	[0.0278]	[0.0278]	[0.0286]	[0.0286]	[0.0300]	[0.0300]
L.Trade	-0.0024+	-0.0024+	-0.0025+	-0.0025+	-0.0028*	-0.0028*
	[0.0014]	[0.0014]	[0.0014]	[0.0014]	[0.0014]	[0.0014]

	(1)	(2)	(3)	(4)	(5)	(6)
	t-1	t-1	t-2	t-2	t-3	t-3
L.Life expectancy	0.0204*	0.0204*	0.0189*	0.0189*	0.0188+	0.0188+
	[0.0095]	[0.0095]	[0.0095]	[0.0095]	[0.0097]	[0.0097]
L.Democracy	0.0047	0.0047	-0.0006	-0.0006	0.0093	0.0093
	[0.0260]	[0.0260]	[0.0268]	[0.0268]	[0.0282]	[0.0282]
L.Growth	-0.0376**	-0.0376**	-0.0375**	-0.0375**	-0.0368**	-0.0368**
	[0.0130]	[0.0130]	[0.0130]	[0.0130]	[0.0133]	[0.0133]
L.Current account	-0.0073	-0.0073	-0.0075	-0.0075	-0.0038	-0.0038
	[0.0074]	[0.0074]	[0.0077]	[0.0077]	[0.0081]	[0.0081]
L.Reserves	-0.0542**	-0.0542**	-0.0561**	-0.0561**	-0.0523*	-0.0523*
	[0.0198]	[0.0198]	[0.0203]	[0.0203]	[0.0208]	[0.0208]
L.Legislative election	-0.0911	-0.0911	-0.0963	-0.0963	-0.0367	-0.0367
	[0.1183]	[0.1183]	[0.1212]	[0.1212]	[0.1256]	[0.1256]
L.Executive election	0.1605	0.1605	0.1400	0.1400	0.1049	0.1049
	[0.1413]	[0.1413]	[0.1457]	[0.1457]	[0.1528]	[0.1528]
L.UNGA US distance	-0.4347***	-0.4347***	-0.4337***	-0.4337***	-0.4377***	-0.4377***
	[0.0989]	[0.0989]	[0.1014]	[0.1014]	[0.1067]	[0.1067]
L.IMF compound	4.8417*	4.8417*	4.1273*	4.1273*	3.3686	3.3686
	[1.9211]	[1.9211]	[1.9837]	[1.9837]	[2.0760]	[2.0760]
Constant	-9.1640***	-9.1640***	-8.8968***	-8.8968***	-8.1895***	-8.1895***
	[1.9165]	[1.9165]	[1.9289]	[1.9289]	[1.9607]	[1.9607]
Country fixed effects	No	No	No	No	No	No
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Diagnostics	.	.	.	.	.	.
N	1666	1666	1591	1591	1479	1479
N selected	172	172	164	164	151	151

Notes: Standard errors in brackets. + p<0.10, * p<0.05, ** p<0.01, *** p<0.001.

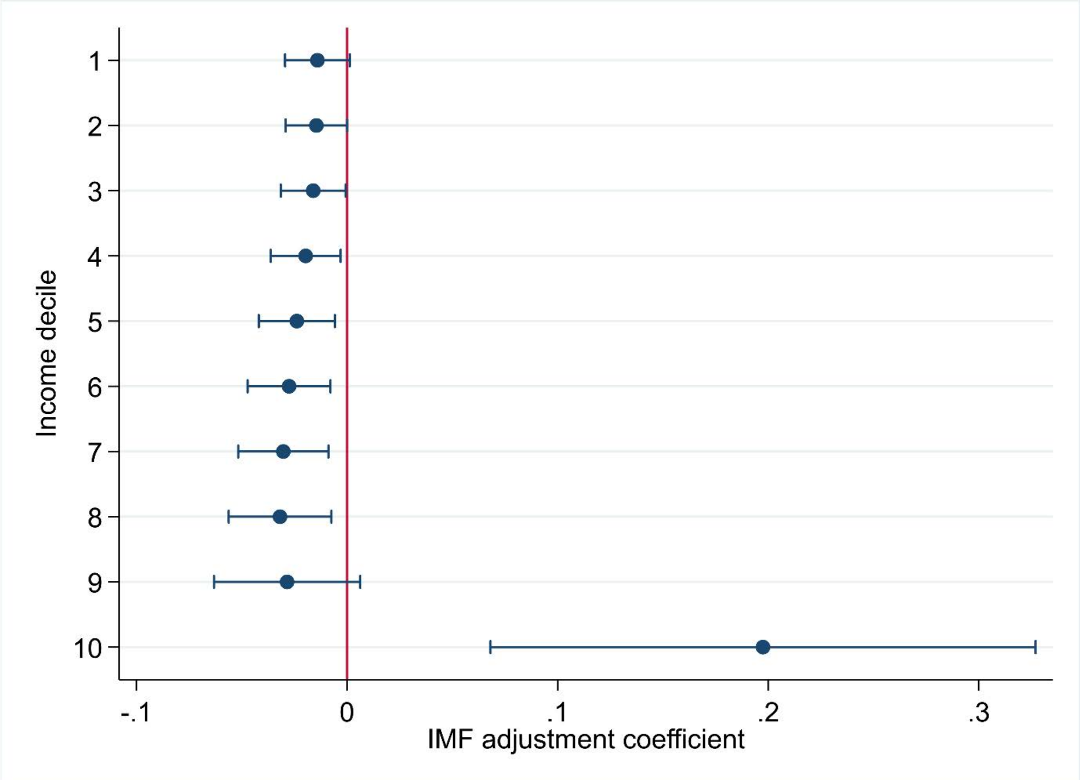
variable measuring the total number of conditions. Focusing on the outcome equation, IMF fiscal adjustment exhibits a positive and statistically significant relationship at *p<0.01*, meaning deeper fiscal consolidation is associated with more inequality. Results on control variables that reach standard thresholds of statistical significance follow the expected effect direction established by previous literature on inequality: the lagged dependent variable and trade lead to increases in the income Gini, while more years of schooling result in declines. Once adding a variable measuring the total number of IMF conditions in Model 2, findings for IMF fiscal adjustment and control variables remain substantively unchanged. On average, a country on an IMF programme requiring an annual fiscal adjustment of ten percentage points can expect the income Gini to increase by 0.26 points after one year, all other factors held constant. However, the IMF conditions variable does not reach standard thresholds of statistical significance. In the selection equation for both models, our excludable instruments are statistically significant, indicating that they are relevant instruments: positive for the IMF compound variable and negative for UNGA United States voting distance, as is consistent with expectations. Results on other statistically significant variables are positive for GDP per capita and life expectancy; and negative for GDP per capita squared, economic growth, foreign exchange reserves, and trade as a share of GDP. We also test on deeper lag structures for explanatory variables in additional regressions—at *t-2* and *t-3*—as research shows some effects unfold only after a substantive period of time has elapsed (Lang, 2020).

Next, we examine the effect of IMF fiscal adjustment after two years in Models 3 and 4. We find a weaker effect than that experienced after one year, and with less statistical certainty, at $p<0.10$ when excluding the conditions variable and $p<0.05$ when including it. Notably, the number of conditions now also yields a statistically significant positive effect, in line with our theoretical expectations, although the size of the effect is decidedly marginal: each additional condition increases the income Gini by 0.003 points. On average, an IMF fiscal adjustment of ten percentage points will result in an increase to income Gini of 0.18 points after two years, all else held constant. Among control variables, the lagged dependent variable and GDP per capita exerts a positive effect; GDP per capita squared and life expectancy exert a negative effect; and all other variables do not reach standard thresholds of significance. In selection equations, both our excludable instruments are strong and findings on controls remain consistent with the previous two models.

For Models 5 and 6, we find that after three years neither IMF fiscal adjustment nor the total number of conditions is associated with increases in the income Gini at standard thresholds of significance, although the effect direction for fiscal adjustment is comparable to that observed in the two-year lag models. This finding diverges from a recent study showing that IMF intervention increases inequality for up to five years (Lang, 2020), likely due to our more nuanced measure of IMF intervention, which captures the extent of fiscal adjustment required rather than a simple dummy variable for IMF program participation. Using this measure also restricts us to fewer observations—those country-years with IMF fiscal adjustment conditions—so our effect is measured with less precision (i.e., larger standard errors). Results on control variables are comparable to those in previous models, with the exception of democracy and the inverse Mills ratio which carry a statistically significant negative effect. In selection equations, the IMF compound instrument is no longer relevant. All else is substantively unchanged.

Next, we investigate the effect of IMF fiscal adjustment on inequality by focusing on income decile shares for all ten deciles of countries' income distributions, allowing us to unpack where in the income distribution losses and gains are accrued. In Figure 1, we summarize information from ten separate regression models by plotting the effect of IMF fiscal adjustment for each income decile share, conditional on the covariates. Full results are available in Web Appendix (Table A2). We find a statistically significant negative effect of fiscal adjustment on income decile shares one to eight. The magnitude of the effect expands incrementally from decile one (IMF adjustment coefficient of -0.014) to decile eight (coefficient, -0.032). While the fiscal adjustment coefficient for income decile share nine is also comparable (coefficient, -0.029), it does not reach standard thresholds of statistical significance. For income decile share ten, the effect of the IMF adjustment coefficient turns positive and is large relative to the other deciles (coefficient, 0.198). These results indicate IMF fiscal adjustment targets fostered inequality by concentrating income to the top ten percent of earners. While all other deciles lose out (with the possible exception of decile nine), the biggest losses are accrued by middle-class earners, plausibly a product of wage, employment, and pension cuts for civil servants.

Figure 1. IMF Fiscal Adjustment Effect on Share of Income Decile



Notes: Error bars are 95 percent confidence intervals.
Source: Authors' calculations.

We perform a series of robustness checks presented in the Web Appendix. To begin with, we check that findings on the income Gini after one year hold using three sets of alternative controls (Table A3). First, based on the study by Forster and colleagues (2019), we include GDP per capita (logged), trade, democracy, the Penn World Table human capital index, net inflows of foreign direct investment as a share of GDP, inflation, and unemployment as a share of total labour force (all lagged one year); we also include a lagged dependent variable, but exclude the measure of government orientation because our sample size is reduced by 45 percent due to missing data. In this context, IMF fiscal adjustment maintains its statistically significant positive effect at $p<0.05$, although the effect size is attenuated (ten percentage point adjustment leads to a 0.19 income Gini increase). Second, following Meschi and Vivarelli (2009), we control for the lagged dependent variable, trade, lagged trade, human capital, lagged human capital, inflation, GDP per capita, and GDP per capita squared. Again, the effect for IMF fiscal adjustment holds at $p<0.05$ and is of comparable size (ten percentage point adjustment leads to a 0.22 income Gini increase). Third, we use Dreher and Gaston's (2008) model specification of a lagged dependent variable, the KOF globalisation index, GDP per capita, GDP per capita squared, and democracy. Results remain consistent ($p<0.05$, ten percentage point adjustment leads to a 0.17 income Gini increase).

We then test the effect of IMF fiscal adjustment on the income Gini after one year using four variations of our selection model (Table A4): a stripped version, incorporating outcome controls and the UNGA United States voting distance instrument only; Forster and colleagues' (2019) specification, which includes both a second-lag of an IMF programme participation dummy and the compound instrument, but excludes the UNGA United States voting distance instrument; a revised version of Forster and colleagues' (2019) model, with the second-lag of an IMF programme participation dummy and the UNGA United States distance instrument but without the IMF compound instrument; and another revised version that excludes the IMF programme participation dummy. Changes to variables included in the selection model do not substantively alter our results. Finally, we re-run our analyses on the income Gini after one year and on the ten income decile shares with IMF fiscal adjustment outliers included (Table A5). Our results remain robust.

Table 3. Effect of IMF Fiscal Adjustment on Various Poverty Indicators

	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Poverty headcount $1.90	**Poverty headcount $3.20**	**Poverty headcount $1.44**	**Poverty headcount $1.86**	**Poverty headcount $2.50**	**Poverty gap $1.90**	**Poverty gap $3.20**
IMF fiscal adjustment	30.6207+	42.1695	27.0144*	40.5987**	50.5262**	6.3759	20.5683+
	[16.1628]	[26.8615]	[11.3399]	[14.9030]	[18.6020]	[8.5301]	[12.1151]
Number of conditions	-0.0023	0.0628	-0.0210	0.0111	0.0852**	-0.0105	0.0086
	[0.0265]	[0.0439]	[0.0179]	[0.0237]	[0.0292]	[0.0141]	[0.0199]
GDP per capita (log)	-8.0782*	-26.6576***	-4.6548+	-9.7593**	-27.7945***	-0.1226	-7.4370**
	[3.2551]	[5.4858]	[2.4274]	[3.2160]	[3.9500]	[1.6806]	[2.4452]
GDP growth	-0.5504	-0.7304	-0.5308+	-0.6918	-0.3193	-0.2329	-0.3999
	[0.4766]	[0.8500]	[0.3206]	[0.4482]	[0.4912]	[0.2207]	[0.3613]
Income Gini	1.1713***	1.3890*	0.3086	0.9045**	2.0774***	0.5482**	0.8660***
	[0.3299]	[0.5590]	[0.2347]	[0.3115]	[0.3813]	[0.1688]	[0.2480]
Growth*Income Gini	0.0082	0.0118	0.0097	0.0111	0.0050	0.0045	0.0062
	[0.0120]	[0.0213]	[0.0082]	[0.0114]	[0.0127]	[0.0056]	[0.0091]
Corruption	0.0177	-0.0148	0.0370	0.0790	0.0551	0.0098	0.0095
	[0.0593]	[0.1027]	[0.0425]	[0.0576]	[0.0674]	[0.0291]	[0.0447]
Inverse Mills ratio	3.1296	6.5335+	2.9324*	4.7483*	3.3845	0.5770	2.4469+
	[1.9617]	[3.4523]	[1.4122]	[1.9424]	[2.2063]	[0.9351]	[1.4840]
Constant	20.1175	170.4532***	24.8525	40.4017	146.3666***	-19.2743	28.5072
	[25.6881]	[43.4399]	[20.1885]	[26.7406]	[32.8617]	[13.1882]	[19.3068]
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1782	1782	1836	1836	1836	1782	1782
N selected	130	130	184	184	184	130	130

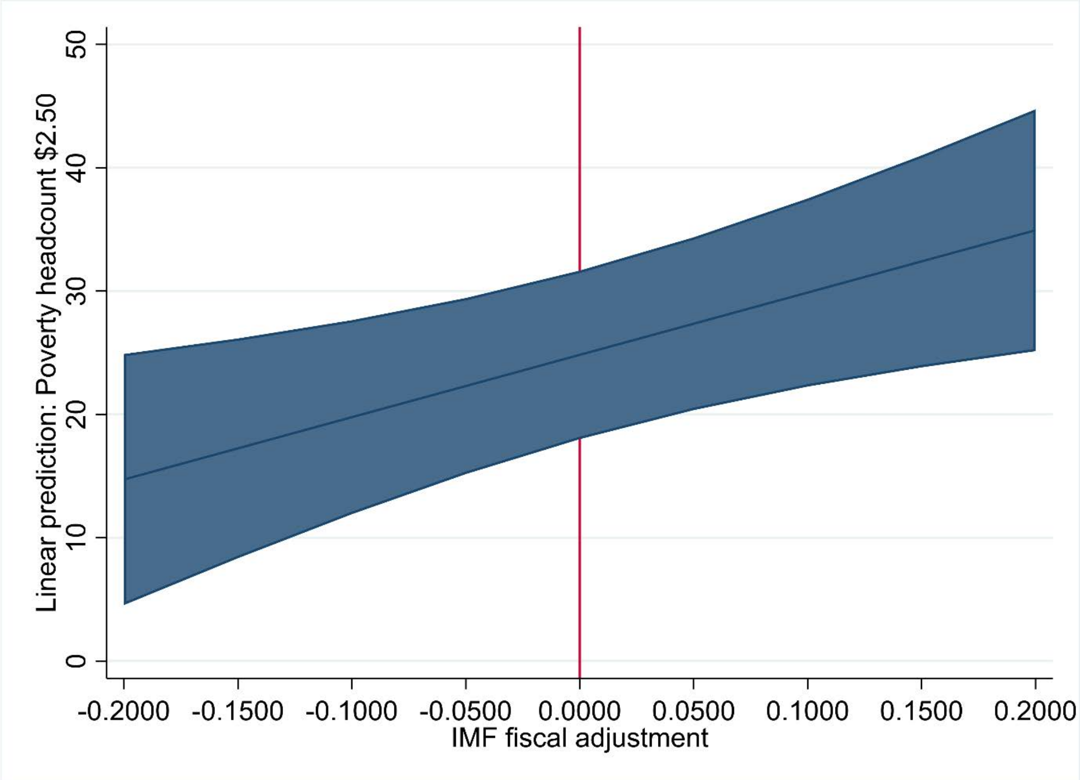
Notes: Standard errors in brackets. + p<0.10, * p<0.05, ** p<0.01, *** p<0.001. Selection models reported in Appendix.

Poverty

We investigate the impact of IMF fiscal adjustment on various poverty indicators in Table 3. Only the outcome equation is presented; full results are available in the Web Appendix (Table A6). For Models 7 and 8, the dependent variables are the World Bank measures of the poverty headcount ratio at $1.90 and $3.20 a day respectively. On the $1.90 a day measure, IMF fiscal adjustment shows a statistically significant positive effect at *p<0.10*, but does not reach standard thresholds of significance on the $3.20 measure day. We detect no effect for the number of IMF conditions on both models. Among statistically significant control variables, GDP per capita displays a negative effect and the income Gini a positive effect, as consistent with expectations. It may be that coefficient estimates are measured with low precision (i.e., high standard errors) because there are relatively few observations (*n selected=130*).

In Models 9, 10, and 11, we use poverty headcount measures available from GCIP, at $1.44, $1.86, and $2.50 a day respectively, giving us 54 more observations than the World Bank measures per model. We find a statistically significant positive association between IMF fiscal adjustment and all three measures of poverty, and statistically significant control variables fall in their expected direction. The effect of IMF fiscal adjustment is weakest on the $1.44 measure, where a ten percentage point adjustment would, on average, raise the poverty headcount ratio by 2.70 percentage points (*p<0.05*); for the $1.86 measure, the same adjustment would result in a 4.06 percentage point increase (*p<0.01*); and for the $2.50 measure, it would lead to an upsurge of 5.05 percentage points. The latter also yields a positive relationship with the number conditions at

Figure 2. Predictive Margins of Effect of IMF Fiscal Adjustment on Poverty



Notes: Effect of IMF fiscal adjustment on poverty headcount ratio at $2.50 a day (constant 2005 PPP $), with 95 percent confidence intervals. Predictive margins based on Model 11 (Table 2).

Source: Authors' calculations.

p<0.01, with each additional condition increasing the share of people in poverty at the $2.50 a day mark by 0.085 percentage points.

In Figure 2, we illustrate graphically how Model 11 would predict changes to the poverty headcount ratio at $2.50 a day, varying IMF fiscal adjustment and averaging the remaining covariates in the sample. For example, fixing IMF fiscal adjustment at five percentage points, our model would predict a poverty headcount at 27.35 percent of the population, compared to 24.83 percent with no adjustment.

Next, we consider the impact of IMF fiscal adjustment on the World Bank's poverty gap measures at $1.90 and $3.20 a day in Models 12 and 13. A statistically significant positive relationship is detected only for the $3.20 a day measure, and results on controls are consistent with poverty headcount models.

We then conduct additional tests to establish robustness of results in the Web Appendix. We initially re-estimate the model for the poverty headcount ratio at $2.50 using alternative control variables (Table A7): first, we replicate Mosley and colleagues' (2004) specification by removing growth and its interaction term with income Gini, and add a control for government social spending as a share of GDP; second, we add growth and its interaction with income Gini to the previous model; third, we use our original model but without the interaction term; fourth, we use our original model but without income Gini or its interaction with growth; fifth, following Beck and colleagues (2007), we add controls for years of schooling, inflation, trade, population growth, and the dependency ratio, but remove the income Gini; sixth, we then add the income Gini to the previous model; seventh, we add natural resource rents as a share of GDP and democracy to the previous model, since economies dominated by resource-based commodities are associated with growing poverty, whereas democratic governments are more likely to implement pro-poor policy (Nissanke & Thorbecke, 2006; Reuveny & Li, 2003); eighth, we then remove the income Gini from the previous model; ninth, we strip the previous model of remaining plausibly endogenous controls, namely growth and trade. Results on IMF fiscal adjustment are robust across all models, whereas findings on the number of conditions hold in seven of nine models (and approach statistical significance in the other two).

Following this, we re-run analyses on our original set of controls but using the same four variations of our selection equations described in robustness checks for inequality (Table A8). Results are substantively unchanged. Lastly, findings are robust to the inclusion of IMF fiscal adjustment outliers for all poverty headcount measures from GCIP, but not for headcount and gap measures from the World Bank (Table A9).

Discussion and Conclusions

This article incorporated new data on the intensity of fiscal adjustment to examine the effects of IMF austerity on poverty and inequality. In so doing, we overcame limitations of earlier studies that treat the extent of fiscal consolidation required from programs as homogenous. We used a dataset of up to 79 countries observed in the period 2002 to 2018 and deployed an appropriate econometric strategy to find that greater austerity leads to greater income inequality and higher poverty. Probing this relationship further, we found that the effect on inequality is exerted for up to two years, and is driven by concentrating income into the top ten percent of earners. For poverty, the effect is apparent across multiple poverty headcount measures—on the World Bank's $1.44 and GCIP's $1.86, $1.90, and $2.50 measures—and one of our two poverty gap measures—at $3.20. Confidence in our findings was bolstered by the fact that our results were consistent across a range of different models estimated in robustness checks. These findings call into question the flattering results of the IMF's own studies on the impact of its programs on vulnerable populations (Gupta et al., 2020).[13]

Before discussing the implications of these findings, we note two limitations. First, a potential problem was missing data for the IMF fiscal adjustment measure, which only captured headline fiscal targets set for end-December. To mitigate this concern, we restricted analyses to countries with a fiscal deficit condition and performed econometric corrections to account for non-random assignment into the sample. Our results can therefore only be understood relative to other countries undergoing IMF fiscal adjustment. Second, while we employed the best available methods to address potential endogeneity of IMF fiscal adjustment, due to computational constraints we were unable to apply a correction to potential endogeneity on the number of conditions—a common limitation in studies on conditionality effects (e.g., Rickard & Caraway, 2019; B. Woo, 2013).

Such limitations are not to be downplayed, yet the advances made in this article over previous studies together allow us to corroborate the early and all but overwhelming evidence on the impact of IMF on poverty and inequality. At this writing in the midst of the COVID-19 economic crisis, the IMF may be engaging in more country programs than during any other period in its history. The IMF has repeatedly said that the external shock from the COVID-19 crisis was an external one that is not a function of domestic policy. The Fund has underscored the need to protect the poor and vulnerable, and its pronouncements have been interpreted as 'officially burying' austerity (Giles, 2020). The evidence from this article strongly affirms that fiscal austerity will not help protect the vulnerable.

BIBLIOGRAPHY

Adams, R. H. (2004). Economic growth, inequality and poverty: Estimating the growth elasticity of poverty. *World Development*, *32*(12), 1989–2014. https://doi.org/10.1016/j.worlddev.2004.08.006

Afesorgbor, S. K., & Mahadevan, R. (2016). The impact of economic sanctions on income inequality of target states. *World Development*, *83*(1997), 1–11. https://doi.org/10.1016/j.worlddev.2016.03.015

Angrist, J., & Pischke, J.-S. (2008). *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton University Press.

Atkinson, C. (2009, October 1). *Debating the IMF with students*. IMF Blog. https://blogs.imf.org/2009/10/01/debating-the-imf-with-students/#more-630

Bas, M., & Stone, R. W. (2014). Adverse selection and growth under IMF programs. *Review of International Organizations*, *9*, 1–28. https://doi.org/10.1007/s11558-013-9173-1

Batini, N., Eyraud, L., Forni, L., & Weber, A. (2014). Fiscal multipliers: Size, determinants, and use in macroeconomic projections. In *IMF Technical Notes and Manuals*.

[13] Gupta and colleagues' (Gupta et al., 2020) study contains serious methodological shortcomings. They use a cross-sectional version of the autoregressive distributed lag specification (CS-ARDL), where the outcome (i.e., social spending) is conditioned on past levels of the outcome and on past levels of the treatment (i.e., IMF intervention), but with no additional control variables. While this kind of identification strategy is appropriate if there is no other variable that affects *both* treatment and outcome, in their context there are many such additional factors, including economic growth, trade, or democracy (Stubbs et al., 2020). The estimates they obtain are therefore biased and unreliable.

Beazer, Q. H., & Woo, B. (2016). IMF conditionality, government partisanship, and the progress of economic reforms. *American Journal of Political Science*, *60*(2), 304–321. https://doi.org/10.1111/ajps.12200

Beck, N., & Katz, J. (2011). Modeling dynamics in time-series-cross-section political economy data. *Annual Review of Political Science*, *14*, 331–352. https://doi.org/10.1146/annurev-polisci-071510-103222

Beck, T., Demirgüç-Kunt, A., & Levine, R. (2007). Finance, inequality and the poor. *Journal of Economic Growth*, *12*(1), 27–49. https://doi.org/10.1007/s10887-007-9010-6

Bergh, A., & Nilsson, T. (2010). Do liberalization and globalization increase income inequality? *European Journal of Political Economy*, *26*(4), 488–505. https://doi.org/10.1016/j.ejpoleco.2010.03.002

Bird, G., Qayum, F., & Rowlands, D. (2020). The effects of IMF programs on poverty, income inequality and social expenditure in low income countries: an empirical analysis. *Journal of Economic Policy Reform*. https://doi.org/10.1080/17487870.2019.1689360

Bird, R. M., & Gendron, P.-P. (2007). *The VAT in Developing and Transitional Countries*. Cambridge University Press.

Blanchard, O. J., & Leigh, D. (2014). Learning about fiscal multipliers from growth forecast errors. *IMF Economic Review*, *62*(2), 179–212. https://doi.org/10.1057/imfer.2014.17

Bruno, G. S. F. (2005). Estimation and inference in dynamic unbalanced panel-data models with a small number of individuals. *Stata Journal*, *5*(4), 473–500.

Bun, M. J. G., & Harrison, T. D. (2019). OLS and IV estimation of regression models including endogenous interaction terms. *Econometric Reviews*, *38*(7), 814–827. https://doi.org/10.1080/07474938.2018.1427486

Casper, B. A. (2017). IMF programs and the risk of a coup d'etat. *Journal of Conflict Resolution*, *61*(5), 964–996. https://doi.org/10.1177/0022002715600759

Clegg, L. (2014). Social spending targets in IMF concessional lending: US domestic politics and the institutional foundations of rapid operational change. *Review of International Political Economy*, *21*(3), 735–763. https://doi.org/10.1080/09692290.2013.833958

Clements, B., Gupta, S., & Nozaki, M. (2013). What happens to social spending in IMF-supported programmes? *Applied Economics*, *48*(28), 4022–4033. https://doi.org/10.1080/00036846.2012.744136

Cornia, G. A., Jolly, R., & Stewart, F. (1987). *Adjustment with a Human Face: Protecting the Vulnerable and Promoting Growth, Vol. 1*. Oxford University Press.

Dabla-Norris, E., Kochhar, K., Suphaphiphat, N., Ricka, F., & Tsounta, E. (2015). Causes and consequences of income inequality: A global perspective. In *IMF Staff Discussion Note* (SDN/15/13).

Deininger, K., & Squire, L. (1998). New ways of looking at old issues: Inequality and growth. *Journal of Development Economics*, *57*(2), 259–287. https://doi.org/10.1016/S0304-3878(98)00099-6

Dreher, A., Eichenauer, V. Z., & Gehring, K. (2018). Geopolitics, aid, and growth: The impact of UN Security Council membership on the effectiveness of aid. *World Bank Economic Review*, *32*(2), 268–286. https://doi.org/10.1093/wber/lhw037

Dreher, A., & Gaston, N. (2008). Has globalization increased inequality? *Review of International Economics*, *16*(3), 516–536. https://doi.org/10.1111/j.1467-9396.2008.00743.x

Easterly, W. (2003). IMF and World Bank Structural Adjustment Programs and poverty. In M. Dooley & J. Frankel (Eds.), *Managing Currency Crises in Emerging Markets* (pp. 361–391). University of Chicago Press.

Easterly, W., & Fischer, S. (2001). Inflation and the poor. *Journal of Money, Credit and Banking*, *33*(2), 160–178. https://doi.org/10.2307/2673879

Emran, M. S., & Stiglitz, J. E. (2005). On selective indirect tax reform in developing countries. *Journal of Public Economics*, *89*(4), 599–623. https://doi.org/10.1016/j.jpubeco.2004.04.007

Fabrizio, S., Furceri, D., Garcia-Verdu, R., Li, B. G., Lizarazo, S. V., Tavares, M. M., Narita, F., & Peralta-Alva, A. (2017). Macro-structural policies and income inequality in low-income developing countries. In *IMF Staff Discussion Note* (SDN/17/01).

Fabrizio, S., Garcia-Verdu, R., Pattillo, C., Peralta-Alva, A., Presbitero, A. F., Shang, B., Verdier, G., Camilleri, M.-T., Washimi, K., Kolovich, L., Newiak, M., Cihak, M., Otker, I., Zanna, F., & Baker, C. (2015). From ambition to execution: Policies in support of Sustainable Development Goals. In *IMF Staff Discussion Note* (SDN/15/18).

Forster, T., Kentikelenis, A., Reinsberg, B., Stubbs, T., & King, L. (2019). How structural adjustment programs affect inequality: A disaggregated analysis of IMF conditionality, 1980–2014. *Social Science Research*, *80*, 83–113. https://doi.org/10.1016/j.ssresearch.2019.01.001

Gallagher, K. P. (2020, October 13). The IMF's return to austerity? *IPS Journal*. https://www.ips-journal.eu/topics/democracy/the-imf-held-hostage-4710/

Garuda, G. (2000). The distributional effects of IMF programs: A cross-country analysis. *World Development*, *28*(6), 1031–1051. https://doi.org/10.1016/S0305-750X(00)00002-4

Giles, C. (2020, October 16). Global economy: The week that austerity was officially buried. *The Financial Times*. https://www.ft.com/content/0940e381-647a-4531-8787-e8c7dafbd885

Greene, W. (2004). The behaviour of the maximum likelihood estimator of limited dependent variable models in the presence of fixed effects. *Econometrics Journal*, *7*, 98–119. https://doi.org/10.1111/j.1368-423X.2004.00123.x

Gupta, S., Schena, M., & Yousefi, S. R. (2020). Revisiting IMF expenditure conditionality. *Applied Economics*, *52*(58), 6338–6359. https://doi.org/10.1080/00036846.2020.1790494

Hajro, Z., & Joyce, J. (2009). A true test: Do IMF programs hurt the poor? *Applied Economics*, *41*(3), 295–306. https://doi.org/10.1080/00036840601007229

Heckman, J. (1979). Sample selection bias as a specification error. *Econometrica*, *47*, 153–161. https://doi.org/10.2307/1912352

IMF. (2014). *Fiscal policy and income inequality*. International Monetary Fund.

IMF. (2015). Protecting the most vulnerable under IMF-supported programs. *IMF Factsheet*. http://www.imf.org/external/np/exr/facts/protect.htm

IMF. (2020a). IMF and the Sustainable Development Goals. *IMF Factsheet*. https://www.imf.org/en/About/Factsheets/Sheets/2016/08/01/16/46/Sustainable-Development-Goals

IMF. (2020b, April 15). Transcript of International Monetary Fund Managing Director Kristalina Georgieva's opening press conference, 2020 Spring Meetings. *IMF Transcript*. https://www.imf.org/en/News/Articles/2020/04/15/tr041520-transcript-of-imf-md-kristalina-georgieva-opening-press-conference-2020-spring-meetings

IMF. (2020c, December 16). Getting it right: Promoting equity and accountability in the COVID-19 response. https://www.youtube.com/watch?v=vSEjSdPQdQk&ab_channel=IMF

Jaumotte, F., Lall, S., & Papageorgiou, C. (2013). Rising income inequality: Technology, or trade and financial globalization? *IMF Economic Review*, *61*(2), 271–309. https://doi.org/10.1057/imfer.2013.7

Kentikelenis, A., Stubbs, T., & King, L. (2016). IMF conditionality and development policy space, 1985–2014. *Review of International Political Economy*, *23*(4), 543–582. https://doi.org/10.1080/09692290.2016.1174953

Kerrissey, J. (2015). Collective labor rights and income inequality. *American Sociological Review*, *80*(3), 626–653. https://doi.org/10.1177/0003122415583649

Kuznets, S. (1955). Economic growth and income inequality. *American Economic Review*, *45*(1), 1–28.

Lahoti, R., Jayadev, A., & Reddy, S. (2016). The Global Consumption and Income Project (GCIP): An overview. *Journal of Globalization and Development*, *7*(1), 61–108. https://doi.org/10.1515/jgd-2016-0025

Lang, V. (2020). The economics of the democratic deficit: The effect of IMF programs on inequality. *Review of International Organizations*. https://doi.org/10.1007/s11558-020-09405-x

Meschi, E., & Vivarelli, M. (2009). Trade and income inequality in developing countries. *World Development*, *37*(2), 287–302. https://doi.org/10.1016/j.worlddev.2008.06.002

Milanovic, B. (2019). Description of All the Ginis dataset. Mimeo.

Mosley, P., Hudson, J., & Verschoor, A. (2004). Aid, poverty reduction and the "new conditionality." *The Economic Journal*, *114*(496), F217–F243. https://doi.org/10.1111/j.1468-0297.2004.00220.x

Munevar, D. (2020). Arrested development: International Monetary Fund lending and austerity post Covid-19. EURODAD.

Nickell, S. (1981). Biases in dynamic models with fixed effects. *Econometrica*, *49*(6), 1417–1426. https://doi.org/10.2307/1911408

Nissanke, M., & Thorbecke, E. (2006). Channels and policy debate in the globalization–inequality–poverty nexus. *World Development*, *34*(8), 1338–1360. https://doi.org/10.1016/j.worlddev.2005.10.008

Nizalova, O. Y., & Murtazashvili, I. (2016). Exogenous treatment and endogenous factor: Vanishing of omitted variable bias on the interaction term. *Journal of Econometric Methods*, *5*(1), 71–77. https://doi.org/10.1515/jem-2013-0012

Nunn, N., & Qian, N. (2014). US food aid and civil conflict. *American Economic Review*, *104*(6), 1630–1666. https://doi.org/10.1257/aer.104.6.1630

Oberdabernig, D. (2013). Revisiting the effects of IMF programs on poverty and inequality. *World Development*, *46*, 113–142. https://doi.org/10.1016/j.worlddev.2013.01.033

Ostry, J. D., Berg, A., & Tsangarides, C. (2014). Redistribution, inequality, and growth. In *IMF Staff Discussion Note* (SDN/14/02).

Ostry, J. D., Loungani, P., & Furceri, D. (2016). Neoliberalism: Oversold. *Finance & Development*, *53*(2), 38–41.

Pastor, M. (1987). The effects of IMF programs in the Third World: Debate and evidence from Latin America. *World Development*, *15*(2), 249–262. https://doi.org/10.1016/0305-750X(87)90080-5

Pleninger, R., & Sturm, J.-E. (2020). The effects of economic globalisation and ethnic fractionalisation on redistribution. *World Development*, *130*, 104945. https://doi.org/10.1016/j.worlddev.2020.104945

Ravallion, M., & Chen, S. (1997). What can new survey data tell us about recent changes in distribution and poverty. *The World Bank Economic Review*, *11*(2), 357–382. https://doi.org/10.1093/wber/11.2.357

Ray, R., Gallagher, K. P., & Kring, W. N. (2020). IMF austerity since the global financial crisis: New data, same trend, and similar determinants. In *GEGI Working Paper* (No. 11).

Reinsberg, B., Kentikelenis, A., Stubbs, T., & King, L. (2019). The world system and the hollowing out of state capacity: How structural adjustment programs affect bureaucratic quality in developing countries. *American Journal of Sociology*, *124*(4), 1222–1257. https://doi.org/10.1086/701703

Reinsberg, B., Stubbs, T., & Kentikelenis, A. (2020). Taxing the people, not trade: The International Monetary Fund and the structure of taxation in developing countries. *Studies in Comparative International Development*, *55*(3), 278–304. https://doi.org/10.1007/s12116-020-09307-4

Reuveny, R., & Li, Q. (2003). Economic openness, democracy, and income inequality. *Comparative Political Studies*, *36*(5), 575–601. https://doi.org/10.1177/0010414003036005004

Rickard, S. J., & Caraway, T. L. (2019). International demands for austerity: Examining the impact of the IMF on the public sector. *Review of International Organizations*, *14*(1), 35–57. https://doi.org/10.1007/s11558-017-9295-y

Solt, F. (2020). Measuring income inequality across countries and over time: The Standardized World Income Inequality database. *Social Science Quarterly*, *101*(3), 1183–1199. https://doi.org/10.1111/ssqu.12795

Steinwand, M. C., & Stone, R. W. (2008). The International Monetary Fund: A review of the recent evidence. *Review of International Organizations*, *3*(2), 123–149. https://doi.org/10.1007/s11558-007-9026-x

Stewart, F. (2016). Changing perspectives on inequality and development. *Studies in Comparative International Development*, *51*(1), 60–80. https://doi.org/10.1007/s12116-016-9222-x

Stiglitz, J. (2010). Development-oriented tax policy. In R. H. Gordon (Ed.), *Taxation in Developing Countries: Six Case Studies and Policy Implications* (pp. 11–36). Columbia University Press.

Stone, R. W. (2008). The scope of IMF conditionality. *International Organization*, *62*(4), 589–620. https://doi.org/10.1017/S0020818308080211

Stubbs, T., & Kentikelenis, A. (2018). Targeted social safeguards in the age of universal social protection: The IMF and health systems of low-income countries. *Critical Public Health*, *28*(2), 132–139. https://doi.org/10.1080/09581596.2017.1340589

Stubbs, T., Kentikelenis, A., Stuckler, D., McKee, M., & King, L. (2017). The impact of IMF conditionality on government health expenditure: A cross-national analysis of 16 West African nations. *Social Science & Medicine*, *174*, 220–227. https://doi.org/10.1016/j.socscimed.2016.12.016

Stubbs, T., King, L., & Stuckler, D. (2014). Economic growth, financial crisis, and property rights: Observer bias in perception-based measures. *International Review of Applied Economics*, *28*(3), 401–418. https://doi.org/10.1080/02692171.2014.884549

Stubbs, T., Kring, W., Laskaridis, C., Kentikelenis, A., & Gallagher, K. (2021). Whatever it takes? The global financial safety net, Covid-19, and developing countries. *World Development*, *137*, 105171. https://doi.org/10.1016/j.worlddev.2020.105171

Stubbs, T., Reinsberg, B., Kentikelenis, A., & King, L. (2020). How to evaluate the effects of IMF conditionality: An extension of quantitative approaches and an empirical application to public education spending. *Review of International Organizations*, *15*(1), 29–73. https://doi.org/10.1007/s11558-018-9332-5

Thacker, S. (1999). The high politics of IMF lending. *World Politics*, *52*, 38–75. https://doi.org/10.1017/S0043887100020025

Vreeland, J. R. (2002). The effect of IMF programs on labor. *World Development*, *30*, 121–139. https://doi.org/10.1016/S0305-750X(01)00101-2

Vreeland, J. R. (2003). *The IMF and Economic Development*. Cambridge University Press.

Woo, B. (2013). Conditional on conditionality: IMF program design and foreign direct investment. *International Interactions*, *39*(3), 292–315. https://doi.org/10.1080/03050629.2013.782303

Woo, J., Bova, E., Kinda, T., & Zhang, Y. S. (2013). Distributional consequences of fiscal consolidation and the role of fiscal policy: What do the data say? In *IMF Working Paper* (No. 195). https://doi.org/10.5089/9781484390917.001

World Bank. (2020). *World Development Indicators*. http://data.worldbank.org

Wyplosz, C., & Sgherri, S. (2016). The IMF's role in Greece in the context of the 2010 Stand-By Arrangement. In *IEO Background Paper*.

APPENDIX

Table A1. Descriptive Statistics and Sources

Variable	Full sample (2002-2018)					Restricted to IMF fiscal adjustment country-years (2002-2018)					Source
	Obs.	Mean	Std. Dev.	Min.	Max.	Obs.	Mean	Std. Dev.	Min.	Max.	
Income Gini	2529	38.851	8.125	22.800	66.100	290	40.491	6.938	24.000	55.100	Standardized World Income Inequality Database (Solt, 2020)
Income decile 1	2204	0.017	0.009	0.002	0.045	258	0.014	0.007	0.003	0.038	Global Consumption & Income Project (Lahoti et al., 2016)
Income decile 2	2204	0.028	0.012	0.009	0.059	258	0.025	0.010	0.010	0.056	Global Consumption & Income Project (Lahoti et al., 2016)
Income decile 3	2204	0.038	0.014	0.014	0.071	258	0.035	0.011	0.019	0.067	Global Consumption & Income Project (Lahoti et al., 2016)
Income decile 4	2204	0.048	0.014	0.019	0.080	258	0.045	0.012	0.027	0.077	Global Consumption & Income Project (Lahoti et al., 2016)
Income decile 5	2204	0.059	0.014	0.026	0.090	258	0.056	0.012	0.038	0.086	Global Consumption & Income Project (Lahoti et al., 2016)
Income decile 6	2204	0.072	0.014	0.035	0.103	258	0.069	0.012	0.051	0.103	Global Consumption & Income Project (Lahoti et al., 2016)
Income decile 7	2204	0.089	0.013	0.047	0.128	258	0.086	0.011	0.068	0.123	Global Consumption & Income Project (Lahoti et al., 2016)
Income decile 8	2204	0.112	0.010	0.069	0.164	258	0.110	0.010	0.094	0.144	Global Consumption & Income Project (Lahoti et al., 2016)
Income decile 9	2204	0.153	0.009	0.116	0.204	258	0.153	0.008	0.138	0.189	Global Consumption & Income Project (Lahoti et al., 2016)
Income decile 10	2204	0.383	0.098	0.195	0.661	258	0.407	0.085	0.216	0.534	Global Consumption & Income Project (Lahoti et al., 2016)
Poverty headcount $1.90	1190	7.563	14.914	0.000	94.100	161	9.854	15.155	0.000	74.900	World Development Indicators (World Bank, 2020)

Variable	Full sample (2002-2018)					Restricted to IMF fiscal adjustment country-years (2002-2018)					Source
	Obs.	Mean	Std. Dev.	Min.	Max.	Obs.	Mean	Std. Dev.	Min.	Max.	
Poverty headcount $3.20	1190	15.675	22.957	0.000	98.500	161	22.080	21.559	0.100	90.700	World Development Indicators (World Bank, 2020)
Poverty headcount $1.44	2204	11.127	18.570	0.000	100.000	258	11.276	16.942	0.000	64.059	Global Consumption & Income Project (Lahoti et al., 2016)
Poverty headcount $1.86	2204	16.196	23.001	0.000	100.000	258	16.950	21.664	0.000	75.954	Global Consumption & Income Project (Lahoti et al., 2016)
Poverty headcount $2.50	2204	33.835	33.932	0.000	98.602	258	38.530	31.691	0.000	95.949	Global Consumption & Income Project (Lahoti et al., 2016)
Poverty gap $1.90	1190	2.751	6.258	0.000	63.600	161	3.640	6.709	0.000	35.500	World Development Indicators (World Bank, 2020)
Poverty gap $3.20	1190	6.365	11.282	0.000	77.100	161	8.578	11.325	0.000	55.400	World Development Indicators (World Bank, 2020)
IMF fiscal adjustment	3706	0.001	0.010	-0.111	0.288	355	0.006	0.032	-0.111	0.288	Dataset of IMF Fiscal Conditionality (Ray et al., 2020)
IMF binding conditions	3687	4.935	11.325	0.000	81.000	355	26.715	11.699	3.000	77.000	IMF Monitor Conditionality Dataset (Stubbs et al., 2021)
IMF liquidity ratio	3706	552.281	299.001	144.085	1223.298	355	563.983	296.988	144.085	1223.298	IMF Monitor Conditionality Dataset (Stubbs et al., 2021)
IMF participation dummy	3687	0.246	0.431	0.000	1.000	355	1.000	0.000	1.000	1.000	IMF Monitor Conditionality Dataset (Stubbs et al., 2021)
IMF compound	3706	0.004	0.022	-0.084	0.170	355	0.011	0.038	-0.084	0.161	Calculated, based on World Development Indicators (World Bank, 2020)
GDP per capita (log)	3403	8.629	1.508	5.272	12.186	354	7.877	1.110	5.800	10.794	Calculated, based on World Development Indicators (World Bank, 2020)
GDP per capita^2 (log)	3403	76.726	26.179	27.798	148.503	354	63.274	17.826	33.643	116.505	Calculated, based on World Development Indicators (World Bank, 2020)

Variable	Full sample (2002-2018)					Restricted to IMF fiscal adjustment country-years (2002-2018)					Source
	Obs.	Mean	Std. Dev.	Min.	Max.	Obs.	Mean	Std. Dev.	Min.	Max.	
Years of schooling	2415	8.059	3.176	0.987	17.532	255	7.352	2.963	1.066	13.239	Linear interpolation, based on Educational Attainment Dataset (Barro & Lee, 2013)
Trade (percent of GDP)	3178	93.400	60.255	0.167	860.800	340	81.989	34.403	27.618	225.023	World Development Indicators (World Bank, 2020)
Life expectancy	3405	70.313	9.024	41.376	85.417	349	67.680	8.589	41.376	81.898	World Development Indicators (World Bank, 2020)
Democracy index	3284	6.651	3.115	0.000	10.000	352	6.670	2.319	0.419	10.000	Freedom House/Imputed Polity (Quality of Government Institute, 2020)
Growth (GDP annual percent)	3448	3.689	5.373	-62.076	123.140	353	3.837	4.574	-14.759	26.417	World Development Indicators (World Bank, 2020)
Corruption index	2793	20.913	23.172	0.983	92.000	326	16.305	17.809	1.600	69.000	Corruption Perception Index (Transparency International, 2020)
Current account (percent of GDP)	3063	-1.864	11.694	-84.105	84.849	318	-5.783	9.546	-33.940	84.849	World Economic Outlook (IMF, 2019)
Reserves (month of imports)	2742	4.987	5.287	0.010	79.237	300	4.242	2.094	0.066	12.988	World Development Indicators (World Bank, 2020)
Legislative election dummy	2775	0.222	0.415	0.000	1.000	293	0.215	0.412	0.000	1.000	Database of Political Institutions (Cruz et al., 2018)
Executive election dummy	2777	0.118	0.322	0.000	1.000	293	0.157	0.364	0.000	1.000	Database of Political Institutions (Cruz et al., 2018)
UNGA US distance	3245	2.809	0.845	0.040	4.811	352	2.811	0.621	1.395	4.191	United Nations General Assembly Voting Data (Bailey et al., 2017)
Human capital index	2268	2.501	0.696	1.088	3.974	252	2.343	0.638	1.136	3.453	Penn World Table (Feenstra et al., 2015)
FDI inflows (percent of GDP)	3233	11.096	71.891	-58.323	1846.596	355	6.432	12.618	-6.370	146.420	World Development Indicators (World Bank, 2020)
Inflation (GDP deflator annual percent)	3448	5.851	9.474	-29.691	196.984	353	6.944	7.484	-20.627	40.703	World Development Indicators (World Bank, 2020)
Unemployment (percent of labour force)	3179	7.963	5.983	0.110	37.250	328	9.324	6.609	0.679	37.250	World Development Indicators (World Bank, 2020)

Variable	Full sample (2002-2018)					Restricted to IMF fiscal adjustment country-years (2002-2018)					Source
	Obs.	Mean	Std. Dev.	Min.	Max.	Obs.	Mean	Std. Dev.	Min.	Max.	
GDP per capita	3403	15098.490	22356.750	194.873	196061.400	354	4971.537	7276.628	330.396	48715.180	World Development Indicators (World Bank, 2020)
GDP per capita^2	3403	7.280E+08	2.440E+09	3.798E+04	3.840E+10	354	7.750E+07	2.990E+08	1.092E+05	2.370E+09	Calculated, based on World Development Indicators (World Bank, 2020)
Globalisation index	3154	59.069	15.188	25.059	91.313	329	57.727	12.059	29.326	84.839	KOF Globalisation Index (Gygli et al., 2019)
Social spending (percent of GDP)	1700	10.850	3.420	2.308	26.974	212	10.450	2.838	4.469	17.873	Calculated, based on World Development Indicators (World Bank, 2020)
Population growth (annual percent)	3682	1.395	1.551	-9.081	17.511	355	1.348	1.503	-9.081	5.432	World Development Indicators (World Bank, 2020)
Dependency ratio	3291	60.772	18.626	15.743	111.939	345	66.067	18.045	35.504	107.649	World Development Indicators (World Bank, 2020)
Natural resource rents (percent of GDP)	3239	7.685	12.089	0.000	74.132	332	7.276	10.852	0.000	63.935	World Development Indicators (World Bank, 2020)

Table A2. Effect of IMF Fiscal Adjustment on Share of Income Decile

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10
Outcome equation	.	.	.	.	.	.	.	.	.	.
L.IMF fiscal adjustment	-0.0141+	-0.0146+	-0.0161*	-0.0197*	-0.0239**	-0.0276**	-0.0303**	-0.0318*	-0.0285	0.1975**
	[0.0078]	[0.0074]	[0.0078]	[0.0085]	[0.0092]	[0.0100]	[0.0109]	[0.0124]	[0.0177]	[0.0660]
L.Number of conditions	0.0000**	0.0000*	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0001]
L.Decile share	0.3279***	0.3610***	0.2535***	0.2097**	0.2032**	0.2009**	0.1843*	0.1530+	0.1572+	0.2008**
	[0.0585]	[0.0626]	[0.0661]	[0.0687]	[0.0723]	[0.0764]	[0.0805]	[0.0832]	[0.0841]	[0.0764]
L.GDP per capita (log)	0.0854***	0.0563***	0.0319**	0.0071	-0.0153	-0.0362*	-0.0593***	-0.0913***	-0.1395***	0.1247
	[0.0128]	[0.0121]	[0.0120]	[0.0125]	[0.0135]	[0.0150]	[0.0170]	[0.0205]	[0.0295]	[0.0984]

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Decile 1	**Decile 2**	**Decile 3**	**Decile 4**	**Decile 5**	**Decile 6**	**Decile 7**	**Decile 8**	**Decile 9**	**Decile 10**
L.GDP per capita^2 (log)	-0.0052***	-0.0034***	-0.0019**	-0.0004	0.0010	0.0023*	0.0037***	0.0057***	0.0086***	-0.0080
	[0.0008]	[0.0007]	[0.0007]	[0.0008]	[0.0008]	[0.0009]	[0.0010]	[0.0013]	[0.0018]	[0.0060]
L.Years of schooling	0.0007	0.0009	0.0006	0.0004	0.0003	0.0003	0.0004	0.0006	0.0010	-0.0044
	[0.0008]	[0.0008]	[0.0008]	[0.0009]	[0.0009]	[0.0010]	[0.0011]	[0.0013]	[0.0019]	[0.0069]
L.Trade	-0.0000*	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-0.0001
	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0001]
L.Life expectancy	-0.0004*	-0.0002	0.0000	0.0002	0.0004+	0.0006*	0.0007**	0.0009**	0.0012*	-0.0032+
	[0.0002]	[0.0002]	[0.0002]	[0.0002]	[0.0002]	[0.0003]	[0.0003]	[0.0003]	[0.0005]	[0.0017]
L.Democracy	-0.0004	-0.0004	-0.0002	-0.0001	0.0001	0.0003	0.0005	0.0008+	0.0012+	-0.0019
	[0.0003]	[0.0003]	[0.0003]	[0.0003]	[0.0004]	[0.0004]	[0.0004]	[0.0005]	[0.0007]	[0.0025]
Inverse Mills ratio	0.0012	0.0009	0.0015+	0.0021*	0.0025*	0.0028*	0.0029*	0.0026*	0.0012	-0.0181*
	[0.0008]	[0.0007]	[0.0008]	[0.0009]	[0.0010]	[0.0011]	[0.0012]	[0.0012]	[0.0016]	[0.0071]
Constant	-0.3063***	-0.2089***	-0.1129*	-0.0180	0.0673	0.1491*	0.2441**	0.3792***	0.5893***	0.1282
	[0.0542]	[0.0508]	[0.0514]	[0.0542]	[0.0592]	[0.0658]	[0.0745]	[0.0891]	[0.1270]	[0.4265]
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Selection equation	.	.	.	.	.	.	.	.	.	.
L.Decile share	-5.5889	-3.6404	-3.4207	-3.4721	-3.7615	-4.4264	-5.7830	-7.9472	-8.0734	0.9852
	[8.9725]	[7.1384]	[6.6153]	[6.5517]	[6.7500]	[7.1278]	[7.5601]	[7.5988]	[5.8686]	[1.0162]
L.GDP per capita (log)	2.3243***	2.3506***	2.3494***	2.3472***	2.3441***	2.3401***	2.3403***	2.3812***	2.5510***	2.2780***
	[0.5337]	[0.5307]	[0.5306]	[0.5305]	[0.5293]	[0.5253]	[0.5157]	[0.5010]	[0.5054]	[0.5259]
L.GDP per capita^2 (log)	-0.1633***	-0.1648***	-0.1648***	-0.1646***	-0.1645***	-0.1643***	-0.1645***	-0.1673***	-0.1780***	-0.1607***
	[0.0319]	[0.0318]	[0.0318]	[0.0318]	[0.0317]	[0.0314]	[0.0308]	[0.0299]	[0.0304]	[0.0314]
L.Years of schooling	0.0099	0.0087	0.0087	0.0090	0.0094	0.0101	0.0111	0.0114	0.0063	0.0130
	[0.0292]	[0.0290]	[0.0291]	[0.0291]	[0.0292]	[0.0293]	[0.0293]	[0.0289]	[0.0284]	[0.0295]

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10
L.Trade	-0.0028*	-0.0028*	-0.0028*	-0.0028*	-0.0028*	-0.0028*	-0.0028*	-0.0028*	-0.0029*	-0.0028*
	[0.0014]	[0.0014]	[0.0014]	[0.0014]	[0.0014]	[0.0014]	[0.0014]	[0.0014]	[0.0014]	[0.0014]
L.Life expectancy	0.0167+	0.0165+	0.0167+	0.0170+	0.0173+	0.0179+	0.0188+	0.0199+	0.0180+	0.0199+
	[0.0096]	[0.0098]	[0.0099]	[0.0100]	[0.0102]	[0.0104]	[0.0106]	[0.0104]	[0.0095]	[0.0105]
L.Democracy	-0.0004	-0.0001	0.0000	0.0001	0.0003	0.0005	0.0010	0.0026	0.0057	0.0008
	[0.0256]	[0.0256]	[0.0255]	[0.0255]	[0.0255]	[0.0255]	[0.0256]	[0.0257]	[0.0259]	[0.0256]
L.Growth	-0.0374**	-0.0376**	-0.0377**	-0.0378**	-0.0379**	-0.0379**	-0.0381**	-0.0385**	-0.0391**	-0.0379**
	[0.0138]	[0.0137]	[0.0137]	[0.0137]	[0.0137]	[0.0138]	[0.0138]	[0.0138]	[0.0138]	[0.0138]
L.Current account	-0.0095	-0.0096	-0.0096	-0.0096	-0.0097	-0.0097	-0.0098	-0.0099	-0.0100	-0.0096
	[0.0076]	[0.0076]	[0.0076]	[0.0076]	[0.0076]	[0.0076]	[0.0076]	[0.0076]	[0.0076]	[0.0076]
L.Reserves	-0.0466*	-0.0464*	-0.0462*	-0.0460*	-0.0457*	-0.0454*	-0.0448*	-0.0441*	-0.0445*	-0.0450*
	[0.0202]	[0.0202]	[0.0202]	[0.0202]	[0.0202]	[0.0202]	[0.0202]	[0.0201]	[0.0201]	[0.0201]
L.Legislative election	-0.0333	-0.0337	-0.0339	-0.0339	-0.0339	-0.0337	-0.0331	-0.0313	-0.0273	-0.0336
	[0.1228]	[0.1228]	[0.1228]	[0.1228]	[0.1228]	[0.1228]	[0.1228]	[0.1229]	[0.1228]	[0.1229]
L.Executive election	0.1558	0.1560	0.1561	0.1560	0.1557	0.1551	0.1536	0.1499	0.1448	0.1538
	[0.1478]	[0.1477]	[0.1477]	[0.1477]	[0.1478]	[0.1478]	[0.1478]	[0.1478]	[0.1475]	[0.1479]
L.UNGA US distance	-0.3976***	-0.3973***	-0.3991***	-0.4006***	-0.4022***	-0.4041***	-0.4058***	-0.4010***	-0.3688***	-0.4148***
	[0.1058]	[0.1073]	[0.1083]	[0.1090]	[0.1093]	[0.1091]	[0.1078]	[0.1049]	[0.1039]	[0.1082]
L.IMF compound	5.0400*	5.0788*	5.0989*	5.1143*	5.1270*	5.1383*	5.1479*	5.1451*	5.0925*	5.0886*
	[2.2454]	[2.2420]	[2.2405]	[2.2398]	[2.2396]	[2.2396]	[2.2395]	[2.2379]	[2.2337]	[2.2410]
Constant	-8.5619***	-8.6441***	-8.6217***	-8.5908***	-8.5451***	-8.4679***	-8.3365***	-8.1963***	-8.4412***	-9.0379***
	[2.0184]	[2.0200]	[2.0323]	[2.0477]	[2.0649]	[2.0799]	[2.0803]	[2.0357]	[1.9293]	[1.8727]
Country fixed effects	No	No	No	No	No	No	No	No	No	No
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Diagnostics	.	.	.	.	.	.	.	.	.	.
N	1517	1517	1517	1517	1517	1517	1517	1517	1517	1517
N selected	156	156	156	156	156	156	156	156	156	156

Table A3. Robustness Controls for Effect of IMF Fiscal Adjustment on Gini Coefficient of Disposable Income

	(11)	(12)	(13)	(14)	(15)	(16)
	Forster et al. (2019)	Forster et al. (2019)	Meschi & Vivarelli (2009)	Meschi & Vivarelli (2009)	Dreher & Gaston (2008)	Dreher & Gaston (2008)
Outcome equation	.	.	.	.	.	.
L.IMF fiscal adjustment	1.9803*	1.9234*	2.2982*	2.1786*	1.6942+	1.7270*
	[0.9363]	[0.9475]	[0.9463]	[0.9509]	[0.8757]	[0.8781]
L.Number of conditions	.	-0.0006	.	-0.0015	.	0.0007
	.	[0.0016]	.	[0.0015]	.	[0.0015]
L.Income Gini	0.8807***	0.8782***	0.9043***	0.9008***	0.9278***	0.9286***
	[0.0216]	[0.0226]	[0.0223]	[0.0225]	[0.0204]	[0.0205]
L.GDP per capita (log)	-0.2103	-0.2276	.	.	.	.
	[0.2097]	[0.2144]	.	.	.	.
L.Human capital	-1.7039***	-1.7476***	-0.988	-0.8643	.	.
	[0.3940]	[0.4099]	[2.0294]	[2.0268]	.	.
Human capital	.	.	-0.4967	-0.7017	.	.
	.	.	[1.9004]	[1.9056]	.	.
L.Trade	0.0011	0.0011	-0.0001	-0.0002	.	.
	[0.0014]	[0.0014]	[0.0018]	[0.0018]	.	.
Trade	.	.	0.0023	0.0023	.	.
	.	.	[0.0022]	[0.0022]	.	.
L.FDI inflows	-0.0002	-0.0002	.	.	.	.
	[0.0017]	[0.0017]	.	.	.	.
L.Inflation	0.0026	0.0025	.	.	.	.
	[0.0023]	[0.0023]	.	.	.	.
Inflation	.	.	0.0006	0.0007	.	.
	.	.	[0.0024]	[0.0024]	.	.
L.Unemployment	-0.0088	-0.0087	.	.	.	.
	[0.0086]	[0.0086]	.	.	.	.
L.Democracy	0.0499	0.0519	.	.	.	.
	[0.0374]	[0.0378]	.	.	.	.

	(11)	(12)	(13)	(14)	(15)	(16)
	Forster et al. (2019)	Forster et al. (2019)	Meschi & Vivarelli (2009)	Meschi & Vivarelli (2009)	Dreher & Gaston (2008)	Dreher & Gaston (2008)
Democracy	.	.	.	.	-0.0747+	-0.0744+
	.	.	.	.	[0.0390]	[0.0389]
GDP per capita	.	.	-0.0002**	-0.0002**	-0.0003***	-0.0003***
	.	.	[0.0001]	[0.0001]	[0.0001]	[0.0001]
GDP per capita^2	.	.	0.0000*	0.0000*	0.0000***	0.0000***
	.	.	[0.0000]	[0.0000]	[0.0000]	[0.0000]
Globalisation index	.	.	.	.	0.0291***	0.0293***
	.	.	.	.	[0.0086]	[0.0086]
Inverse Mills ratio	-0.0193	-0.0198	-0.0233	-0.0156	-0.0191	-0.0206
	[0.1173]	[0.1172]	[0.0943]	[0.0943]	[0.1026]	[0.1026]
Constant	10.9804***	11.3491***	8.4660***	8.9170***	2.8986***	2.8198**
	[2.4191]	[2.6013]	[1.4452]	[1.5107]	[0.8757]	[0.8916]
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Selection equation	.	.	.	.	.	.
L.Income Gini	0.001	0.001	0.0005	0.0005	0.0036	0.0036
	[0.0077]	[0.0077]	[0.0074]	[0.0074]	[0.0070]	[0.0070]
L.GDP per capita (log)	-0.4416***	-0.4416***	.	.	.	.
	[0.0608]	[0.0608]	.	.	.	.
L.Human capital	0.3238**	0.3238**	-0.6649	-0.6649	.	.
	[0.1224]	[0.1224]	[3.0455]	[3.0455]	.	.
Human capital	.	.	0.8992	0.8992	.	.
	.	.	[3.0404]	[3.0404]	.	.
L.Trade	-0.0019	-0.0019	-0.0002	-0.0002	.	.
	[0.0014]	[0.0014]	[0.0058]	[0.0058]	.	.
Trade	.	.	-0.002	-0.002	.	.
	.	.	[0.0058]	[0.0058]	.	.
L.FDI inflows	0.0017	0.0017	.	.	.	.
	[0.0021]	[0.0021]	.	.	.	.

	(11)	(12)	(13)	(14)	(15)	(16)
	Forster et al. (2019)	**Forster et al. (2019)**	**Meschi & Vivarelli (2009)**	**Meschi & Vivarelli (2009)**	**Dreher & Gaston (2008)**	**Dreher & Gaston (2008)**
L.Inflation	-0.002	-0.002	.	.	.	.
	[0.0052]	[0.0052]	.	.	.	.
Inflation	.	.	-0.0113	-0.0113	.	.
	.	.	[0.0069]	[0.0069]	.	.
L.Unemployment	0.0436***	0.0436***	.	.	.	.
	[0.0090]	[0.0090]	.	.	.	.
L.Democracy	0.0256	0.0256	.	.	.	.
	[0.0256]	[0.0256]	.	.	.	.
Democracy	.	.	.	.	-0.0149	-0.0149
	.	.	.	.	[0.0233]	[0.0233]
GDP per capita	.	.	-0.0001***	-0.0001***	-0.0001***	-0.0001***
	.	.	[0.0000]	[0.0000]	[0.0000]	[0.0000]
GDP per capita^2	.	.	0.0000***	0.0000***	0.0000***	0.0000***
	.	.	[0.0000]	[0.0000]	[0.0000]	[0.0000]
Globalisation index	.	.	.	.	0.0175**	0.0175**
	.	.	.	.	[0.0059]	[0.0059]
L.Growth	-0.0282*	-0.0282*	-0.0393**	-0.0393**	-0.0264*	-0.0264*
	[0.0127]	[0.0127]	[0.0126]	[0.0126]	[0.0114]	[0.0114]
L.Current account	-0.0117+	-0.0117+	-0.0078	-0.0078	-0.0110+	-0.0110+
	[0.0070]	[0.0070]	[0.0071]	[0.0071]	[0.0058]	[0.0058]
L.Reserves	-0.0109	-0.0109	-0.0507**	-0.0507**	-0.0427*	-0.0427*
	[0.0158]	[0.0158]	[0.0195]	[0.0195]	[0.0174]	[0.0174]
L.Legislative election	-0.0839	-0.0839	-0.0517	-0.0517	-0.0376	-0.0376
	[0.1154]	[0.1154]	[0.1173]	[0.1173]	[0.1077]	[0.1077]
L.Executive election	0.2083	0.2083	0.1129	0.1129	0.1239	0.1239
	[0.1396]	[0.1396]	[0.1415]	[0.1415]	[0.1296]	[0.1296]
L.UNGA US distance	-0.2407*	-0.2407*	-0.3958***	-0.3958***	-0.4235***	-0.4235***
	[0.0956]	[0.0956]	[0.0943]	[0.0943]	[0.0884]	[0.0884]
L.IMF compound	5.4050**	5.4050**	5.1867**	5.1867**	3.3722+	3.3722+

	(11)	(12)	(13)	(14)	(15)	(16)
	Forster et al. (2019)	Forster et al. (2019)	Meschi & Vivarelli (2009)	Meschi & Vivarelli (2009)	Dreher & Gaston (2008)	Dreher & Gaston (2008)
	[1.8978]	[1.8978]	[1.8986]	[1.8986]	[1.8684]	[1.8684]
Constant	1.9054**	1.9054**	0.39	0.39	-0.3368	-0.3368
	[0.6852]	[0.6852]	[0.5855]	[0.5855]	[0.5437]	[0.5437]
Country fixed effects	No	No	No	No	No	No
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Diagnostics	.	.	.	.	.	.
N	1683	1683	1613	1613	1866	1866
N selected	172	172	169	169	195	195

Notes: Standard errors in brackets. + p<0.10, * p<0.05, ** p<0.01, *** p<0.001.

Table A4. Robustness Selection Model for Effect of IMF Fiscal Adjustment on Gini Coefficient of Disposable Income

	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
	UNGA US distance and outcome controls only	UNGA US distance and outcome controls only	Forster et al. (2019)	Forster et al. (2019)	Full model without IMF compound	Full model without IMF compound	Timon et al. (2019) without IMF participation	Timon et al. (2019) without IMF participation
Outcome equation	.	.	.	.	.	.	.	.
L.IMF fiscal adjustment	1.6479+	1.6682+	2.2184*	2.2808*	2.1579*	2.2447*	2.7505**	2.8540**
	[0.8618]	[0.8641]	[0.9776]	[0.9804]	[0.9580]	[0.9612]	[0.9823]	[0.9915]
L.Number of conditions	.	0.0004	.	0.0011	.	0.0013	.	0.0011
	.	[0.0014]	.	[0.0016]	.	[0.0015]	.	[0.0016]
L.Income Gini	0.9378***	0.9379***	0.9202***	0.9227***	0.9219***	0.9230***	0.9203***	0.9225***
	[0.0208]	[0.0208]	[0.0223]	[0.0225]	[0.0214]	[0.0213]	[0.0223]	[0.0224]
L.GDP per capita (log)	0.4739	0.4293	0.8244	0.7089	0.3440	0.2914	0.5627	0.4225
	[1.3789]	[1.3865]	[1.5538]	[1.5600]	[1.3998]	[1.3978]	[1.5301]	[1.5442]
L.GDP per capita^2 (log)	-0.0543	-0.0512	-0.0651	-0.0572	-0.0338	-0.0299	-0.0443	-0.0344
	[0.0882]	[0.0888]	[0.0962]	[0.0967]	[0.0875]	[0.0874]	[0.0943]	[0.0954]

	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
	UNGA US distance and outcome controls only	UNGA US distance and outcome controls only	Forster et al. (2019)	Forster et al. (2019)	Full model without IMF compound	Full model without IMF compound	Timon et al. (2019) without IMF participation	Timon et al. (2019) without IMF participation
L.Years of schooling	-0.1127+	-0.1115	-0.1738*	-0.1692*	-0.1500*	-0.1477*	-0.1597*	-0.1540*
	[0.0678]	[0.0679]	[0.0741]	[0.0743]	[0.0727]	[0.0726]	[0.0743]	[0.0747]
L.Trade	0.0004	0.0004	0.0020	0.0019	0.0021	0.0020	0.0029*	0.0028*
	[0.0013]	[0.0013]	[0.0013]	[0.0013]	[0.0013]	[0.0013]	[0.0013]	[0.0013]
L.Life expectancy	-0.0039	-0.0043	-0.0425	-0.0433	-0.0383	-0.0397	-0.0468+	-0.0478+
	[0.0209]	[0.0209]	[0.0280]	[0.0279]	[0.0265]	[0.0265]	[0.0272]	[0.0272]
L.Democracy	0.0075	0.0083	0.0226	0.0229	0.0103	0.0122	0.0006	0.0001
	[0.0312]	[0.0313]	[0.0396]	[0.0396]	[0.0387]	[0.0387]	[0.0416]	[0.0415]
Inverse Mills ratio	0.2357	0.2373	0.0143	0.0201	0.0134	0.0202	-0.2113*	-0.2139*
	[0.1504]	[0.1504]	[0.0387]	[0.0395]	[0.0406]	[0.0413]	[0.1075]	[0.1078]
Constant	3.1750	3.3298	5.3216	5.6046	6.5638	6.7077	6.7109	7.0890
	[5.0806]	[5.1072]	[6.4905]	[6.4930]	[5.6244]	[5.6136]	[6.4227]	[6.4450]
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Selection equation	.	.	.	.	.	.	.	.
L.Income Gini	0.0058	0.0058	-0.0078	-0.0078	-0.0066	-0.0066	-0.0098	-0.0098
	[0.0074]	[0.0074]	[0.0090]	[0.0090]	[0.0092]	[0.0092]	[0.0081]	[0.0081]
L.GDP per capita (log)	1.9584***	1.9584***	2.4478***	2.4478***	2.5297***	2.5297***	2.2465***	2.2465***
	[0.4555]	[0.4555]	[0.5875]	[0.5875]	[0.5683]	[0.5683]	[0.5375]	[0.5375]
L.GDP per capita^2 (log)	-0.1461***	-0.1461***	-0.1574***	-0.1574***	-0.1649***	-0.1649***	-0.1610***	-0.1610***
	[0.0271]	[0.0271]	[0.0349]	[0.0349]	[0.0341]	[0.0341]	[0.0317]	[0.0317]
L.Years of schooling	-0.0050	-0.0050	0.0184	0.0184	0.0040	0.0040	0.0569*	0.0569*
	[0.0241]	[0.0241]	[0.0285]	[0.0285]	[0.0288]	[0.0288]	[0.0263]	[0.0263]
L.Trade	-0.0013	-0.0013	-0.0014	-0.0014	-0.0016	-0.0016	-0.0026*	-0.0026*

	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
	UNGA US distance and outcome controls only	**UNGA US distance and outcome controls only**	**Forster et al. (2019)**	**Forster et al. (2019)**	**Full model without IMF compound**	**Full model without IMF compound**	**Timon et al. (2019) without IMF participation**	**Timon et al. (2019) without IMF participation**
	[0.0012]	[0.0012]	[0.0015]	[0.0015]	[0.0015]	[0.0015]	[0.0013]	[0.0013]
L.Life expectancy	0.0139+	0.0139+	0.0138	0.0138	0.0102	0.0102	0.0152	0.0152
	[0.0082]	[0.0082]	[0.0103]	[0.0103]	[0.0099]	[0.0099]	[0.0093]	[0.0093]
L.Democracy	0.0233	0.0233	0.0261	0.0261	0.0102	0.0102	0.0438+	0.0438+
	[0.0214]	[0.0214]	[0.0276]	[0.0276]	[0.0290]	[0.0290]	[0.0242]	[0.0242]
L.UNGA US distance	-0.5184***	-0.5184***	.	.	-0.2111+	-0.2111+	.	.
	[0.0873]	[0.0873]	.	.	[0.1107]	[0.1107]	.	.
L.Growth	.	.	-0.0387**	-0.0387**	-0.0381**	-0.0381**	-0.0428***	-0.0428***
	.	.	[0.0137]	[0.0137]	[0.0134]	[0.0134]	[0.0128]	[0.0128]
L.Current account	.	.	-0.0061	-0.0061	-0.0030	-0.0030	-0.0105	-0.0105
	.	.	[0.0079]	[0.0079]	[0.0078]	[0.0078]	[0.0073]	[0.0073]
L2.IMF participation	.	.	1.3237***	1.3237***	1.2445***	1.2445***	.	.
	.	.	[0.1176]	[0.1176]	[0.1166]	[0.1166]	.	.
L.Reserves	.	.	-0.0658**	-0.0658**	-0.0714**	-0.0714**	-0.0495**	-0.0495**
	.	.	[0.0242]	[0.0242]	[0.0244]	[0.0244]	[0.0186]	[0.0186]
L.Legislative election	.	.	-0.0782	-0.0782	-0.1099	-0.1099	-0.0806	-0.0806
	.	.	[0.1296]	[0.1296]	[0.1278]	[0.1278]	[0.1172]	[0.1172]
L.Executive election	.	.	0.1061	0.1061	0.0927	0.0927	0.1363	0.1363
	.	.	[0.1504]	[0.1504]	[0.1482]	[0.1482]	[0.1398]	[0.1398]
L.IMF compound	.	.	1.6181	1.6181	.	.	4.2436*	4.2436*
	.	.	[1.9382]	[1.9382]	.	.	[1.9041]	[1.9041]
Constant	-7.5824***	-7.5824***	-11.7085***	-11.7085***	-11.4799***	-11.4799***	-9.3563***	-9.3563***
	[1.6098]	[1.6098]	[2.0798]	[2.0798]	[2.0147]	[2.0147]	[1.9116]	[1.9116]
Country fixed effects	No	No	No	No	No	No	No	No

	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
	UNGA US distance and outcome controls only	UNGA US distance and outcome controls only	Forster et al. (2019)	Forster et al. (2019)	Full model without IMF compound	Full model without IMF compound	Timon et al. (2019) without IMF participation	Timon et al. (2019) without IMF participation
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Diagnostics	.	.	.	.	.	.	.	.
N	1958	1958	1682	1682	1763	1763	1682	1682
N selected	211	211	172	172	176	176	172	172

Notes: Standard errors in brackets. + p<0.10, * p<0.05, ** p<0.01, *** p<0.001.

Table A5. Robustness Inclusion of Outliers for Effect of IMF Fiscal Adjustment on Inequality

	25	26	27	28	29	30	31	32	33	34	35
	Gini coefficient of disposable income	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10
Outcome equation	.	.	.	.	.	.	.	.	.	.	.
L.IMF fiscal adjustment	2.2793*	-0.0279***	-0.0315***	-0.0361***	-0.0397***	-0.0418***	-0.0419***	-0.0391***	-0.0317**	-0.0068	0.2829***
	[0.8900]	[0.0077]	[0.0072]	[0.0076]	[0.0082]	[0.0088]	[0.0095]	[0.0102]	[0.0115]	[0.0164]	[0.0629]
L.Number of conditions	0.0007	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
	[0.0015]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0001]
L.Dependent variable	0.9123***	0.3972***	0.4849***	0.4255***	0.3935***	0.3703***	0.3331***	0.2657***	0.1742*	0.1849*	0.3267***
	[0.0227]	[0.0611]	[0.0628]	[0.0657]	[0.0672]	[0.0696]	[0.0733]	[0.0783]	[0.0832]	[0.0857]	[0.0743]
L.GDP per capita (log)	0.6968	0.0725***	0.0416***	0.0194	0.0006	-0.0154	-0.0305*	-0.0494**	-0.0789***	-0.1147***	0.0933
	[1.5339]	[0.0134]	[0.0124]	[0.0128]	[0.0134]	[0.0142]	[0.0153]	[0.0168]	[0.0200]	[0.0292]	[0.1008]
L.GDP per capita^2 (log)	-0.0516	-0.0044***	-0.0025**	-0.0011	0.0000	0.0010	0.0019*	0.0031**	0.0049***	0.0071***	-0.0059
	[0.0956]	[0.0008]	[0.0008]	[0.0008]	[0.0008]	[0.0009]	[0.0009]	[0.0010]	[0.0012]	[0.0018]	[0.0061]
L.Years of schooling	-0.1586*	0.0011	0.0013	0.0011	0.0009	0.0007	0.0005	0.0004	0.0005	0.0005	-0.0049

	25	26	27	28	29	30	31	32	33	34	35
	Gini coefficient of disposable income	**Decile 1**	**Decile 2**	**Decile 3**	**Decile 4**	**Decile 5**	**Decile 6**	**Decile 7**	**Decile 8**	**Decile 9**	**Decile 10**
	[0.0745]	[0.0009]	[0.0008]	[0.0009]	[0.0009]	[0.0010]	[0.0011]	[0.0012]	[0.0013]	[0.0019]	[0.0072]
L.Trade	0.0027*	-0.0000*	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	[0.0013]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0001]
L.Life expectancy	-0.0465+	-0.0002	0.0001	0.0003	0.0004+	0.0006*	0.0007*	0.0007*	0.0008*	0.0009+	-0.0038*
	[0.0276]	[0.0002]	[0.0002]	[0.0002]	[0.0002]	[0.0003]	[0.0003]	[0.0003]	[0.0003]	[0.0005]	[0.0018]
L.Democracy	0.0189	-0.0005	-0.0004	-0.0003	-0.0001	0.0001	0.0003	0.0006	0.0008+	0.0012+	-0.0021
	[0.0390]	[0.0003]	[0.0003]	[0.0003]	[0.0003]	[0.0004]	[0.0004]	[0.0004]	[0.0005]	[0.0007]	[0.0026]
Inverse Mills ratio	-0.1047	0.0010	0.0006	0.0011	0.0016+	0.0020*	0.0024*	0.0026*	0.0025*	0.0010	-0.0154*
	[0.0932]	[0.0008]	[0.0007]	[0.0008]	[0.0009]	[0.0010]	[0.0011]	[0.0011]	[0.0012]	[0.0016]	[0.0070]
Constant	6.0677	-0.2749***	-0.1716**	-0.0895	-0.0176	0.0465	0.1126+	0.1993**	0.3337***	0.5054***	0.2384
	[6.4243]	[0.0573]	[0.0533]	[0.0558]	[0.0592]	[0.0633]	[0.0682]	[0.0749]	[0.0878]	[0.1268]	[0.4444]
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Selection equation	.	.	.	.	.	.	.	.	.	.	.
L.Dependent variable	-0.0007	-4.5475	-3.2534	-3.5302	-3.9473	-4.5791	-5.5923	-7.2352	-9.3087	-8.5186	1.0927
	[0.0084]	[8.8421]	[7.0505]	[6.5405]	[6.4849]	[6.6866]	[7.0586]	[7.4749]	[7.5105]	[5.7978]	[1.0077]
L.GDP per capita (log)	2.4384***	2.2670***	2.2818***	2.2682***	2.2564***	2.2453***	2.2361***	2.2384***	2.2952***	2.4791***	2.1841***
	[0.5338]	[0.5239]	[0.5203]	[0.5196]	[0.5192]	[0.5179]	[0.5138]	[0.5044]	[0.4906]	[0.4956]	[0.5149]
L.GDP per capita^2 (log)	-0.1751***	-0.1581***	-0.1590***	-0.1582***	-0.1575***	-0.1568***	-0.1564***	-0.1567***	-0.1606***	-0.1720***	-0.1534***
	[0.0317]	[0.0313]	[0.0311]	[0.0311]	[0.0310]	[0.0309]	[0.0306]	[0.0300]	[0.0292]	[0.0297]	[0.0306]
L.Years of schooling	0.0232	0.0109	0.0101	0.0106	0.0112	0.0120	0.0131	0.0143	0.0142	0.0083	0.0156
	[0.0275]	[0.0289]	[0.0287]	[0.0287]	[0.0288]	[0.0289]	[0.0290]	[0.0290]	[0.0286]	[0.0280]	[0.0291]
L.Trade	-0.0026+	-0.0029*	-0.0029*	-0.0029*	-0.0029*	-0.0029*	-0.0029*	-0.0029*	-0.0030*	-0.0030*	-0.0029*
	[0.0014]	[0.0014]	[0.0014]	[0.0014]	[0.0014]	[0.0014]	[0.0014]	[0.0014]	[0.0014]	[0.0014]	[0.0014]

	25	26	27	28	29	30	31	32	33	34	35
	Gini coefficient of disposable income	**Decile 1**	**Decile 2**	**Decile 3**	**Decile 4**	**Decile 5**	**Decile 6**	**Decile 7**	**Decile 8**	**Decile 9**	**Decile 10**
L.Life expectancy	0.0194*	0.0153	0.0153	0.0157	0.0162	0.0168+	0.0177+	0.0188+	0.0198+	0.0172+	0.0194+
	[0.0094]	[0.0095]	[0.0097]	[0.0098]	[0.0099]	[0.0101]	[0.0103]	[0.0105]	[0.0103]	[0.0094]	[0.0105]
L.Democracy	0.0034	-0.0026	-0.0024	-0.0024	-0.0023	-0.0022	-0.0020	-0.0013	0.0005	0.0035	-0.0017
	[0.0258]	[0.0254]	[0.0254]	[0.0254]	[0.0254]	[0.0254]	[0.0254]	[0.0254]	[0.0255]	[0.0257]	[0.0254]
L.Growth	-0.0367**	-0.0366**	-0.0368**	-0.0368**	-0.0369**	-0.0369**	-0.0370**	-0.0372**	-0.0377**	-0.0383**	-0.0369**
	[0.0129]	[0.0137]	[0.0137]	[0.0137]	[0.0137]	[0.0137]	[0.0137]	[0.0137]	[0.0138]	[0.0138]	[0.0137]
L.Current account	-0.0106	-0.0127+	-0.0127+	-0.0127+	-0.0128+	-0.0128+	-0.0128+	-0.0129+	-0.0131+	-0.0132+	-0.0128+
	[0.0073]	[0.0075]	[0.0075]	[0.0075]	[0.0075]	[0.0075]	[0.0075]	[0.0075]	[0.0075]	[0.0075]	[0.0075]
L.Reserves	-0.0502**	-0.0437*	-0.0436*	-0.0433*	-0.0431*	-0.0428*	-0.0423*	-0.0417*	-0.0410*	-0.0416*	-0.0421*
	[0.0194]	[0.0198]	[0.0198]	[0.0197]	[0.0197]	[0.0197]	[0.0197]	[0.0197]	[0.0197]	[0.0197]	[0.0197]
L.Legislative election	-0.0868	-0.0294	-0.0296	-0.0300	-0.0302	-0.0303	-0.0301	-0.0293	-0.0270	-0.0226	-0.0299
	[0.1165]	[0.1208]	[0.1208]	[0.1209]	[0.1209]	[0.1209]	[0.1209]	[0.1210]	[0.1210]	[0.1208]	[0.1210]
L.Executive election	0.1747	0.1727	0.1727	0.1729	0.1730	0.1727	0.1719	0.1700	0.1657	0.1603	0.1708
	[0.1389]	[0.1450]	[0.1450]	[0.1450]	[0.1451]	[0.1451]	[0.1451]	[0.1452]	[0.1451]	[0.1448]	[0.1453]
L.UNGA US distance	-0.4170***	-0.3800***	-0.3811***	-0.3853***	-0.3890***	-0.3926***	-0.3960***	-0.3980***	-0.3905***	-0.3537***	-0.4043***
	[0.0980]	[0.1047]	[0.1062]	[0.1071]	[0.1078]	[0.1082]	[0.1080]	[0.1068]	[0.1040]	[0.1028]	[0.1071]
L.IMF compound	3.5884+	3.4627	3.4952	3.5122	3.5300	3.5486	3.5684	3.5884	3.5935	3.5346	3.5081
	[1.8934]	[2.1936]	[2.1897]	[2.1879]	[2.1873]	[2.1873]	[2.1875]	[2.1875]	[2.1857]	[2.1809]	[2.1885]
Constant	-8.9860***	-8.4152***	-8.4549***	-8.3816***	-8.3064***	-8.2178***	-8.1004***	-7.9456***	-7.8378***	-8.1837***	-8.8208***
	[1.8823]	[1.9862]	[1.9853]	[1.9951]	[2.0088]	[2.0248]	[2.0388]	[2.0387]	[1.9965]	[1.8950]	[1.8397]
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	No	No	No	No	No	No	No	No	No	No	No
Diagnostics	.	.	.	.	.	.	.	.	.	.	.
N	1670	1521	1521	1521	1521	1521	1521	1521	1521	1521	1521
N selected	175	159	159	159	159	159	159	159	159	159	159

Notes: Standard errors in brackets. + p<0.10, * p<0.05, ** p<0.01, *** p<0.001.

Table A6. Effect of IMF Fiscal Adjustment on Various Poverty Indicators (Full Results)

	(36)	(37)	(38)	(39)	(40)	(41)	(42)
	Poverty head-count $1.90	Poverty head-count $3.20	Poverty head-count $1.44	Poverty head-count $1.86	Poverty head-count $2.50	Poverty gap $1.90	Poverty gap $3.20
Outcome equation	.	.	.	.	.	.	.
IMF fiscal adjustment	30.6207+	42.1695	27.0144*	40.5987**	50.5262**	6.3759	20.5683+
	[16.1628]	[26.8615]	[11.3399]	[14.9030]	[18.6020]	[8.5301]	[12.1151]
Number of conditions	-0.0023	0.0628	-0.0210	0.0111	0.0852**	-0.0105	0.0086
	[0.0265]	[0.0439]	[0.0179]	[0.0237]	[0.0292]	[0.0141]	[0.0199]
GDP per capita (log)	-8.0782*	-26.6576***	-4.6548+	-9.7593**	-27.7945***	-0.1226	-7.4370**
	[3.2551]	[5.4858]	[2.4274]	[3.2160]	[3.9500]	[1.6806]	[2.4452]
GDP growth	-0.5504	-0.7304	-0.5308+	-0.6918	-0.3193	-0.2329	-0.3999
	[0.4766]	[0.8500]	[0.3206]	[0.4482]	[0.4912]	[0.2207]	[0.3613]
Income Gini	1.1713***	1.3890*	0.3086	0.9045**	2.0774***	0.5482**	0.8660***
	[0.3299]	[0.5590]	[0.2347]	[0.3115]	[0.3813]	[0.1688]	[0.2480]
Growth*Income Gini	0.0082	0.0118	0.0097	0.0111	0.0050	0.0045	0.0062
	[0.0120]	[0.0213]	[0.0082]	[0.0114]	[0.0127]	[0.0056]	[0.0091]
Corruption	0.0177	-0.0148	0.0370	0.0790	0.0551	0.0098	0.0095
	[0.0593]	[0.1027]	[0.0425]	[0.0576]	[0.0674]	[0.0291]	[0.0447]
Inverse Mills ratio	3.1296	6.5335+	2.9324*	4.7483*	3.3845	0.5770	2.4469+
	[1.9617]	[3.4523]	[1.4122]	[1.9424]	[2.2063]	[0.9351]	[1.4840]
Constant	20.1175	170.4532***	24.8525	40.4017	146.3666***	-19.2743	28.5072
	[25.6881]	[43.4399]	[20.1885]	[26.7406]	[32.8617]	[13.1882]	[19.3068]
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Selection equation	.	.	.	.	.	.	.
GDP per capita (log)	-0.2002***	-0.2002***	-0.2538***	-0.2538***	-0.2538***	-0.2002***	-0.2002***
	[0.0532]	[0.0532]	[0.0473]	[0.0473]	[0.0473]	[0.0532]	[0.0532]

	(36)	(37)	(38)	(39)	(40)	(41)	(42)
	Poverty head-count $1.90	Poverty head-count $3.20	Poverty head-count $1.44	Poverty head-count $1.86	Poverty head-count $2.50	Poverty gap $1.90	Poverty gap $3.20
GDP growth	-0.1906**	-0.1906**	-0.1442*	-0.1442*	-0.1442*	-0.1906**	-0.1906**
	[0.0624]	[0.0624]	[0.0575]	[0.0575]	[0.0575]	[0.0624]	[0.0624]
Income Gini	0.0043	0.0043	0.0006	0.0006	0.0006	0.0043	0.0043
	[0.0096]	[0.0096]	[0.0088]	[0.0088]	[0.0088]	[0.0096]	[0.0096]
Growth*Income Gini	0.0041**	0.0041**	0.0029*	0.0029*	0.0029*	0.0041**	0.0041**
	[0.0016]	[0.0016]	[0.0015]	[0.0015]	[0.0015]	[0.0016]	[0.0016]
Corruption	-0.0193**	-0.0193**	-0.0080	-0.0080	-0.0080	-0.0193**	-0.0193**
	[0.0066]	[0.0066]	[0.0061]	[0.0061]	[0.0061]	[0.0066]	[0.0066]
Current account	-0.0168*	-0.0168*	-0.0177**	-0.0177**	-0.0177**	-0.0168*	-0.0168*
	[0.0068]	[0.0068]	[0.0058]	[0.0058]	[0.0058]	[0.0068]	[0.0068]
Reserves	-0.0226	-0.0226	-0.0139	-0.0139	-0.0139	-0.0226	-0.0226
	[0.0181]	[0.0181]	[0.0152]	[0.0152]	[0.0152]	[0.0181]	[0.0181]
Legislative election	-0.1273	-0.1273	-0.0661	-0.0661	-0.0661	-0.1273	-0.1273
	[0.1244]	[0.1244]	[0.1115]	[0.1115]	[0.1115]	[0.1244]	[0.1244]
Executive election	0.3134*	0.3134*	0.2035	0.2035	0.2035	0.3134*	0.3134*
	[0.1423]	[0.1423]	[0.1324]	[0.1324]	[0.1324]	[0.1423]	[0.1423]
UNGA US distance	-0.5143***	-0.5143***	-0.3833***	-0.3833***	-0.3833***	-0.5143***	-0.5143***
	[0.0942]	[0.0942]	[0.0832]	[0.0832]	[0.0832]	[0.0942]	[0.0942]
IMF compound	-1.7733	-1.7733	2.9117	2.9117	2.9117	-1.7733	-1.7733
	[2.3414]	[2.3414]	[1.9567]	[1.9567]	[1.9567]	[2.3414]	[2.3414]
Constant	1.5485*	1.5485*	2.0256**	2.0256**	2.0256**	1.5485*	1.5485*
	[0.7384]	[0.7384]	[0.6577]	[0.6577]	[0.6577]	[0.7384]	[0.7384]
Country fixed effects	No	No	No	No	No	No	No
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Diagnostics	.	.	.	.	.	.	.
N	1782	1782	1836	1836	1836	1782	1782
N selected	130	130	184	184	184	130	130

Notes: Standard errors in brackets. + p<0.10, * p<0.05, ** p<0.01, *** p<0.001.

Table A7. Robustness Controls for Effect of IMF Fiscal Adjustment on Poverty Headcount Ratio at $2.50

	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)	(51)
	No interaction, additional control: social spending	Additional control: social spending	No interaction	No Gini	No Gini, additional controls: schooling, inflation, trade, population growth, dependency ratio	Additional controls: schooling, inflation, trade, population growth, dependency ratio	Additional controls: schooling, inflation, trade, population growth, dependency ratio, natural resource rents, democracy	No Gini, additional controls: schooling, inflation, trade, population growth, dependency ratio, natural resource rents, democracy	No endogenous controls
Outcome equation	.	.	.	.	.	.	.	.	.
IMF fiscal adjustment	69.9792*	76.0563*	51.2670**	41.7277*	67.1599**	69.7877*	70.6707*	69.9160*	66.1350**
	[35.3959]	[35.8966]	[18.3773]	[19.6131]	[23.6104]	[27.1465]	[27.6796]	[28.6696]	[21.8693]
Number of conditions	0.1335**	0.1322**	0.0836**	0.0551+	0.0499	0.0667+	0.0682+	0.0520	0.0500+
	[0.0422]	[0.0437]	[0.0283]	[0.0298]	[0.0319]	[0.0387]	[0.0394]	[0.0386]	[0.0300]
GDP per capita (log)	-26.0567***	-25.2430***	-27.9018***	-21.9324***	-30.4678***	-33.1675***	-31.5556***	-29.6885***	-27.6657***
	[6.3506]	[6.4271]	[3.9501]	[4.0300]	[5.2489]	[6.1522]	[6.3803]	[6.5114]	[4.8480]
Income Gini	2.7146***	2.5927***	2.0949***	.	.	0.6335	0.6779	.	.
	[0.5172]	[0.5255]	[0.3785]	.	.	[0.6809]	[0.7087]	.	.
Social spending	-0.3895	-0.4561	.	.	.	.	.	.	.
	[0.3840]	[0.3954]	.	.	.	.	.	.	.
Corruption	0.0442	0.0199	0.0561	0.1443*	0.0990	0.0607	0.0538	0.0866	0.0814
	[0.0820]	[0.0878]	[0.0672]	[0.0655]	[0.0803]	[0.0949]	[0.0975]	[0.0982]	[0.0711]
GDP growth	.	-0.6545	-0.1253	-0.1213	-0.3008+	-1.0103	-1.0996	-0.3236	.
	.	[0.6753]	[0.1001]	[0.1006]	[0.1710]	[0.8975]	[0.9089]	[0.2095]	.
Growth* Income Gini	.	0.0145	.	.	.	0.0179	0.0202	.	.
	.	[0.0175]	.	.	.	[0.0214]	[0.0217]	.	.

	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)	(51)
	No interaction, additional control: social spending	Additional control: social spending	No interaction	No Gini	No Gini, additional controls: schooling, inflation, trade, population growth, dependency ratio	Additional controls: schooling, inflation, trade, population growth, dependency ratio	Additional controls: schooling, inflation, trade, population growth, dependency ratio, natural resource rents, democracy	No Gini, additional controls: schooling, inflation, trade, population growth, dependency ratio, natural resource rents, democracy	No endogenous controls
Years of schooling	.	.	.	.	0.8358	1.3850	2.1425	1.3999	0.0094
	.	.	.	.	[1.8410]	[2.2684]	[2.4017]	[2.2986]	[1.7269]
Inflation	.	.	.	.	-0.0700	-0.0787	-0.0671	-0.0518	-0.0070
	.	.	.	.	[0.0645]	[0.0758]	[0.0787]	[0.0783]	[0.0495]
Trade	.	.	.	.	-0.0137	-0.0192	-0.0183	-0.0121	.
	.	.	.	.	[0.0302]	[0.0338]	[0.0344]	[0.0363]	.
Population growth	.	.	.	.	0.9996	1.1413	1.0461	1.0730	0.9132
	.	.	.	.	[0.7659]	[0.9072]	[0.9577]	[0.9605]	[0.6955]
Dependency ratio	.	.	.	.	0.4806*	0.2854	0.2872	0.4775+	0.5445**
	.	.	.	.	[0.1986]	[0.3083]	[0.3138]	[0.2455]	[0.1798]
Natural resource rents	.	.	.	.	.	.	-0.1073	-0.2167	-0.1587
	.	.	.	.	.	.	[0.1724]	[0.1652]	[0.1264]
Democracy	.	.	.	.	.	.	-0.8733	-0.4653	-0.5169
	.	.	.	.	.	.	[1.0024]	[1.0483]	[0.7619]
Inverse Mills ratio	1.2429	2.9689	3.5104	1.2872	6.1432	6.8318	6.9485	7.4091	0.9469
	[2.4495]	[3.3490]	[2.2262]	[2.4043]	[4.2047]	[4.3752]	[4.4115]	[5.4816]	[2.4674]
Constant	114.4041+	110.6102+	146.4523***	189.8140***	223.1373***	223.6830***	208.8360***	214.1690***	212.8537***
	[59.9750]	[60.3360]	[32.6251]	[32.6943]	[48.2006]	[61.1075]	[63.3528]	[59.1199]	[45.1349]
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)	(51)
	No interaction, additional control: social spending	**Additional control: social spending**	**No interaction**	**No Gini**	**No Gini, additional controls: schooling, inflation, trade, population growth, dependency ratio**	**Additional controls: schooling, inflation, trade, population growth, dependency ratio**	**Additional controls: schooling, inflation, trade, population growth, dependency ratio, natural resource rents, democracy**	**No Gini, additional controls: schooling, inflation, trade, population growth, dependency ratio, natural resource rents, democracy**	**No endogenous controls**
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Selection equation	.	.	.	.	.	.	.	.	.
GDP per capita (log)	-0.3206***	-0.3240***	-0.2477***	-0.2682***	-0.3798***	-0.4040***	-0.3955***	-0.3818***	-0.3701***
	[0.0611]	[0.0615]	[0.0469]	[0.0444]	[0.0663]	[0.0691]	[0.0706]	[0.0682]	[0.0672]
Income Gini	0.0162+	0.0022	0.0126+	.	.	0.0040	0.0047	.	.
	[0.0086]	[0.0118]	[0.0064]	.	.	[0.0098]	[0.0099]	.	.
Social spending	-0.0373+	-0.0385+	.	.	.	.	.	.	.
	[0.0210]	[0.0211]	.	.	.	.	.	.	.
Corruption	-0.0075	-0.0077	-0.0079	-0.0027	0.0002	-0.0033	-0.0028	-0.0007	-0.0015
	[0.0081]	[0.0081]	[0.0061]	[0.0055]	[0.0063]	[0.0069]	[0.0070]	[0.0064]	[0.0064]
GDP growth	-0.0333*	-0.1591*	-0.0317**	-0.0296**	-0.0393**	-0.1870**	-0.1903**	-0.0384**	-0.0362**
	[0.0158]	[0.0730]	[0.0121]	[0.0109]	[0.0122]	[0.0645]	[0.0650]	[0.0123]	[0.0120]
Current account	-0.0168*	-0.0179*	-0.0165**	-0.0144**	-0.0105+	-0.0147*	-0.0153*	-0.0100	-0.0102+
	[0.0070]	[0.0072]	[0.0057]	[0.0049]	[0.0062]	[0.0071]	[0.0073]	[0.0063]	[0.0060]
Reserves	-0.0129	-0.0102	-0.0163	-0.0245+	-0.0325*	-0.0224	-0.0234	-0.0294*	-0.0243+
	[0.0233]	[0.0233]	[0.0153]	[0.0127]	[0.0138]	[0.0171]	[0.0174]	[0.0144]	[0.0138]
Legislative election	-0.1039	-0.0826	-0.0760	-0.0733	-0.0997	-0.0757	-0.0764	-0.1024	-0.1002
	[0.1407]	[0.1419]	[0.1108]	[0.1082]	[0.1177]	[0.1206]	[0.1208]	[0.1179]	[0.1174]

	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)	(51)
	No interaction, additional control: social spending	Additional control: social spending	No interaction	No Gini	No Gini, additional controls: schooling, inflation, trade, population growth, dependency ratio	Additional controls: schooling, inflation, trade, population growth, dependency ratio	Additional controls: schooling, inflation, trade, population growth, dependency ratio, natural resource rents, democracy	No Gini, additional controls: schooling, inflation, trade, population growth, dependency ratio, natural resource rents, democracy	No endogenous controls
Executive election	0.2472	0.2294	0.2141	0.2119	0.1835	0.1489	0.1549	0.1871	0.2048
	[0.1682]	[0.1690]	[0.1317]	[0.1296]	[0.1427]	[0.1457]	[0.1466]	[0.1435]	[0.1428]
UNGA US distance	-0.5131***	-0.5000***	-0.3952***	-0.3461***	-0.1609+	-0.2319*	-0.2500*	-0.1469	-0.1534
	[0.1142]	[0.1152]	[0.0824]	[0.0742]	[0.0945]	[0.1030]	[0.1079]	[0.0981]	[0.0974]
IMF compound	-2.9546	-2.9700	3.0336	3.3166+	6.1528**	6.5578**	6.7296**	6.5172**	6.7370**
	[2.7369]	[2.7409]	[1.9438]	[1.8839]	[2.0349]	[2.1269]	[2.2153]	[2.1372]	[2.1245]
Growth*Income Gini	.	0.0034+	.	.	.	0.0038*	0.0038*	.	.
	.	[0.0019]	.	.	.	[0.0016]	[0.0016]	.	.
Years of schooling	.	.	.	.	0.0678*	0.0582+	0.0580+	0.0681*	0.0624*
	.	.	.	.	[0.0295]	[0.0300]	[0.0300]	[0.0295]	[0.0281]
Inflation	.	.	.	.	-0.0030	-0.0040	-0.0038	-0.0026	-0.0014
	.	.	.	.	[0.0055]	[0.0058]	[0.0058]	[0.0055]	[0.0053]
Trade	.	.	.	.	-0.0022+	-0.0016	-0.0017	-0.0020	.
	.	.	.	.	[0.0013]	[0.0014]	[0.0014]	[0.0013]	.
Population growth	.	.	.	.	-0.0448	-0.0389	-0.0414	-0.0357	-0.0404
	.	.	.	.	[0.0624]	[0.0664]	[0.0670]	[0.0635]	[0.0621]
Dependency ratio	.	.	.	.	-0.0019	-0.0078	-0.0080	-0.0014	0.0002
	.	.	.	.	[0.0057]	[0.0061]	[0.0062]	[0.0057]	[0.0056]

	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)	(51)
	No interaction, additional control: social spending	Additional control: social spending	No interaction	No Gini	No Gini, additional controls: schooling, inflation, trade, population growth, dependency ratio	Additional controls: schooling, inflation, trade, population growth, dependency ratio	Additional controls: schooling, inflation, trade, population growth, dependency ratio, natural resource rents, democracy	No Gini, additional controls: schooling, inflation, trade, population growth, dependency ratio, natural resource rents, democracy	No endogenous controls
Natural resource rents	.	.	.	.	.	.	-0.0005	-0.0044	-0.0077
	.	.	.	.	.	.	[0.0064]	[0.0059]	[0.0057]
Democracy	.	.	.	.	.	.	-0.0154	0.0087	0.0070
	.	.	.	.	.	.	[0.0271]	[0.0259]	[0.0258]
Constant	2.8036***	3.3532***	1.5427*	2.0990***	2.4720*	3.0520**	3.1358**	2.3238*	2.0296*
	[0.7864]	[0.8590]	[0.6050]	[0.5369]	[0.9608]	[1.0752]	[1.0886]	[0.9799]	[0.9613]
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	No	No	No	No	No	No	No	No	No
Diagnostics	.	.	.	.	.	.	.	.	.
N	1169	1169	1836	2086	1779	1616	1616	1779	1820
N selected	119	119	184	187	162	161	161	162	162

Notes: Standard errors in brackets. + p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Table A8. Robustness Selection Model for Effect of IMF Fiscal Adjustment on Poverty Headcount Ratio at $2.50

	(52)	(53)	(54)	(55)
	UNGA US distance and outcome controls only	Full model without IMF compound	Timon et al. (2019)	Timon et al. (2019) without IMF participation
Outcome equation	.	.	.	.
IMF fiscal adjustment	29.6730*	42.8210*	43.2384*	50.4097**
	[14.1662]	[19.1411]	[19.1491]	[18.7219]
Number of conditions	0.0950***	0.0932**	0.0925**	0.0837**
	[0.0255]	[0.0295]	[0.0295]	[0.0291]

	(52)	(53)	(54)	(55)
	UNGA US distance and outcome controls only	Full model without IMF compound	Timon et al. (2019)	Timon et al. (2019) without IMF participation
GDP per capita (log)	-25.8613***	-28.0554***	-27.9170***	-26.8949***
	[3.7418]	[3.9500]	[3.9423]	[3.9165]
GDP growth	-0.3569	-0.0415	-0.0410	-0.1298
	[0.6135]	[0.4004]	[0.4006]	[0.5012]
Income Gini	1.8339***	2.0088***	1.9957***	1.9526***
	[0.3476]	[0.3726]	[0.3721]	[0.3735]
Growth*Income Gini	0.0040	-0.0004	-0.0004	0.0010
	[0.0143]	[0.0110]	[0.0110]	[0.0127]
Corruption	0.0905	0.1008	0.1008	0.0763
	[0.0628]	[0.0626]	[0.0626]	[0.0656]
Inverse Mills ratio	5.7368	1.0286	1.6318+	4.0931*
	[3.6173]	[0.6714]	[0.9024]	[1.7413]
Constant	139.1567***	153.3745***	152.8641***	146.3357***
	[30.0315]	[32.7172]	[32.7143]	[33.0558]
Country fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Selection equation	.	.	.	.
GDP per capita (log)	-0.3010***	0.0386	0.0698	-0.1606***
	[0.0399]	[0.0573]	[0.0495]	[0.0413]
GDP growth	-0.1603**	-0.1438*	-0.1550*	-0.1742**
	[0.0519]	[0.0638]	[0.0635]	[0.0567]
Income Gini	0.0015	-0.0020	-0.0068	-0.0130
	[0.0080]	[0.0099]	[0.0093]	[0.0083]
Growth*Income Gini	0.0035**	0.0029+	0.0032+	0.0036*
	[0.0013]	[0.0016]	[0.0016]	[0.0014]
Corruption	-0.0062	-0.0077	-0.0066	-0.0045
	[0.0056]	[0.0068]	[0.0066]	[0.0057]
UNGA US distance	-0.3999***	-0.1196	.	.
	[0.0725]	[0.0956]	.	.

	(52)	(53)	(54)	(55)
	UNGA US distance and outcome controls only	Full model without IMF compound	Timon et al. (2019)	Timon et al. (2019) without IMF participation
L.IMF participation	.	1.3958***	1.4305***	.
	.	[0.1170]	[0.1145]	.
Current account	.	-0.0166*	-0.0181**	-0.0211***
	.	[0.0067]	[0.0066]	[0.0057]
Reserves	.	-0.0285	-0.0282	-0.0184
	.	[0.0197]	[0.0193]	[0.0142]
Legislative election	.	-0.0404	-0.0344	-0.0459
	.	[0.1233]	[0.1230]	[0.1101]
Executive election	.	0.0652	0.0557	0.1881
	.	[0.1437]	[0.1433]	[0.1305]
IMF compound	.	.	-0.0441	1.8106
	.	.	[1.9276]	[1.9183]
Constant	2.4553***	-1.7843*	-2.1905**	0.8143
	[0.5745]	[0.7831]	[0.6916]	[0.5831]
Country fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	No	No	No	No
Diagnostics	.	.	.	.
N	2109	1836	1852	1852
N selected	234	184	184	184

Notes: Standard errors in brackets. + p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Table A9. Robustness Inclusion of Outliers for Effect of IMF Fiscal Adjustment on Poverty

	(56)	(57)	(58)	(59)	(60)	(61)	(62)
	Poverty head-count $1.90	Poverty head-count $3.20	Poverty head-count $1.44	Poverty head-count $1.86	Poverty head-count $2.50	Poverty gap $1.90	Poverty gap $3.20
Outcome equation	.	.	.	.	.	.	.
IMF fiscal adjustment	23.3755	30.9958	22.2096*	34.3474**	39.2327*	3.4477	14.9499
	[14.6818]	[24.2999]	[9.7250]	[12.6551]	[15.9402]	[7.4581]	[11.0070]
Number of conditions	-0.0002	0.0654	-0.0211	0.0091	0.0784**	-0.0099	0.0100

	(56)	(57)	(58)	(59)	(60)	(61)	(62)
	Poverty head-count $1.90	**Poverty head-count $3.20**	**Poverty head-count $1.44**	**Poverty head-count $1.86**	**Poverty head-count $2.50**	**Poverty gap $1.90**	**Poverty gap $3.20**
	[0.0261]	[0.0425]	[0.0174]	[0.0226]	[0.0285]	[0.0138]	[0.0196]
GDP per capita (log)	-7.5536*	-25.8803***	-4.5195+	-9.6939**	-28.0260***	0.0364	-7.0537**
	[3.1824]	[5.2355]	[2.3852]	[3.1072]	[3.9065]	[1.6401]	[2.3860]
GDP growth	-0.5168	-0.5818	-0.5360+	-0.7270	-0.3329	-0.2114	-0.3525
	[0.4783]	[0.8221]	[0.3201]	[0.4451]	[0.4950]	[0.2185]	[0.3584]
Income Gini	1.1001***	1.2737*	0.2835	0.8817**	2.0525***	0.5207**	0.8101***
	[0.3176]	[0.5248]	[0.2308]	[0.3014]	[0.3771]	[0.1621]	[0.2381]
Growth*Income Gini	0.0070	0.0075	0.0094	0.0116	0.0052	0.0038	0.0048
	[0.0118]	[0.0203]	[0.0081]	[0.0112]	[0.0126]	[0.0054]	[0.0089]
Corruption	0.0171	-0.0061	0.0378	0.0771	0.0555	0.0105	0.0114
	[0.0604]	[0.1012]	[0.0421]	[0.0563]	[0.0674]	[0.0297]	[0.0453]
Inverse Mills ratio	3.1157	6.0106+	2.7638*	4.6107*	3.2137	0.5506	2.3302
	[2.0720]	[3.5163]	[1.4095]	[1.9168]	[2.2268]	[0.9840]	[1.5528]
Constant	19.0943	169.9995***	25.1443	41.1509	149.8869***	-19.2555	28.0800
	[25.2309]	[41.5508]	[19.9004]	[25.9114]	[32.6042]	[12.9726]	[18.9169]
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Selection equation	.	.	.	.	.	.	.
GDP per capita (log)	-0.1897***	-0.1897***	-0.2473***	-0.2473***	-0.2473***	-0.1897***	-0.1897***
	[0.0525]	[0.0525]	[0.0471]	[0.0471]	[0.0471]	[0.0525]	[0.0525]
GDP growth	-0.1902**	-0.1902**	-0.1613**	-0.1613**	-0.1613**	-0.1902**	-0.1902**
	[0.0608]	[0.0608]	[0.0566]	[0.0566]	[0.0566]	[0.0608]	[0.0608]
Income Gini	0.0015	0.0015	-0.0014	-0.0014	-0.0014	0.0015	0.0015
	[0.0094]	[0.0094]	[0.0087]	[0.0087]	[0.0087]	[0.0094]	[0.0094]
Growth*Income Gini	0.0040**	0.0040**	0.0032*	0.0032*	0.0032*	0.0040**	0.0040**
	[0.0016]	[0.0016]	[0.0014]	[0.0014]	[0.0014]	[0.0016]	[0.0016]
Corruption	-0.0188**	-0.0188**	-0.0085	-0.0085	-0.0085	-0.0188**	-0.0188**
	[0.0065]	[0.0065]	[0.0061]	[0.0061]	[0.0061]	[0.0065]	[0.0065]
Current account	-0.0185**	-0.0185**	-0.0189**	-0.0189**	-0.0189**	-0.0185**	-0.0185**

	(56)	(57)	(58)	(59)	(60)	(61)	(62)
	Poverty head-count $1.90	**Poverty head-count $3.20**	**Poverty head-count $1.44**	**Poverty head-count $1.86**	**Poverty head-count $2.50**	**Poverty gap $1.90**	**Poverty gap $3.20**
	[0.0067]	[0.0067]	[0.0058]	[0.0058]	[0.0058]	[0.0067]	[0.0067]
Reserves	-0.0175	-0.0175	-0.0127	-0.0127	-0.0127	-0.0175	-0.0175
	[0.0172]	[0.0172]	[0.0150]	[0.0150]	[0.0150]	[0.0172]	[0.0172]
Legislative election	-0.0923	-0.0923	-0.0324	-0.0324	-0.0324	-0.0923	-0.0923
	[0.1210]	[0.1210]	[0.1096]	[0.1096]	[0.1096]	[0.1210]	[0.1210]
Executive election	0.2774*	0.2774*	0.1718	0.1718	0.1718	0.2774*	0.2774*
	[0.1409]	[0.1409]	[0.1319]	[0.1319]	[0.1319]	[0.1409]	[0.1409]
UNGA US distance	-0.4733***	-0.4733***	-0.3640***	-0.3640***	-0.3640***	-0.4733***	-0.4733***
	[0.0921]	[0.0921]	[0.0825]	[0.0825]	[0.0825]	[0.0921]	[0.0921]
IMF compound	-0.7754	-0.7754	1.7018	1.7018	1.7018	-0.7754	-0.7754
	[2.1476]	[2.1476]	[1.9393]	[1.9393]	[1.9393]	[2.1476]	[2.1476]
Constant	1.4409*	1.4409*	2.0098**	2.0098**	2.0098**	1.4409*	1.4409*
	[0.7291]	[0.7291]	[0.6539]	[0.6539]	[0.6539]	[0.7291]	[0.7291]
Country fixed effects	No	No	No	No	No	No	No
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Diagnostics	.	.	.	.	.	.	.
N	1786	1786	1840	1840	1840	1786	1786
N selected	134	134	188	188	188	134	134

Notes: Standard errors in brackets. + p<0.10, * p<0.05, ** p<0.01, *** p<0.001

BOSTON UNIVERSITY Global Development Policy Center

Boston University
53 Bay State Road
Boston, MA 02215

gdp@bu.edu
@GDP_Center
bu.edu/gdp

The Global Economic Governance Initiative (GEGI) is a research inititiative at Boston University's Global Development Policy Center. The GDP Center is a University wide center in partnership with the Frederick S. Pardee School for Global Studies. The Center's mission is to advance policy-oriented research for financial stability, human wellbeing, and environmental sustainability.

www.bu.edu/gdp