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Unbundling the effect of political instability on income redistribution

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Abstract

The main objective of this study is to investigate potential political barriers to fostering an egalitarian redistribution of income within an economy. It empirically establishes that countries characterized by the prevalence of political instability are less likely to adopt progressive income redistribution. Employing data for up to 143 countries between 1996 and 2015, I consistently find evidence that political instability has a negative impact on effective fiscal redistribution, captured by the difference between market and net income inequality. Further analyses indicate that the economic and statistical significance of the redistributive impact of political instability is stronger in non-democratic and highly diverse societies, and low-income economies. Hence, the detrimental effect of political uncertainty on effective fiscal redistribution appears to hold only in non-democratic, fragmented and low-income countries. The findings imply that reducing political instability contributes to establishing an egalitarian redistribution of income, potentially leading to less income inequality.

Key words: Political instability, Redistribution, Income inequality, Political economy.

JEL Classifications: D72, O15, O43, P16.

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1. Introduction

A central line of thought in the comparative development literature attempts to investigate the relationship between political institutions and economic performance (Barro, 1996; Tavares & Wacziarg, 2001; Acemoglu et al., 2019). It is widely acknowledged that political instability or uncertainty is a major impediment to fostering economic development across the globe (Jong-A-Pin, 2009).[1] More specifically, stable political systems play a key role in maintaining social order and implementing sound economic policies, thereby promoting investment and long-run economic growth (Azzimonti, 2011). Part of the explanation for this hypothesis holds that uncertainty associated with a country's political environment shortens policymakers' horizons, leading to sub-optimal macroeconomic policies. Furthermore, politically unstable economies are characterized by frequently changing policies, which induce greater volatility and retard economic growth. On the empirical side, many studies provide suggestive evidence that political instability is a major impediment to sustaining investment and economic growth (see, for instance, Alesina et al., 1996; Carmignani, 2003; Jong-A-Pin, 2009; Julio & Yook, 2012; Aisen & Veiga, 2013). Other scholars reveal that political instability is associated with various dimensions of socio-economic underdevelopment, including, but not limited to, financial backwardness (Roe & Siegel, 2011), environmental underperformance (Bohn & Deacon, 2000; Fredriksson & Svensson, 2003; Fredriksson & Wollscheid, 2014), increased public debt (Alesina & Tabellini, 1990), tax distortions (Battaglini & Coate, 2008; Yared, 2010), and inefficient tax systems (Cukierman et al., 1992).

This study aims to improve our understanding of the role of political instability in shaping economic performance across the world by investigating its influence on income redistribution. Empirical evidence of political factors shaping the extent to which a country can establish an egalitarian redistribution of income is relevant for combating income inequality, which remains a major social concern in many societies across the globe. Indeed, the main inquiry of the current study builds upon the well-established literature on the causes and consequences of income inequality (Alesina & Perotti, 1996; Berg et al., 2018; Furceri & Ostry, 2019). However, previous studies exploring the inequality-development nexus do not clearly differentiate between various types of inequality (Jäntti et al., 2020). For example, net

[1] According to the World Bank's definition, political instability reflects the probability of a government collapse driven by riots, revolutions, re-elections, and other forms of violence. Political instability is also equated with political turnover or political uncertainty when it refers to changes in the government or political elections (Grechyna, 2018).

inequality, which represents disparities in disposable income or consumption, is crucial for examining welfare policies. Meanwhile, the fraction of income accruing to the top percentiles of the income distribution typically reflects market-based inequality (Leigh, 2007). For this reason, it is important to consider the difference between market and net income inequality.

Income redistribution critically depends on the government's capacity and effort to implement progressive redistributive policies and measures, such as taxes, transfers and fiscal policies (Ravallion, 2010). Importantly, fiscal redistribution is a key instrument that helps reduce market inequality. There also exists substantial variation in the adoption of redistributive policies and measures around the globe. In addition, the influence of fiscal redistribution on income inequality differs remarkably between world economies. For example, redistribution has reduced income inequality by approximately 50% in Denmark, but the figures for the United States and Chile are roughly 20% and 10%, respectively.[2] Indeed, previous studies have predominantly focused on understanding the influence of market inequality (Milanovic, 2000; Houle, 2017; Jäntti et al., 2020) and globalization (Gozgor & Ranjan, 2017; Pleninger & Sturm, 2020) on income redistribution. However, empirical evidence on the redistributive impact of political instability remains hard to find. Against this background, this paper attempts to examine whether uncertainty associated with a country's political regimes matters for progressive income redistribution.

A major challenge with identification of the influence of political instability on economic development relates to possible endogeneity concerns. In particular, political instability is interrelated with and jointly determined by development outcomes, making it difficult to isolate its contribution to driving worldwide differences in economic performance. To address this concern, a system GMM estimator developed by Arellano and Bond (1991) has been widely applied in the existing literature to draw statistical inference on the impacts of political instability on economic growth and development (Jong-A-Pin, 2009; Aisen & Veiga, 2013). This method employs internal instruments to address endogeneity issues.[3] However, uncertainty associated with a country's political systems plausibly has a persistent influence on economic development (Vu, 2021a). This could invalidate the moment conditions that a system GMM estimator relies on for consistent inference (Vu, 2022). Furthermore, Bazzi and Clemens

[2] This is based on a measure of relative income redistribution (Section 3).

[3] More specifically, lagged levels and lagged differences are used as plausibly exogenous instrumental variables for potential endogenous regressors for the contemporaneous model specifications in first differences and levels, respectively.

(2013) raise concerns about weak instrument bias in many studies in the empirical growth literature applying the system GMM estimator. In this regard, a key contribution of the current study lies in identification of the influence of political instability on income redistribution. In particular, I attempt to isolate a plausibly exogenous source of variation of political instability for each country in a given year based on the prevalence of political instability in geographically or culturally proximate economies. This empirical exercise is motivated by Grechyna (2018) who empirically establishes evidence of the cross-border diffusion of political instability. Specifically, Grechyna (2018), by using data for 140 world economies, indicates that the level of political instability in neighboring countries has a positive influence on a country's own political instability. Building upon Grechyna (2018), this paper exploits the prevalence of political instability in geographically or culturally proximate countries to generate the plausibly exogenous component of countries' own political instability that helps explain worldwide disparities in income redistribution. To achieve causal inference, I adopt numerous methods of constructing the instrumental variable to mitigate plausible concerns about weak instrument bias, and the validity of the exclusion restriction.

An additional issue is to obtain an internationally comparable measure of progressive income redistribution. To capture the worldwide variation in fiscal redistribution, previous studies have mainly employed welfare expenditure, including public spending on health and education, and welfare transfers. These measures, however, do not necessarily reflect redistribution of income from high- to low-income earners (Kenworthy & Pontusson, 2005).[4] In addition, Ross (2006) indicates that social spending may fail to reach a country's impoverished groups. Consistent with previous studies exploring the causes and consequences of income redistribution, a final contribution of this study is to use a comprehensive dataset on income inequality provided by Solt (2020) to construct internationally comparable measures of redistribution (Houle, 2017; Berg et al., 2018; Jäntti et al., 2020; Pleninger & Sturm, 2020). A recent study by Berg et al. (2018) attempts to identify the impact of redistribution on economic growth across countries. This paper complements the empirical analyses of Berg et al. (2018) by providing a plausible contributory explanation for the variation in income redistribution across the world.

[4] This stems from a viewpoint postulating that social transfers, particularly public investment in higher education, appear to be regressive rather than progressive, because they disproportionately benefit the middle- and upper-income groups (LeGrande, 1982; Milanovic, 2000; Ross, 2006; Segura-Ubiergo, 2007; Houle, 2017). For example, public expenditure on education is found to be regressive in the Middle East and Sub-Saharan Africa (Prasad, 2008).

To preview the main findings, I consistently find evidence that countries with greater political instability are less likely to implement progressive income redistribution, holding other things equal. The results are insensitive to controlling for a range of potential confounding characteristics and using different methods of isolating the plausibly exogenous component of political uncertainty. Exploring potential heterogeneity in the core findings, I demonstrate that the negative influence of political instability on income redistribution appears to hold only in non-democratic and highly diverse countries, and low-income societies. The remainder of the study proceeds as follows. Section 2 outlines the main hypotheses. Section 3 presents data and methods of identification. Sections 4 and 5 contain empirical estimates of the effect of political instability on redistribution. Section 6 concludes.

2. Theoretical framework and hypotheses

Previous studies examining the consequences of political instability establish that greater uncertainty associated with a country's political systems hinders an incumbent's effective decision-making horizon (see, for example, Jong-A-Pin, 2009; Azzimonti, 2011; Julio & Yook, 2012; Aisen & Veiga, 2013). This viewpoint draws on the "roving bandit" theory proposed by Olson (1991). It suggests that an unstable incumbent finds it more optimal to steal more today instead of implementing (pro-development) policies that are potentially conducive to fostering future prosperity. In a similar vein, Fredriksson and Svensson (2003) reveal that politically stable economies are more likely to adopt stringent environmentally friendly policies and measures, leading to the cross-country variation in environmental performance. The underlying idea is that political stability increases the probability of obtaining utility from formulating and implementing emission-reducing regulations (Fredriksson & Svensson, 2003; Fredriksson & Wollscheid, 2014). It follows from this line of thought that countries with higher levels of political instability tend to suffer from persistent underdevelopment by adopting shortsighted and sub-optimal policies (Azzimonti, 2011).[5]

Building upon the aforementioned studies, I propose that political instability undermines the government's *capacity* to establish an egalitarian redistribution of income. This hypothesis rests on the argument that reductions in inequality and poverty typically hinge upon the ability to formulate and implement effective distributional measures, including, but not limited to,

[5] Building upon this idea, many empirical studies demonstrate that political instability is linked to socio-economic underperformance through hindering firms' investment (Julio & Yook, 2012), and inducing tax distortions, public debt and seigniorage (Alesina & Tabellini, 1990; Aisen & Veiga, 2008; Yared, 2010).

progressive income tax systems and public spending (Ravallion, 2010). It is posited that societies characterized by the prevalence of political instability, compared to politically stable countries, find it more difficult to improve fiscal capabilities that are key to establishing progressive income redistribution.[6] Besley and Persson (2014) demonstrate that enhancing fiscal capabilities requires substantial forward-looking investment in institutional building. More precisely, fiscal capacity investment typically entails considerable costs required for organization and training competent tax authorities in the short run, but have long-term consequences (Besley & Persson, 2009, 2014). It follows from the above discussion that extending the scope for income redistribution, which is a dynamic process, depends on an incumbent's effective decision-making horizon. In particular, the incumbent's security of tenure determines the benefits he or she would obtain from implementing progressive redistributive policies and measures. In other words, uncertainty associated with a country's political environment limits the incumbent's window of opportunity to gain from investment in extending the scope for progressive income redistribution. In line with these narratives, several scholars reveal that political instability is positively associated with tax distortions and inefficiencies, which plausibly undermine the ability to redistribute income equally within an economy (Persson & Svensson, 1989; Alesina & Tabellini, 1990; Cukierman et al., 1992). Furthermore, political instability, by retarding investment and economic growth, limits the extent to which a country can establish a strong tax base and well-functioning tax regimes, thus hampering progressive income redistribution.

It is important to note that the formulation, implementation, and efficacy of redistributive policies and measures depend on the government's *effort* to establish an egalitarian redistribution of income within a society (Ravallion, 2010). For this reason, conventional explanations of worldwide differences in income redistribution rely on several factors shaping the redistributive effort of governments, including the level of income inequality. The median voter model of redistribution developed by Meltzer and Richard (1981) argues that greater market inequality leads to a growing redistributive effort of the government. The basic idea is that the median income voter, who plays a key role in democratic elections, demands greater

[6] Consistent with this proposition, Vu (2021c) finds that countries with an intermediate level of accumulated experience with state-level institutions tend to experience lower levels of income inequality. The underlying intuition is that (historical) statehood experience, up to a point, strengthens an egalitarian distribution of income within an economy through improving fiscal and legal capabilities. By contrast, societies with frequently changing governments may suffer from weakened fiscal capacity, leading to greater income inequality.

redistribution in response to widening income disparities, leading to higher political pressures on income redistribution (Meltzer & Richard, 1981; Houle, 2017; Jäntti et al., 2020). This is suggestive of a pivotal role for inequality in shaping the government's redistributive effort, and hence the cross-country variation in income redistribution.[7] There also exists a widespread consensus that political instability is rooted in an unequal distribution of income across individuals (Alesina & Perotti, 1996).[8] Hence, societies characterized by higher levels of income inequality tend to suffer from greater uncertainty associated with the political environment. To the extent that the government of politically unstable economies experience a greater political pressure for redistribution, there exists a positive association between political instability and redistributive effort. One could also contend that the probability of losing office increases the government's vulnerability to demands for redistribution stemming from politically powerful and special interest groups (Kammas & Sarantides, 2016). As such, the governments of politically unstable countries tend to implement redistributive policies to enhance reelection prospects and the political regime's stability (Kammas & Sarantides, 2016).[9] Therefore, I hypothesize that political instability has a positive influence on income redistribution by boosting the government's redistributive effort.[10]

Overall, the existing literature facilitates our understanding of the extent to which political instability helps explain the variation in income redistribution across the world. As articulated above, greater uncertainty associated with a country's political systems is plausibly a major barrier to fostering the government's *capacity* to redistribute income equally. However, political instability, rooted in income inequality, could give rise to fiscal redistribution by increasing the redistributive *effort* of the government, which acts as a means to increase the likelihood of staying in office and maintaining the regime's stability.

[7] Van Velthoven et al. (2019) document that income disparities driven by financial development, financial liberalization and banking crises play a more important role in driving income redistribution, compared to non-finance-induced income inequality. In addition, the influence of inequality on redistribution is conditioned on ethnolinguistic fractionalization (Van Velthoven et al., 2019).

[8] Specifically, an influential article by Alesina and Perotti (1996) empirically establishes that income inequality has a positive influence on the prevalence of socio-political instability through giving rise to social discontent.

[9] Using international data across 65 countries between 1975 and 2010, Kammas and Sarantides (2016) indicate that new democracies characterized by greater political instability are more likely to implement redistributive policies and measures in order to improve reelection prospects, and reduce a potential threat of revolution from special groups of agents.

[10] See also Bellettini (1998) and Falkinger (1999) for theoretical models behind the relationships between socio-political instability and fiscal policies.

3. Data and methods

3.1. The baseline model and variables

Model specification. To estimate the effect of political instability on income redistribution, I set up the following econometric model:

$$Redist_{it} = \alpha + \beta PIS_{it} + \gamma X_{it} + \vartheta_i + \tau_t + \varepsilon_{it}$$

in which $Redist_{it}$ stands for effective fiscal redistribution for country i in year t. PIS is an index of political instability. β captures the estimated effect of political instability on fiscal redistribution. X is a vector of control variables. I collect data for all variables between 1996 and 2015 ($T = 20$), which is mainly dictated by the availability of data on the main variables of interest. ϑ and τ capture unobserved country- and year-specific factors. ε is the error term. See also the Appendix for more details of variables and data sources.

Fiscal redistribution. I employ the Standardized World Income Inequality database (SWIID), compiled by Solt (2020), to construct two alternative measures of redistribution. A key advantage of these data is that they clearly distinguish between market-based and disposable income (net) inequality, measured by the Gini coefficient, for a large sample of world economies from 1960 to 2017. More specifically, market inequality reflects the level of income disparities generated by market processes. Meanwhile, net inequality is a post-tax, post-transfer measure of income inequality. The difference between net and market inequality is mainly attributed to taxes and transfers (Berg et al., 2018).[11] Hence, it captures the cross-country variation in fiscal redistribution by the actual outcome of fiscal redistribution. Following Berg et al. (2018), Houle (2017), and Solt (2020), I construct two measures of redistribution as follows.[12]

$$\text{Absolute redistribution: } ARedist_{it} = GINI_{market,it} - GINI_{net,it}$$

$$\text{Relative redistribution: } RRedist_{it} = \frac{GINI_{market,it} - GINI_{net,it}}{GINI_{market,it}}$$

[11] Several studies have used the SWIID to investigate the causes and consequences of income inequality (Houle, 2017; Berg et al., 2018; Lee & Vu, 2020; Vu, 2021c).

[12] Berg et al. (2018) estimate the effect of redistribution, measured by the absolute difference between market and net inequality, on economic growth. Their benchmark regression is performed by regressing GDP per capita on absolute redistribution and net inequality. This helps differentiate between the impacts of market inequality and redistribution on economic growth. In addition, Houle (2017) investigates the impact of market inequality on effective fiscal redistribution.

Higher values of redistribution, which correspond to larger absolute or percentage reductions in market inequality, reflect improvements in the government's *capacity* and *effort* to implement progressive income redistribution. Policy measures for fiscal redistribution mainly take the form of, but are not limited to, establishing progressive tax systems and increased transfers. Absolute redistribution could be highly correlated with market inequality because unequal societies have plenty of scope for adopting fiscal redistribution. Meanwhile, relative redistribution takes into consideration the initial inequality level. To check for the robustness of my findings, I use both proxies for fiscal redistribution throughout the paper.

It is important to draw some attention to a major caveat regarding the adoption of these measures of redistribution. In particular, the above method implicitly assumes that market inequality stems from market processes. However, market-based inequality could be shaped by public provision of education and healthcare, and labor regulations (Morgan & Kelly, 2013; Houle, 2017). As such, there exist potential measurement errors in these redistribution indicators. As explained previously, conventional measures of fiscal redistribution, including public expenditure on health or education, typically suffer from serious measurement issues when welfare spending disproportionately benefits high-income groups within a society (Ross, 2006). Hence, public expenditure on healthcare or education does not necessarily capture effective (progressive) income redistribution. Against this backdrop, I maintain using the difference between market and net income inequality to capture international differences in the *capacity* and *effort* to establish an egalitarian redistribution of income. Figure 1 depicts the cross-country variation in effective fiscal redistribution.

Political instability. To capture cross-country differences in political instability, I use the Political Stability and Absence of Violence/Terrorism index, obtained from the World Bank's World Governance Indicators across the period 1996 – 2015. This indicator is measured based on standardized surveys that capture survey participants' perceptions of political instability. More specifically, the World Bank's measure of political stability corresponds to the probability that the government can be destabilized by contravention of established conventions (unconventional means) and/or politically motivated violence, including terrorism. Following Grechyna (2018) and Vu (2021a), I re-calculate this indicator by computing the difference between the maximum value of the whole sample and each country-year value. This yields an internationally comparable and comprehensive measure of political instability from 1996 to 2015, with higher values corresponding to greater uncertainty

associated with a country's political environment. Figure 2 demonstrates the cross-country variation in political instability.

Control variables. To address plausible concerns about omitted variable bias, I augment the benchmark model specification with numerous potential confounding characteristics. As discussed previously, countries with higher levels of market inequality could redistribute more in response to a higher demand for fiscal redistribution (Milanovic, 2000; Gründler & Köllner, 2017; Houle, 2017; Jäntti et al., 2020). An unequal distribution of income is also a key driving force of socio-political unrest (Alesina & Perotti, 1996). To the extent that market inequality simultaneously affects political instability and redistribution, the empirical findings can be biased and inconsistent. This motivates the inclusion of a measure of market inequality in the baseline model. Furthermore, high-income economies are typically endowed with better resources and inclusive institutions, thus promoting progressive income redistribution (Gründler & Köllner, 2017). It is widely acknowledged that people living in the developing world experience lower opportunity costs of engaging in violence, riots, and political unrest, leading to the prevalence of political instability (Ezcurra, 2021; Vu, 2021a). As such, the hypothesized relationship between political instability and income redistribution could be attributed to the level of economic development. One could argue that income levels at first reduce fiscal redistribution when countries prioritize economic growth, rather than welfare expenditure, during early stages of economic development. For this reason, I allow the log of GDP per capita to enter in the main regression analysis in a quadratic form to account for the redistributive impact of economic development.

Recent studies indicate that globalization is a major driver of worldwide differences in income redistribution (Gozgor & Ranjan, 2017; Pleninger & Sturm, 2020).[13] Therefore, I incorporate the KOF globalization index of Gygli et al. (2019) in the regression. Following Furceri and Ostry (2019), I incorporate additional controls in the benchmark model, including government size, the share of resource rents in total GDP, the unemployment rate, an index of democratic institutions, and the quality of human capital. These factors are the conventional driving forces of income (re)distribution within a society (Furceri & Ostry, 2019). Previous

[13] There exist numerous studies exploring the effects of various dimensions of globalization on income inequality, which is a major cause of redistribution in democracies (Jauch & Watzka, 2016; Haan & Sturm, 2017; Furceri & Loungani, 2018; Pleninger et al., 2022). As reviewed by Pleninger and Sturm (2020), globalization may undermine the government's capabilities to implement progressive income redistribution due to increased tax competition between world economies. By contrast, globalization gives rise to fiscal redistribution because of an increased demand for redistribution of the gains from globalization (Pleninger & Sturm, 2020). Furthermore, Gozgor and Ranjan (2017) develop theoretical models linking globalization, income inequality, and redistribution.

studies in the long-term development literature establish that deeply rooted institutional, cultural and human characteristics have a persistent influence on contemporary political instability and income redistribution (Kammas et al., 2017; Arbatlı et al., 2020; Gründler & Köllner, 2020; Ezcurra, 2021; Vu, 2021a). Hence, all the regressions using panel data are augmented with country fixed effects (FEs) to account for the confounding impacts of the fundamental (fixed) determinants of redistribution. This also helps rule out a possibility that the relationship between political instability and fiscal redistribution could be driven by unobserved time-invariant heterogeneity across countries. Overall, I attempt to control for potential confounding factors, which simultaneously affect the prevalence of political instability and income redistribution, to provide a more reliable basis for statistical inference.

3.2. Identification strategy

A major threat to identification of the effect of political instability on income redistribution stems from endogeneity concerns. In particular, countries with effective fiscal redistribution are more likely to combat market inequality, thereby reducing social discontent. This contributes to the establishment of a stable political environment. Additionally, the empirical estimates of the relationship between political instability and fiscal redistribution could be explained away by possible omitted variables and/or measurement errors in the measures of redistribution. In this regard, investigating the causal influence of political uncertainty on effective fiscal redistribution requires isolating plausibly sources of exogenous variation in political instability that help explain worldwide differences in redistribution.

To mitigate endogeneity concerns, I employ the level of political instability of neighboring countries (*n_PIS*) as an instrumental variable (IV) for a country's own political instability. The *relevance* of this IV draws upon the idea that political instability transcends national borders, depending on social, political, economic and military ties between world economies (Solingen, 2012; Grechyna, 2018). More specifically, the spatial diffusion of political instability can be explained by a long-standing viewpoint that political views are deeply rooted in social interactions (Modelski & Perry, 1991; Axelrod, 1997; Baldassarri & Bearman, 2007; Iversen & Soskice, 2015). On this basis, Grechyna (2018) empirically establishes that geographically and/or culturally proximate countries tend to experience increased social interactions, leading to the spatial diffusion of political uncertainty. In addition, riots and revolts could directly transcend national borders. It is noteworthy that proximate nations tend to have similar demands for political reforms (e.g., political

dissatisfaction with political systems). Therefore, the political environment of neighboring countries plausibly affects a country's own political instability (Grechyna, 2018).

The validity of the IV approach rests upon the premise that *n_PIS* affects a country's fiscal redistribution exclusively through shaping political uncertainty. Admittedly, the *exogeneity* assumption cannot be tested due to the unobserved nature of the error terms. Indeed, this method of identification is similar to that of Acemoglu et al. (2019) who use jack-knifed regional averages of democratization as an exogenous IV for democracy in growth regressions.[14] As reviewed by Acemoglu et al. (2019), the spatial dissemination of political unrest is independent of the cross-border spillovers of economic factors, such as GDP or productivity growth. A potential explanation is that the spatial diffusion of political unrest is primarily driven by similar demands for political reforms. For example, geographically and/or culturally proximate societies may have common dissatisfaction with a political system because of a country's political, cultural, informational and social linkages with its neighbors (Kuran, 1989; Lohmann, 1994; Ellis & Fender, 2010; Buera et al., 2011). For this reason, it is possible to isolate the spatial diffusion of political instability from the cross-border spillovers of economic trends. A key concern about possible deviation from the exclusion restriction stems from the fact that *n_PIS* could affect a country's own political uncertainty through driving regional economic trends. Consistent with the identification approach of Acemoglu et al. (2019), *n_PIS* has no direct influence on *PIS* as long as I can distinguish between the spatial diffusions of political instability and economic trends. To this end, I control for economic growth and income inequality in neighboring countries. An additional concern relates to the possibility that *n_PIS* may affect *PIS* by shaping the key determinants of a country's own political instability. In this regard, the inclusion of several potential confounding factors in the baseline model helps reduce potential deviation from the exogeneity condition.

To construct the jack-knifed average of political instability in neighboring countries for each country-year observation, I exclude a country's own values of political instability in the

[14] Cherif et al. (2018) adopt broadly similar identification strategies, and use regional averages of export sophistication as a valid instrument for a country's own export sophistication in growth regressions. More recently, Caselli and Reynaud (2020) estimate the causal effect of fiscal rules on fiscal balance, exploiting the implementation of fiscal rules in contiguous countries as an exogenous IV. Exploring the relationship between economic complexity and population health, Vu (2020) mitigates endogeneity concerns by using jack-knifed regional averages of economic complexity as a plausibly exogenous IV. Pleninger and Sturm (2020) employ the level of economic globalization in neighboring countries as a source of exogenous variation in a country's economic globalization that helps explain worldwide differences in redistribution.

calculation. Following Grechyna (2018), I calculate the simple average of political instability in contiguous neighbors, which share common borders with a given country.[15] This yields a time-varying IV for political instability across countries between 1996 and 2015.

4. Main results

Panel data estimates. Table 1 reports IV estimates of the effect of political instability on effective fiscal redistribution, using data for up to 143 countries across the period 1996 – 2015. In particular, I present the estimated impact of the plausibly exogenous component of *PIS* on two alternative measures of fiscal redistribution in Panel A. In the first-stage regressions, *PIS* is regressed on the jack-knifed averages of *PIS* in contiguous countries (*n_PIS*) to create a source of exogenous variation in a country's political instability in a given year (Panel B). In all cases, *n_PIS* enters the first-stage regression with a positive and statistically significant coefficient. The results indicate that the level of political instability of surrounding countries has a positive influence on uncertainty associated with a country's political regimes, consistent with the findings of Grechyna (2018) and Acemoglu et al. (2019). The estimated coefficient of *n_PIS* retains its sign and statistical precision when I augment the regression analysis with potential confounding factors. Hence, political instability in neighboring economies plays a key role in driving the prevalence of socio-political unrest in the domestic country in a given year. These findings demonstrate that *n_PIS* is a relevant IV. I also report the first-stage *F*-statistic of excluded instruments developed by Olea and Pflueger (2013).[16] In all cases, the obtained values are much higher than the conventional cutoff of 10. This helps rule out plausible concerns about weak instrument bias. Andrews et al. (2019) propose constructing Anderson-Rubin identification-robust confidence intervals that provide efficient estimates regardless of the strength of the IV. As none of these 95% bounds contains zero, *PIS* has a statistically significant effect on effective fiscal redistribution.

Turning to the second-stage estimates, I find that the plausibly exogenous component of *PIS* has a negative impact on income redistribution. In addition, the redistributive effect of political instability is precisely estimated at conventionally accepted levels of statistical significance. The sign and statistical precision of the estimated coefficient on *PIS* also remain stable when using two alternative measures of effective fiscal redistribution. As shown in

[15] Acemoglu et al. (2019) break the sample into seven disjoint regions based on the World Bank's definitions. My approach is analogous to their construction of regional averages, but I rely on a much smaller regional classification that includes only contiguous neighbors.

[16] As suggested by Andrews et al. (2019), these *F*-statistic values provide reliable inference on weak instrument bias even when using non-homoscedastic, serially-correlated and clustered data.

Columns (2) and (4) of Table 1, a one-unit increase in *PIS* is associated with 0.929-unit and 0.017-unit decreases in absolute and relative redistribution, respectively. These results are drawn from estimating the baseline model with country FEs. For this reason, they capture the contemporaneous (*short-term*) impact of *PIS* on income redistribution within a country between 1996 and 2015. Overall, I find evidence that political instability is an impediment to fostering progressive income redistribution across the world. This provides evidence supporting the main hypothesis that uncertainty associated with a country's political environment undermines the government's *capacity* to implement effective fiscal redistribution. However, the main results do not lend support to the argument that political instability enhances the government's *effort* to redistributive income to increase reelection prospects or political regimes' stability. Hence, this paper empirically establishes that the net effect of *PIS* on redistribution is negative.

As demonstrated in Table 1, the estimated coefficients of *PIS* remain statistically significant at conventionally accepted levels when I augment the regression analysis with numerous potential confounding characteristics. Therefore, the established relationship between political instability and redistribution is unlikely to be driven by the conventional determinants of fiscal redistribution. Furthermore, the benchmark findings are robust to accounting for unobserved country- and year-specific factors. As discussed previously, obtaining causal inference in the effect of *PIS* on income redistribution requires attention to the important role of slowly evolving geographic, cultural and human characteristics, which could simultaneously drive the prevalence of political uncertainty and income redistribution. For instance, the existing literature establishes that the cultural dimension of individualism/collectivism matters for cross-country differences in the provision of public goods and political instability (Gründler & Köllner, 2020; Ezcurra, 2021). If this were the case, the benchmark results could be attributed to the fundamental role of culture. In this regard, a key advantage of estimating the panel data models is that I can partial out the confounding impacts of numerous fundamental causes of long-run development. To the extent that these fundamental drivers of economic development are slowly changing over time, they can be approximated by country FEs.

Cross-sectional estimates. I now move towards estimating various cross-sectional models. It is important to re-emphasize that that the panel data estimates capture the contemporaneous (*short-term*) relationship between political instability and effective fiscal redistribution based on variation in the data within a country. A possible issue with estimating

the panel data models is that *PIS* exhibits little variation within an economy between 1996 and 2015. The inclusion of country FEs in the regression would remove much variation in the data across countries.[17] For this reason, the baseline panel data estimates are uninformative about the cross-country relationship between political uncertainty and effective fiscal redistribution. As argued earlier, countries characterized by the prevalence of socio-political unrest tend to suffer from less effective fiscal redistribution because of the detrimental effect of *PIS* on the government's *capacity* to establish an egalitarian redistribution of income. To provide additional support for the central hypothesis, I attempt to explore the *long-term* relationship between political instability and redistribution. To this end, I regress two alternative measures of fiscal redistribution on the plausibly exogenous component of *PIS*, using cross-sectional data for up to 145 countries. The data for all time-varying variables are averaged across the period 1996 – 2015. Table 2 presents cross-sectional IV estimates of the effect of political instability on redistribution across countries (Figure 3). Consistent with the panel data estimates, *PIS* enters all the regressions with a negative and statistically significant coefficient. This implies that countries with greater political instability find it more difficult to redistribute income equally (Figure 3). As shown in Columns (2) and (4), a one-standard-deviation increase in *PIS* is associated with 5.299-unit and 0.112-unit reductions in absolute and relative redistribution.[18] These results lend credence to the economic and statistical significance of the redistributive effect of political instability. In short, I consistently obtain precise estimates that political uncertainty is a major barrier to implementing progressive income redistribution, regardless of exploiting the variation *within* or *across* countries in the data.

Previous studies show that population diversity is a deep determinant of cross-country differences in effective fiscal redistribution. Sturm and De Haan (2015) establish that ethnolinguistically fragmented societies tend to redistribute less, whereas progressive income redistribution is more likely to be implemented in countries with lower degrees of ethnolinguistic diversity and higher levels of economic freedom. More recently, Pleninger and Sturm (2020) find that ethnic fractionalization plays a key role in shaping the redistributive

[17] The between-countries standard deviation of *PIS* is approximately 0.925. Meanwhile, the within-country standard deviation of *PIS* is around 0.338. Hence, the variation in *PIS* is dominated by persistent international differences in political instability across countries.

[18] The magnitude of the estimated coefficients on *PIS* increases substantially when estimating the cross-sectional models. The cross-country variation in political instability and economic performance appears to be persistent over years. Hence, the cross-sectional estimates reflect the long-term relationship between political instability and redistribution. By contrast, the panel data model estimates capture the short-term effect of *PIS* on redistribution within a country between 1996 and 2015, which is arguably much smaller than the long-term impact.

impact of economic globalization. The underlying idea is that societal fragmentation is conducive to rent-seeking activities, which in turn undermine the government's *capacity* to establish an egalitarian redistribution of income (Pleninger & Sturm, 2020). It is also widely acknowledged that population diversity hampers the provision of public goods by driving preference heterogeneity and lack of social cohesiveness (Alesina & Ferrara, 2005; Desmet et al., 2012; Arbatlı et al., 2020; Vu, 2021b, 2021a). Many studies document that population diversity could give rise to conflicts, wars and political instability (Collier & Hoeffler, 2004; Montalvo & Reynal-Querol, 2005; Arbatlı et al., 2020; Vu, 2021a).

A possible threat to identification relates to the possibility that the regression analysis fails to account for the fundamental role of slowly evolving population diversity in shaping the variation in effective fiscal redistribution across the globe. As argued earlier, I account for the confounding impacts of the fundamental causes of long-run development by incorporating country FEs in the benchmark model. In addition, using a source of plausibly exogenous variation in *PIS* helps mitigate omitted variables bias. I now address this concern in the cross-sectional analysis by allowing different measures of population diversity to enter the regression. Following Pleninger and Sturm (2020), I use a measure of ethnic fractionalization, based on data from the Ethnic Power Relations (EPR) core dataset of Vogt et al. (2015). I also use a commonly adopted index of ethnic fragmentation constructed by Alesina et al. (2003). As suggested by Desmet et al. (2012), ethnolinguistic polarization, relative to ethnic fractionalization, is more important for economic development. Therefore, I also use the ethnolinguistic polarization index to capture population diversity. Recent studies reveal that interpersonal population diversity plays a more critical role in shaping long-run development, compared to inter-ethnic diversity (Arbatlı et al., 2020; Ashraf et al., 2021; Vu, 2021b, 2021a). This motivates the adoption of prehistorically determined genetic diversity as a proxy for interpersonal population diversity. As shown in Table 3, alternative measures of population diversity are incorporated in the cross-sectional analysis separately. In all cases, the long-term redistributive effect of political instability remains negative and statistically distinguishable from zero. Therefore, my findings are unlikely to be driven by population diversity.[19]

[19] Following the suggestion of an anonymous reviewer, I also re-estimate the panel data models controlling for several alternative measures of population diversity. Due to the time-invariant nature of these proxies for societal fractionalization, I exclude country FEs from the regression. Accordingly, I find evidence that the benchmark findings retain their signs and statistical precision in all cases (Appendix Table A2). However, these estimates may not carry a causal interpretation due to plausible concerns about omitted time-invariant variable bias.

Heterogeneity. Having established the negative influence of political instability on effective fiscal redistribution, I now explore potential heterogeneity in the core findings. In particular, I propose that the extent to which political uncertainty affects the government's *capacity* and *effort* to implement progressive income redistribution may depend on democratic institutions and population diversity. Given that the core results are drawn from estimating panel data models for a sample of up to 143 countries, it is difficult to disentangle the net effect of *PIS* on redistribution. As put forward by Arbatlı et al. (2020), highly diverse societies tend to suffer from heterogeneity in preferences for the provision of public goods, making it difficult to reconcile such diverse demands for redistribution. Furthermore, population diversity undermines the level of social capital within a society, leading to the pervasiveness of conflicts and political instability (Arbatlı et al., 2020; Vu, 2021a). It is expected that highly diverse countries are more likely to suffer from the prevalence of political instability, which possibly translates into less redistribution by hampering the *capacity* to redistribute income. By contrast, less diverse societies characterized by social cohesiveness could attenuate the detrimental impact of *PIS* on redistribution. To check for this possibility, I divide the benchmark sample into two groups of higher and lower fractionalization, and replicate the main analysis.[20] As reported in Table 4, the magnitude and statistical precision of the estimated coefficient on *PIS* are larger in highly fragmented countries. Hence, the negative redistributive impact of political instability is stronger in countries with higher levels of ethnic fractionalization.

Several contributions to understanding worldwide disparities in fiscal redistribution emphasize the role of political institutions (Kammas & Sarantides, 2019). In particular, democratic countries, by providing impoverished segments of society with political power, are more likely to establish an egalitarian redistribution of income, relative to their non-democratic counterparts (Meltzer & Richard, 1981; Acemoglu et al., 2015). Using international data from 1960 to 2010, Kammas and Sarantides (2019) find that democratic institutions are positively associated with effective fiscal redistribution. As demonstrated in Section 2, the hypothesized positive relationship between *PIS* and redistribution rests upon the premise that political uncertainty increases the government's *effort* to redistributive income to increase reelection prospects and improve political regimes' stability (Meltzer & Richard, 1981; Kammas & Sarantides, 2016). This mechanism plausibly underlies the nexus between *PIS* and fiscal

[20] For this purpose, I use the measure of ethnic fractionalization included in Table 3. It reflects the likelihood that two individuals randomly selected from a population belong to the same ethnic group, with higher values corresponding to greater ethnic fractionalization. Countries with the values of the ethnic fractionalization index above (below) its mean are classified as having high (low) fragmentation.

redistribution in democracies. By contrast, political instability predominantly undermines the *capacity* to redistribute income in non-democracies because the governments typically face little or no pressure of progressive income redistribution of the median voter. Therefore, I re-estimate the baseline model by using two sub-samples of democratic and non-democratic countries (Table 4).[21] Consistent with my arguments, the impact of *PIS* on redistribution remains negative and statistically significant in non-democracies. By contrast, the redistributive effect of political instability turns out to be imprecisely estimated at conventionally accepted levels of statistical significance for democracies. These results suggest that the net negative influence *PIS* on effective fiscal redistribution is mainly driven by countries with non-democratic institutions. Therefore, political unrest is particularly detrimental to building an egalitarian redistribution of income in autocratic countries by undermining the government's capabilities to implement redistributive policies and measures.

It is widely perceived that low-income economies are more likely to suffer from the persistence and pervasiveness of political instability (Ezcurra, 2021; Vu, 2021a). As explained earlier, lower levels of income per capita equate to a lower opportunity cost of engaging in riots, revolts and political violence, thus increasing the likelihood of a government collapse. By contrast, people with better living standards are less likely to participate in socio-political unrest due to a higher opportunity cost. In addition, high-income countries have better resources, including well-regulated laws and inclusive institutions, which contribute to establishing an egalitarian redistribution of income, and attenuating conflicts and political unrest. It follows from this line of reasoning that low-income countries tend to suffer more from the negative impact of political instability on effective fiscal redistribution. Therefore, I re-estimate the benchmark model using three sub-samples of countries, based on the World Bank's classification of income levels. As shown in Appendix Table A3, the estimated coefficient of *PIS* is insensitive to using a restricted sample of low-income economies. However, the redistributive effect of political uncertainty turns out to be imprecisely estimated at conventionally accepted levels of statistical significance for both high- and middle-income economies. This provides suggestive evidence that the adverse effect of political instability on income redistribution only holds in the developing world.

[21] I use the Polity2 index of democratization to classify political regimes. In particular, this indicator is bounded between -10 and +10, in which higher values reflect the prevalence of democracy. Following Arbatlı et al. (2020), I define democratic countries as those with a value of the Polity2 index greater than 5. Countries characterized by the prevalence of autocracy and anocracy (when the Polity2 index is below 5) are considered non-democracies.

5. Robustness checks

5.1. Using jack-knifed regional averages of PIS as an alternative IV

As discussed earlier, the main IV approach of this paper is broadly comparable to the identification strategy of Acemoglu et al. (2019) who use jack-knifed regional averages of democratization as a valid instrument for democracy in growth regressions. Acemoglu et al. (2019), in particular, divide the sample into seven disjoint regions, and define a country's neighbors as all other countries located in a particular region. By contrast, I rely on a narrower definition of regions that includes only contiguous neighbors. This helps improve the instrument's relevance because countries sharing the same borders are more likely to transmit political views through social interactions. I now check whether the results are robust to constructing the IV based on a broader definition of neighboring economies. Hence, I calculate the jack-knifed regional averages of political instability (*r_PIS*), based on the World Bank's classification of regions. More specifically, I first break the sample into seven disjoint regions.[22] For each country-year observation, I calculate a simple average of *PIS* of neighboring countries located in a particular region, excluding a country's own values of *PIS*. Table 5 replicates the benchmark model by using *r_PIS* as an alternative IV. Consistent with the main results, the plausibly exogenous component of political instability has a negative influence on effective fiscal redistribution.

5.2. Using an inverse geographic distance-weighted average of PIS as an alternative IV

It is argued that the stability of a country's political systems may be shaped by the prevalence of socio-political unrest not only in contiguous or regional neighbors but also in other countries. Furthermore, I exclude island nations when constructing the benchmark instrumental variable. Therefore, I now adjust the method of constructing the IV using a measure of geographic distance.[23] This approach exploits the spillover effect of political instability across the globe, and assumes that this spatial dependence decays with geographic distance. For instance, Vietnam's *PIS* is instrumented by the jack-knifed average of political instability in other countries, weighted by the inverse of their geographical distances to Vietnam. Consequently, the level of political instability in Laos, Cambodia, and Thailand, for example, obtains a larger

[22] The World Bank's classification of regions consists of East Asia and Pacific, Europe and Central Asia, Latin America and Caribbean, Middle East and North Africa, Sub-Saharan Africa, North America, and South Asia. Data are obtained from the World Bank's World Development Indicators (http://wdi.worldbank.org/).

[23] *Distance* is a population-weighted measure of geographic distance between the two countries' largest cities. Data are obtained from the CEPII's database of geographic distance.

weight compared to New Zealand, Australia or Papua New Guinea.[24] The results reported in Table 6 indicate that the plausibly exogenous component of political instability, generated by the inverse distance-weighted average of *PIS* in other countries, exerts a negative impact on effective fiscal redistribution. The effect also remains precisely estimated at the 1% level of significance in all cases. Thus, the baseline estimates are robust to using the inverse distance-weighted average of *PIS* in other countries as an alternative IV.

5.3. Using an inverse cultural distance-weighted average of PIS as an alternative IV

It is observed that several geographically distant countries share similar cultures and histories, or even speak the same language. For instance, New Zealand and Australia are located further away from Western Europe, and are close to Fiji and Papua New Guinea. These two nations are culturally proximate to Western Europe regardless of their geographic distances, thus promoting the cross-border dissemination of political views. In addition, Fiji is culturally distant to Australia and New Zealand despite their geographic proximity. Other examples include the greater cultural proximity between Singapore and China than the cultural ties with Singapore's neighbors (e.g., Malaysia, Indonesia, and Brunei). Importantly, cultural proximity plausibly facilitates the spatial diffusion of political instability because culturally proximate countries could share similar political views and demands for political reforms. Hence, I employ an inverse cultural distance-weighted average of political instability (*distl_PIS*) in other countries as an alternative IV.

The relevance of this IV is motivated by an early study establishing that cultural distance is a barrier to the international diffusion ideas or, more specifically, political opinions (O'Loughlin et al., 1998). Building upon this contribution, Madsen et al. (2015) demonstrate that cultural proximity plays a key role in driving the spatial dependence of democratization across countries. Hence, the existing literature suggests that political instability transcends culturally proximate economies. Using *distl_PIS* as an alternative IV also mitigates a possible concern that the cross-border diffusion of political unrest can be correlated with regional economic spillovers, leading to potential deviation from the exogeneity condition. As discussed

[24] The construction can be represented as $distw\_PIS_{it} = \frac{\sum_{j \neq i}\left(\frac{1}{distance_{ij}} \times PIS_{jt}\right)}{\sum_{j \neq i}\frac{1}{distance_{ij}}}$, in which $distance$ represents the geographic distance between country i and j. Therefore, $distw\_PIS$ is the average of inverse distance-weighted political instability in other countries.

previously, many culturally close countries are geographically distant to each other (Madsen et al., 2015). This reduces the possibility that the prevalence of *PIS* in culturally proximate neighbors transmits to a country's own political uncertainty via regional economic trends. On this basis, *distl_PIS* plausibly affects effective fiscal redistribution exclusively through driving uncertainty associated with a country's political regimes.

To capture cultural distance between world economies, I use an index of linguistic distance, following Fearon (2003) and Madsen et al. (2015). This is motivated by the premise that linguistic proximity facilitates the dissemination of ideas and cultures (Laitin, 2000; Fearon, 2003; Madsen et al., 2015). Fearon (2003) employs tree diagrams that illustrate the structural linkages between languages to measure the distance between various pairs of languages. Accordingly, each language is classified as a member of a larger language family, such as Indo-European or Fino-Ugric. The relationship between two languages, therefore, can be represented by the number of common classifications in the language diagram. For example, Russian and Ukrainian are characterized by sharing three common classifications because they are all members of three language families, including Indo-European, Slavic, and East Branch. Madsen et al. (2015) apply the same intuition, and construct the distance between different pairs of languages following the method proposed by Fearon (2003) and Putterman and Weil (2010) as follows.

$$distl_{ij} = 1 - \left(\frac{c\_classification}{\frac{1}{2} \times (tot\_classification} \right)^{\frac{1}{2}}$$

in which i and j represents a pair of languages. $c\_classification$ denotes the number of common classifications between two languages. $tot\_classification$ stands for the total number of classifications of both languages i and j. Lower values correspond to greater linguistic and cultural proximity. Two languages that do not belong to any language family (without any common classifications) take a value of one.

The construction of *distl_PIS* is broadly similar to *distw_PIS*, in which geographic distance is replaced by linguistic distance. For instance, the average of political instability in Australia's neighbors, or *distl_PIS* of Australia, in a given year is weighted by other countries' linguistic distance to Australia. Thus, Western European countries are given a bigger weight, compared to Australia's geographically proximate neighbors (e.g., the Solomon Islands, Papua New Guinea or Fiji). Table 7 replicates the benchmark model using *distl_PIS* as an alternative

IV. The estimated coefficient of *PIS* retain its sign and statistical precision in all cases. The findings provide additional empirical support for the negative distributive effect of political instability. Overall, the core results are robust to adopting different ways of isolating the plausibly exogenous source of variation in political uncertainty.

5.4. Testing for the validity of the over-identifying restrictions

The validity of the baseline estimates critically rests upon then premise that *n_PIS* affects the adoption of redistributive policies and measures of a country only through shaping the prevalence of political instability. As discussed above, the exogeneity requirement cannot be tested when the baseline model is just identified. To provide additional support for the validity of the exogeneity condition, I attempt to undertake a test of over-identifying restrictions.

Performing this empirical exercise requires identifying at least one additional exogenous IV. For this purpose, I employ the variation in national leaders' age (*age_gap*) as a complementary IV for *PIS*. Specifically, *age_gap* is measured by the age difference between the youngest and oldest leaders over the period 1970-2015. I hypothesize that the variation in leaders' age is positively associated with political instability. The underlying idea is that the stability of a country's political systems depends on educational attainment and experience of political leaders. Therefore, greater *age_gap* plausibly gives rise to political uncertainty by increasing the variability in national leaders' experience and education over years. Importantly, exogenous *age_gap* reasonably exerts no direct influence on fiscal redistribution except through creating uncertainty associated with a country's political environment. To construct this IV, I employ a comprehensive dataset of world leaders, namely Archigos (Goemans et al., 2009). I rely on the age gap across a long period 1970-2015 to increase the comparability across countries, and capture the effect of the variability in country leaders' age on political instability. Thus, this alternative IV is time-invariant. For this reason, I replicate the cross-sectional analysis to conduct the test of over-identifying restrictions (Table 8).

Accordingly, the variation in political leaders' age has a positive and statistically significant effect on a country's political instability. This suggests that a larger gap in the age of the youngest and oldest leaders leads to greater political uncertainty. Consistent with the benchmark findings, the estimated effect of political instability on redistribution retains its signs and statistical significance. Importantly, the obtained *p*-values of the test of over-identifying restrictions reveal that we fail to reject the null hypothesis of the validity of the exogeneity requirement at conventionally accepted levels of statistical significance. It is

important to re-emphasize that an empirical validation of the exogeneity condition is impossible because of the unobserved nature of the error terms. Hence, failure to reject the null hypothesis of Hansen's test of over-identifying restrictions just provides some partial evidence of the plausibly of the exclusion restriction. Overall, the results consistently indicate that political instability is detrimental to establishing an egalitarian redistribution of income.

5.5. Robustness to using alternative measures of political instability

Obtaining a causal interpretation of the redistributive impact of political instability requires some attention to potential measurement errors in *PIS*, constructed by using the World Bank's index of Political Stability and Absence of Violence/Terrorism. As discussed earlier, *PIS* provides an internationally comparable measure of the probability of political instability and/or politically motivated violence/terrorism. More specifically, *PIS* is a broad measure of the likelihood of government collapse driven by numerous factors, such as conflict, demonstrations, social unrest, tensions, and terrorism (Kaufmann et al., 2010). Using this comprehensive indicator, therefore, helps improve our understanding of the effect of multidimensional political instability on progressive income redistribution. However, a potential disadvantage of using *PIS* is that it masks considerable heterogeneity in government collapses and political violence (Blum & Gründler, 2020). For example, understanding the extent to which a government collapse undermines the capacity to implement redistributive policies and measures necessitates differentiating between regular and irregular changes in national leaders. It is also difficult to establish whether political violence is the cause or consequence of political uncertainty (Blum & Gründler, 2020).

Using the Archigos dataset of Goemans et al. (2009), I develop a measure of political turnover to capture international differences in political uncertainty. Specifically, Goemans et al. (2009) provide a comprehensive dataset of national leaders across the globe. This dataset has been employed to compute national political turnover in previous studies (Treisman, 2015; Besley et al., 2016; Rotunno, 2016; Grechyna, 2018). Following the methodology proposed by Grechyna (2018), I measure country-level political turnover by the number of irregular changes of a country's effective leaders as a proportion of the total number of regular and irregular changes of national leaders. In this regard, Goemans et al. (2009) define that the transition of national leaders is implemented in a regular way if the change is attributable to prevailing rules, conventions, norms of the country, natural death, and voluntary retirement. By contrast, an irregular change takes place when an effective leader loses the ability to exercise power because of contravention of explicit rules and established conventions, such as assassinations or revolts

(Goemans et al., 2009). Grechyna (2018) postulates that the prevalence of irregular changes in national leaders is positively correlated with uncertainty of a country's political environment. Higher values of the political turnover index reflect greater political instability.

The measure of political turnover is constructed exploiting data on the frequency of irregular changes in national leaders across the world over a prolonged period between 1875 and 2004. For this reason, I replicate the cross-sectional analysis using this alternative proxy for political instability. In line with the main analysis, I construct the jack-knifed averages of political turnover in contiguous countries to isolate the plausibly exogenous component of political turnover. As shown in Table 9, I find that political turnover in neighboring economies has a positive impact on the frequency of a country's irregular changes in effective leaders. This provides empirical support for the spatial diffusion of political uncertainty. Importantly, the estimated effect of political turnover on effective fiscal redistribution remains negative and statistically significant at the 10% level. The results imply that countries characterized by the prevalence of irregular changes in the governments are likely to suffer from less effective fiscal redistribution. It also follows from Table 9 that the main findings are unlikely to be driven by the adoption of the World Bank's index of Political Stability and Absence of Violence/Terrorism. This helps mitigate plausible concerns about possible measurement errors in *PIS*.

In Table 10, I also re-estimate the benchmark model by using several measures of socio-political risks as alternative proxies for political instability, following Vu (2021a). These time-varying proxies for the pervasiveness of political uncertainty are derived from the International Country Risk Guide dataset. In Columns (1) and (4), I measure uncertainty associated with a country's political environment by the prevalence of tensions driven by religious, ethnic, racial or language divisions (*Tensions*). As shown in Columns (2) and (5), I capture political uncertainty by using a measure of socio-economic conditions, including unemployment, consumer confidence and poverty rates (*Sconditions*). It is argued that these social and economic conditions are of importance for shaping potential dissatisfaction with governments, which in turn constrains the ability to exercise power (Vu, 2021a). Furthermore, I adopt the government instability index (*Govinst*) that captures the likelihood of losing office, and the ability to implement declared policies and programs of the governments in Columns (3) and (6). Consistent with the main analysis, these alternative measures of political instability are instrumented by the spatial diffusion of socio-political unrest across countries. The results reported in Table 10 indicate that the impact of political uncertainty on effective fiscal

redistribution retains its negative sign in all cases. However, the redistributive effect of political instability turns out to be imprecisely estimated at conventionally accepted levels of statistical significance in many cases. It is noteworthy that these alternative unidimensional proxies for political uncertainty could fail to provide a comprehensive measure of international differences in the prevalence of political instability. This may provide an explanation for considerable reductions in the statistical precision of the empirical estimates. Therefore, I maintain using the World Bank's index of multidimensional political instability to draw inference on the relationship between political uncertainty and progressive income redistribution.

5.6. Robustness to excluding potential outliers and sample truncation

A final empirical exercise is to check whether the relationship between political instability and redistribution is driven by the presence of potential outliers. This concern is motivated by Young (2019) who suggests that IV estimates appear to be sensitive to removing outliers.[25] In particular, I re-estimate the benchmark model using *n_PIS* and *distl_PIS* as two alternative IVs for a country's political instability in a given year, excluding potential outliers from the regression. [26] Following Acemoglu et al. (2019), I identify a country-year observation as an outlier by calculating the Cook's distance, and restrict the baseline sample to observations of which the values are smaller than the rule-of-thumb value (four divided by the number of observations). Additionally, I estimate the standardized residuals, and remove countries whose absolute values are greater than 1.96. I also calculate robust regression weights of Li (1985), and replicate the main analysis using these weights. The empirical estimates reveal that excluding potential outliers from the regression fails to absorb the statistical precision of the estimated coefficient on *PIS* (Table 11).

One could postulate that several groups of world economies characterized by similar cultural, historical, and geographic characteristics play an important role in explaining the relationship between political instability and income redistribution. For this reason, I replicate the main analysis by excluding various groups of countries located in the same region, and report the results in Appendix Table A4. Accordingly, the estimated coefficient of *PIS* retains

[25] Young (2019) also recommends using the bootstrap to draw inference from the IV regression. Using the results in Table 1, I re-calculate the bootstrapped standard errors, using 1000 random samples. However, the effect of political instability on redistribution remains negative and precisely estimated at conventionally accepted levels of significance. These estimates are available on request.

[26] To conserve space, I only report the sensitivity results of the baseline estimates when using relative redistribution as the dependent variable and two alternative IVs (*n_PIS* or *ling_PIS*). Other results are also insensitive to the presence of outliers; these findings are available on request.

its sign in all cases. However, it is statistically insignificant at conventionally accepted levels when I remove Middle East & North Africa, and Sub-Saharan Africa from the regression (Columns 4 and 7, Appendix Table A4). A potential explanation for these findings is that these excluded countries tend to suffer from pervasive socio-political unrest and underdevelopment (Vu, 2021a). The exclusion of these countries, therefore, substantially removes much of the variation in the data, possibly leading to decreases in the statistical precision of the estimates. However, these results indicate that Middle East & North Africa and Sub-Saharan Africa play a pivotal role in explaining the negative influence of political instability on effective fiscal redistribution.

6. The effects of political instability on fiscal capacity and redistributive effort

The main findings suggest that politically unstable economies tend to suffer from lower levels of effective fiscal redistribution possibly due to the detrimental impact of political uncertainty on the government's *capacity* to establish an egalitarian redistribution of income. As explained previously, I capture the cross-country variation in income redistribution by the absolute and relative differences between market and net income inequality. It is important to note that the main dependent variables incorporated in the benchmark model reflect the actual outcomes of effective fiscal redistribution. However, the theoretical arguments articulated in Section 2 also imply that uncertainty associated with a country's political regimes could give rise to fiscal spending that may disproportionately benefit politically powerful and special interest groups within an economy. To explore this possibility, I re-estimate the benchmark model using several measures of fiscal *capacity* and redistributive *effort* as alternative outcome variables, and report the empirical estimates in Table 12.

Following Kammas and Sarantides (2019), I employ the Government Revenue Dataset provided by the International Center for Tax and Development to measure fiscal capacity. In particular, I use two measures of government size, including (1) *total revenues* and (2) *tax revenues* to capture the government's ability to redistribute income (Columns 1 and 2, Table 12). In addition, I use three different proxies for government expenditure to capture cross-country differences in redistributive effort. The dependent variable adopted in Column (3) of Table 12 is an index of (3) *subsidies and transfers* that include subsidies, grants, and other social benefits of the government. In the last two columns of Table 12, I use (4) *health* and (5) *education* expenditure as a proportion of total GDP as the dependent variables. Data on these measures of the government's *effort* to redistribute income are taken from the World Bank's World Development Indicators.

The results are suggestive of a negative correlation between political instability, and *total revenues* and *tax revenues*. This is consistent with the argument that the prevalence of political instability undermines the government's *capacity* to implement progressive income redistribution. However, the impact of *PIS* on fiscal capacity turns out to be imprecisely estimated at conventionally accepted levels of statistical significance. When I regress subsidies and transfers and health expenditure on *PIS*, the estimated coefficient of *PIS* is negative, but is statistically significant only in Column (4) of Table 12. These findings indicate that countries characterized by unstable political regimes exhibit less redistributive *effort*. Interestingly, *PIS* enters Column (5) of Table 12 with a positive and statistically insignificant coefficient. It is plausible that politically unstable economies could spend more on education expenditure as a proportion of total GDP that potentially exacerbates an unequal distribution of income within a society by providing more privileges to high-income groups (Ross, 2006). As such, public spending on education may not translate into less market income inequality, evidenced by less effective fiscal redistribution.[27] Overall, the results lend support to the main hypothesis that political instability undermines the extent to which a country can establish an equal redistribution of income.

7. Conclusion

This paper attempts to improve our understanding of the extent to which uncertainty associated with a country's political environment helps shape the variation in effective fiscal redistribution across the globe. To this end, I use two measures of absolute and relative differences between market and net income inequality to capture progressive income redistribution. Using data for up to 143 world economies, I find evidence that a source of plausibly exogenous variation in political instability, created by the spatial diffusion of political unrest across countries, has a negative influence on effective fiscal redistribution. I also demonstrate that the detrimental impact of political instability on income redistribution is more economically and statistically significant in non-democratic and highly diverse countries, and low-income societies. The main findings indicate that establishing a more egalitarian redistribution of income within an economy can be facilitated by reducing political uncertainty associated with the political environment.

[27] Interpreting the results in Table 12 requires recognition of substantial reductions in the feasible sample size due to the scarcity of the data on several measures of fiscal capacity and redistributive efforts. This also motivates the use of two measures of redistribution in the baseline analysis to obtain a comprehensive understanding of the redistributive consequence of political instability.

References

Acemoglu, D., Naidu, S., Restrepo, P., & Robinson, J. A. (2015). Democracy, Redistribution, and Inequality. In A. B. Atkinson & F. Bourguignon (Eds.), *Handbook of Income Distribution* (Vol. 2, pp. 1885-1966). Amsterdam: Elsevier.

Acemoglu, D., Naidu, S., Restrepo, P., & Robinson, J. A. (2019). Democracy Does Cause Growth. *Journal of Political Economy, 127*(1), 47-100.

Aisen, A., & Veiga, F. J. (2008). The Political Economy of Seigniorage. *Journal of Development Economics, 87*(1), 29-50.

Aisen, A., & Veiga, F. J. (2013). How Does Political Instability Affect Economic Growth? *European Journal of Political Economy, 29*, 151-167.

Alesina, A., Devleeschauwer, A., Easterly, W., Kurlat, S., & Wacziarg, R. (2003). Fractionalization. *Journal of Economic Growth, 8*(2), 155-194.

Alesina, A., & Ferrara, E. L. (2005). Ethnic Diversity and Economic Performance. *Journal of Economic Literature, 43*(3), 762-800.

Alesina, A., Özler, S., Roubini, N., & Swagel, P. (1996). Political Instability and Economic Growth. *Journal of Economic Growth, 1*(2), 189-211.

Alesina, A., & Perotti, R. (1996). Income Distribution, Political Instability, and Investment. *European Economic Review, 40*(6), 1203-1228.

Alesina, A., & Tabellini, G. (1990). A Positive Theory of Fiscal Deficits and Government Debt. *Review of Economic Studies, 57*(3), 403-414.

Andrews, I., Stock, J. H., & Sun, L. (2019). Weak Instruments in Instrumental Variables Regression: Theory and Practice. *Annual Review of Economics, 11*(1), 727-753.

Arbatlı, C. E., Ashraf, Q. H., Galor, O., & Klemp, M. (2020). Diversity and Conflict. *Econometrica, 88*(2), 727-797.

Arellano, M., & Bond, S. (1991). Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations. *Review of Economic Studies, 58*(2), 277-297.

Ashraf, Q. H., Galor, O., & Klemp, M. (2021). The Ancient Origins of the Wealth of Nations. In A. Bisin & G. Federico (Eds.), *The Handbook of Historical Economics* (pp. 675-717). Cambridge, MA: Academic Press.

Axelrod, R. (1997). The Dissemination of Culture: A Model with Local Convergence and Global Polarization. *Journal of Conflict Resolution, 41*(2), 203-226.

Azzimonti, M. (2011). Barriers to Investment in Polarized Societies. *American Economic Review, 101*(5), 2182-2204.

Baldassarri, D., & Bearman, P. (2007). Dynamics of Political Polarization. *American Sociological Review, 72*(5), 784-811.

Barro, R. J. (1996). Democracy and Growth. *Journal of Economic Growth, 1*(1), 1-27.

Battaglini, M., & Coate, S. (2008). A Dynamic Theory of Public Spending, Taxation, and Debt. *American Economic Review, 98*(1), 201-236.

Bazzi, S., & Clemens, M. A. (2013). Blunt Instruments: Avoiding Common Pitfalls in Identifying the Causes of Economic Growth. *American Economic Journal: Macroeconomics, 5*(2), 152-186.

Bellettini, G. (1998). Aggregate Uncertainty, Political Instability and Income Redistribution. *European Journal of Political Economy, 14*(1), 19-33.

Berg, A., Ostry, J. D., Tsangarides, C. G., & Yakhshilikov, Y. (2018). Redistribution, Inequality, and Growth: New Evidence. *Journal of Economic Growth, 23*(3), 259-305.

Besley, T., & Persson, T. (2009). The Origins of State Capacity: Property Rights, Taxation, and Politics. *American Economic Review, 99*(4), 1218-1244.

Besley, T., & Persson, T. (2014). Why Do Developing Countries Tax So Little? *Journal of Economic Perspectives, 28*(4), 99-120.
Besley, T., Persson, T., & Reynal-Querol, M. (2016). Resilient Leaders and Institutional Reform: Theory and Evidence. *Economica, 83*(332), 584-623.
Blum, J., & Gründler, K. (2020). Political Stability and Economic Prosperity: Are Coups Bad for Growth? CESifo Working Paper No. 8317.
Bohn, H., & Deacon, R. T. (2000). Ownership Risk, Investment, and the Use of Natural Resources. *American Economic Review, 90*(3), 526-549.
Buera, F. J., Monge-Naranjo, A., & Primiceri, G. E. (2011). Learning the Wealth of Nations. *Econometrica, 79*(1), 1-45.
Carmignani, F. (2003). Political Instability, Uncertainty and Economics. *Journal of Economic Surveys, 17*(1), 1-54.
Caselli, F., & Reynaud, J. (2020). Do Fiscal Rules Cause Better Fiscal Balances? A New Instrumental Variable Strategy. *European Journal of Political Economy, 63*, 101873.
Cherif, R., Hasanov, F., & Wang, L. (2018). Sharp Instrument: A Stab at Identifying the Causes of Economic Growth. IMF Working Paper WP/18/117.
Collier, P., & Hoeffler, A. (2004). Greed and Grievance in Civil War. *Oxford Economic Papers, 56*(4), 563-595.
Cukierman, A., Edwards, S., & Tabellini, G. (1992). Seigniorage and Political Instability. *American Economic Review, 82*(3), 537-555.
Desmet, K., Ortuño-Ortín, I., & Wacziarg, R. (2012). The Political Economy of Linguistic Cleavages. *Journal of Development Economics, 97*(2), 322-338.
Ellis, C. J., & Fender, J. (2010). Information Cascades and Revolutionary Regime Transitions. *Economic Journal, 121*(553), 763-792.
Ezcurra, R. (2021). Individualism and Political Instability. *European Journal of Political Economy, 66*, 101959.
Falkinger, J. (1999). Social Instability and Redistribution of Income. *European Journal of Political Economy, 15*(1), 35-51.
Fearon, J. D. (2003). Ethnic and Cultural Diversity by Country. *Journal of Economic Growth, 8*(2), 195-222.
Fredriksson, P. G., & Svensson, J. (2003). Political Instability, Corruption and Policy Formation: The Case of Environmental Policy. *Journal of Public Economics, 87*(7), 1383-1405.
Fredriksson, P. G., & Wollscheid, J. R. (2014). Political Institutions, Political Careers and Environmental Policy. *Kyklos, 67*(1), 54-73.
Furceri, D., & Loungani, P. (2018). The Distributional Effects of Capital Account Liberalization. *Journal of Development Economics, 130*, 127-144.
Furceri, D., & Ostry, J. D. (2019). Robust Determinants of Income Inequality. *Oxford Review of Economic Policy, 35*(3), 490-517.
Goemans, H. E., Gleditsch, K. S., & Chiozza, G. (2009). Introducing Archigos: A Dataset of Political Leaders. *Journal of Peace Research, 46*(2), 269-283.
Gozgor, G., & Ranjan, P. (2017). Globalisation, Inequality and Redistribution: Theory and Evidence. *World Economy, 40*(12), 2704-2751.
Grechyna, D. (2018). Shall We Riot Too? The Geographical Neighbor Impact on Political Instability. *Kyklos, 71*(4), 581-612.
Gründler, K., & Köllner, S. (2017). Determinants of Governmental Redistribution: Income Distribution, Development Levels, and the Role of Perceptions. *Journal of Comparative Economics, 45*(4), 930-962.
Gründler, K., & Köllner, S. (2020). Culture, Diversity, and the Welfare State. *Journal of Comparative Economics, 48*(4), 913-932.

Gygli, S., Haelg, F., Potrafke, N., & Sturm, J.-E. (2019). The KOF Globalisation Index – Revisited. *Review of International Organizations, 14*(3), 543-574.
Haan, J. d., & Sturm, J.-E. (2017). Finance and Income Inequality: A Review and New Evidence. *European Journal of Political Economy, 50*, 171-195.
Houle, C. (2017). Inequality, Ethnic Diversity, and Redistribution. *Journal of Economic Inequality, 15*(1), 1-23.
Iversen, T., & Soskice, D. (2015). Information, Inequality, and Mass Polarization:Ideology in Advanced Democracies. *Comparative Political Studies, 48*(13), 1781-1813.
Jäntti, M., Pirttilä, J., & Rönkkö, R. (2020). The Determinants of Redistribution around the World. *Review of Income and Wealth, 66*(1), 59-73.
Jauch, S., & Watzka, S. (2016). Financial Development and Income Inequality: A Panel Data Approach. *Empirical Economics, 51*(1), 291-314.
Jong-A-Pin, R. (2009). On the Measurement of Political Instability and Its Impact on Economic Growth. *European Journal of Political Economy, 25*(1), 15-29.
Julio, B., & Yook, Y. (2012). Political Uncertainty and Corporate Investment Cycles. *Journal of Finance, 67*(1), 45-83.
Kammas, P., Kazakis, P., & Sarantides, V. (2017). The Effect of Culture on Fiscal Redistribution: Evidence Based on Genetic, Epidemiological and Linguistic Data. *Economics Letters, 160*, 95-99.
Kammas, P., & Sarantides, V. (2016). Fiscal Redistribution around Elections When Democracy Is Not "the Only Game in Town". *Public Choice, 168*(3), 279-311.
Kammas, P., & Sarantides, V. (2019). Do Dictatorships Redistribute More? *Journal of Comparative Economics, 47*(1), 176-195.
Kaufmann, D., Kraay, A., & Mastruzzi, M. (2010). The Worldwide Governance Indicators : A Summary of Methodology, Data and Analytical Issues. World Bank Policy Research Working Paper No. 5430.
Kenworthy, L., & Pontusson, J. (2005). Rising Inequality and the Politics of Redistribution in Affluent Countries. *Perspectives on Politics, 3*(3), 449-471.
Kuran, T. (1989). Sparks and Prairie Fires: A Theory of Unanticipated Political Revolution. *Public Choice, 61*(1), 41-74.
Laitin, D. D. (2000). What Is a Language Community? *American Journal of Political Science, 44*(1), 142-155.
Lee, K.-K., & Vu, T. V. (2020). Economic Complexity, Human Capital and Income Inequality: A Cross-Country Analysis. *Japanese Economic Review, 71*(4), 695-718.
LeGrande, J. (1982). *The Strategy of Equality, Redistribution and the Social Services*. Boston, MA: Allen & Urwin.
Leigh, A. (2007). How Closely Do Top Income Shares Track Other Measures of Inequality? *Economic Journal, 117*(524), F619-F633.
Li, G. (1985). Robust Regression. In D. C. Hoaglin, F. Moseteller, & J. W. Tukey (Eds.), *Exploring Data Tables, Trends, and Shapes* (pp. 281-343). New York: Wiley.
Lohmann, S. (1994). The Dynamics of Informational Cascades: The Monday Demonstrations in Leipzig, East Germany, 1989-1991. *World Politics, 47*(1), 42-101.
Madsen, J. B., Raschky, P. A., & Skali, A. (2015). Does Democracy Drive Income in the World, 1500–2000? *European Economic Review, 78*, 175-195.
Marshall, M. G., Jaggers, K., & Gurr, T. R. (2014). Polity IV Project: Political Regime Characteristics and Transitions, 1800-2013. Dataset Users' Manual. Center for International Development and Conflict Management, University of Maryland.
Meltzer, A. H., & Richard, S. F. (1981). A Rational Theory of the Size of Government. *Journal of Political Economy, 89*(5), 914-927.

Milanovic, B. (2000). The Median-Voter Hypothesis, Income Inequality, and Income Redistribution: An Empirical Test with the Required Data. *European Journal of Political Economy, 16*(3), 367-410.

Modelski, G., & Perry, G. (1991). Democratization in Long Perspective. *Technological Forecasting and Social Change, 39*(1), 23-34.

Montalvo, J. G., & Reynal-Querol, M. (2005). Ethnic Polarization, Potential Conflict, and Civil Wars. *American Economic Review, 95*(3), 796-816.

Morgan, J., & Kelly, N. J. (2013). Market Inequality and Redistribution in Latin America and the Caribbean. *Journal of Politics, 75*(3), 672-685.

O'Loughlin, J., Ward, M. D., Lofdahl, C. L., Cohen, J. S., Brown, D. S., Reilly, D., et al. (1998). The Diffusion of Democracy, 1946-1994. *Annals of the Association of American Geographers, 88*(4), 545-574.

Olea, J. L. M., & Pflueger, C. (2013). A Robust Test for Weak Instruments. *Journal of Business & Economic Statistics, 31*(3), 358-369.

Olson, M. (1991). Autocracy, Democracy, and Prosperity. In R. Zeckhauser (Ed.), *Strategy and Choice*. Cambridge, MA: The MIT Press.

Persson, T., & Svensson, L. E. O. (1989). Why a Stubborn Conservative Would Run a Deficit: Policy with Time-Inconsistent Preferences. *Quarterly Journal of Economics, 104*(2), 325-345.

Pleninger, R., de Haan, J., & Sturm, J.-E. (2022). The 'Forgotten' Middle Class: An Analysis of the Effects of Globalisation. *World Economy, 45*(1), 76-110.

Pleninger, R., & Sturm, J.-E. (2020). The Effects of Economic Globalisation and Ethnic Fractionalisation on Redistribution. *World Development, 130*, 104945.

Prasad, N. (2008). Policies for Redistribution: The Use of Taxes and Social Transfers. International Institute for Labour Studies Discussion Paper DP/194/2008.

Putterman, L., & Weil, D. N. (2010). Post-1500 Population Flows and the Long-Run Determinants of Economic Growth and Inequality. *Quarterly Journal of Economics, 125*(4), 1627-1682.

Ravallion, M. (2010). Do Poorer Countries Have Less Capacity for Redistribution? *Journal of Globalization and Development, 1*(2).

Roe, M. J., & Siegel, J. I. (2011). Political Instability: Effects on Financial Development, Roots in the Severity of Economic Inequality. *Journal of Comparative Economics, 39*(3), 279-309.

Ross, M. (2006). Is Democracy Good for the Poor? *American Journal of Political Science, 50*(4), 860-874.

Rotunno, L. (2016). Political Stability and Trade Agreements: Evidence for 'Endgame FTAs'. *European Journal of Political Economy, 45*, 133-148.

Segura-Ubiergo, A. (2007). *The Political Economy of the Welfare State in Latin America: Globalization, Democracy, and Development*. Cambridge: Cambridge University Press.

Solingen, E. (2012). Of Dominoes and Firewalls: The Domestic, Regional, and Global Politics of International Diffusion. *International Studies Quarterly, 56*(4), 631-644.

Solt, F. (2020). Measuring Income Inequality across Countries and over Time: The Standardized World Income Inequality Database. *Social Science Quarterly, 101*(3), 1183-1199.

Sturm, J.-E., & De Haan, J. (2015). Income Inequality, Capitalism, and Ethno-Linguistic Fractionalization. *American Economic Review: Papers & Proceedings, 105*(5), 593-597.

Tavares, J., & Wacziarg, R. (2001). How Democracy Affects Growth. *European Economic Review, 45*(8), 1341-1378.

Treisman, D. (2015). Income, Democracy, and Leader Turnover. *American Journal of Political Science, 59*(4), 927-942.
Van Velthoven, A., De Haan, J., & Sturm, J.-E. (2019). Finance, Income Inequality and Income Redistribution. *Applied Economics Letters, 26*(14), 1202-1209.
Vogt, M., Bormann, N.-C., Rüegger, S., Cederman, L.-E., Hunziker, P., & Girardin, L. (2015). Integrating Data on Ethnicity, Geography, and Conflict: The Ethnic Power Relations Data Set Family. *Journal of Conflict Resolution, 59*(7), 1327-1342.
Vu, T. V. (2020). Economic Complexity and Health Outcomes: A Global Perspective. *Social Science & Medicine, 265*, 113480.
Vu, T. V. (2021a). Are Genetic Traits Associated with Riots? The Political Legacy of Prehistorically Determined Genetic Diversity. *Kyklos, 74*(4), 1-29.
Vu, T. V. (2021b). Do Genetically Fragmented Societies Respond Less to Global Warming? Diversity and Climate Change Policies. *Energy Economics, 104*, 105652.
Vu, T. V. (2021c). Statehood Experience and Income Inequality: A Historical Perspective. *Economic Modelling, 94*, 415-429.
Vu, T. V. (2022). Does Institutional Quality Foster Economic Complexity? The Fundamental Drivers of Productive Capabilities. *Empirical Economics*, forthcoming.
Yared, P. (2010). Politicians, Taxes and Debt. *Review of Economic Studies, 77*(2), 806-840.
Young, A. (2019). Consistency without Inference: Instrumental Variables in Practical Application. Unpublished Manuscript, London School of Economics.

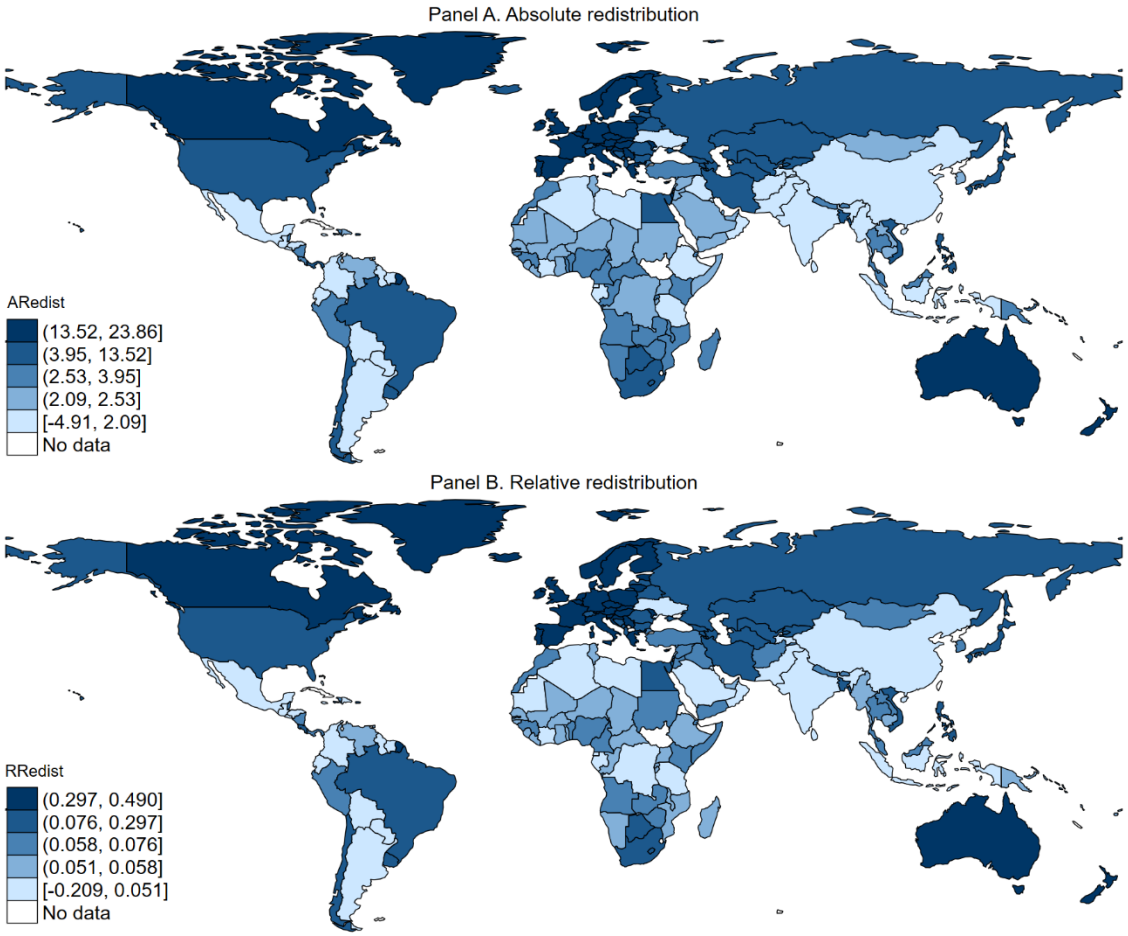

Figure 1. Cross-country differences in effective fiscal redistribution

Notes: This figure illustrates the worldwide variation in effective fiscal redistribution, captured by the absolute and relative differences between market and net income inequality. Darker areas represent countries with greater progressive income redistribution. Data, averaged between 1996 and 2015, are taken from the Standardized World Income Inequality database (Solt, 2020).

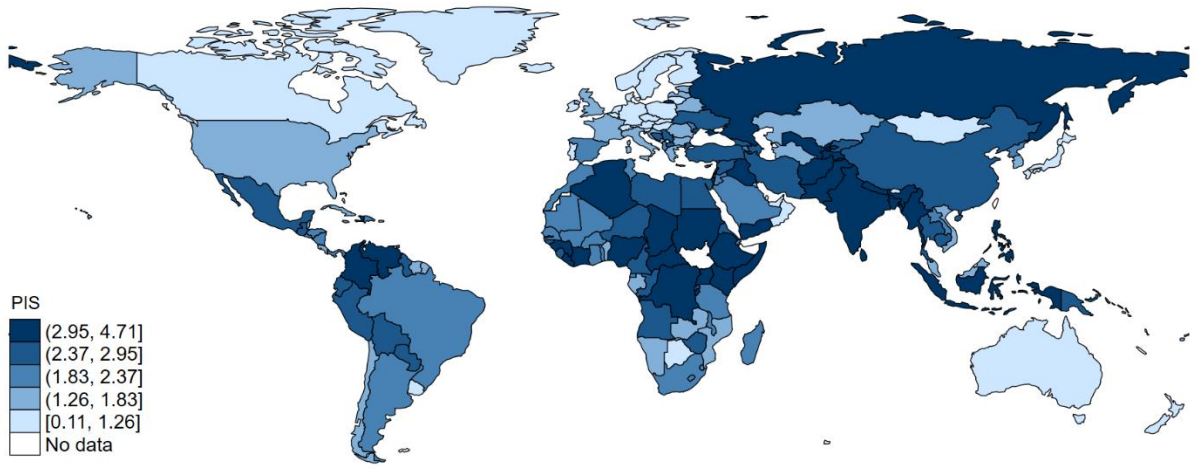

Figure 2. Cross-country differences in political instability

Notes: This figure illustrates the worldwide variation in political instability. Darker areas represent countries with higher levels of political uncertainty. Data, averaged between 1996 and 2015, are taken from the World Bank's Worldwide Governance Indicators (https://info.worldbank.org/governance/wgi/).

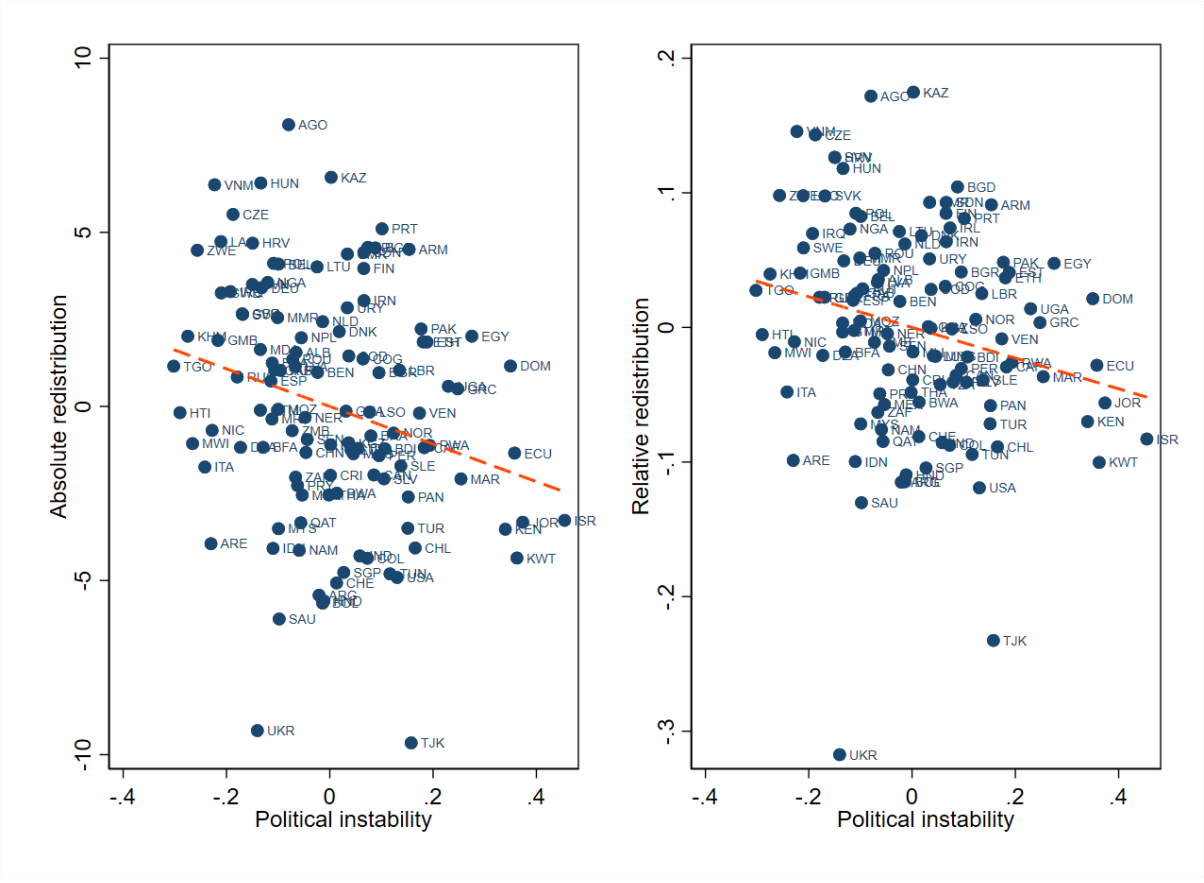

Figure 3. The partial effect of political instability on effective fiscal redistribution

Notes: This figure depicts the partial effect of political uncertainty on effective fiscal redistribution, captured by the absolute and relative difference between market and net income inequality, in the cross-sectional regressions. See Columns (2) and (4) of Table 2 for the full estimates. Countries' abbreviations are obtained from the World Bank's World Development Indicators (http://wdi.worldbank.org/).

Table 1. The effect of political instability on income redistribution, main results

	Absolute redistribution		Relative redistribution	
	(1)	(2)	(3)	(4)
Panel A. Second-stage estimates. Dependent variable is *redistribution*				
PIS	-7.912***	-0.918**	-0.166***	-0.017**
	(0.229)	(0.392)	(0.005)	(0.008)
Log of GDP per capita		-5.458***		-0.086***
		(1.051)		(0.024)
Log of GDP per capita squared		0.275***		0.005***
		(0.058)		(0.001)
Market-based inequality		12.865***		-0.082***
		(1.482)		(0.026)
KOF globalization index		-0.022**		-0.000***
		(0.009)		(0.000)
Government size		5.027***		0.102***
		(1.137)		(0.024)
Resource rents (% of GDP)		1.173**		0.018*
		(0.504)		(0.010)
Unemployment		6.402***		0.110***
		(1.296)		(0.025)
Democracy		-0.044***		-0.001***
		(0.012)		(0.000)
Human capital index		1.089***		0.027***
		(0.269)		(0.006)
Neighbors' economic growth		-0.832		-0.020*
		(0.517)		(0.011)
Neighbors' market income inequality		-2.466*		-0.033
		(1.392)		(0.026)
Panel B. First-stage estimates. Dependent variable is *PIS*				
n_PIS	0.821***	0.265***	0.821***	0.265***
	(0.020)	(0.045)	(0.020)	(0.045)
Panel C. Additional information				
Country & Year FEs	No	Yes	No	Yes
Observations	2,140	1,741	2,140	1,741
Number of countries	143	117	143	117
First-stage *F*-statistic	1628.39	34.33	1628.39	34.33
AR confidence intervals	[-8.34, -7.48]	[-1.81, -0.26]	[-0.17, -0.16]	[-0.03, -0.005]

Notes: This table reports IV estimates of the effect of political instability on income redistribution, using panel data for up to 143 countries between 1996 and 2015. Robust standard errors clustered at the country level are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1. An intercept is included in all the regressions but is omitted for brevity.

Table 2. The effect of political instability on redistribution, cross-sectional estimates

	Absolute redistribution		Relative redistribution	
	(1)	(2)	(3)	(4)
Panel A. Second-stage estimates. Dependent variable is *redistribution*				
PIS	-7.347***	-5.397**	-0.154***	-0.114**
	(0.780)	(2.424)	(0.016)	(0.053)
Panel B. First-stage estimates. Dependent variable is *PIS*				
n_PIS	0.905***	0.378**	0.905***	0.378**
	(0.076)	(0.144)	(0.076)	(0.144)
Panel C. Additional information				
Main controls	No	Yes	No	Yes
Observations (number of countries)	145	117	145	117
First-stage *F*-statistic	141.24	6.87	141.24	6.87
AR confidence intervals	[-8.97, -6.03]	[-18.59, -2.28]	[-0.19, -0.13]	[-0.39, -0.046]

Notes: This table reports cross-sectional estimates of the effect of political instability on income redistribution. Data are averaged between 1996 and 2015 to estimate the cross-sectional models. See also Table 1.

Table 3. Cross-sectional estimates, controlling for population diversity

	Absolute redistribution				Relative redistribution			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A. Second-stage estimates. Dependent variable is *redistribution*								
PIS	-4.925**	-4.896**	-5.012**	-5.277**	-0.104**	-0.101*	-0.104**	-0.109**
	(2.371)	(2.456)	(2.232)	(2.282)	(0.052)	(0.053)	(0.048)	(0.049)
Ethnic fractionalization	-2.180				-0.050			
	(1.738)				(0.039)			
Ethnolinguistic fractionalization		0.161				0.001		
		(2.639)				(0.057)		
Ethnolinguistic polarization			-0.862				-0.019	
			(1.817)				(0.039)	
Predicted genetic diversity (ancestry-adjusted)				42.841**				0.864**
				(16.873)				(0.370)
Panel B. First-stage estimates. Dependent variable is *PIS*								
n_PIS	0.371***	0.384**	0.420**	0.410**	0.371***	0.384**	0.420**	0.410**
	(0.140)	(0.169)	(0.170)	(0.175)	(0.140)	(0.169)	(0.170)	(0.175)
Panel C. Additional information								
Main controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations (number of countries)	115	97	97	97	115	97	97	97
First-stage *F*-statistic	6.99	5.13	6.07	5.50	6.99	5.13	6.07	5.50
AR confidence intervals	[-17.36, -1.87]	[-23.61, -1.74]	[-18.05, -2.14]	[-20.41, -2.34]	[-0.36, -0.04]	[-0.46, -0.02]	[-0.36, -0.03]	[-0.42, -0.04]

Notes: This table re-estimates the cross-sectional models by controlling for different measures of population diversity. See also Tables 1 and 2.

Table 4. Heterogeneity in the effect of political instability on income redistribution

Sub-samples	Absolute redistribution				Relative redistribution			
	High Efrac	*Low Efrac*	*Democracies*	*Non-democracies*	*High Efrac*	*Low Efrac*	*Democracies*	*Non-democracies*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A. Second-stage estimates. Dependent variable is *redistribution*								
PIS	-2.123**	0.421	-2.678*	-0.575**	-0.043***	0.010	-0.038	-0.016***
	(0.826)	(0.473)	(1.595)	(0.234)	(0.017)	(0.009)	(0.027)	(0.006)
Panel B. First-stage estimates. Dependent variable is *PIS*								
n_PIS	0.229***	0.290***	0.134***	0.322***	0.229***	0.290***	0.134***	0.322***
	(0.064)	(0.058)	(0.047)	(0.081)	(0.064)	(0.058)	(0.047)	(0.081)
Panel C. Additional information								
Main controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country and Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	858	883	1,132	609	858	883	1,132	609
First-stage F-statistic	12.79	24.57	8.10	15.93	12.79	24.57	8.10	15.93
AR confidence intervals	[-5.15, -1.06]	[-0.37, 1.50]	[-10.09, -0.62]	[-1.25, -0.23]	[-0.10, -0.02]	[-0.006, 0.03]	[-0.16, 0.002]	[-0.03, -0.007]

Notes: This table re-estimates the panel data models for various sub-samples of countries, based on democratic institutions and ethnic fractionalization. See also Table 1.

Table 5. Robustness to using jack-knifed regional averages of *PIS* as an alternative IV

	Absolute redistribution	Relative redistribution
	(1)	(2)
Panel A. Second-stage estimates. Dependent variable is *redistribution*		
PIS	-2.230***	-0.035***
	(0.771)	(0.013)
Panel B. First-stage estimates. Dependent variable is *PIS*		
r_PIS	0.346***	0.346***
	(0.095)	(0.095)
Panel C. Additional information		
Main controls	Yes	Yes
Country and Year FEs	Yes	Yes
Observations	1,937	1,937
First-stage *F*-statistic	13.25	13.25
AR confidence intervals	[-5.05, -1.24]	[-0.08, -0.02]

Notes: This table replicates the main results by using jack-knifed regional averages of political instability (*r_PIS*) as an alternative IV. See also Table 1.

Table 6. Robustness to using an inverse geographic distance-weighted average of *PIS* as an alternative IV

	Absolute redistribution	Relative redistribution
	(1)	(2)
Panel A. Second-stage estimates. Dependent variable is *redistribution*		
PIS	-1.522***	-0.026***
	(0.412)	(0.007)
Panel B. First-stage estimates. Dependent variable is *PIS*		
distw_PIS	1.359***	1.359***
	(0.215)	(0.215)
Panel C. Additional information		
Main controls	Yes	Yes
Country and Year FEs	Yes	Yes
Observations	1,937	1,937
First-stage *F*-statistic	40.06	40.06
AR confidence intervals	[-2.54, -0.91]	[-0.04, -0.01]

Notes: This table replicates the main results by using an inverse geographic distance-weighted average of PIS as an alternative IV. See also Table 1.

Table 7. Robustness to using an inverse cultural distance-weighted average of *PIS* as an alternative IV

	Absolute redistribution	Relative redistribution
	(1)	(2)
Panel A. Second-stage estimates. Dependent variable is *redistribution*		
PIS	-0.908***	-0.018***
	(0.204)	(0.004)
Panel B. First-stage estimates. Dependent variable is *PIS*		
distl_PIS	1.646***	1.646***
	(0.164)	(0.164)
Panel C. Additional information		
Main controls	Yes	Yes
Country and Year FEs	Yes	Yes
Observations	1,937	1,937
First-stage *F*-statistic	100.93	100.93
AR confidence intervals	[-1.33, -0.56]	[-0.03, -0.01]

Notes: This table replicates the main results by using an inverse cultural distance-weighted average of PIS as an alternative IV. See also Table 1.

Table 8. Testing for the validity of over-identifying restrictions, cross-sectional estimates

	Absolute redistribution	Relative redistribution
	(1)	(2)
Panel A. Second-stage estimates. Dependent variable is redistribution		
PIS	-3.251**	-0.069**
	(1.574)	(0.034)
Panel B. First-stage estimates. Dependent variable is *PIS*		
age_gap	0.012***	0.012***
	(0.004)	(0.004)
n_PIS	0.311*	0.311*
	(0.174)	(0.174)
Panel C. Additional information		
Main controls	Yes	Yes
Observations (number of countries)	103	103
First-stage F-statistic	8.01	8.01
AR confidence intervals	[-9.68, -0.27]	[-0.21, 0.002]
Hansen's J test of over-identifying restrictions [*p*-value]	0.699	0.768

Notes: This table re-estimates the cross-sectional models by using the variation in national leaders' age as an additional IV. See also Tables 1 and 2.

Table 9. Robustness to using an alternative measure of *PIS*, cross-sectional estimates

	Absolute redistribution	Relative redistribution
	(1)	(2)
Panel A. Second-stage estimates. Dependent variable is *redistribution*		
Political turnover	-12.781*	-0.253*
	(7.031)	(0.148)
Panel B. First-stage estimates. Dependent variable is *political turnover*		
Neighbor's political turnover	0.441***	0.441***
	(0.132)	(0.132)
Panel C. Additional information		
Main controls	Yes	Yes
Observations (number of countries)	108	108
First-stage *F*-statistic	11.15	11.15
AR confidence intervals	[-35.75, -2.34]	[-0.74, -0.03]

Notes: This table re-estimates the cross-sectional models by using *political turnover* as an alternative measure of political instability. See also Tables 1 and 2.

Table 10. Robustness to using alternative measures of *PIS*

	Absolute redistribution			Relative redistribution		
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Second-stage estimates. Dependent variable is *redistribution*						
Tensions	-0.405** (0.177)			-0.011*** (0.004)		
Sconditions		-0.230** (0.092)			-0.002 (0.002)	
Govinst			-0.010 (0.083)			-0.000 (0.002)
Panel B. First-stage estimates. Dependent variables are alternative measures of *PIS*						
n_Tensions	0.178*** (0.041)			0.178*** (0.041)		
n_Sconditions		0.250*** (0.032)			0.250*** (0.032)	
n_Govinst			0.213*** (0.035)			0.213*** (0.035)
Panel C. Additional information						
Main controls	Yes	Yes	Yes	Yes	Yes	Yes
Country and Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,835	1,835	1,835	1,835	1,835	1,835
First-stage *F*-statistic	18.37	62.66	36.81	18.37	62.66	36.81
AR confidence intervals	[-0.84, -0.11]	[-0.42, -0.07]	[-0.18, 0.15]	[-0.02, -0.004]	[-0.005, 0.001]	[-0.003, 0.003]

Notes: This table replicates the main results by using alternative measures of political instability. See also Tables 1.

Table 11. The effect of political instability on relative redistribution, excluding potential outliers

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Second-stage estimates. Dependent variable is relative *redistribution*						
PIS	-0.008***	-0.008***	-0.005***	-0.011***	-0.011***	-0.009***
	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)	(0.001)
Panel B. First-stage estimates. Dependent variable is *PIS*						
n_PIS	0.330***	0.327***	0.359***			
	(0.049)	(0.049)	(0.050)			
distl_PIS				1.811***	1.814***	1.864***
				(0.172)	(0.173)	(0.179)
Panel C. Additional information						
Main controls	Yes	Yes	Yes	Yes	Yes	Yes
Country and Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,656	1,657	1,637	1,850	1,846	1,827
First-stage F-statistic	45.93	45.03	51.32	110.14	110.03	108.71
AR confidence intervals	[-0.01, -0.004]	[-0.01, -0.003]	[-0.01, -0.001]	[-0.02, -0.008]	[-0.01, -0.007]	[-0.01, -0.006]

Notes: This table replicates the main results by excluding potential outliers from the regression. In columns (1) to (3), I employ a simple average of political instability contiguous neighbors as an instrument. In columns (4) to (6), I use a cultural distance-weighted average of political instability in all other countries as an instrument. I identify a country-year observation as a potential outlier based on calculating the Cook's distance (columns 1 and 4), and the standardized residuals (columns 2 and 5). In columns (3) and (6), I perform robust regression weights, and replicate the main analysis. See also Tables 1 and 7.

Table 12. The effects of political instability on *fiscal capacity* and *redistributive effort*

Fiscal *capacity* and redistributive *efforts*	(1)	(2)	(3)	(4)	(5)
	Total revenue	Tax revenue	Subsidies and Transfers	Health expenditure	Education expenditure
Panel A. Second-stage estimates. Dependent variables are several measures of *fiscal capacity* and *redistributive effort*					
PIS	-3.183	-2.259	-14.590	-2.052***	0.052
	(2.213)	(1.481)	(13.290)	(0.624)	(0.680)
Panel B. First-stage estimates. Dependent variable is *PIS*					
n_PIS	0.201***	0.192***	0.097*	0.305***	0.167***
	(0.047)	(0.047)	(0.053)	(0.049)	(0.059)
Panel C. Additional information					
Main controls	Yes	Yes	Yes	Yes	Yes
Country and Year FEs	Yes	Yes	Yes	Yes	Yes
Observations	1,554	1,617	1,171	1,521	1,166
First-stage F-statistic	18.10	16.56	3.22	38.36	7.88
AR confidence intervals	[-8.22, 0.98]	[-6.21, 0.23]	[-40.64, 11.46]	[-3.47, -1.00]	[-1.63, 1.73]

Notes: This table replicates the main analysis by using several measures of *fiscal capacity* and *redistributive effort* as alternative outcome variables. See also Table 1.

Appendix

Variables' descriptions and data sources

Absolute redistribution: the gap between market and net inequality. *Source*: the Standardized World Income Inequality database (Solt, 2020).

Relative redistribution: the gap between market and net inequality, divided by market inequality. *Source*: the Standardized World Income Inequality database (Solt, 2020).

PIS: the gap between the maximum value of the World Bank's Political Stability and Absence of Violence index and a country-year value. *Source*: the author's calculation based on data obtained from the World Bank's Worldwide Governance Indicators (https://info.worldbank.org/governance/wgi/).

Political turnover: the number of irregular changes in a country's effective leaders as a proportion of the total number of regular and irregular changes of national leaders. *Source*: the Archigos dataset of world leaders (Goemans et al., 2009).

Log of GDP per capita: the log of income per capita, measured in constant 2010 USD prices. *Source*: the World Bank's World Development Indicators (http://wdi.worldbank.org/).

Market-based inequality: an index of inequality of pre-tax and pre-transfer household income. *Source*: the Standardized World Income Inequality database (Solt, 2020).

Government size: government expenditure as a proportion of total GDP. *Source*: the World Bank's World Development Indicators (http://wdi.worldbank.org/).

Resources rents (% of GDP): total natural resources rents as a proportion of total GDP. *Source*: the World Bank's World Development Indicators (http://wdi.worldbank.org/).

Unemployment: the fraction of the labor force that is unemployed but available for and looking for employment opportunities. *Source*: the World Bank's World Development Indicators (http://wdi.worldbank.org/).

Democracy: a measure of democratic institutions. *Source*: Marshall et al. (2014).

Human capital index: a measure of the quality of human capital, based on a "Mincerian" combination of years of schooling and returns to education. *Source*: the Pen World Table version 9.1 (https://www.rug.nl/ggdc/productivity/pwt/).

KOF globalization index: a measure of the economic, social and political dimensions of the globalization process. *Source*: Gygli et al. (2019).

n_PIS: a simple average of political instability in contiguous countries. *Source*: the author's calculation based on data obtained from the World Bank's Worldwide Governance Indicators (https://info.worldbank.org/governance/wgi/).

Neighbors' economic growth: a simple average of the annual growth rate in contiguous countries. *Source*: the author's calculation based on data obtained from the World Bank's Worldwide Development Indicators (http://wdi.worldbank.org/).

Neighbors' market income inequality: a simple average of market inequality in contiguous countries. *Source*: the author's calculation based on data obtained from the Standardized World Income Inequality database.

r_PIS: a simple average of political instability of a given country's neighbors located in a particular region. *Source*: the author's calculation based on data obtained from the World Bank's Worldwide Governance Indicators (https://info.worldbank.org/governance/wgi/).

distw_PIS: a country's weighted average of political instability in all other countries in which the weight equals their inverse geographic distance. *Source*: the author's calculation based on data obtained from the World Bank's Worldwide Governance Indicators (https://info.worldbank.org/governance/wgi/).

distl_PIS: a country's weighted average of political instability in all other countries in which the weight equals their linguistic proximity. *Source*: the author's calculation based on data obtained from the World Bank's Worldwide Governance Indicators (https://info.worldbank.org/governance/wgi/).

Age_gap: the difference in the age of the youngest and oldest national leaders (1970-2015). *Source*: the Archigos dataset of world leaders (Goemans et al., 2009).

Table A1. Summary statistics of key variables

Variables	N	Mean	Std. Dev.	Min	Max
Absolute redistribution	2,509	6.938	6.939	-5.400	24.800
Relative redistribution	2,509	0.148	0.149	-0.220	0.505
PIS	2,580	2.162	0.982	0.269	5.257
Log of GDP per capita	2,918	8.357	1.568	5.234	11.626
Log of GDP per capita squared	2,918	72.295	26.661	27.393	135.163
Market-based inequality	2,509	0.460	0.066	0.222	0.702
Government size	2,742	0.154	0.057	0.009	0.695
Resources rents (% of GDP)	2,941	0.093	0.129	0	0.865
Unemployment	2,980	0.081	0.062	0.002	0.379
Democracy	2,786	3.279	6.368	-10	10
Human capital index	2,520	2.388	0.705	1.053	3.742
KOF globalization index	2,958	57.980	16.340	22.595	90.975
n_PIS	2,584	2.281	0.708	0.346	4.047
Neighbors' economic growth	3,017	0.043	0.038	-0.296	0.633
Neighbors' market income inequality	2,946	0.462	0.054	0.310	0.687
r_PIS	3,322	1.973	0.470	0.809	3.591
distw_PIS	3,292	1.941	0.228	1.325	2.524
distl_PIS	2,584	2.179	0.127	1.140	1.849

Table A2. Panel data estimates, controlling for population diversity

	Absolute redistribution				Relative redistribution			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A. Second-stage estimates. Dependent variable is *redistribution*								
PIS	-4.182***	-4.607***	-4.815***	-5.063***	-0.088***	-0.094***	-0.098***	-0.103***
	(0.484)	(0.631)	(0.590)	(0.594)	(0.010)	(0.013)	(0.012)	(0.013)
Ethnic fractionalization	-2.177***				-0.047***			
	(0.461)				(0.010)			
Ethnolinguistic fractionalization		-0.872				-0.020		
		(0.693)				(0.015)		
Ethnolinguistic polarization			-0.683				-0.016	
			(0.482)				(0.010)	
Predicted genetic diversity (ancestry-adjusted)				34.289***				0.709***
				(4.173)				(0.089)
Panel A. First-stage estimates. Dependent variable is *PIS*								
n_PIS	0.395***	0.345***	0.375***	0.375***	0.395***	0.345***	0.375***	0.375***
	(0.034)	(0.038)	(0.038)	(0.039)	(0.034)	(0.038)	(0.038)	(0.039)
Panel C. Additional information								
Main controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	No	No	No	No	No	No	No	No
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,707	1,505	1,505	1,505	1,707	1,505	1,505	1,505
First-stage *F*-statistic	133.71	82.55	98.88	93.98	133.71	82.55	98.88	93.98
AR confidence intervals	[-5.19, -3.37]	[-6.04, -3.54]	[-6.16, -3.82]	[-6.41, -4.06]	[-0.11, -0.07]	[-0.12, -0.07]	[-0.12, -0.08]	[-0.13, -0.008]

Notes: This table re-estimates the panel data models controlling for different measures of population diversity. See also Table 1.

Table A3. Heterogeneity in the effect of political instability on income redistribution

Sub-samples	(1) High-income countries	(2) Low-income countries	(3) Middle-income countries
Panel A. Second-stage estimates. Dependent variable is absolute redistribution			
PIS	48.324	-0.292*	0.814
	(169.323)	(0.163)	(0.683)
AR confidence intervals	[-35.48, 31.56]	[-0.66, -0.02]	[-0.20, 4.67]
Panel B. Second-stage estimates. Dependent variable is relative redistribution			
PIS	1.030	-0.009**	0.017
	(3.616)	(0.004)	(0.015)
AR confidence intervals	[-0.76, 0.67]	[-0.02, -0.002]	[-0.008, 0.10]
Panel C. First-stage estimates. Dependent variable is *PIS*			
n_PIS	-0.0140	0.499***	0.149**
	(0.053)	(0.102)	(0.062)
Panel D. Additional information			
Main controls	Yes	Yes	Yes
Country and Year FEs	Yes	Yes	Yes
Observations	576	265	900
First-stage *F*-statistic	0.07	24.03	5.78

Notes: This table replicates the main results by using various sub-samples of countries, based on the World Bank's classification of income levels. See also Table 1.

Table A4. The effect of political instability on income redistribution, excluding world regions

Excluding	(1) East Asia & Pacific	(2) Europe & Central Asia	(3) Latin America & Caribbean	(4) Middle East & North Africa	(5) North America	(6) South Asia	(7) Sub-Saharan Africa
Panel A. Second-stage estimates. Dependent variable is *absolute redistribution*							
PIS	-0.732**	-1.155***	-0.756**	-0.001	-0.892**	-0.969**	-39.200
	(0.309)	(0.390)	(0.372)	(0.252)	(0.391)	(0.460)	(148.154)
AR confidence	[-1.43,	[-2.20,	[-1.60,	[-0.47,	[-1.78,	[-2.11,	[-24.53,
intervals	-0.21]	-0.57]	-0.13]	0.47]	-0.23]	-0.19]	34.13]
Panel B. Second-stage estimates. Dependent variable is *relative redistribution*							
PIS	-0.014**	-0.022***	-0.015**	-0.001	-0.017**	-0.019**	-0.599
	(0.006)	(0.007)	(0.007)	(0.005)	(0.007)	(0.009)	(2.277)
AR confidence	[-0.03,	[-0.04,	[-0.03,	[-0.01,	[-0.03,	[-0.04,	[-0.37,
intervals	-0.004]	-0.01]	-0.002]	0.009]	-0.004]	-0.004]	0.53]
Panel C. First-stage estimates. Dependent variable is *PIS*							
n_PIS	0.336***	0.290***	0.282***	0.323***	0.273***	0.231***	0.012
	(0.045)	(0.055)	(0.050)	(0.050)	(0.046)	(0.045)	(0.046)
Panel D. Additional information							
Main controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country and Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,590	1,112	1,443	1,615	1,707	1,681	1,298
First-stage *F*-statistic	54.80	27.97	31.71	40.81	34.75	26.93	0.07

Notes: This table replicates the main analysis by removing various groups of world economies from the regression. The classification of world regions is derived from the World Bank's World Development Indicators (http://wdi.worldbank.org/). See also Table 1.