Democracy and Its Unequal Effect on the Benefits and Costs of Capital Inflows*

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Abstract: We study the implications of democratic regime change for the magnitude of capital inflows, a possible conduit for the positive and large 'democratic dividend' for long-run economic prosperity found in the recent empirical literature. Our focus is on systemic heterogeneity in the causal effect of democracy across countries: we hypothesise and empirically demonstrate that benefits from democratisation (increased capital inflows) are considerably lower in countries with unfavourable geography (defined by climate and disease environment). We then study the relationship between democratic regime change and episodes of excessive capital inflows, such as capital flow bonanzas and surges, which are known triggers of financial crises. Once again we explore the differences across countries by geography and find that excessive capital inflows are attenuated by democratic regime change in 'good' geography countries, whereas this is not uniformly the case in 'poor' geography countries. Throughout our analysis, we consider and dismiss 'deep determinants' of comparative development related to culture and legal origins as alternative drivers of the unequal effects of democratic regime change.

Keywords: capital inflows, economic development, democratic regime change, bonanzas, surges, geography, deep determinants of prosperity, difference-in-difference, interactive fixed effects, heterogeneous treatment effects

JEL codes: F21, F34, O10, O43, P16

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1 Introduction

> *"[Geography] tells an unpleasant truth, namely, that nature like life is unpleasant, unequal in its favours; further, that nature's unfairness is not easily remedied."*
> (Landes, 1999, 4/5)

In this paper we study the relationship between democratic regime change and capital inflows. We look at the potential effects from a positive (increased inflows) and negative (excessive inflows) perspective and hypothesise that 'nature' (geography), related to characteristics of climate and historical disease environment, plays an important role in this context.[1] Democratic regime change, establishing a bundle of economic, political and legal institutions (Acemoglu et al., 2019), clearly represents the sort of reforms that "curtail the power of entrenched economic interests and liberate the economy's productive potential" (Obstfeld, 2009, 63), while at the same time making "economies safe for international asset trade" (ibid). Democratic regime change should thus *uniformly* reduce economies' objective or perceived political and economic risk factors, and hence attract higher foreign direct investment and other financial inflows. Yet, we argue, deep-seated structural factors related to geography prevail: Geography determines economic 'structure', e.g. the complexity and diversity of the export basket (Malik and Temple, 2009), or the potential for and speed of structural transformation away from agriculture (Eberhardt and Vollrath, 2018), and this, in turn, determines investment opportunities (opportunities for economic returns). 'Poor geography' is associated with a lack of investment opportunities, (perceived) poor returns, and hence low capital inflows. Using simple descriptive analysis we highlight that countries with 'poor geography' (a) have relatively higher export concentration (in terms of goods/products) and hence are more exposed to global commodity market fluctuations, resulting in greater aggregate commodity price volatility, than countries with 'good geography'; and (b) are characterised by a productive system of less economic complexity than their peers.

There still is somewhat of a taboo surrounding the suggestion that prosperity today may be determined by the 'fate' of geography (Landes, 1999, 4, refers to this as geography's "sulphurous odour of heresy").[2] While immutable characteristics established aeons ago may or may not pre-

[1] We do not use the term 'natural endowment' employed in some of the existing literature since this too readily leads to association with 'natural resources' in the form of minerals, oil, etc., which are explicitly not part of our concept of geography. Our proxies for geography are, in terms of climate: (i) some land area in the tropical climate zone; (ii) no land area in the temperate climate zone; and (iii) low absolute latitude. In terms of disease environment: (i) the share of population at risk of malaria in 1965, (ii) malaria ecology, and (iii) the historical prevalence of 7 endemic diseases. In robustness checks we investigate (i) whether countries are landlocked or not, (ii) exposure to UV radiation, (iii) number of frost days/year and (iv) agricultural suitability. Continuous indicators (all time-invariant) are dichotomised at the median of the full sample cross-section (including countries which democratised, those that were democracies throughout our sample period, and those that always stayed autocracies).

[2] At an extreme, the suggestion of 'geographic determinism' is viewed as a form of racism. If, as in our interpretation, geography refers to "the temperature of the air, or the volume and timing of rainfall, or the lay of the land" (Landes, 1999, 4) among other 'endowments', then this speaks to the *physical* attributes of the environment, not to some characteristics of *human* groups living in this environment, and hence we can agree that,

determine economic development *to some extent*, from a policymaker's perspective, it is of great importance to understand what role institutional change over a substantially shorter time-horizon can play *mediated by or despite geography*: it is crucial to identify the patterns of cross-country differences in the democratic dividend for economic prosperity and its underlying mechanisms.

In our analysis of capital inflows (total inflows or FDI) for a large panel of countries (1975-2015) we use a novel methodology from the heterogeneous treatment effects literature (Xu, 2017; Chan and Kwok, 2022; Brown et al., 2023) employing a common factor structure to capture unobserved time-varying heterogeneity (Pesaran, 2006; Bai, 2009; Gobillon and Magnac, 2016). A simple empirical setup enables us to isolate the differential effect of democracy *by geography*: we construct separate sets of treatment and control samples by geography ('good', 'poor') and estimate average treatment effects on the treated (ATET) for democratic regime change using a difference-in-difference estimator (the principal component DID, PCDID, of Chan and Kwok, 2022).[3] Why don't we just estimate the heterogeneous PCDID for *all* countries and then compute averages by geography? This would adopt a control sample made up of countries with good and poor geography, undermining the clean counterfactual setup of our above strategy: 'poor' geography control countries for 'poor' geography treated countries, and 'good' geography control countries for 'good' geography treated countries. Setting a deliberately high bar for our definition of democratic regime change avoids the concern that democracy might 'mean different things' in countries with 'good' versus 'poor' geography: we employ V-Dem data (Coppedge et al., 2021) for 'liberal democracy' and also the indicator devised by Acemoglu et al. (2019) which captures similar institutional building blocks related to electoral democracy and the rule of law (see Appendix Figure A-1 for a visualisation).[4] If the effect of geography on regime change is thus taken out of the equation, we can separately identify the causal effect of democracy on capital flows in 'good' and 'poor' geography countries, respectively, and aided by our graphical presentation of the results can compare the economic magnitudes. This analysis answers the question of whether geography is unequal in its favours for the effect of democratic regime change on capital inflows.

Our analysis of excessive financial inflows for 1980-2015 builds on the early warning system approach in the banking crisis literature (Bussière and Fratzscher, 2006; Schularick and Taylor, 2012) and investigates the *within-country effect* of four widely-accepted macroeconomic 'triggers' of capital flow bonanzas and surges (Ghosh et al., 2014; Caballero, 2016). We ask whether these triggers have very different effects on the propensity of experiencing excessive capital inflows after countries transitioned into democracy relative to when they were still autocracies. Again our estimator (a simple linear probability model) is country-specific and we adapt the treatment

in principle, no discipline "can be less racist than geography" (ibid).

[3] Under reasonable assumptions our estimator accounts for selection into regime change and we are able to test a (weaker) form of the parallel trend test required for identification.

[4] In additional analysis we take advantage of the hierarchical nature of the V-Dem indices to investigate whether institutions related to electoral democracy (polyarchy) have different implications from those associated with the rule of law and executive constraints (liberal component).

effects methodology from our investigation of capital flows to account for unobserved time-varying heterogeneity. Visual comparison of the results across 'good' and 'poor' geography samples allows us to conveniently observe whether democracy has very different effects across geography.

Naturally, geography is not the only deep determinant of economic prosperity banded about in the literature (La Porta et al., 1998; Stulz and Williamson, 2003; Rajan and Zingales, 2003; Nunn, 2009; Gorodnichenko and Roland, 2017), hence our empirics also demonstrate that alternative explanations related to legal origin (British common law origins provide greater legal protection for investors compared with origins in French civil law), history (colonial experience, colonies with extractive institutions) and culture (individualism emphasizing personal freedom and achievement as well as linguistic similarity across countries enabling communication and exchange both foster innovation and hence modern growth) fail to provide manifest differences between groups of countries like in the case of 'good' and 'poor' geography. We cannot make causal claims for the deep determinants but the systematic patterns induced by geography are uncanny.

Our results ignoring deep determinants establish that democratic regime change (in this summary we use the liberal democracy definition) has a positive effect on total capital inflows over GDP on the order of 1 to 2 percentage points (depending on the set of controls included) for a sample mean of 3.0% (during the autocratic period of all countries that subsequently experienced democratic regime change).[5] For FDI inflows the effects amount to 0.6 to 1.4 percentage points, for a mean FDI/GDP of 1.4%. These indicate sizeable economic effects of democratisation on total capital (FDI) inflows on the order of 33-66% (43-100%). These averages hide substantial heterogeneity by geography: countries with 'good' geography experience around 1 to 4 percentage points higher total inflow/GDP following democratic regime change for a mean of 3.8% (a 25-105% increase), whereas those with 'bad' geography experience a 0 to 2 percentage point increase for a mean of 2.6% (a 0-75% increase). For FDI the effects are a 0.5-2.5pp increase (mean 1.7%) and a 0-1.5pp increase (mean 1.2%) in 'good' and 'poor' geography countries, respectively — note that this summary ignores the statistical significance of the democracy effects, which is given for virtually all specifications in the 'good' geography samples (rejection rates for a zero effect close to 100%) but in substantially fewer 'poor' geography samples (rejection rates between 60 and 80%). When we explore alternative deep determinants related to culture, history and legal origin, treatment effects estimates are of near-uniform magnitude across the two samples.

For the analysis of bonanzas and surges our findings are less straightforward. Reporting across all findings for different determinants and specifications in broad brushes, it would appear that frequently 'good' geography countries are subject to a high propensity of experiencing excessive capital inflows during autocracy, but that this vulnerability is substantially reduced once

[5]Using this benchmark somewhat inflates the percentage increases since regime change took place later in our sample with capital inflows also (broadly) rising over time. If we simply take the mean capital inflow/GDP and FDI/GDP in the treated countries regardless of democratic regime, the percentage increases are 20-45% and 25-55%, respectively. By geography: capital inflows 20-70% and 0-50% for 'good' and 'bad' geography samples, FDI 16-80% and 0-65%.

countries experience democratic regime change. This pattern is not always the case for 'poor geography' countries, where comparatively modest effects of triggers during autocracy increasing vulnerability are not always attenuated by democratic regime change: although increases in capital inflows are more modest for 'poor geography' countries following democratic regime change, they do not always experience reduced vulnerability from excessive inflows. It would appear that 'nature's unfairness' manifests itself in the differential effects of democracy on the benefits and costs of capital inflows.

Background The past fifty years represent a new era of financial globalisation during which international capital flows have increased dramatically and are regarded as drivers of economic growth (due to the implications of the neoclassical growth model: Prasad et al., 2007; Erten et al., 2021) but also as triggers of financial crisis (due to capital flow 'bonanzas': Kaminsky and Reinhart, 1999; Kaminsky, 2019; Reinhart and Reinhart, 2009; Caballero, 2016). Globally, most capital controls impeding capital mobility were removed by the early 1990s in a process which started with Germany and the US after the collapse of the Bretton Woods System in 1973, followed by Japan, the UK and Latin America later that decade and the rest of Europe in the 1980s (Aizenman et al., 2013; Kaminsky, 2019). Some of the existing literature on excessive capital inflows suggests that these are primarily caused by cyclical push factors (Reinhart et al., 2017), with "domestic macroeconomic characteristics... generally less important" (Forbes and Warnock, 2012, 235). Dissenting voices do not question that global factors are driving global surges to some extent but argue that the incidence and magnitude of a surge for an individual country are largely dependent on domestic factors (Ghosh et al., 2014) and prime among these the quality of institutions (Fratzscher, 2012). Most recently, Cerutti et al. (2019) suggest that the vast majority of variation in capital flow patterns cannot be explained by global factors.

For a long time, many academics, policymakers and development practitioners doubted the economic dividends of democratic regime change: enabling the populace to remove an incumbent government through the power of the electoral process (one of the fundamental definitions of democracy) would drive up (government) consumption and, via the threat of future or implemented increases in taxation to finance these redistribution efforts, reduce the rate of investment, to the detriment of economic growth (e.g. Baum and Lake, 2003, 334f). Doubters would further point to the stellar growth rates in autocratic regimes such as China or Singapore to question whether democracy is *necessary* for economic prosperity. While that may not be the case, beyond cherry-picking countries it is widely recognised that growth outcomes vary substantially across autocracies (Persson and Tabellini, 2009; Knutsen, 2012), and the strong *average* improvement in economic development in democratising countries (Acemoglu et al., 2019) more recently provided convincing evidence for a positive and large causal effect of democratic regime change. Our definition of democracy (liberal democracy) represents a bundle of institutions, covering both electoral democracy (polyarchy) as well as aspects of individual liberties (e.g. freedom of move-

ment), equality before the law and secure property rights. Linking capital flows to democracy rather than individual institutions (e.g. Papaioannou, 2009, distinguishes and tests seven features of institutional quality, including rule of law and expropriation risk) brings our work in line with the new 'democracy causes growth' literature and highlights a specific channel through which regime change can lead to greater economic prosperity.

Empirical Strategy We adopt a treatment effects framework following Papaioannou and Siourounis (2008) and Acemoglu et al. (2019), but use an implementation which adds common factors estimated from a control sample regression to the country-specific treatment regression model: the Chan and Kwok (2022) Principal Component Difference-in-Difference (PCDID) estimator. Like any other Difference-in-Difference estimator the PCDID studies treated countries before and after treatment (here: democratic regime change), but there are no control country observations included in our treatment regression sample: these are instead included in the form of estimated common factors. The intuition is as follows: our country-specific specification of capital inflows as a function of a democracy dummy, an intercept, and some control variables crucially omits a great deal of unobserved heterogeneity, time-*varying* determinants of capital flows which are also affecting regime change as well as the controls — country-specific productivity (TFP) or absorptive capacity might be good examples (see Eberhardt and Presbitero, 2015; Eberhardt and Teal, 2020; De Visscher et al., 2020). We should however think of these omitted factors not just as (many, many) omitted variables, which we could in principle have included in the model, but also as *unknowable* factors we did not even know existed. Factor models try to construct proxies for these omitted factors, either by Principal Component Analysis from regression residuals (Bai, 2009) or by use of cross-section averages of all observed variables in the model (Pesaran, 2006). These proxies are then entered into the estimation equation: like a country fixed effect in a pooled panel model solves the problem of unobserved time-*invariant* determinants correlated with both the outcome (capital flows) and the independent variables (democracy, controls), these 'interactive fixed effects' solve the problem of unobserved time-*varying* determinants correlated with outcome and independent variables.[6] This is the setup in standard macro-panel models. In the difference-in-difference context, there is a small tweak: here, the common factors are estimated from the residuals of a *control country regression* (capital flows regressed on an intercept and the additional controls, country by country), and then included in the country-specific treatment effects regression as additional controls with country-specific parameters.

In standard DID models the parallel trend test can inform us whether the two sets of countries (treated and control) were on different trajectories prior to the treatment or not. 'Unparallel trends' constitute the single most important challenge to causal identification in the pooled DID. Chan and Kwok's (2022) paper carries the subtitle "Difference-in-Differences When Trends Are Potentially Unparallel and Stochastic", but this still does not mean that the above strategy is guaranteed to

[6] In other words: augmenting a pooled (country) regression with country fixed effects (estimated common factors) makes the endogeneity problem from unobserved time-invariant (time-varying) factors go away.

work. Instead of a standard parallel trend test, the empirical specification has to satisfy the Alpha test for 'weak parallel trends' (Chan and Kwok, 2022): in essence, this checks that the 'information' about unobserved heterogeneity the PCDID extracts from the control sample is equally 'relevant' in the treatment sample. To illustrate what this means, imagine Lipset's modernization theory of democracy applies *in extremum*, and countries only democratise when they are high-income economies (the 'treatment' sample). Imagine further that we happen to have a control sample made up entirely of low-income countries, the poorest economies in the world. The Alpha test checks whether the time-varying unobservable heterogeneity extracted from the poor country sample would on average (across sample countries) have the same effect on the outcome variable in the treated sample of rich countries.[7] In the example we have given, this is quite unlikely.

Our investigation of excessive capital inflows and the effects of democracy in 'good' and 'poor' geography countries employs a country-specific linear probability model for capital flow 'surges' or 'bonanzas', which we augment with factors estimated from the respective control samples of never-democratisers: this enables us to account for the unobserved heterogeneity in the determinants of excessive capital flows and the endogeneity of democratic regime change. We interact (in separate regressions) each of four known 'trigger variables' for excessive capital inflows with a democracy dummy and hence can estimate the within-country difference of these triggers in autocracy versus democracy. This empirical setup builds on the common factor structure in a generalised linear model by Boneva and Linton (2017) and the PCDID to devise a factor-augmented early warning system (EWS) model. We then report the within-country effect of a one standard deviation increase in the trigger variable during autocracy and the relative effect during democracy.

All of the methods described above are applied to split samples determined by geography, culture, history, or legal origin.

Related Literature We contribute to three separate strands of existing literature. First, our work is related to the empirical literature on democracy and long-run growth, which only surprisingly recently established a positive and large causal relationship (Madsen et al., 2015; Acemoglu et al., 2019; Boese and Eberhardt, 2021; Eberhardt, 2022). Two important challenges to a better understanding of *how* democracy causes growth remain: (a) the existing literature has assumed that the democracy-growth relationship is common across countries, which makes it difficult to derive tangible policy implications for individual countries (Durlauf, 2020); and (b) the direct transmission mechanisms by which democracy leads to growth have not been studied systematically. Our paper explores geography as an important factor governing the patterns of heterogeneous democracy effects and international capital inflows — both as a positive driver of development and a source of increased financial vulnerability — as the conduit for the effect of democratic regime change on economic prosperity.

[7] More formally, the Alpha test establishes whether the expected (average) factor loadings are the same between treatment and control samples.

Second, we contribute to two literatures on the determinants of capital inflows and of excessive capital flow 'bonanzas' or 'surges', studying the domestic 'pull factors'. Capital inflows are widely suggested to have a positive impact on growth (Alfaro et al., 2004; Durham, 2004; Prasad et al., 2007; Kose et al., 2009; Asiedu and Lien, 2011; Erten et al., 2021). But, where capital does or does not flow and why has, of course, occupied the profession for a long time (the 'Lucas Paradox', Lucas, 1990, and the 'allocation puzzle' Gourinchas and Jeanne, 2013). Existing work has suggested that 'institutions' are important determinants of capital inflows (Feldstein, 1999; Alfaro et al., 2008; Papaioannou, 2009) and hence a partial solution to these puzzles. Like in the literature on financial development (e.g. Law and Singh, 2014; Arcand et al., 2015; Cho et al., 2022), recent empirical work on financial flows seems to emphasise the dangers of 'too much of a good thing' much more than the benefits of capital flows *per se*: excessive capital inflows are a primary candidate for increased financial vulnerability (Kaminsky and Reinhart, 1999; Lopez-Mejia, 1999; Reinhart and Reinhart, 2009; Reinhart and Rogoff, 2013; Ghosh et al., 2014; Caballero, 2016; Erten et al., 2021), a topic which has seen a wealth of contributions following the Global Financial Crisis (Gourinchas and Obstfeld, 2012; Schularick and Taylor, 2012; Müller and Verner, 2021). We contribute to these two literatures by highlighting the differential effect of institutional change (broadly defined as a shift from an autocratic to a democratic regime) on capital inflows and bonanzas/surges *by geography*. Given that "fickle capital flows are an unavoidable fact of life" (Bluedorn et al., 2013, 1) across *all* economies, it is an important finding to highlight the moderating force of democracy in some but not other countries.

Third, we contribute to an older cross-country empirical literature on the deep determinants of comparative economic development.[8] 2021 marked the twentieth anniversary of the publication of *'The colonial origins of comparative development'* (Acemoglu et al., 2001). Though not the first empirical contribution on the link between institutions and growth (e.g. Dawson, 1998; Hall and Jones, 1999), it is arguably the paper which firmly established the quality of institutions as the most significant 'deep determinant' of long-run economic development. In the years after its publication empirical battles were fought over the supremacy of institutions over geography and trade openness (e.g. Dollar and Kraay, 2003; Easterly and Levine, 2003; Rodrik et al., 2004) as well as over the precise definition of institutional quality which did (or did not) cause development over the long-run (Glaeser et al., 2004). Related work has shifted attention to the study of culture (Stulz and Williamson, 2003; Gorodnichenko and Roland, 2017; Ang, 2019), history (Nunn, 2009) or legal origins (La Porta et al., 1998, 2008; Monnet and Velde, 2021), at times focusing on the determinants of financial development rather than economic prosperity more broadly, including work on the political economy of financial development (Rajan and Zingales, 2003). Most of this work is based on regressions in the cross-section and defines 'institutions' as time-invariant (e.g. Glaeser et al., 2004, argue that only time-invariant factors can constitute institutions). We contribute to this literature by considering democracy as a time-varying bundle of institutions

[8] More recent contributions have typically used microdata in order to provide cleaner identification.

(as is the practice in recent seminal contributions on democracy and growth), and studying the differential effects of democratic regime change across different sets of country groups defined by immutable characteristics proxying for geography, history, legal origin or culture.

The remainder of this paper is structured as follows: in the next section, we provide some background on and descriptive analysis of the 'deep determinants' of economic development. In Section 3 we study the causal effect of democratic regime on capital flows, Section 4 turns to the investigation of undesirable capital flow surges and bonanzas. In both sections, we first introduce the data and methods used and then present empirical findings. Section 5 concludes.

2 Deep Determinants of Comparative Development

In this section, we provide an overview of some of the existing literature on deep determinants and economic prosperity, covering empirical literature which investigates per capita income, financial development or capital flows. We then provide details on the range of proxies we use in the paper to study geography, culture and legal origin (the latter being the most straightforward since this status is easily observed). We offer a first glimpse if the deep determinants of capital flows in the context of democratic regime change in descriptive analysis. We conclude the section by carrying out descriptive analysis highlighting that geography affects the diversity and concentration of exports, the economic complexity of production, and the volatility of aggregate commodity prices: three arguments for a long-lasting effect of geography on domestic 'pull' factors for capital flows which strongly influence the patterns of the relationship between democratic regime change and capital inflows.

2.1 Geography, Legal Origin, and Culture

Why geography? Arguments supporting a link between geography (climate, disease environment) and contemporary economic development are frequently centred on their impact on land, labour and production technology (Diamond, 1998; Bloom and Sachs, 1998; Gallup et al., 1998; McArthur and Sachs, 2001), illustrated by the suggestion that in tropical climates people are "enervated by the slightest physical or mental exertion" (a Bangladeshi diplomat cited in Landes, 1999, 15), which makes for a "slow rhythm [of work] with long and frequent pauses" (ibid.: 16);[9] or that (modern) innovations in production technology favour agriculture in temperate versus tropical countries (Diamond, 1998).

Yet, these arguments are difficult to uphold given the 'reversal of fortune' (Acemoglu et al., 2002) whereby if climate had such a profound impact then countries which were rich in 1500 should still be rich today (but frequently are not). The latter authors further convincingly dismiss related explanations that agricultural technology reversed the early advantage of tropical over temperate agriculture. We therefore need to identify distinctly more 'modern' features of growth and development as likely reasons for a democracy-geography-growth link.

Linked closely to the study of capital flows, we can see that standard gravity arguments for the flow of traded *goods* between countries (Anderson, 1979; Bergstrand, 1985; Anderson and Van Wincoop, 2003) find similar effects of distance and remoteness for capital flows (Portes et al., 2001; Bergstrand and Egger, 2007; Head and Ries, 2008; Lane and Milesi-Ferretti, 2008; Papaioannou, 2009; Pellegrino et al., 2021), suggesting that "the geography of information is the main determinant of the pattern of international transactions" (Portes and Rey, 2005, 269). This speaks to distance as an important factor. Besides geographic predisposition to trade and capital

[9] It is important to emphasise that they speak of local and non-local individuals being affected in this way: there is no suggestion that the people residing in tropical locales inherently exert a lower work effort and productivity.

flows, not just in terms of remoteness but also distance from the equator (Frankel and Romer, 1999), nature affects the structure of exports, which can leave countries prone to external (terms of trade) shocks (Malik and Temple, 2009). We provide evidence below that concentration of exports as well as specialisation and complexity of production does not merely apply to geographic remoteness, but more broadly to our proxies related to climate and disease environment.

Why legal origins? A sizeable literature has investigated the economic consequences of legal origin, in particular financial development (e.g. La Porta et al., 1998; Beck et al., 2003). The conceptual arguments for such a link, that legal protection for outside investors (and hence financial development) is stronger in countries with origins in (British) common law, rather than (French) civil law, are well-known (La Porta et al., 2008) though not without controversy: while modern (post-WWII) financial development seems to follow the suggested patterns, history provides many instances of a 'reversal' in the correlation (Monnet and Velde, 2021), thus undermining a structural link. We consider legal origins in our analysis of capital inflows since arguments for investor protection seem equally relevant in this context, and since the legal system represents a 'meta-institution' (Koyama, 2022) and hence merits wider investigation beyond financial development.

Why history?

Why culture? The origins of a proposed link between culture — typically defined as a shared set of values, beliefs and norms of behaviour — and economic prosperity are usually found in Weber's *protestant work ethic*. While earlier work made this link to religion (Landes, 1999; Stulz and Williamson, 2003), it was the study of Gorodnichenko and Roland (2017) which systematically approached the distinction between individualism, said to be fostering personal freedom, achievement, and hence innovation, and collectivism, emphasising embeddedness, group loyalty and discouraging 'standing out' — this distinction is suggested to be *the* primary dimension of cultural differences (Heine, 2007).[10] Gorodnichenko and Roland (2017) motivate and empirically demonstrate a causal link between individualism and income per worker, adopting a range of instrumentation strategies.

Language "makes information operational" (Ginsburgh and Weber, 2020, 348) and provides a 'social technology' we can use to construct divisions of our global sample into those with more similar and others with more dissimilar common language, a crude proxy for culture: "The various aspects of culture are hard to describe and for the sake of simplicity, language may be, and is often, used as a proxy for culture and/or ethnicity" (ibid, 363). The specific definitions of language we focus on relate to 'intercommunication distances', which have primarily found application in the study of bilateral trade flows (e.g. Egger and Lassmann, 2012; Melitz and Toubal, 2014)— commonly finding that distance between languages reduces trade— or of lexicographical bias in

[10] Existing research, reviewed in Spolaore and Wacziarg (2013), has focused on the (intergenerational) transmission of culture and also its effect on contract enforcement, fertility choice, regulation, etc.

firm-level exports (Cheng et al., 2020). Although the presence of a *lingua franca* (once Latin, now English) enables communication, it is the notion of common ethnicity and trust captured by intercommunication distance (Ginsburgh and Weber, 2020, or rather than specific measure we adopt) which makes such indices attractive as proxies for culture.

Proxies Throughout our analysis, we adopt a range of proxies for geography ($\times 6$) and culture ($\times 3$), as well as data on legal origin to capture these different 'deep determinants'. For some of these proxies, a range of sources are available, we selected those which maximised the sample size.

For the disease environment aspect of geography, we use two datasets for 'malaria ecology': (i) from McCord et al. (2017, malpct) the percentage share of population at risk of malaria in 1965 and (ii) from Kiszewski et al. (2004, ME) malaria 'ecology', an "ecologically-based variable that is predictive of malaria risk" (Sachs, 2003, 7). We further adopt (iii) data on the historical prevalence of infectious diseases from Murray and Schaller (2010, hdp_7) — the variable considering seven diseases has the broadest coverage. For the climate-related aspects of geography we adopt (i) a dummy variable for zero land area in the temperate climate zone constructed from Spolaore and Wacziarg (2013, kgatemp), and (ii) a dummy variable for 'some' land area in the tropical climate zone constructed from (Nunn and Puga, 2012, tropical), from where we (iii) also construct absolute average latitude (using lat).[11]

For legal origin we use a dummy for French legal origin taken from La Porta et al. (2008, legor_fr). Additional countries covered in Nunn and Puga (2012) are not part of our sample and these authors also do not seem to have carried over the changes in La Porta et al. (2008) vis-à-vis La Porta et al. (1998).

For culture, we use (i) data from Gorodnichenko and Roland (2017, distE_UK) relating to a measure of distance (from the UK, one of the world's most individualist countries) in terms of frequencies of blood types. For the language aspect of culture, we use (ii) data from Gurevich et al. (2021) who compiled the domestic and international common language (DICL) database. These, respectively, capture the probability that two individual picked at random from each pair of countries speak the same native language (cnl) and a population weighted proximity measure based on 'linguistic trees' which categories languages (lp). These are hence dyadic data for country pairs, and we compute the country-specific averages for the average common native language (cnl) index and average language similarity (lp) for country i across all other countries j.[12]

For all of the above: where we do not already indicate that the proxies are dummy variables

[11] The median cutoff for the sample, 23.55 almost perfectly coincides with the 23.5 degree cutoff signifying the region between the Tropic of Cancer and the Tropic of Capricorn.

[12] Following the ideas of Max Weber, no European descendants or no European settlers at the turn of the 20th century would have been a very insightful alternative way to proxy for culture. However, this setup fails to create a sufficient set of control countries in the 'non-zero' group (only 5 for the ANRR and 8 for the liberal democracy specifications, respectively, for 31 and 32 democratisers). In the group with no European descendants treatment and control samples are much better balanced (33 vs 22 for ANRR and 17 vs 41 for liberal democracy).

we dichotomise continuous or categorical variables at the cross-country median (the proxies selected are all time-invariant or in case of malpct for a single year). Throughout our analysis and in the presentation of results a geography dummy value of 0 is for 'good geography' and 1 for 'poor geography': e.g. for absolute latitude the dummy is 1 for countries below (low latitude) and 0 for countries above the median (higher latitude). Similarly for cultural proxies: 0 for proximity in blood type to the UK, 1 for greater distance; 0 for a higher average common language index or greater language similarity, and 1 for a lower index and countries with more idiosyncratic languages.

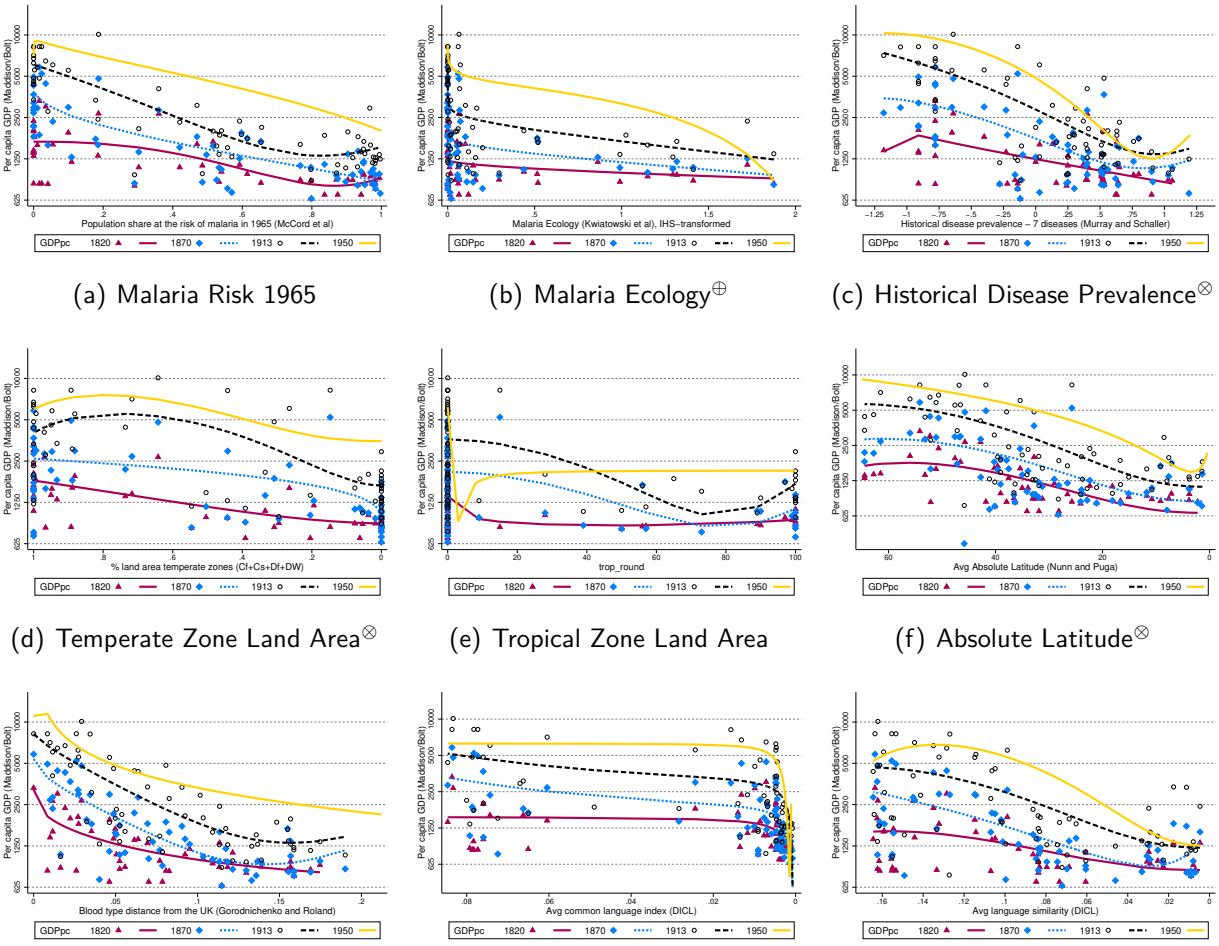
We provide some maps indicating the distribution of deep determinants across countries in Appendix Figure A-3. The mean (median) pairwise correlation coefficient within the geography proxies is 0.60 (0.58) and within culture proxies 0.44 (0.47). The mean (median) correlation coefficient between geography and culture proxies is 0.32 (0.33), between geography and French legal origin 0.03 (0.02) and between French legal origin and culture -0.18 (-0.16) — the latter two comparisons are for merely six and three correlation coefficients, respectively.[13]

Raw correlations We present bivariate correlates for our deep determinant proxies related to geography and culture (Figure 1). Each plot presents scatters and fractional polynomial plots for per capita GDP on the y-axis and the time-invariant continuous deep determinant on the x-axis, focusing on four time periods: 1820, 1870, 1913 and 1950. Plots have been re-scaled so that, from left to right, geography 'deteriorates', countries are less similar to the most individualistic country (the UK) and have fewer commonalities in language. It is apparent that all three proxies related to disease environment had, with the possible exception of the tropical land area in (e), downward-sloping regression lines from the 19th to the mid-20th century: geography is strongly correlated with income... but so is (the average common language index excepted) culture in panels (g) to (i).

The uneven effect of democracy In Figure 2 we provide first descriptive evidence that democracy has an uneven effect on capital inflows, and that geography appears to be a good candidate to explain the observed patterns. Each plot is for a proxy for deep determinants relating to geography, legal origin or culture — here we use dichotomised variables, based on the full sample median cutoff or (in the case of temperate zone and tropical zone dummies) logical cutoffs (zero temperate land area; non-zero tropical land area); French legal origin is already dichotomous. We plot the country-specific median capital/GDP value during democracy (on the y-axis) against its median value during autocracy (on the x-axis) for two sets of countries: those with good geography (or more individualistic/proximate culture, or non-French legal origin) using dark pink markers and solid quadratic regression lines, and for countries with poor geography (or more collectivist/distant culture, or French legal origin) using blue markers and dashed quadratic regression lines.

[13] These are pairwise correlations for single cross-sections of our treatment and control samples using the liberal democracy definition (between 99 and 109 countries). The correlations are moderately lower than equivalent pairwise correlations for the sample of all (137-147) countries, including 'always democracies'.

Figure 1: Correlates of Geography, Culture and Income



(a) Malaria Risk 1965 (b) Malaria Ecology$^{\oplus}$ (c) Historical Disease Prevalence$^{\otimes}$

(d) Temperate Zone Land Area$^{\otimes}$ (e) Tropical Zone Land Area (f) Absolute Latitude$^{\otimes}$

(g) Blood type distance to the UK (h) Avg Common Language Index (i) Avg Language Similarity

Notes: We present scatters and fractional polynomial regression lines for proxies for geography or culture and income per capita in 1820 (N≈54 countries), 1870 (N≈64), 1913 (N≈65) and 1950 (N>125) — in the latter case we omit the scatter for ease of illustration. These plots feature virtually no African country in the pre-1950 samples. $\otimes$ indicates that we reversed the x-scale, $\oplus$ that we excluded a small number of very high values.

The resulting patterns are quite similar across the six geography proxies in panels (a) to (f): for similar levels of capital inflows during autocracy, regime change in 'good' geography countries on average leads to higher capital inflows than in 'poor' geography countries. Take the Malaria Risk proxy in panel (a): most blue markers are in the area between 0% and 5% (both in terms of the x- and y-axis), whereas many dark pink markers between 0% and 5% on the x-axis have post-regime change median inflows in excess of 5%. Equivalently, beyond a pre-regime change inflow in excess of 1%, the fitted regression lines for 'good' geography countries is to the North of the 'bad' geography one and rising. The divergence between 'good' and 'bad' geography samples is even more marked for the three climate-related measures in panels (d) to (f). In contrast, using the same strategy but distinguishing countries by legal origin in panel (g) yields virtually no differences between the two sets of country results. The proxy for culture based on blood type distance to the UK (the joint most individualistic country in the world) in panel (h), however, shows a similar deviation to the above geography proxies. The measure for common language (the alternative proxy is omitted as results are virtually identical) once again indicates no substantive deviation between the two country groups.

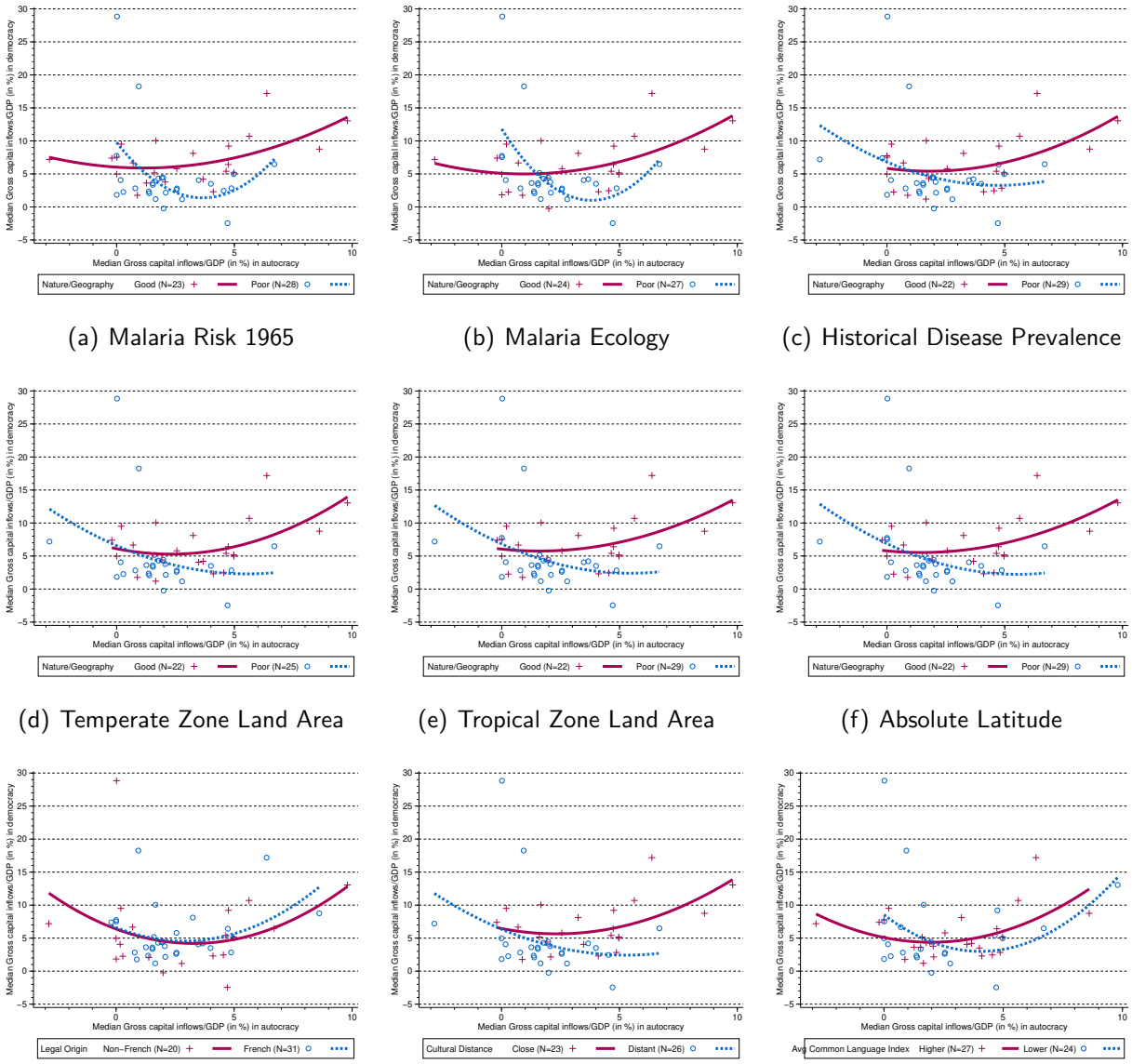
Mechanical explanations Naturally, there would be concerns if 'treated' countries (i.e. democratisers) with one type of deep determinant (say, high absolute latitude) would have a significantly higher propensity to revert to autocracy than those in the other type (low absolute latitude): we'd be comparing 'solid' and 'shaky' democracies. The average 'reversal' probability in treated samples is between 1 and 2.5 percent. Carrying out comparison in means between the treated samples of the two 'types' we find that those with 'favourable' deep determinants (e.g. low absolute latitude, legal origin other than French civil law, etc.) typically have lower propensity of reversal (1.2%), but the differences between these and samples for 'unfavourable' deep determinants (1.6%) are typically not statistically significant (results available on request).[14]

Similarly, for the magnitudes of the treatment effects, it is important to check whether the length of years in democracy does not differ substantially across treatment samples of the two types, since otherwise a bigger boost to growth may simply be down to having spent more years in democracy. The average number of sample years in democracy is between 15 and 23. We find that samples for countries with 'favourable' deep determinants have an advantage, over two-and-a-half additional years of treatment (19.8) compared with countries with 'unfavourable' deep determinants (17.2), though once again the difference is not typically statistically significant (results available on request).[15]

[14] The exception is the 'zero land in the temperate zone' proxy for geography, for which ANRR, liberal democracy and liberal component definitions of democratic regime change indicate statistical significance at the 5% level.

[15] The exception is the 'average common native language' proxy for culture, for which ANRR, liberal democracy and electoral democracy definitions of democratic regime change indicate statistical significance at the 5% level.

Figure 2: Patterns of Capital Inflows before/after regime change by Deep Determinant



(a) Malaria Risk 1965 (b) Malaria Ecology (c) Historical Disease Prevalence

(d) Temperate Zone Land Area (e) Tropical Zone Land Area (f) Absolute Latitude

(g) French Legal Origin (h) Blood type distance to the UK (i) Avg Common Language Index$^{\otimes}$

Notes: We present scatters and quadratic regression lines for the relationship between median total capital inflows/GDP before (x-axis) and after democratic regime change (y-axis), distinguishing 'deep determinants' in each plot as proxies for geography, Legal Origin or culture. $\otimes$ indicates that we omit the plot for average language similarity, which is qualitatively identical to the present average common language index version. To aid presentation, we omit the observation for Panama (a 'bad' geography, French legal origin and close/proximate cultural distance country) in all plots, which during autocracy (democracy) experienced a range of capital inflows/GDP between -295% and +206% (-23% and +70%) with a median of 22% (20%).

2.2 Empirical Exploration of Geographic Channels

In this section we illustrate that economies with poor geography suffer from disadvantageous 'structural' characteristics: their exports are more limited in scope (less diversified), products lack complexity, and represent (primary commodity) goods subject to higher volatility in world prices.

2.2.1 Diversity and Quality of Exports

The dominant paradigm for economic development in the second half of the twentieth century places significant emphasis on trade, predominantly labour-intensive manufactured goods for export (such as apparel) to (i) overcome the limits set by domestic markets, (ii) exploit low labour costs, and (iii) initiate a process of moving up the value chain and/or diversifying into more 'sophisticated' (higher value-added) products. Studying the diversity as well as the quality of exports can provide insights into the scope for structural transformation and the potential for countries to reap the benefits from diversification (Henn et al., 2013).

Data and Transformations We adopt data from an IMF database on 'export diversification and quality' covering 1962-2014 (Henn et al., 2013), which is available for all our sample countries. The Theil index we use combines the concentration in the number of export products by a country and the concentration in its export volumes across products actively exported. A *higher* value for this index marks out a country with a *lower* level of diversification.

Empirical Analysis We compute the difference in the level of export diversification for countries with good and poor geography, along with a formal t-test for this difference for each of our six proxies for geography. We report these statistics in Table 1 for the full sample and for countries which experienced regime change ('treated sample'), where the definition of regime change is indicated in the top row — note that the statistics for 'all countries' are by definition the same across the four democracy dummies. The sample mean for this index is around 3.3, the maximum almost twice that at 6.3. Our results uniformly suggest that countries with 'poor' geography have lower levels of diversification, and this discrepancy is still present in the sample countries which experienced democratic regime change; at times the gap is even larger in this subsample.

2.2.2 Economic Complexity

Continuing with the notion of product 'sophistication' we hypothesise that the narrow(er) range of products produced for export in 'poor geography' countries is further of lower complexity.

Data and Transformations We adopt data on economic complexity from Hidalgo and Hausmann (2009), which provides country rankings across 133 economies in the level of complexity on the basis of the HS (Harmonized System, 1992) product classification. There is a caveat for these data since the series only start in 1995, and some of the sample sizes for 'treated countries' in

Table 1: Differences in Export Diversification by Geography

	ANRR		LibDem		Poly		Liberal	
Panel (A) Disease Environment								
Malaria Ecology Sachs	Diff	p	Diff	p	Diff	p	Diff	p
All countries	-1.18	0.00	-1.18	0.00	-1.18	0.00	-1.18	0.00
Treated countries	-1.35	0.00	-1.04	0.00	-0.95	0.00	-1.26	0.00
Malaria Risk	Diff	p	Diff	p	Diff	p	Diff	p
All countries	-0.92	0.00	-0.92	0.00	-0.92	0.00	-0.92	0.00
Treated countries	-0.97	0.00	-0.58	0.00	-0.53	0.00	-0.62	0.00
Historical Disease Index	Diff	p	Diff	p	Diff	p	Diff	p
All countries	-0.65	0.00	-0.65	0.00	-0.65	0.00	-0.65	0.01
Treated countries	-0.72	0.00	-0.56	0.00	-0.45	0.00	-0.44	0.00
Panel (B) Climate								
Tropical Land Area	Diff	p	Diff	p	Diff	p	Diff	p
All countries	-0.84	0.00	-0.84	0.00	-0.84	0.00	-0.84	0.00
Treated countries	-1.29	0.00	-0.99	0.00	-0.88	0.00	-0.99	0.00
No Temperate Land Area	Diff	p	Diff	p	Diff	p	Diff	p
All countries	-1.48	0.00	-1.48	0.00	-1.48	0.00	-1.48	0.00
Treated countries	-1.34	0.00	-1.11	0.00	-1.01	0.00	-1.19	0.00
$\lvert Latitude \rvert < MD$	Diff	p	Diff	p	Diff	p	Diff	p
All countries	-1.19	0.00	-1.19	0.00	-1.19	0.00	-1.19	0.00
Treated countries	-1.28	0.00	-1.12	0.00	-0.90	0.00	-1.10	0.00

Notes: The table presents the mean difference in the export diversification index (higher value = lower diversification) across countries with good and poor geography alongside a formal t-test (p-value reported). Since we also present results for the samples of countries which experienced democratic regime change (Treated countries) we report these statistics for our four different definitions of democracy. A negative (positive) difference means that the sample of countries with poor geography has lower (higher) levels of export diversity. The average export diversity index for the full sample is around 3.30, and that for 'treated countries' is around 3.24.

'good' geography locations only feature around 200 observations — these results should be taken with a grain of salt.

Empirical Analysis We compute the difference in the global ranking in terms of economic complexity for countries with good and poor geography, along with a formal t-test for this difference for each of our six proxies for geography. We report these statistics in Table 2 which has the same structure as the previous table. Our results uniformly suggest that countries with 'poor' geography have lower levels of complexity, and this discrepancy is still present if we limit the sample to countries which experienced democratic regime change; at times the gap is even larger in this subsample.

Table 2: Differences in Economic Complexity by Geography

	ANRR		**LibDem**		**Poly**		**Liberal**	
Panel (A) Disease Environment								
Malaria Ecology Sachs	Diff	p	Diff	p	Diff	p	Diff	p
All countries	-44.20	0.00	-44.20	0.00	-44.20	0.00	-44.20	0.00
Treated countries	-38.80	0.00	-27.10	0.00	-26.29	0.00	-29.39	0.00
Malaria Risk	Diff	p	Diff	p	Diff	p	Diff	p
All countries	-44.13	0.00	-44.13	0.00	-44.13	0.00	-44.13	0.00
Treated countries	-54.72	0.00	-23.70	0.00	-37.00	0.00	-36.08	0.00
Historical Disease Index	Diff	p	Diff	p	Diff	p	Diff	p
All countries	-32.65	0.00	-32.65	0.00	-32.65	0.00	-32.65	0.00
Treated countries	-36.15	0.00	-15.68	0.00	-13.26	0.00	-24.35	0.00
Panel (B) Climate								
Tropical Land Area	Diff	p	Diff	p	Diff	p	Diff	p
All countries	-36.72	0.00	-36.72	0.00	-36.72	0.00	-36.72	0.00
Treated countries	-38.80	0.00	-32.84	0.00	-32.59	0.00	-34.35	0.00
No Temperate Land Area	Diff	p	Diff	p	Diff	p	Diff	p
All countries	-50.98	0.00	-50.98	0.00	-50.98	0.00	-50.98	0.00
Treated countries	-51.41	0.00	-34.61	0.00	-38.46	0.00	-32.36	0.00
$\lvert Latitude \rvert < MD$	Diff	p	Diff	p	Diff	p	Diff	p
All countries	-48.21	0.00	-48.21	0.00	-48.21	0.00	-48.21	0.00
Treated countries	-39.33	0.00	-39.35	0.00	-31.97	0.00	-40.79	0.00

Notes: The table presents the mean difference in the cross-country ranking (1 to 133) of economic complexity (higher value = lower rank = lower complexity) across countries with good and poor geography alongside a formal t-test (p-value reported). Since we also present results for the samples of countries which experienced democratic regime change (Treated countries) we report these statistics for our four different definitions of democracy. A negative (positive) difference means that the sample of countries with poor geography has a lower/worse (higher/better) ranking for economic complexity (1 to 133).

2.2.3 Aggregate Commodity Price Volatility

Analysing export concentration and economic complexity above have focused on the basket of goods produced and exported by countries with different natural endowments (geography). But what if, through luck or foresight, countries managed to 'pick winners' for their narrow export baskets, goods with advantageous terms of trade and low price volatility? The theory of economic complexity we adopt is premised on a development paradigm which postulates industrialisation as a growth escalator. But what if what worked for 19th-century Europe and a handful of 20th-century East and Southeast Asian economies is no longer a feasible growth strategy? What about contributing to global supply chains, and suggestions of agriculture or services as potential growth escalators? These questions are beyond the scope of our simple empirical illustrations, instead, we investigate the economic uncertainty (exogenous price volatility) of the basket of primary commodities produced and exported by countries.

In this section, we ask whether the goods exported by countries with poor geography are subject to greater exogenous price movements than those with more advantageous geography. The primary commodity price data we use are aggregate indices at the country level and constructed adopting country-specific averages of net export/GDP weights. A cross-sectional analysis of such average weights would return to the theme of concentration we studied above. By investigating time-varying country-level volatility of aggregate commodity prices we can instead suggest that not only are exports concentrated in poor geography economies, but they are also concentrated in high(er) volatility primary commodity goods.

Data and Transformations For primary commodity price (PCP) volatility we use monthly data from Gruss and Kebhaj (2019) which employs 1962-2018 average net export/GDP weights to aggregate 44 global primary commodity prices from the *IMF Primary Commodity Price Database*: the variations captured hence relate to windfall gains and losses due to changes in exogenous world prices — see Ciccone (2018) and Eberhardt and Presbitero (2021). Primary commodity price shocks are defined as the first difference of the monthly PCP measure, $\Delta PCP_{it\tau} = \Delta PCP_{it\tau} - \Delta PCP_{it,\tau-1}$ for month τ of year t in country i. We construct a time-varying measure of PCP volatility following Bleaney and Greenaway (2001): the conditional volatility $\sigma^2_{ACP,it\tau}$ is predicted from a GARCH(1,1) model of the monthly data for 1970-2018 using a regression of the PCP shocks, $\Delta PCP_{it\tau}$, on an intercept term using data. We convert the monthly data to annual frequency by taking the average of monthly volatility in each year.

Empirical Analysis We compute the difference in the mean volatility estimates for countries with good and poor geography, along with a formal t-test for this difference for each of our six proxies for geography. We report these statistics in Table 3 for the full sample and for countries which experienced regime change ('treated sample'), where the definition of regime change is indicated in the top row. The mean commodity terms of trade (CTOT) volatility is 0.54 and 0.47

for the full and treated samples, respectively. Our analysis of the full sample indicates that with one (statistically insignificant) exception, the results uniformly support the notion that poor geography is associated with higher commodity terms of trade volatility. When we limit the analysis to the treated sample, i.e. only those countries which experienced democratic regime change during the sample period, we frequently (though not uniformly) observe an *increase* in the volatility gap between good and poor geography countries (difference estimates of greater negative magnitude, e.g. in the analysis of tropical land area or Malaria ecology).

Table 3: Differences in CTOT Volatility by Geography

	ANRR		**LibDem**		**Poly**		**Liberal**	
Panel (A) Disease Environment								
Malaria Ecology Sachs	Diff	p	Diff	p	Diff	p	Diff	p
All countries	-0.07	0.00	-0.07	0.00	-0.07	0.00	-0.07	0.00
Treated countries	-0.15	0.00	-0.14	0.00	-0.10	0.00	-0.11	0.00
Malaria Risk	Diff	p	Diff	p	Diff	p	Diff	p
All countries	-0.07	0.00	-0.07	0.00	-0.07	0.00	-0.07	0.00
Treated countries	-0.10	0.00	-0.06	0.00	-0.03	0.10	-0.08	0.00
Historical Disease Index	Diff	p	Diff	p	Diff	p	Diff	p
All countries	-0.04	0.01	-0.04	0.01	-0.04	0.01	-0.04	0.01
Treated countries	-0.09	0.00	-0.09	0.00	-0.04	0.02	-0.03	0.14
Panel (B) Climate								
Tropical Land Area	Diff	p	Diff	p	Diff	p	Diff	p
All countries	-0.06	0.00	-0.06	0.00	-0.06	0.00	-0.06	0.00
Treated countries	-0.14	0.00	-0.18	0.00	-0.13	0.00	-0.13	0.00
No Temperate Land Area	Diff	p	Diff	p	Diff	p	Diff	p
All countries	-0.32	0.00	-0.32	0.00	-0.32	0.00	-0.32	0.00
Treated countries	-0.23	0.00	-0.21	0.00	-0.18	0.00	-0.16	0.00
$\lvert$*Latitude*$\rvert < MD$	Diff	p	Diff	p	Diff	p	Diff	p
All countries	-0.21	0.00	-0.21	0.00	-0.21	0.00	-0.21	0.00
Treated countries	-0.18	0.00	-0.19	0.00	-0.17	0.00	-0.14	0.00

Notes: The table presents the mean difference in commodity terms of trade (CTOT) volatility across countries with good and poor geography alongside a formal t-test (p-value reported). Since we also present results for the samples of countries which experienced democratic regime change (Treated countries) we report these statistics for our four different definitions of democracy. A negative (positive) difference means that the sample of countries with poor geography has higher (lower) average commodity terms of trade volatility. The average volatility for the full sample is around 0.52, and that for 'treated countries' is around 0.45.

3 Democracy and Capital Inflows

In this section, we study the implications of democratic regime change on capital inflows. Our sample contains a mix of developing and developed economies and spans 1975 to 2015 (ANRR to 2010 only). We employ a heterogeneous treatment Difference-in-Difference method developed by Chan and Kwok (2022), which enables us to model democratic regime change as an endogenous treatment and address concerns over non-parallel pre-treatment trends in a flexible way.

3.1 Data, Methodology and Presentation

Data and Transformations We focus on two indicators for democratic regime change which combine elements of electoral democracy and aspects related to the rule of law and executive constraints: first, we adopt the binary indicator of democratic regime change from Acemoglu et al. (2019, ANRR, ending in 2010). This represents a union, or sorts, of a positive Polity IV polity2 index and a Freedom House index (FHI) coded as 'free' or 'partially free' to "purge spurious changes in each" (50) — panel (b) of Appendix Figure A-1 provides a visualisation of the institutions covered by these indices. ANRR further build on the practice of Papaioannou and Siourounis (2008) and consider each case of democratisation in their data against the historical narrative. Finally, in contrast to the practice in much of the earlier work, they do not retrospectively re-code short episodes of democracy. Second, we take the V-Dem definition of 'liberal democracy' combining the principle of electoral democracy (polyarchy, following the work by Dahl, 1971) with executive constraints and the rule of law (summarised as the 'liberal component' in the V-Dem data, Coppedge et al., 2021) — the latter two institutions are seen as the "truly distinctive" feature of liberal democracy (Mukand and Rodrik, 2020, 765). This measure for liberal democracy[16] is an index between 0 and 1, we adopt the cross-country mean for this index as our cut-off for democracy.[17] In additional analysis, enabled by the hierarchical structure of the V-Dem indices (see panel (a) of Appendix Figure A-1 for a visualisation), we ask whether results differ according to the two building blocks of liberal democracy, adopting the sample mean of the polyarchy index and the liberal component as respective thresholds/cutoffs. This distinction is of interest as political scientists have favoured electoral democracy as the minimal definition whereas economists have typically highlighted the institutional qualities of property rights and executive constraints (see Glaeser et al., 2004; Rodrik et al., 2004, for an earlier debate on whether 'institutions rule').

We study two measures of capital inflows from the IMF Financial Flow Analysis (FFA) database: (1) total capital inflows, excluding the official sector,[18] and (2) FDI inflows.[19] These

[16] The similarity in names is unfortunate, but it is important to stress that we do *not* employ the Lührmann et al. (2018) ROW 'liberal democracy' definition.

[17] In robustness checks, we adopt the mean plus $1/4$ or $1/2$ standard deviation of the respective V-Dem index.

[18] Total Non-Official Capital Inflows, defined as `icapfl - iothfg`: Total inflows less other inflows to official sector. Total inflows are made up of `ifdi + ipf + idrvtv + iothf`: FDI inflows, portfolio inflows, derivative inflows and other inflows. The resulting flow is expressed in percent of GDP (`icapflp_gdp`).

[19] FDI inflows, expressed in percent of GDP (`ifdi_gdp`).

measures are expressed in percent of GDP although we also employ per capita series in robustness checks. We adopt *gross* capital inflows:[20] net capital flow dynamics may be driven by inflows or outflows and the factors driving these may be different (Rothenberg and Warnock, 2011; Byrne and Fiess, 2016), an insight which came to prominent attention in the Global Financial Crisis when gross inflows increased dramatically while net flows remained 'subdued' (Kaminsky, 2019; see also Forbes and Warnock, 2012 and Broner et al., 2013).[21] Appendix Figure A-2 charts the median evolution of capital inflows over the past 40 years.

In robustness checks, we include additional controls for export/trade (constructed from IMF DOTS) as well as population growth and per capita GDP growth (from the updated 'Maddison' database, Bolt and van Zanden, 2020).

Sample Studying the details of the sample makeup in Appendix Table A-1 it is very clear that our analysis here primarily *excludes* advanced economies: 33 High-income economies were always democracies (Liberal Democracy definition), only nine experienced democratic regime change (out of a treated sample of 51 countries) and only six are in the control sample (out of a control sample of 58 countries).[22]

Principal Component DID We estimate country regressions for treated countries only but augment each country-regression with common factors estimated from the residuals of the same regression model *in the control sample* via Principal Component Analysis (following Chan and Kwok, 2022).[23] The basic intuition of this approach is that the unobserved time-varying heterogeneity driving outcomes (capital flows) and determinants (democratic regime change, controls) in the treated sample of countries (which did democratize at one point) can be proxied by information collected in the control sample (countries which never democratized). If we ignored unobserved time-varying heterogeneity in our treatment regression, then it would suffer from omitted variable bias. Using estimated 'placeholders' for this heterogeneity, we can (under reasonable and testable assumptions) identify a causal treatment effect. Consider a standard fixed effects regression: adding country fixed effects solves the problem that time-invariant heterogeneity could be correlated with the dependent and independent variables, hence biasing any estimates for the latter. The PCDID is part of a suite of empirical estimators exploiting 'interactive fixed effects'

[20] Appendix Figure B-7 illustrates the results (by geography and alternative deep determinants) using net capital flows. While the patterns are similar to those in the analysis of gross flows, virtually none of the ATET estimates are statistically significant and the vast majority of specifications fail the weak parallel trend test — see Appendix Tables B-7 and B-8.

[21] The FFA series start in 1970, however, we do not use the first five years of data: our empirical setup would imply that a mere 1 or 2 control group countries were available for 1970-74 and as a result, virtually all 'weak parallel trend' Alpha tests (see below) reject.

[22] The nine treated countries are Croatia, Hungary, Uruguay, Panama, South Korea, Poland, Chile, Spain, and Portugal. The six control countries are Hong Kong, Kuwait, Oman, Saudi Arabia, Singapore, and the Seychelles.

[23] This dimensionality-reducing approach is very popular in the forecasting literature (Stock and Watson, 2002) but has also been employed to proxy productivity in cross-country analysis (e.g. Eberhardt et al., 2013; Eberhardt and Presbitero, 2015; De Visscher et al., 2020).

(Bai, 2009; Gobillon and Magnac, 2016; Xu, 2017; Brown et al., 2023): adding estimated common factors in the treatment regression and allowing each factor to have a country-specific coefficient solves the problem that treatment could be endogenous *and* that treated and control countries may be on different 'trajectories' before the treatment already (non-parallel trends). Like any DID estimator, there is some variant of a parallel trend assumption that needs to be satisfied: for the PCDID, the requirement is that the 'information' captured by the factors in the control sample is 'relevant' for the treated sample — the factor coefficients should on average be equal between treated and control samples, which we can investigate using the Chan and Kwok (2022) Alpha test. We discuss our empirical strategy in more formal terms in the following.

Using potential outcomes, the observed outcome of treatment D_{it} for panel unit i at time T_0 can be written as

$$y_{it} = D_{it}y_{it}(0) + (1 - D_{it})y_{it}(1) = \Delta_{it}\mathbf{1}_{\{i\in E\}}\mathbf{1}_{\{t>T_0\}} + y_{it}(0) \tag{1}$$

$$\text{with} \qquad y_{it}(0) = \varsigma_i + \beta_i' x_{it} + \mu_i' f_t + \widetilde{\epsilon}_{it}, \tag{2}$$

where the two indicator variables $\mathbf{1}_{\{\cdot\}}$ are for the treated panel unit and time period, respectively, Δ_{it} is the time-varying heterogeneous treatment effect, x is a vector of control variables with associated country-specific parameters β_i,[24] $\mu_i' f_t$ represents a set of unobserved common factors f_t (which can be nonstationary) with country-specific factor loadings μ_i, and $\widetilde{\epsilon}_{it}$ is the error term.

The treatment effect is assumed to decompose into $\Delta_{it} = \overline{\Delta}_i + \widetilde{\Delta}_{it}$, with $E(\widetilde{\Delta}_{it}|t > T_0) = 0$ $\forall i \in E$ since $\widetilde{\Delta}_{it}$ is the demeaned, time-varying idiosyncratic component of Δ_{it}; we refer to $\overline{\Delta}_i$ as ITET, the treatment effect of unit i averaged over the treatment period — this is our parameter of interest. The reduced-form model is

$$y_{it} = \overline{\Delta}_i \mathbf{1}_{\{i\in E\}}\mathbf{1}_{\{t>T_0\}} + \varsigma_i + \beta_i' x_{it} + \mu_i' f_t + \epsilon_{it}, \tag{3}$$

with $\epsilon_{it} = \widetilde{\epsilon}_{it} + \widetilde{\Delta}_{it}\mathbf{1}_{\{i\in E\}}\mathbf{1}_{\{t>T_0\}}$. Given the treatment effect decomposition ϵ_{it} has zero mean but may be heteroskedastic and/or weakly dependent.

The factor structure has a long tradition in the panel time series literature to capture strong cross-section dependence (Pesaran, 2006; Bai, 2009), a form of unobserved, time-varying heterogeneity. Strong correlation across panel members is distinct from weaker forms of dependence, such as spatial correlation, and if ignored can lead to serious (omitted variable) bias in the estimated coefficients on observable variables (Phillips and Sul, 2003; Andrews, 2005). Here, the combination of common factors and heterogeneous parameters also allows for potentially non-parallel trends across panel units, most importantly between treated and control units. The above setup can further accommodate endogeneity of treatment D_{it} in the form of *inter alia* correlation between treated units and factor loadings, the timing of treatment and factor loadings, or between

[24] We assume $\beta_i = \bar{\beta} + \tilde{\beta}_i$ with $E(\tilde{\beta}_i) = 0$ (Pesaran, 2006). x can be a function of f.

observed covariates and timing or units of treatment.

The estimation of the country-specific treatment effect (ITET) $\overline{\Delta}_i$ proceeds in two steps: first, using Principal Component Analysis (PCA), we estimate proxies of the unobserved common factors from data in the control group (details below); second, country-specific least squares regressions of treated countries are augmented with these factor proxies as additional covariates.

The main identifying assumptions are that all unobserved determinants of GDP per capita are captured by the factors, a standard assumption in the panel time series literature (Pesaran, 2006; Bai, 2009) and related causal panel models (Athey and Imbens, 2022). Since the factors are estimated with error, there is a potential correlation between the errors of treated and control countries, which will bias the treatment estimate. This bias can be removed if we require that $\sqrt{T}/N_c \to 0$, where T is the time series dimension and N_c is the number of control countries. It is further assumed that conditional on the estimated factors the control variables x are jointly insignificant predictors for the treatment — they do not constitute 'bad controls'.[25] Treated countries further have to satisfy the 'weak parallel trend' test, which we have described above as a way of confirming that the 'information' (the space spanned by the estimated factors) from the control sample on average has the same effect in treatment and control sample — see discussion in the paragraph on Diagnostic Testing below.

The estimation equation for each treated country $i \in E$ is then:

$$y_{it} = b_{0i} + \delta_i \text{Dem}_{it} + a_i' \hat{f}_t + b_{1i}' x_{it} + u_{it}, \tag{4}$$

where $\hat{f}$ are the estimated factors obtained by PCA on the residuals $\hat{e}$ from the heterogeneous regression of $y_{it} = b_{0i} + b_{1i}' x_{it} + e_{it}$ in the control group sample, and δ_i is the country-specific parameter of interest for the democratic regime change dummy Dem_{it}. y is the capital flow measure and x are additional controls we include in robustness checks (export/trade, population growth, per capita GDP growth). We estimate (4) augmented with two to six common factors, given that determining the 'relevant' number of factors is fraught with difficulty and ambivalence. The average treatment effect (ATET, $\hat{\delta}^{MG}$) is simply the average of the country estimates $\hat{\delta}_i$. We follow the practice in the literature and use the robust mean group estimate (Hamilton, 1992) with the associated standard errors based on $\Sigma^{MG} = (N-1)^{-1} \sum_i (\hat{\delta}_i - \hat{\delta}^{MG})$ (Pesaran, 2006).

All of the above is laid out for a sample of N countries. In our analysis we will estimate separate models by deep determinant of development. We do not deny that geography or culture or legal origin may have an effect on the propensity of countries becoming a democracy, but adopting high barriers on our definition of democratic regime change (following Acemoglu et al. (2019) and the V-Dem definition of liberal democracy) in each treatment sample of, say, 'good' and 'poor' geography, we in effect hold the correlation between the deep determinant and democratic regime

[25] We carry out Wald tests for this assumption — see discussion in the following paragraph and Appendix Tables B-1 and B-3.

change constant across samples. This allows us to study the effect of geography on the implications of democratic regime change in isolation between countries with 'good' and 'poor' geography and equivalent distinctions for alternative deep determinants.

Diagnostic testing The validity of standard pooled Difference-in-Difference estimators crucially relies on the parallel trend assumption: treatment and control samples cannot be on different trajectories prior to the treatment. In the context of the PCDID, we can allow for non-parallel trends between treated and control samples by means of a common factor model with heterogeneous factor loadings, but we nevertheless need to confirm the assumption of 'weak parallel trends' via the Alpha test described in Chan and Kwok (2022): we conduct an auxiliary regression for the treated sample

$$y_{it} = \alpha_i + \beta_i \text{Dem}_{it} + \gamma_i \bar{\hat{e}}_t + b'_{1i} x_{it} + \epsilon_{it}, \tag{5}$$

where $\bar{\hat{e}}_t$ is the cross-section average of the residual of the control sample regression $y_{it} = b_{0i} + b'_{1i} x_{it} + e_{it}$ from which we extract the common factors in the PCDID. The null hypothesis of the Alpha test is that treatment and control samples are driven by the same set of common factors and rejection of the null suggests the PCDID model is misspecified. This setup could be explained as suggesting that the 'information' we capture in the factors from the control sample is the same as that in the treated sample, even if countries in treatment and control samples can 'react' differentially (via heterogeneous factor loadings) to this information. The test is in the form of a t-test for the cross-country average coefficient of γ_i in equation (5) being equal to 1, implemented via the Pesaran and Smith (1995) Mean Group estimator and associated variance estimator (Pesaran, 2006).

A second concern arises if we add controls to the regression model, since these may be 'bad controls' in the sense of Angrist and Pischke (2008, 64): "Bad controls are variables that are themselves outcome variables in the notional experiment at hand." In the present case, we assume that conditional on the estimated factors in equation (4) there is no correlation between the treatment variable Dem_{it} and the control variables x. We test this assumption by regressing the democracy dummy on estimated factors and controls in the treated sample and carrying out a Wald test for the joint insignificance of the controls. If the null is rejected we need to conclude that the controls may constitute 'bad controls'. Implementation is again via the Mean Group estimator.

Presentation of results The common practice in the treatment effects literature is to report the ATET, $\hat{\delta}^{MG}$. Given the uncertainty over how many estimated factors to include (from Moon and Weidner, 2015, we know that including too many has only minimal effect on consistent estimation in OLS models like ours), the number of democracy indicators and proxies for deep determinants, and alternative specifications with additional controls the reporting of our findings will largely be confined to visual presentation. This enables us to highlight the broad patterns in the unequal

effects of democracy on capital flows, while important diagnostic test results will be reported in an Appendix and described in broad terms in our discussion of the results.

3.2 Results

Ignoring Deep Determinants Before we investigate the uneven effect of geography we estimate the full sample PCDID average treatment effects on the treated (ATET) of democratic regime change on capital inflows (total, FDI) to offer a benchmark for later analysis. Depending on the definition of the democracy dummy the treated samples amount to between 51 and 69 countries, with control samples ranging from 31 to 58 countries.

Table 4 presents the results with different panels referring to the specifications with no controls, export/trade as control and, additionally, population growth and per capita GDP growth as controls. Our diagnostic tests indicate that the assumption of weak parallel trends is typically confirmed, with the notable exceptions of LibDem in model (2) of Panel A and Poly in model (3) of all three panels. Export/trade (Panel B) is not a 'bad control', while the more elaborate set of controls in Panel C does not pass this test — a pattern that will repeat itself throughout our analysis below. Focusing on the model specifications augmented with four estimated factors and without controls, the magnitude of regime change effects is fairly similar across democracy indicators (with the exception of ANRR; recall that this covers 5 fewer years of data), around 1.7% and 0.8% higher total inflows and FDI inflows, respectively. Including export/trade as additional controls drives these results in opposite directions, to around 1.5% and 1.2%, while the more elaborate set of controls (rejected by the diagnostic tests) seems to bring these estimates even closer together. Figure 3 visualises all ATETs (for all factor augmentations and definitions of democracy) for total capital inflows (left panel) and FDI inflows (right panel).

We thus find ample evidence for statistically significant and economically sizeable effects of democratic regime change, on the order of 1% to 1.7% (ignoring the ANRR results) compared with the mean total capital inflows over GDP of around 3% in treated countries prior to regime change (i.e. averages for democratisers during years in autocracy). For FDI/GDP the effects, although smaller in absolute terms, are *proportionally* more substantial, around 0.8% to 1.3% compared with a pre-regime change mean of 1.4%.

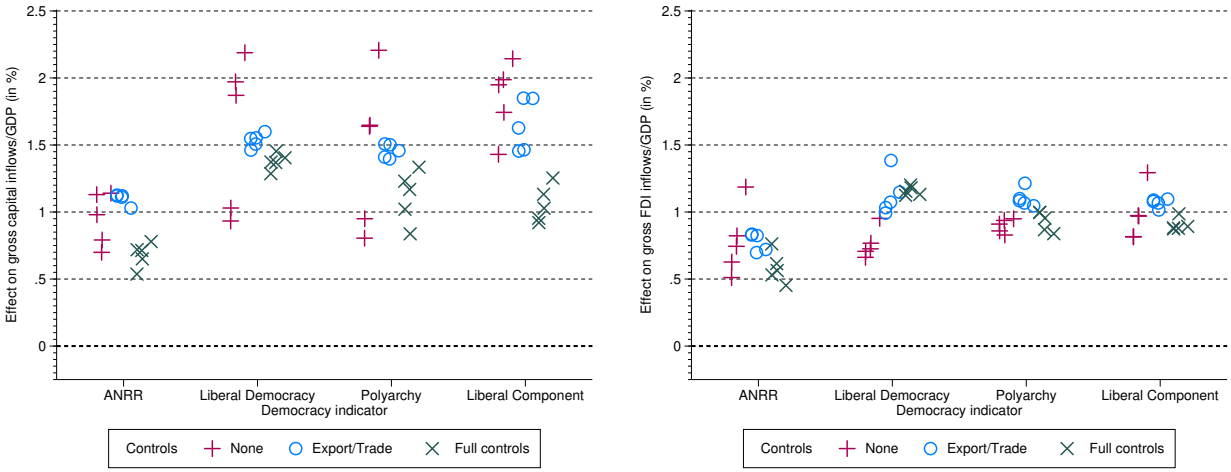
Main Results We present our results for total non-official capital inflows in Table 5 — these are the results distinguished by geography and without any additional control variables. Results distinguished by alternative deep determinants are presented in Table 6. Treated samples typically cover 25 to 35 countries, control samples are generally more modest in size. Length of treatment in countries with favourable geography at around 19 years typically exceeds to of the challenging geography sample by 2 to 3 years — a non-trivial difference, but in no way substantial enough

Table 4: Democratic Regime Change and Capital Inflows (1975-2015)

	Total Capital Inflows				FDI Inflows			
	(1) ANRR	(2) LibDem	(3) Poly	(4) Liberal	(5) ANRR	(6) LibDem	(7) Poly	(8) Liberal
Panel A: No control variables								
Democratic Regime Change	0.773** [0.388]	1.852*** [0.498]	1.629*** [0.465]	1.725*** [0.534]	0.804*** [0.178]	0.749*** [0.245]	0.810*** [0.267]	0.951*** [0.243]
Alpha test (t)	-0.92	-2.08	-3.65	0.71	0.23	0.31	0.28	0.91
Alternative factor augmentation								
2 factors	1.147***	2.195***	2.213***	2.150***	1.193***	0.959***	0.956***	1.300***
3 factors	0.707*	1.979***	1.647***	1.995***	0.752***	0.733***	0.945***	0.981***
4 factors	0.773**	1.852***	1.629***	1.725***	0.804***	0.749***	0.810***	0.951***
5 factors	0.989**	1.039***	0.959**	1.958***	0.636***	0.716***	0.868***	0.824***
6 factors	1.127**	0.930**	0.802*	1.427***	0.508***	0.659***	0.907***	0.813***
Panel B: Export/Trade as control variable								
Democratic Regime Change	1.102*** [0.374]	1.535*** [0.409]	1.483*** [0.431]	1.446*** [0.530]	0.806*** [0.196]	1.366*** [0.324]	1.196*** [0.232]	0.997*** [0.262]
Alpha Test (t)	-0.53	-0.48	-2.27	1.33	0.25	1.21	0.65	1.73
χ^2 Test (p)	0.36	0.30	0.24	0.80	0.78	0.28	0.30	0.73
Alternative factor augmentation								
2 factors	1.036***	1.606***	1.464***	1.854***	0.727***	1.154***	1.053***	1.103***
3 factors	1.118***	1.515***	1.404***	1.857***	0.705***	1.081***	1.075***	1.075***
4 factors	1.102***	1.535***	1.483***	1.446***	0.806***	1.366***	1.196***	0.997***
5 factors	1.135***	1.471***	1.517***	1.464***	0.844***	1.042***	1.109***	1.098***
6 factors	1.117***	1.545***	1.407***	1.624***	0.826***	0.989***	1.081***	1.076***
Panel C: Export/Trade, population growth, GDP pc growth as control variables								
Democratic Regime Change	0.632* [0.372]	1.435*** [0.483]	0.819* [0.446]	1.011** [0.447]	0.545*** [0.190]	1.162*** [0.335]	0.936*** [0.289]	0.968*** [0.286]
Alpha Test (t)	-0.48	-1.05	-2.84	0.63	0.86	0.29	-0.34	1.07
χ^2 Test (p)	0.00	0.10	0.01	0.00	0.03	0.07	0.00	0.00
Alternative factor augmentation								
2 factors	0.786**	1.411***	1.341***	1.262***	0.459**	1.138***	0.845***	0.899***
3 factors	0.721*	1.377***	1.176***	1.144**	0.623***	1.209***	0.876***	0.886***
4 factors	0.632*	1.435***	0.819*	1.011**	0.545***	1.162***	0.936***	0.968***
5 factors	0.728**	1.382***	1.030**	0.934**	0.540***	1.164***	1.005***	0.883***
6 factors	0.534	1.283**	1.227**	0.945**	0.759***	1.121***	0.995***	0.879***
Treated Countries	69	51	59	57	69	51	59	57
Treated Observations	2087	1830	2120	2077	2072	1830	2120	2071
Control Countries	31	58	49	45	31	58	49	45
Control Observations	825	1800	1492	1336	819	1779	1471	1321

Notes: We present robust mean estimates from PCDID regressions of total non-official capital inflows and FDI inflows and a democracy dummy defined as indicated in each column — these estimates can be interpreted as Average Treatment Effects on the Treated (ATET). The main results and standard errors in square brackets (estimated non-parametrically following Pesaran, 2006) are for the specification augmented with *four* common factors. In a lower part of each panel, we report the ATET estimates for specification with two to six factors. The middle section of each panel provides details of the Alpha test for weak parallel trends (t-ratio reported) and a χ^2 test for the control variables (p-value reported) — in both cases sound diagnostics imply we would not want to reject the null. Sample details are reported in the bottom rows of the table. We use *, **, and *** to indicate statistical significance at the 10%, 5% and 1% level.

Figure 3: Democracy and Capital Inflows



Notes: The plots present robust ATET (Mean Group PCDID) estimates for the causal effect of democracy on capital inflows, using four different definitions of democratic regime change. Each result 'cloud' (markers are randomly perturbed to aid visualisation) features PCDID augmentations with 2 to 6 estimated factors. For each democracy definition, we present results for a specification without any controls (+), with export/trade (o), and with all controls (x). The plots ignore statistical significance or weak parallel trend tests — see Table 4.

to account for the patterns we report below. Sample makeup aside, the tables report Alpha test results for which a t-statistic in excess of 1.96 indicates the weak parallel trend assumption is violated, suggesting that the PCDID model may be misspecified.[26]

There are a very large number of estimates (240 and 160 in Tables 5 and 6, respectively), and we use a visual representation of the results in Figures 4 and 5 to highlight the general patterns. In each figure, the plots on the left are for total capital inflows and those on the right are for FDI inflows (discussed in a separate section below). Each plot is organised by the definition of democracy (x-axis) and markers signifying 'good' versus 'poor' natural environment (pink + and blue o), or Other (Non-French) Legal Origin/Cultural Similarity versus French Legal Origin/Cultural Heterogeneity (blue x and orange △). Each marker indicates the effect of democratic regime change on capital inflows; each result 'cloud' is made up of 30 estimates (20 in Figure 5), since we have five alternative PCDID augmentations with estimated factors and six (four) proxies for geography (other deep determinants). These plots ignore the statistical significance of the ATET estimates and further do not indicate whether individual PCDID models satisfy the weak parallel trends test — we comment on these in broad brushes below and refer to more detailed results in Appendix Tables B-1 and B-2.

Panel (a) of Figure 4 is for the PCDID implementation without any additional control variables, we focus on the models for total capital inflows in the left plot. In broad brushes,

[26] In Appendix Table B-9 we report results for four more proxies related to geography: being landlocked, high UV radiation exposure, limited frost days and low suitability for agriculture – with the exception of the latter, the same patterns as discussed below prevail.

most of the estimates for 'good' geography are statistically significant at the 10% level, for 'poor' geography only around two-thirds are; and with the exception of the polyarchy models all satisfy the weak parallel trend assumption and can be regarded as causal. These causal effects of democracy on total capital inflows show distinct patterns which are visually striking: democratising countries (adopting ANRR and Liberal Democracy definitions) with 'good' geography experience a 2-4% increase in capital inflows, whereas those with 'poor' geography see much more moderate effects, a 0-2% increase, if that. The sample mean of total capital inflows over GDP for the respective treated sample prior to democratic regime change (i.e. all years in autocracy) is between 2.5% and 3.3%, which indicates that our average treatment effects are economically large.

Table 5: Democracy, Geography and Total Non-Official Capital Inflows (1975-2015)

	Disease Environment						**Climate**					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Malaria Ecology		**Malaria Risk**		**Hist. Disease Index**		**Tropical Land**		**No Temperate Land**		**|Latitude| > MD**	
	Low	High	Low	High	Low	High	None	Some	No	Yes	Yes	No
ANRR democracy	2.694***	0.768*	3.551***	0.558	2.405***	0.734*	2.440**	0.760**	1.761**	0.856**	2.894***	0.866**
	[0.883]	[0.416]	[1.076]	[0.381]	[0.876]	[0.412]	[1.095]	[0.378]	[0.867]	[0.371]	[0.956]	[0.435]
Treated Countries	22	47	23	46	26	43	23	46	21	44	23	46
Treated Observations	617	1470	626	1461	763	1324	637	1450	616	1368	650	1437
Control Countries	13	17	10	21	11	20	17	14	9	18	16	15
Control Observations	342	448	265	560	267	558	451	374	252	491	416	409
Alpha test (t)	-1.23	-1.98	-2.56	-0.56	-1.25	-0.84	-0.70	-1.00	-1.07	-5.55	-0.35	-4.63
Alternative factor augmentation												
2 factors	2.219**	0.572	2.826***	0.291	3.084***	0.342	2.476***	0.695*	3.090***	0.636*	2.126***	0.599
3 factors	2.737***	0.874**	3.054***	0.383	3.121***	0.685*	2.684**	0.782**	2.545**	0.637*	2.278**	0.784*
4 factors	2.694***	0.768*	3.551***	0.558	2.405***	0.734*	2.440**	0.760**	1.761**	0.856**	2.894***	0.866**
5 factors	2.330**	0.836*	3.315***	0.612	2.309***	0.781**	2.392**	0.665*	0.959	0.991**	2.411***	0.864*
6 factors	2.970***	0.247	2.870***	0.281	2.293***	0.871**	2.306***	0.452	0.109	0.730**	2.306***	0.645*
Liberal Democracy Index > median	2.605***	1.014*	3.588***	-0.049	2.608***	1.048**	2.224***	0.985	2.035***	1.222***	2.377***	1.375**
	[0.845]	[0.592]	[0.785]	[0.484]	[0.847]	[0.477]	[0.858]	[0.599]	[0.779]	[0.452]	[0.858]	[0.595]
Treated Countries	24	27	23	28	22	29	22	29	22	26	22	29
Treated Observations	801	1029	760	1070	709	1121	718	1112	745	996	716	1114
Control Countries	17	40	16	42	18	40	22	36	11	40	20	38
Control Observations	498	1262	440	1360	551	1249	630	1170	321	1288	588	1212
Alpha test (t)	-0.13	-1.74	-6.72	0.10	0.63	-1.90	-4.53	0.02	-0.91	0.10	0.48	-2.48
Alternative factor augmentation												
2 factors	1.868***	1.618***	3.946***	0.292	2.929***	1.745***	3.228***	0.324	1.712***	1.204**	1.928***	1.862***
3 factors	2.634***	1.357**	3.773***	0.757	2.627***	1.592***	2.715***	0.953*	2.100***	1.299**	1.792***	1.703**
4 factors	2.605***	1.014*	3.588***	-0.049	2.608***	1.048**	2.224***	0.985	2.035***	1.222***	2.377***	1.375**
5 factors	2.559***	0.940**	3.739***	0.019	2.391***	1.032**	2.275**	0.557	1.942**	1.166***	2.483***	0.827
6 factors	2.812***	0.661	3.879***	-0.054	1.599***	1.027**	2.264**	0.385	1.731**	1.037**	2.409***	0.760

(continued overleaf)

Table 5: Democracy, Geography and Total Non-Official Capital Inflows (continued)

	Disease Environment						Climate					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Malaria Ecology		Malaria Risk		Hist. Disease Index		Tropical Land		No Temperate Land		|Latitude| > MD	
	Low	High	Low	High	Low	High	None	Some	No	Yes	Yes	No
Polyarchy Index	1.509**	1.503***	2.696***	0.335	1.824*	1.059**	1.099	1.036**	1.105*	1.442***	0.761	1.370***
> median	[0.760]	[0.450]	[0.947]	[0.442]	[0.940]	[0.449]	[1.083]	[0.464]	[0.638]	[0.503]	[0.867]	[0.489]
Treated Countries	27	32	25	34	25	34	24	35	24	33	25	34
Treated Observations	896	1224	816	1304	831	1289	774	1346	796	1253	812	1308
Control Countries	13	35	13	36	14	35	19	30	9	33	16	33
Control Observations	385	1067	366	1126	411	1081	556	936	270	1031	474	1018
Alpha test (t)	-2.31	-2.82	-10.18	-0.29	-1.13	-2.94	-6.79	-0.45	-2.56	-0.70	-1.06	-3.81
Alternative factor augmentation												
2 factors	1.622**	2.239***	3.334***	0.887*	2.035**	2.189***	2.617**	0.820**	1.265**	2.186***	1.407**	2.388***
3 factors	1.530*	1.550***	3.314***	0.968**	1.986**	1.510***	1.492	0.939**	1.480***	1.951***	1.361*	1.334***
4 factors	1.509**	1.503***	2.696***	0.335	1.824*	1.059**	1.099	1.036**	1.105*	1.442***	0.761	1.370***
5 factors	1.376*	0.837*	2.000*	0.531	2.092**	0.856*	0.916	0.757*	0.952	1.408***	1.067	1.016**
6 factors	1.663**	0.756*	1.824	0.333	2.056**	0.528	0.582	0.605	0.843	1.525***	1.301*	0.781
Liberal Component Index	2.935***	0.725	3.385***	0.634	1.751**	1.063**	3.115***	0.634	3.465***	0.842**	3.277***	0.500
> median	[0.809]	[0.451]	[0.970]	[0.465]	[0.709]	[0.516]	[0.975]	[0.524]	[0.893]	[0.429]	[0.785]	[0.471]
Treated Countries	24	32	22	35	23	34	24	33	23	30	24	33
Treated Observations	828	1209	746	1331	775	1302	826	1251	804	1124	824	1253
Control Countries	14	31	13	32	15	30	17	28	8	33	16	29
Control Observations	393	943	358	978	447	889	466	870	204	1040	442	894
Alpha test (t)	-0.62	0.61	-1.14	0.78	1.54	0.19	-0.76	1.07	-1.46	0.29	0.10	0.37
Alternative factor augmentation												
2 factors	1.818***	1.273**	2.786***	1.063**	2.426***	1.459***	2.769***	0.953**	2.030***	1.408***	1.884***	1.298***
3 factors	1.546**	1.324***	2.884***	0.985*	2.369***	1.185***	2.244**	0.752*	1.646**	1.352***	1.650*	0.935**
4 factors	1.370**	1.463***	2.624***	0.803*	2.203**	0.992**	1.870**	0.852**	0.789	1.026***	0.748	1.079**
5 factors	1.354**	0.649	2.261***	0.538	2.220***	0.769*	1.786*	-0.236	0.720	1.061**	1.007	1.175**
6 factors	1.476**	0.716*	2.060**	0.122	1.915**	0.936*	1.277	0.052	0.167	1.094***	1.107	0.104

Notes: This table is for the analysis by geography. We present robust mean estimates from PCDID regressions of total non-official capital inflows and a democracy dummy defined as indicated in each result panel — these can be interpreted as Average Treatment Effects on the Treated (ATET). These results are for the model without any additional controls. The 12 different models in each panel are for sample splits determined by 'disease environment' and 'climate', in each case we use three proxies for these factors of geography, separating 'good' geography in the odd columns and 'poor' geography in the even columns. See Table 4 for all other details.

The distinction by alternative deep determinants (legal origin, culture) is presented in Figure 5, the left plot in panel (a) for the equivalent specification without controls studying total capital inflows: though the ANRR definition shows minor deviations, in broad terms these results are not evidently different, whether we study democratising countries with French or other legal origins, or whether we compare more individualistic and more collective societies as well as alternative proxies for cultural 'clustering'. Figure 6 panel (a) studies colonialism per se as well as extractive vs. non-extractive colonialism, the plot on the left is again for total capital inflows. Across all definitions of democracy these results indicate some notable differences, whereby the democratic dividend for countries which *never experienced colonialism* is higher than that for countries which were colonialised (although additional controls in the treatment equation in panels (b) and (c) to be discussed below significantly undermine these findings). Hence, our benchmark results for total capital inflows suggest that we see substantial differences in the effects of democratic regime change by geography but not by alternative deep determinants, at least as far as legal origin, culture and extractive colonialism are concerned.

Main Results for FDI inflows The right plot in panel (a) of Figure 4 visualises the ATET estimates for causal effects on FDI inflows in the format introduced above. The overwhelming majority of estimates are statistically significantly different from zero, and we have few specifications which reject the weak parallel trend assumption. Compared with the results for total capital inflows the differences in the patterns are somewhat less substantial but still marked: the ATET for countries with poor geography is typically below 1%, while in countries with good geography, the effect ranges from 0.25% to 2.5% (ANRR and Liberal Democracy definitions). Again, the economic effects of democratic regime change are substantial, given that the mean for FDI inflows over GDP is around 1.1-1.4%.

The right plot in panel (a) of Figure 5 presents the results by alternative deep determinants.[27] Being uniformly between 0% and 1.5% across all democracy indicators, these provide no leeway to argue that culture or legal origin results in heterogeneous effects of democratic regime change. Like for the gross capital flows the FDI results for colonialism in the right plot of 6, panel (a), indicate that countries which were never colonialised reap higher effects of democratic regime change.

Robustness We analysed this relationship using models which include additional controls. Results using only the export/trade ratio are presented in panel (b) of Figures 4, 5 and 6. Estimates for the distinction by geography are typically statistically significantly different from zero, pass the weak parallel trend test, and confirm uniformly that this additional covariate is not a 'bad control'. Similarly for the results by alternative deep determinants, although there is a more regular rejection of the tests ruling out bad controls. Results for total inflows and FDI, with the exception of the

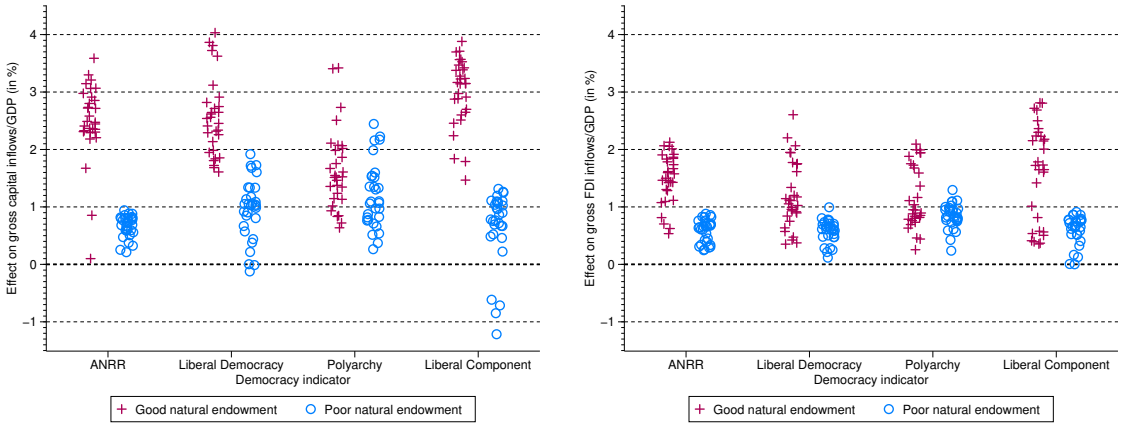
[27] Again, the vast majority of effects are statistically significantly different from zero and most models pass the weak parallel trend test.

Table 6: Alternative Deep Determinants (1975-2015)

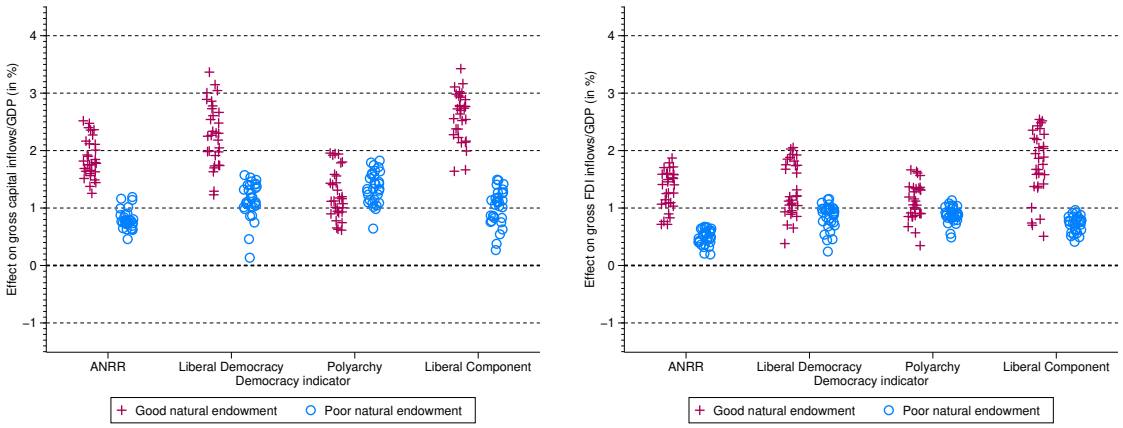
	Legal Origin		Culture					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	French LO		Cultural Distance		Common Language		Language Similarity	
	No	Yes	Low	High	High	Low	High	Low
ANRR democracy	0.396	0.918*	1.786*	0.825**	1.425	0.835*	1.955***	0.776*
	[0.678]	[0.512]	[1.019]	[0.416]	[0.908]	[0.497]	[0.756]	[0.468]
Treated Countries	23	46	24	42	31	38	30	39
Treated Observations	673	1414	722	1281	957	1130	912	1175
Control Countries	7	24	10	19	9	22	10	21
Control Observations	173	652	264	513	241	584	305	520
Alpha test (t)	-1.33	-2.22	-2.50	-3.66	-4.22	-2.67	0.26	-5.55
Alternative factor augmentation								
2 factors	1.167	1.262***	1.204	0.973**	2.155***	0.839	2.144***	1.068*
3 factors	0.588	0.999*	1.444*	0.948**	1.026	0.829*	1.616**	0.482
4 factors	0.396	0.918*	1.786*	0.825**	1.425	0.835*	1.955***	0.776*
5 factors	0.352	1.163**	1.574	0.953***	0.882	0.675	2.338***	0.755
6 factors	0.048	1.009*	0.755	0.097	0.818	0.319	2.185***	0.755*
Liberal Democracy	1.319*	2.300***	1.364	0.881	1.766**	1.886**	1.861***	1.930**
Index > median	[0.773]	[0.704]	[0.939]	[0.624]	[0.767]	[0.773]	[0.613]	[0.760]
Treated Countries	20	31	23	26	27	24	26	25
Treated Observations	653	1177	770	989	995	835	927	903
Control Countries	16	42	16	37	18	40	16	42
Control Observations	530	1270	495	1163	556	1244	544	1256
Alpha test (t)	-14.03	-0.45	-0.22	-1.29	-8.50	0.20	1.16	-5.94
Alternative factor augmentation								
2 factors	1.911*	1.892***	3.183***	0.567	1.988***	1.646**	1.625**	1.874**
3 factors	1.844*	2.058***	1.352**	0.826	2.033***	1.419**	1.532**	1.805**
4 factors	1.319*	2.300***	1.364	0.881	1.766**	1.886**	1.861***	1.930**
5 factors	0.827	1.597***	1.710*	0.645	1.638***	1.373**	2.066***	1.397**
6 factors	0.635	1.251**	1.240	0.557	0.976*	1.086*	1.586**	1.391*
Polyarchy	0.827	1.426***	1.664**	0.655	2.217***	1.160	1.099*	2.294***
Index > median	[1.079]	[0.552]	[0.679]	[0.500]	[0.729]	[0.750]	[0.583]	[0.842]
Treated Countries	22	37	26	31	31	28	31	28
Treated Observations	750	1370	883	1166	1124	996	1103	1017
Control Countries	13	36	12	32	14	35	10	39
Control Observations	415	1077	364	986	427	1065	350	1142
Alpha test (t)	-24.89	-0.88	-2.32	-2.75	-14.80	-0.13	0.20	-8.43
Alternative factor augmentation								
2 factors	2.700**	1.899***	3.071***	0.693	1.899***	1.550***	1.866***	2.491***
3 factors	1.389	1.858***	1.672***	0.824*	1.740***	1.143*	1.081**	2.262***
4 factors	0.827	1.426***	1.664**	0.655	2.217***	1.160	1.099*	2.294***
5 factors	1.028	0.388	1.348*	0.493	1.329**	0.955	0.920	1.603**
6 factors	2.024*	0.416	1.410*	0.375	1.208*	0.848	1.016**	1.548*
Liberal Component	1.189	2.256***	2.027**	1.285**	1.718***	2.023***	2.673***	1.409**
Index > median	[0.762]	[0.590]	[0.997]	[0.527]	[0.666]	[0.510]	[0.709]	[0.606]
Treated Countries	21	36	23	31	27	30	27	30
Treated Observations	703	1374	814	1152	1015	1062	982	1095
Control Countries	10	35	14	29	14	31	14	31
Control Observations	325	1011	413	880	415	921	467	869
Alpha test (t)	0.11	0.05	-0.09	-1.23	0.05	-0.27	1.92	-1.56
Alternative factor augmentation								
2 factors	1.975**	2.525***	3.620***	1.078**	2.582***	2.026***	2.509***	1.539***
3 factors	0.615	2.556***	2.576***	1.371***	2.691***	1.793***	3.083***	1.427**
4 factors	1.189	2.256***	2.027**	1.285**	1.718***	2.023***	2.673***	1.409**
5 factors	0.930	2.373***	1.185	0.998*	2.062***	1.840***	1.369***	1.494**
6 factors	1.200	2.052***	0.831	0.161	1.483*	0.951	0.993*	1.157**

Notes: This table presents the analysis by alternative deep determinants — French Legal Origin (LO) and three measures for cultural clusters. These results are for the model without any additional controls. See Table 4 for all other details.

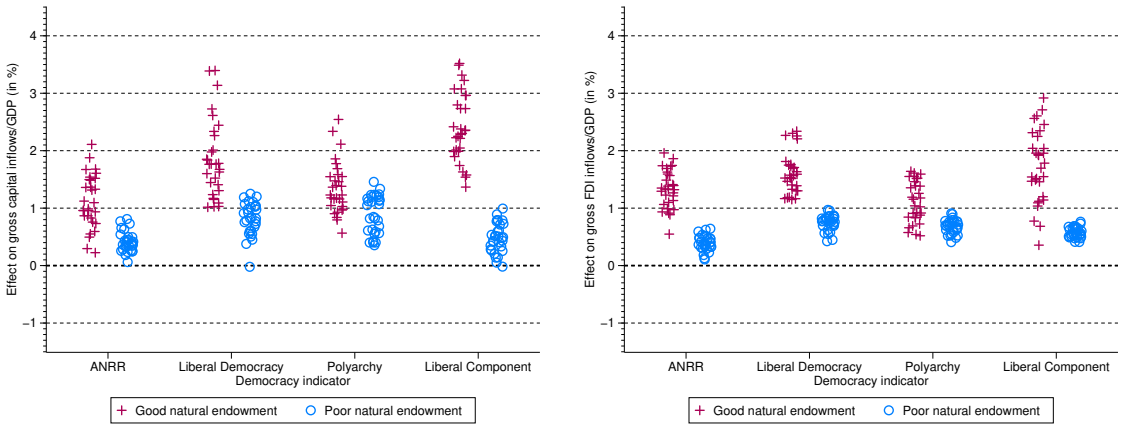
Figure 4: Democracy, Geography and Capital Inflows



(a) Total Non-Official Capital Inflows (left) and Total FDI Inflows (right) – no controls



(b) Dto – exports/trade as additional control (not a bad control)



(c) Dto – exports/trade, pop growth and GDPpc growth as controls (bad controls)

Notes: The plots present robust ATET (Mean Group PCDID) estimates for the causal effect of democracy on capital inflows by geography (+ and o for good and poor geography, respectively), using four different definitions of democratic regime change. Each result 'cloud' (markers are randomly perturbed to aid visualisation) features 30 estimates: six proxies of good/bad geography and PCDID augmentations with 2 to 6 estimated factors. The plots ignore statistical significance or weak parallel trend tests, although for the former 'good' ('poor') geography estimates are mostly (in)significant, while for the latter most specifications presented here pass this test (see Appendix Tables B-2 and B-1). Further tests (ibid) indicate exports/trade on its own is not a bad control, while the combination of exports/trade, population growth and GDP pc growth fails this test.

polyarchy definition of democracy, are uniformly larger for the 'good' than the 'poor' geography samples, perhaps markedly more so than in the specifications without a control variable. Once again, there are no discernible differences if we distinguish by legal origin or culture.

When we adopt a model with a more elaborate set of controls[28] the weak parallel trend tests are typically satisfied but tests for virtually all models suggest these are bad controls. This seriously undermines the validity of the results presented in Panel (c) of the respective figures, which are reported here for completeness. For what it's worth, the previously described strong patterns in the results are in evidence again here.

Some researchers in the capital flow surge/bonanza literature (see discussion in Caballero, 2016, footnote 10) maintain that the capital flow to GDP ratio is unsuitable for analysis given potentially differential dynamics/trends of the numerator and denominator, suggesting the use of capital flow *per capita* instead. For consistency with our analysis of vulnerability (surges and bonanzas) below we repeat the main and robustness analyses using this alternative definition of the dependent variable and present the findings in Appendix Figures B-1 and B-2. Alpha tests for these specifications frequently reject the weak parallel trend assumption while the analysis of bad controls follows the same patterns as above (see Appendix Table B-3).

Finally, we also re-ran the capital flow analysis employing data from the World Bank World Development Indicators to construct control variables, resulting in a substantial reduction in sample size (33% fewer observations in the treated sample, using the liberal democracy definition). Our findings in Appendix Figures B-3 and B-4 show qualitatively similar but weaker patterns to those described in our main results. Due to the smaller sample size the treatment and control samples frequently number only very few countries in the years up to the mid-1990s, with the result that the 'Alpha' test for weak parallel trends typically rejects in more than half the specifications whether we use no controls, only trade/GDP or the full set of controls. We present them in the Appendix for completeness alongside the diagnostic test results in Table B-5.

Building blocks of liberal democracy Our analysis adopts two data proxies (ANRR, LibDem) for a concept of liberal democracy which encompasses (a) polyarchy (electoral democracy), and (b) the rule of law combined with executive constraints. The nature of the V-Dem data enables us separate these two aspects, with the latter referred to as the 'liberal component'. Across all specifications presented in Figure 4 we can observe a very clear pattern whereby treatment effects of regime change are *very similar in magnitude* across the two samples of countries with 'good' and 'poor' geography when we consider polyarchy. In contrast, the treatment effects are *substantially larger* in good geography countries in the analysis of the liberal component: the differential effects of democratic regime change appear to be driven not by aspects related to clean elections, or freedom of speech but to executive constraints and the rule of law. Results in Figure 5, structured

[28] Exports/Trade, population growth and GDP per capita growth: we find no qualitative difference in the ATET results or the diagnostic tests if we try iterations of pairs of these control variables (results available on request).

by alternative deep determinants, provide no discernible differences by culture or legal origins.

Alternative Definitions of Democracy Our dichotomised regime change indicators for liberal democracy and its building blocks (polyarchy, liberal component) are constructed by using the full sample mean as the threshold. The congruence of patterns of results with those based on the Acemoglu et al. (2019) definition are an indication that we successfully capture a significant step in the institutional development of our sample countries. Nevertheless, the adopted threshold is arbitrary and to check the robustness of our findings we provide alternative versions where we take the mean plus $1/4$ or $1/2$ of the standard deviation, providing a 'tighter' definition of democracy. This substantially reduces the sample size of treated countries, particularly in the case of liberal democracy (reductions in the number of countries of 20% and 39%, respectively).[29]

Despite this caveat, results presented in Appendix Figures B-5 and B-6 for geography and alternative deep determinants are qualitatively very similar to those we present above using the mean index cut-off.

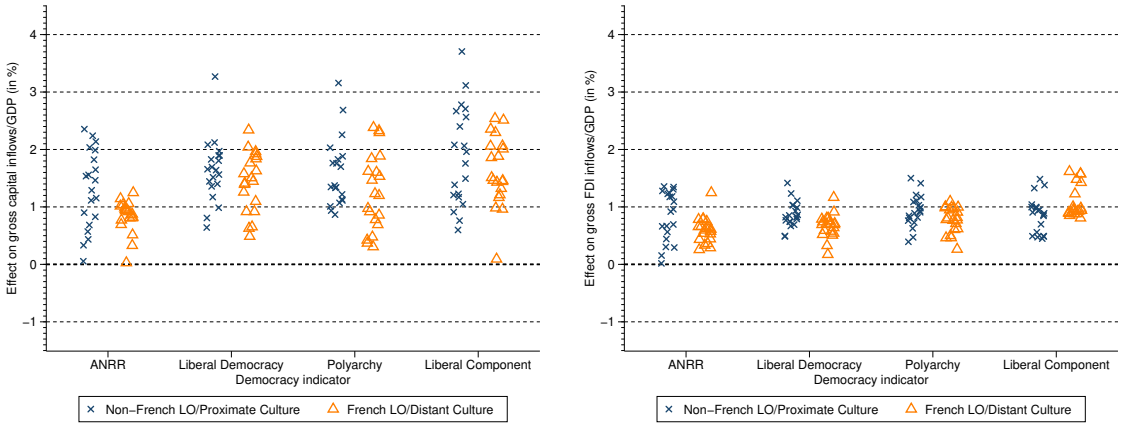
Democracy, Capital Inflows and the Unequal Effect of Geography This part of our empirical analysis focusing on the (positive) boost to capital inflows a democratic regime change can provide suggests that the economically and statistically significant effects we found in the full sample (ignoring deep determinants) are largely driven by countries with 'good' geography. Depending on the specification and the measure of capital flows adopted (gross total or FDI inflows), the benefits for countries with favourable geography can outweigh those for those with unfavourable environment by a factor of two-to-one or even three-to-one. This result is robust across a range of specifications and, importantly, we do not see similarly stark patterns (or even any differential patterns) when considering alternative deep determinants related to culture or legal origin. We now consider the effect of democracy and geography on excessive capital inflows (capital flow bonanzas and surges), which are known banking crisis triggers and hence contribute to financial vulnerability.

4 Democracy and Excessive Capital Inflows

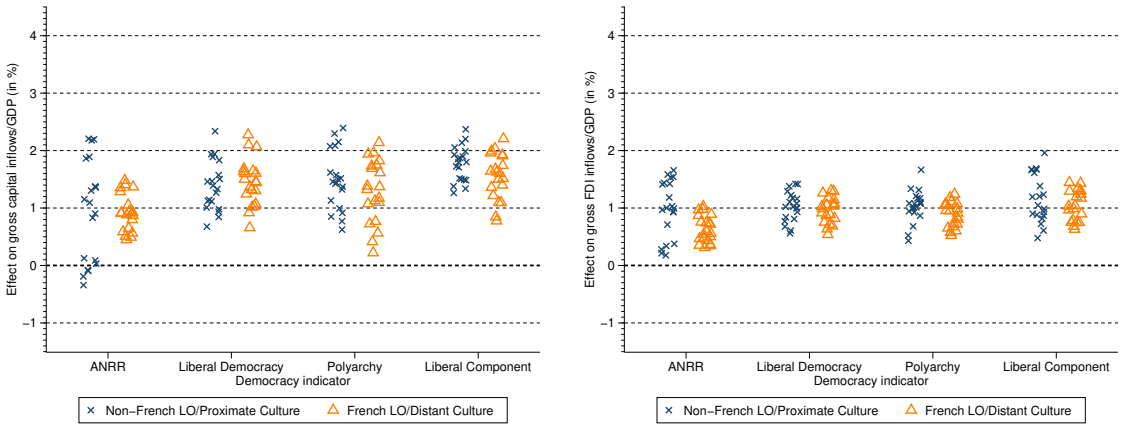
In this section we study excessive capital inflows and the potential role played by democratic regime change in country experience of these phenomena. We adopt a range of quantitative definitions for excessive capital flows such as capital inflow 'bonanzas' (Reinhart and Reinhart, 2009; Reinhart and Rogoff, 2013) and 'surges' (Ghosh et al., 2014), which have been linked to financial vulnerability in advanced and middle-income countries (Kaminsky and Reinhart, 1999;

[29] Using Liberal Democracy (index cut-offs 0.41 for the mean, 0.48 for mean$+1/4$SD, and 0.55 for mean$+1/2$SD) sample size drops from 51 (22 and 29 'good' and 'poor' geography countries, respectively) to 41 (20 and 21) and 31 (16 and 15); for Polyarchy (0.51, 0.58 and 0.65) from 59 (25, 34) to 49 (22 and 27) and 38 (19 and 19); for the Liberal Component (0.61, 0.68 and 0.75) from 57 (24, 33) to 48 (21 and 27) and 44 (21 and 23).

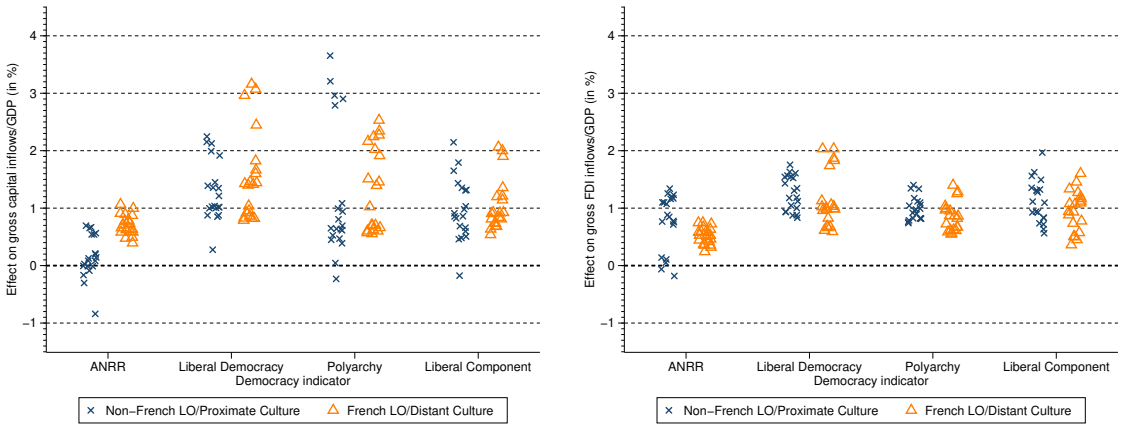
Figure 5: Democracy, Culture/Legal Origin and Capital Inflows



(a) Total Non-Official Capital Inflows (left) and Total FDI Inflows (right) – no controls



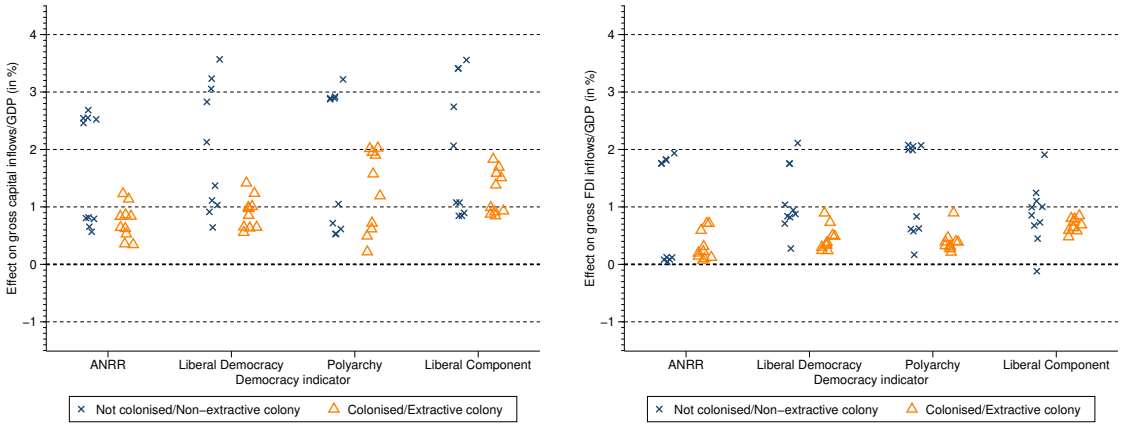
(b) Dto – exports/trade as additional control (not a bad control)



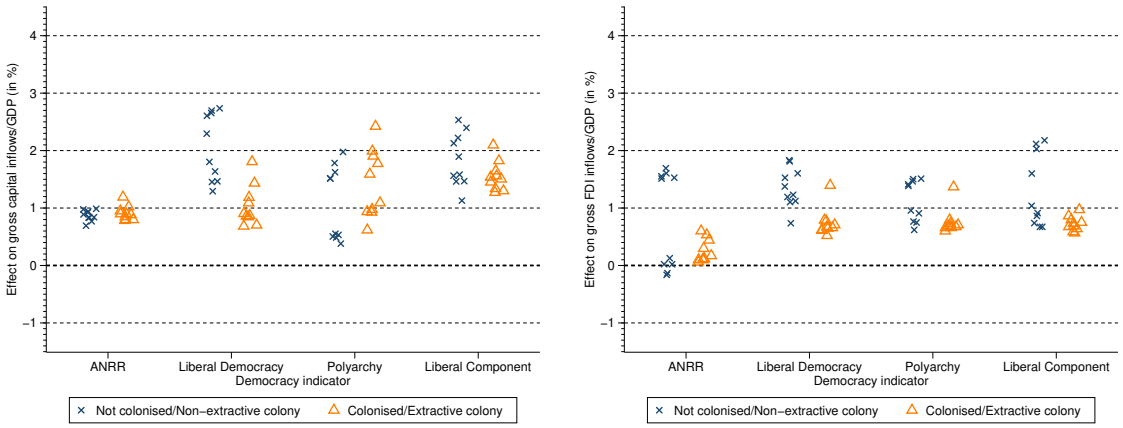
(c) Dto – exports/trade, pop growth and GDPpc growth as controls (bad controls)

Notes: The plots present robust ATET (Mean Group PCDID) estimates for the causal effect of democracy on capital inflows by Legal Origin and Culture (x for non-French LO/proximate culture and △ for French LO/distant culture), using four different definitions of democratic regime change. See Figure 4 for additional details. These plots ignore statistical significance (see Appendix Table Y and Figure X) or weak parallel trend tests (see Appendix Table XX): for the former, estimates are overwhelmingly statistically significant, with the exception of those in Panel (c) for total capital flows; for the latter, most specifications presented here pass this test, exceptions are some of the total capital flow models across all three specifications. Further tests (Appendix Table XX) indicate exports/trade on its own – panel (b) – is not a bad control, while the more elaborate set of controls – panel (c) – overwhelmingly fails this test.

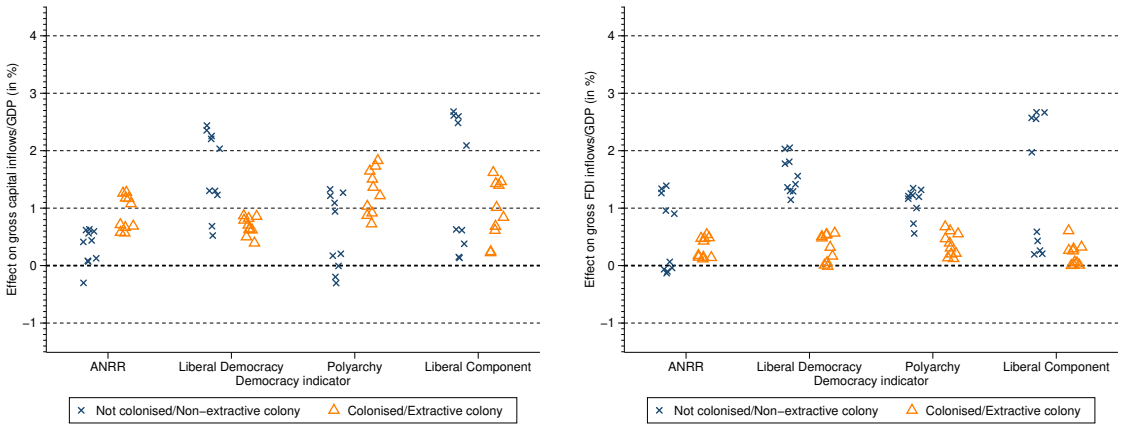
Figure 6: Democracy, Colonialism and Capital Inflows



(a) Total Non-Official Capital Inflows (left) and Total FDI Inflows (right) – no controls



(b) Dto – exports/trade as additional control (not a bad control)



(c) Dto – exports/trade, pop growth and GDPpc growth as controls (bad controls)

Notes: The plots present robust ATET (Mean Group PCDID) estimates for the causal effect of democracy on capital inflows by Colonial History (x for no colonial history or non-extractive colonialism and △ for colonial history or extractive colonialism), using four different definitions of democratic regime change. See Figure 4 for additional details. These plots ignore statistical significance (see Appendix Table Y and Figure X) or weak parallel trend tests (see Appendix Table XX): for the former, estimates are overwhelmingly statistically significant, with the exception of those in Panel (c) for total capital flows; for the latter, most specifications presented here pass this test, exceptions are some of the total capital flow models across all three specifications. Further tests (Appendix Table XX) indicate exports/trade on its own – panel (b) – is not a bad control, while the more elaborate set of controls – panel (c) – overwhelmingly fails this test.

Lopez-Mejia, 1999; Caballero, 2016), though they appear less relevant in the low-income country context (Caprio and Klingebiel, 1996; Eberhardt and Presbitero, 2021).

4.1 Data, Methodology and Presentation

Data, Sources and Transformations We collate a small set of primary domestic determinants of excessive capital inflows on the basis of the existing literature. We investigate current account deterioration, international reserves accumulation, real exchange rate appreciation, and drops in CPI (deflation). All these variables are taken from the World Bank WDI. The dependent variables in our Early Warning System (EWS) analysis are various indicator variables for bonanzas and/or surges, where 1 indicates the start year of a bonanza or surge and 0 is for all years without such an event. Indicators are constructed for gross non-official capital inflows and FDI inflows — more details are provided in the next paragraph.

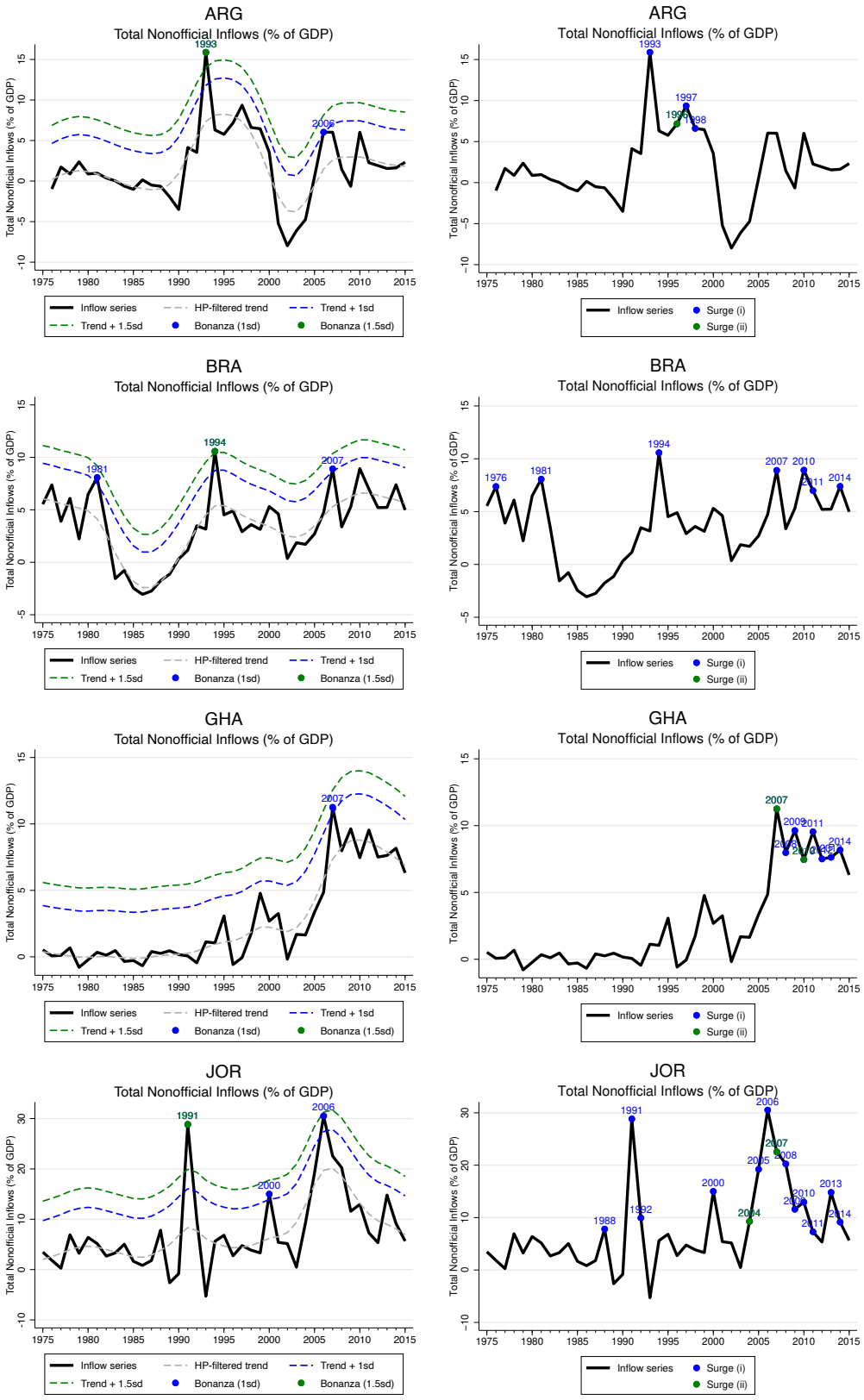
All variables are expressed as changes, growth rates or ratios: these are less likely to be characterized by stochastic trends, and are winsorized at the top and bottom 1% of observations, to minimize the role of outliers. One important aspect of our EWS is to attempt to capture the cumulative build-up of crisis 'triggers' over time, so seminal papers in the study of banking crises (Jordà et al., 2011; Schularick and Taylor, 2012; Jordà et al., 2016) adopt generous lag structures or transform variables into moving averages. Due to the limited time series dimension of our panel we follow the latter strategy and use an MA(3) transformation for all independent variables.[30] Our empirical analysis faces similar difficulties as our earlier regressions with limited control sample coverage in the early years of the dataset. We therefore adopt 1980 as the start year for the analysis.

Bonanzas and Surges – Definitions Bonanzas are defined as large deviations from the HP-filtered trend of capital inflows, where following Caballero (2016) we adopt a 1 SD-threshold — using 2 SD would limit the total number of bonanzas to two dozen which is infeasible in terms of empirical analysis. Surges at time t are exceptional levels of capital inflows in the top 30th percentile of both the country-specific and the full sample distribution (this definition follows Ghosh et al., 2014). As these definitions already indicate, bonanzas will be rarer than surges. We use the gross non-official capital inflow series from the IMF FFA to construct 'excessive capital inflow' indicators, studying two variants: one version where the flow is deflated by GDP, another where it is expressed in per capita terms (see Caballero, 2016).

Figure 7 illustrates how the bonanza and surge indicators work and the patterns they create (adopting total capital inflows): the plots for the bonanza indicators in the left column of the Figure ignore global circumstances and focus on *within-country* 'normal' capital inflows (the smoothed line in grey) and significant deviations (the blue and green dashed lines and markers for bonanza years).

[30] Our notation below indicates that $\overline{\Delta \text{CPI}}_{i,t-1\,/\,t-3}$ is the unweighted average of inflation for periods $t-3$ to $t-1$; in analogy for all other independent variables.

Figure 7: Capital Inflow Bonanzas (left) and Surges — Examples



Notes: The plots present gross non-official capital inflow series in four countries (Argentina, Brazil, Ghana, and Jordan). The bonanza analysis in the left column adds smoothed (HP-filtered) trend capital inflow and highlights the two definitions we adopt for capital inflow bonanzas (values above 1 or 1.5 standard deviations of the smoothed trend). The surge analysis in the right column adds single-year surges (in blue) and start years of surges that lasted for three years (in green) — any three-year surge is also a one-year surge, by definition. In the empirical analysis we do not exploit the 1.5 SD definition of bonanzas or the three-year surges.

This means that the entire dataset only features 175 (58) bonanzas when we adopt a definition of 1 (1.5) standard deviation(s) from the trend, an unconditional bonanza propensity of 5% (1.7%). Surges, on the other hand, focus on those country-time observations which feature in the country and full sample top-30%, hence taking *global* circumstances into account. There are almost 1,000 (190) single-year (three-year) surges over the 1980-2015 time period, an unconditional propensity of 24% (4.7%): surges are, by construction, vastly more common than bonanzas. Note that given upward-trending capital inflows roughly half of all bonanzas or surges occur in the last ten years of the sample.

Event Analysis As a descriptive tool, we carry out an event analysis for each of the four domestic determinants of excessive capital inflows proposed in the literature. This is a univariate investigation of variable evolution in proximity to an excessive capital inflow 'event' (see Gourinchas and Obstfeld, 2012; Eberhardt and Presbitero, 2021, for details on the methodology) — we consider the standard (1SD) bonanza and (single-year) surge definitions using total gross capital inflows across all countries in our sample, irrespective of geography or political institutions.[31] Figure 8 presents the event analysis plots for bonanzas and surges in the left and right column, respectively — the blue bars mark 90% confidence intervals. There is only weak evidence for a substantial decline in inflation in the lead-up to excessive capital inflows. In contrast, deterioration in the capital account ratio, exchange rate depreciation, and an increase in international reserves can all be detected in both sets of analysis.

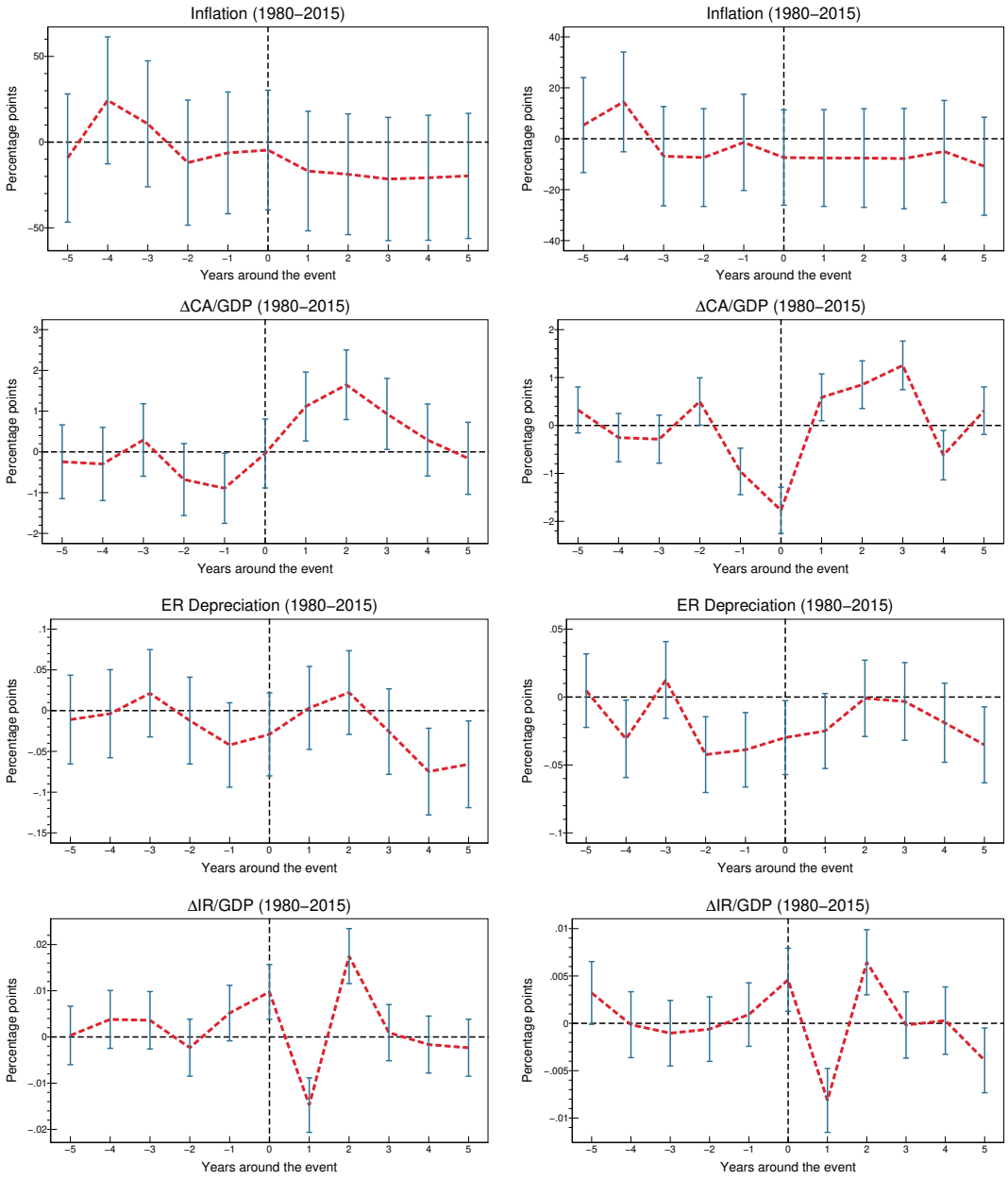
Factor-Augmented Early Warning System We specify a latent variable model of excessive capital inflows (surges, bonanzas) Y^*_{it} as a function of their dominant predictors in the literature (illustrated below using inflation in the MA(3) transformation) for each country in a 'treated' sample of countries for 'good' and 'poor' geography (or alternative deep determinants), respectively:

$$\begin{aligned} Y^*_{it} \;=\; & \alpha_i + \beta^A_i \, \overline{\Delta \mathsf{CPI}}_{i,t-1\,/\,t-3} + \beta^B_i \, \mathbf{1}_{\{t>T_{0i}\}} \, \overline{\Delta \mathsf{CPI}}_{i,t-1\,/\,t-3} \\ & + \gamma_i' \overline{x}_{i,t-1\,/\,t-3} + \mu_i' f_t + \varepsilon_{it}, \quad \forall\; i \in E^*\{\mathsf{good}, \mathsf{bad}\} \end{aligned} \tag{6}$$

where f is a set of unobserved common factors with heterogeneous factor loadings μ and additional controls are represented by x. The indicator variable $\mathbf{1}_{\{.\}}$ captures the time periods country i spent in democracy: β^A_i is thus the benchmark effect of inflation in autocracy, while β^B_i indicates *how the inflation effect deviates from this benchmark during democracy*. A positive β^A_i and negative β^B_i (assuming statistical significance) would then suggest that higher inflation is associated with surges or bonanzas, but that democratic regime change reduces this effect. The EWS is estimated

[31] In Appendix Figure A-4 we restrict the sample to countries which either experienced democratic regime change or remained autocracies throughout the sample period — patterns are very similar to those presented here, albeit less precisely estimated. Note that event analysis is a crude descriptive device, ignoring for instance that several surges may happen in quick succession (hence with fewer than 5 years prior to and after the event).

Figure 8: Event Analysis, total capital inflows (left: bonanza, right: surge)



Notes: We present selected event analysis plots for the period 1980-2015. The estimates are derived from event dummy lags and leads in a pooled regression with country-fixed effects with 90% confidence intervals (blue bars), where the 'event' refers to a capital inflow bonanza (left column) or surge (right column) — we adopt the 1SD bonanza and single-year surge definitions, respectively. Variables investigated are inflation, change in capital account-to-GDP ratio, depreciation, and change in international reserves-to-GDP ratio. In contrast to the data used in our regressions, there is no MA(3) transformation carried out here.

separately for countries with 'good' and 'poor' geography, like in our earlier capital flow analysis, and we highlight the differential effects of β_i^A and β_i^B across these two samples — in the following technical discussion we abstract from this split by geography for ease of exposition.

We implement this model by combining work on common factors in a generalised linear model (Boneva and Linton, 2017) with that on the PCDID (Chan and Kwok, 2022) to create a factor-augmented EWS approach.[32] We adopt a linear probability model for the year of a surge or bonanza,[33] Y_{it}, in those countries which experienced democratic regime change ('treated sample'). The country-specific estimation equation is augmented with up to k common factors, estimated from the same equation for a set of countries which always remained autocratic ('control sample').

For illustration, in the inflation case: $\forall\, i \in E^*$

$$\begin{aligned} Pr(Y_{it} = 1 \mid & \overline{\Delta \text{CPI}}_{i,t-1/t-3},\, \overline{X}_{i,t-1/t-3},\, d_t,\, f_t) \\ & = [\alpha_i + \tilde{f}_t' \kappa_i] + \beta_i^A\, \overline{\Delta \text{CPI}}_{i,t-1\,/\,t-3} + \beta_i^B\, \mathbf{1}_{\{t>T_{0i}\}}\, \overline{\Delta \text{CPI}}_{i,t-1\,/\,t-3} \\ & \left\{ + \delta_i' \overline{X}_{i,t-1/t-3} \right\} + \psi_i' \hat{f}_t + \varepsilon_{it}. \end{aligned} \tag{7}$$

The common factors $\hat{f}$ are estimated via PCA from the residuals of the same model in the control sample (albeit by construction with just a single inflation term).[34]

We estimate for treated countries $i \in E^*$ by geography

$$\begin{aligned} Y_{it} \;=\; & a_i + b_i^A\, \overline{\Delta \text{CPI}}_{i,t-1\,/\,t-3} + b_i^B\, \mathbf{1}_{\{t>T_{0i}\}}\, \overline{\Delta \text{CPI}}_{i,t-1\,/\,t-3} \\ & \{ + c_{1i} \overline{\Delta \text{CA/GDP}}_{i,t-1/t-3} + c_{2i} \overline{\Delta \text{Reserves/GDP}}_{i,t-1/t-3} \\ & + c_{3i} \overline{\Delta \text{ER}}_{i,t-1/t-3} \} + d_i' \hat{f}_t + \varepsilon_{it}, \end{aligned} \tag{8}$$

where we spell out additional control variables in detail. ε is the error term, which can be heteroskedastic and/or serially correlated. Note that equation (8) features only a single interaction term, for inflation: given the number of control variables the interaction with the democracy dummy for each of these would substantially increase the number of parameter to be estimated for each country in a moderately long panel. Equation (8) includes *all* controls ('full specification'), we also estimate a 'simple specification' which excludes the additional controls in curly brackets. Alternative specifications with an interaction term for the change in the current account to GDP

[32] Boneva and Linton (2017) extend the Pesaran (2006) common correlated effects estimator to the probit model but also support the linear probability model.

[33] If these events extend beyond a single year then we pick the first year and subsequent years are dropped from the sample as per practice in the literature on banking crisis EWS.

[34] The error term in equation (7) includes some estimation error of this process, $\tilde{f}_t$, which vanishes as $\sqrt{T}/N_C \to 0$ for T the time series dimension and N_C the number of control group countries, in which case this term in square brackets is time-invariant. Note further that the estimated factors are *not* MA(3)-transformed since they are estimated from the residuals of a control sample regression analogous to equation (7) in which all regressors are already MA(3)-transformed.

ratio, the change in reserves/GDP, and depreciation are constructed analogously.[35] The factor augmentation captures the developments in the countries which remained autocratic throughout, while the interaction term setup allows us to investigate differential effects of dominant surge/bonanza predictors *within* individual countries when they were autocratic versus democratic. A positive (negative) significant interaction term suggests that being in democracy implies a higher (lower) propensity of excessive capital inflows for the dominant surge predictor in the literature than in autocracy.

All results are expressed as marginal effects (in percent) of a one standard deviation increase in the variable of interest. In the interaction specifications we still adopt the full sample standard deviation for ease of comparability.[36]

4.2 Results

Ignoring Deep Determinants Figure 9 provides a visualisation of the empirical results when we ignore geography. In panel (a) we simply study the effect of a standard deviation increase in each of the 'trigger' variables in their effect on episodes of excessive capital inflows: democracy does not feature in this analysis, but the sample is made up of all those countries which at one point transitioned from autocracy to democracy, split by the four definitions we have used throughout this research. The left plot is for bonanzas, the right one for surges, which are much more prevalent (24% of all observations compared with 5% for bonanzas). Different markers are for different definitions of democratic regime change and the four clusters of results are for the four 'trigger' variables. The countries in our 'treated' samples provide strong evidence for the suggestion in the existing literature that deflation, capital account (CA) deterioration, reserve accumulation and, to a lesser extent, exchange rate (ER) appreciation are positively related to surges: a one standard deviation increase in these 'triggers' is associated with a 5-10% higher propensity of a capital inflow episode. For bonanzas, the evidence related to deflation and CA deterioration is less straightforward, although ER appreciation and reserve accumulation yield a positive association to the tune of around 1 percentage point increased propensity of a capital inflow episode.

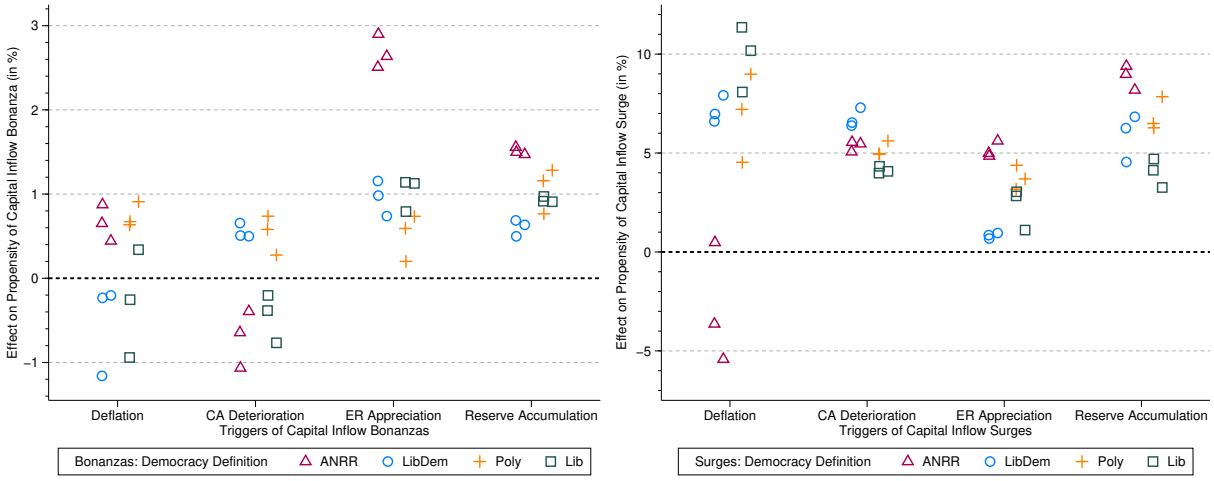
Panel (b) has very busy and perhaps confusing plots, which while still ignoring geography provide the differential effect of each of the four trigger variables before (hollow markers or +) and, in relative terms, after democratic regime change (filled markers or x) on the propensity of experiencing a bonanza (left plot) or surge (right plot). Once again the different markers and colours are for different definitions of democracy. Focusing on the ANRR definition of democracy in the left plot, we can see that for deflation and reserve accumulation democratic regime change is associated with a relative decline in the effect of these triggers, whereas for CA deterioration

[35] Inclusion of the democracy dummy in the model leads to qualitatively very similar results (available on request).

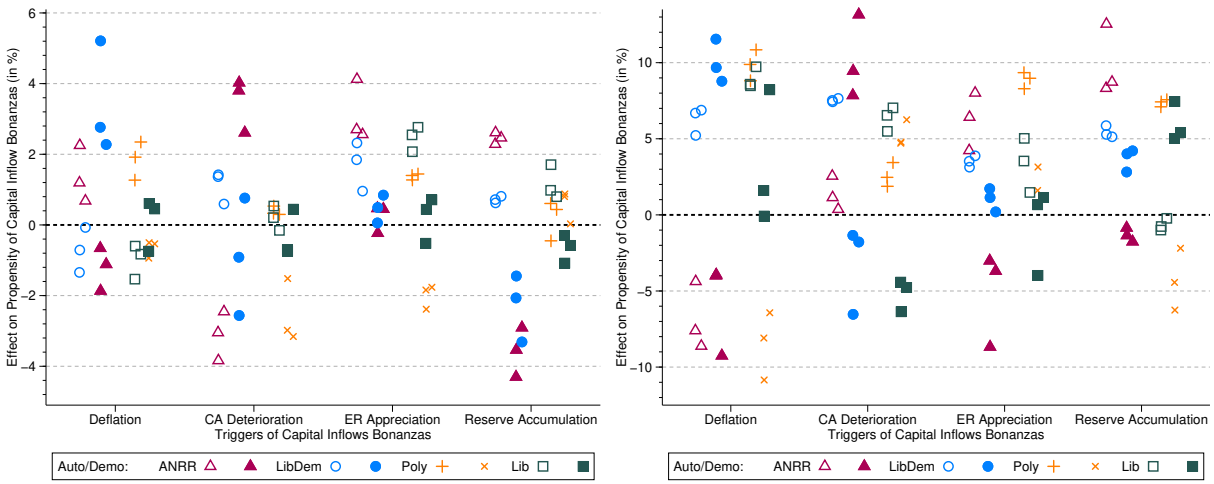
[36] In order to compare a like for like increase in the crisis trigger across geography samples we use the full sample (treated, control, countries which were democracies throughout) to compute the standard deviations applied here.

the opposite effect prevails and for ER appreciation we detect no difference for the pre- and post-regime change effects. Results based on the liberal democracy definition are aligned for reserve accumulation and ER appreciation, similarly those for polyarchy and the liberal component. Regarding the surges the ANRR results are similar to those in the bonanzas, whereas the liberal democracy effects point to increases in vulnerability after regime change. All in all the patterns of results are very mixed and it is difficult to draw any firm conclusions for the effect of democratic regime change on excessive capital inflow episodes.

Figure 9: Total Capital Inflow Bonanzas and Surges (ignoring geography and even regime change)



(a) Ignoring Regime Change (left: bonanzas, right: surges)



(b) Differentiating before/after Regime Change (left: bonanzas, right: surges)

Notes: We present the effect of a 1 SD increase in the 'trigger' for excessive capital inflows for different samples (countries which at one point became democratic based on the four different definitions). In panel (a) we ignored whether a country is in democracy or not. Although democracy does not appear in the regression model, it defines the sample of treated countries investigated here. In panel (b) we study the differences between autocracy and (in relative terms) democracy for the effect of trigger variables on the propensity of excessive capital inflows (bonanzas or surges). All independent variables are winsorised (top and bottom 1% of observations) and MA(3)-transformed in the regression models. The unconditional propensity of a bonanza is around 5%, that of a surge is almost 25% — hence the substantial difference in scale between the bonanza plot on the left and surge plot on the right.

Main Results In Figures 10 and 11 we present results for our analysis differentiated by 'good' and 'poor' geography, adopting simple and more complex specifications (in terms of controls included) in the former and latter Figure, respectively.[37] Panels are now for different definitions of democracy, but plots on the left (right) are still for the analysis of bonanzas (surges). Since these results are quite overwhelming and difficult to read, we created in Table 7 a schematic presentation of our findings, drawing (subjective) qualitative conclusions from the scatter graphs in the two figures. For each column (representing a trigger variable) and each row (representing different definitions of democratic regime change) of the table we present two markers signifying the trigger effect in autocracy (first marker) and democracy (second marker), respectively. A zero suggests no detectable effect, i.e. the estimates are clustered around zero. The arrows suggests an increase or decrease in the trigger effect on the propensity of excessive capital inflow episodes, i.e. the estimates tend to be clustered above or below zero. Recall that the democracy effects are in deviation from the effects in autocracy, such that a combination of ($\uparrow$, $\downarrow$), (0, $\downarrow$), or ($\downarrow$, $\downarrow$) would imply that democracy *reduces* vulnerability vis-à-vis autocracy, whereas any combination where the second marker is an $\uparrow$ suggests that it increases vulnerability (even further). Separate panels are for (a) bonanzas and (b) surges, within these we have results for a simple and full specification, respectively. To further ease the comparison between 'good' and 'poor' geography samples in the left and right halves of the table, we use colours to highlight patterns: green indicates that democratic regime change appears to reduce vulnerability, red that regime change instead seems to increase vulnerability.

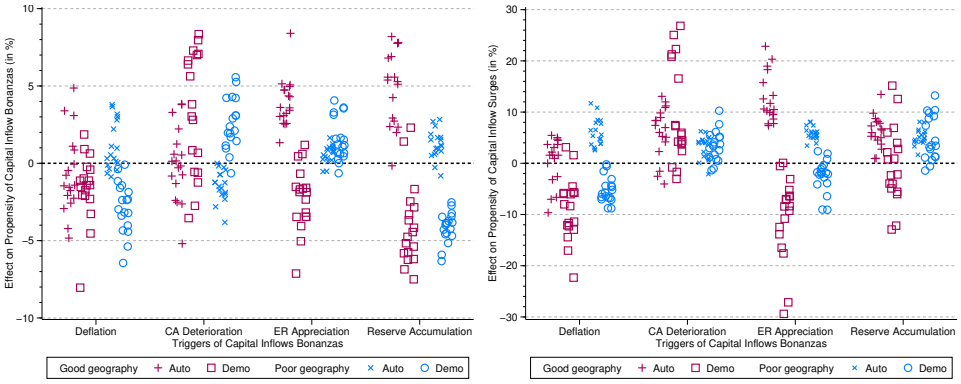
[37] Given the large number of parameters to estimate in the full specification, it is not a given that this represents a 'better' model in the context of a relatively modest time series dimension.

Table 7: Schematic Presentation of Vulnerability Results (1980-2015)

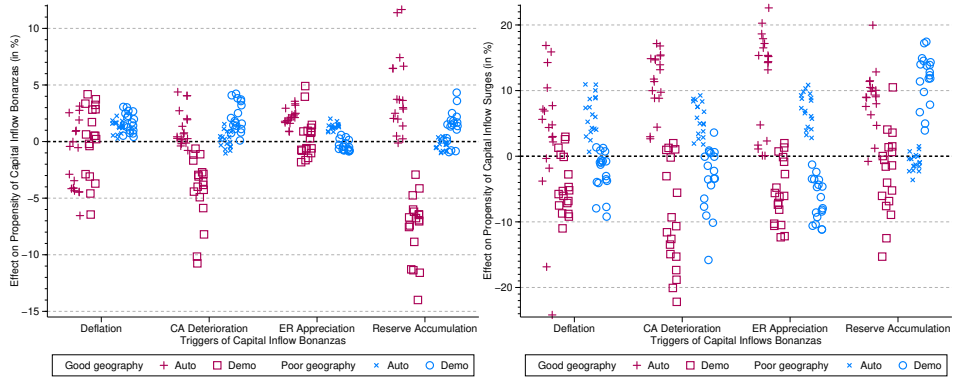
	Countries with 'Good' Geography								Countries with 'Poor' Geography							
	Deflation		CA Det		ER Appr		Reserves		Deflation		CA Det		ER Appr		Reserves	
Panel (a): Total Capital Inflow Bonanzas																
Simple Specification																
ANRR	0	0	0	↑	↑	↓	↑	↓	↑	↓	↓	↑	↑	↑	↑	↓
LibDem	0	0	0	↓	↑	0	↑	↓	↑	↑	↑	↑	0	0	0	↑
Poly	0	↓	0	0	↑	↓	↑	↓	0	0	0	↓	↑	↓	0	0
Liberal	↑	↓	0	0	↑	↓	↑	↓	↑	0	↑	↓	↑	↓	0	0
Full Specification																
ANRR	0	0	0	0	↑	↓	0	0	↓	0	↓	↑	0	0	0	↓
LibDem	0	0	↑	↓	↑	0	↑	↓	↓	0	0	0	0	0	0	0
Poly	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	0	↓	↑	↓	0	↑
Liberal	0	↑	0	↓	↑	↓	↑	↓	↓	↑	0	0	↑	↓	↑	↑
Panel (b): Total Capital Inflow Surges																
Simple Specification																
ANRR	0	↓	↑	↑	↑	↓	↑	0	↑	↓	↑	↑	↑	↓	↑	↑
LibDem	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	0	↑
Poly	↑	↓	↑	↑	↑	↓	↑	0	↑	↓	↑	↓	↑	↓	↑	0
Liberal	↑	↓	↑	↓	↑	↓	↓	↑	↑	0	↑	↓	↑	↓	0	↑
Full Specification																
ANRR	0	0	0	0	↑	↓	↑	0	↓	↓	0	↑	0	0	↑	↓
LibDem	0	0	↑	↓	↑	↑	↑	↓	↑	↓	0	↑	0	↓	0	↑
Poly	↑	↓	↑	0	↑	0	↑	0	0	0	0	↑	↑	↓	↑	↓
Liberal	↓	↑	↑	0	↑	0	↑	↓	↑	↓	↑	0	0	↓	0	0

Notes: This table presents an attempt at a schematic presentation of the qualitative conclusions from the analysis presented in Figures 10 and 11. For each column (trigger variable, see below) and row (definition of democracy) there are two qualitative conclusions: the first for the trigger effect under autocracy, the second for the relative trigger effect under democracy. A (0,0) pair suggests that there were no effects in either period, (·,↑) suggests democracy increased the propensity of an excessive capital inflow episode, (·,↓) that democracy reduced the propensity. The former is marked in red, the latter in green to highlight the respective detrimental and beneficial effect of democratic regime change. Triggers are: deflation, capital account deterioration, exchange rate appreciation and reserve accumulation.

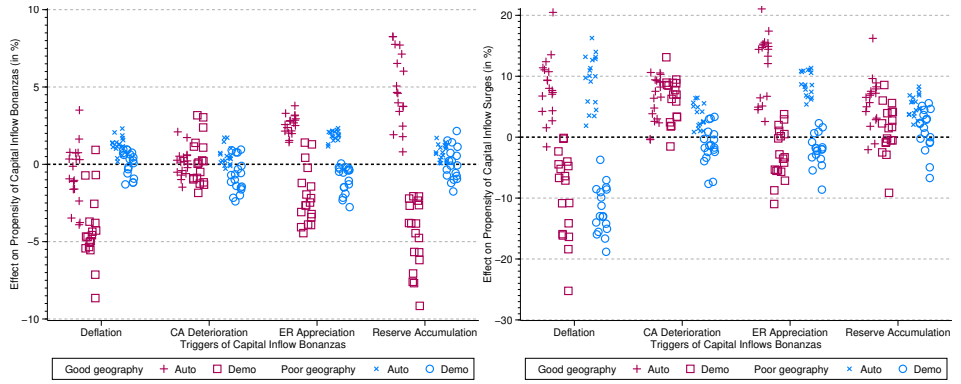
Figure 10: Democracy and Total Capital Inflow Bonanzas and Surges (simple specification)



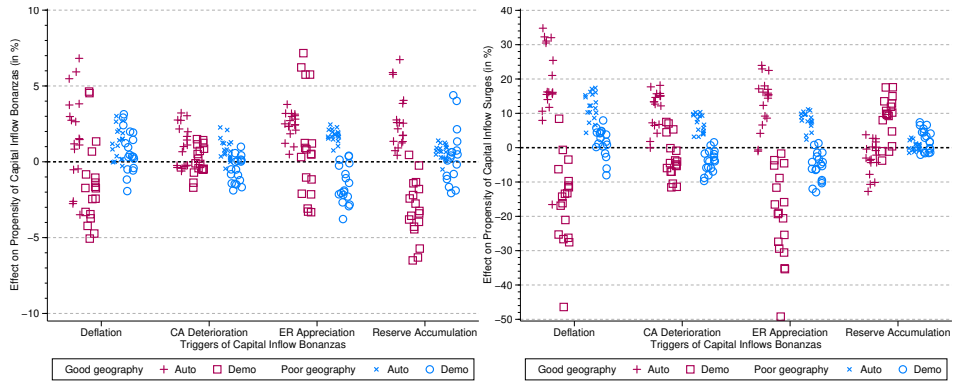
(a) Regime Change: ANRR (left: bonanzas, right: surges)



(b) Regime Change: Liberal Democracy (left: bonanzas, right: surges)



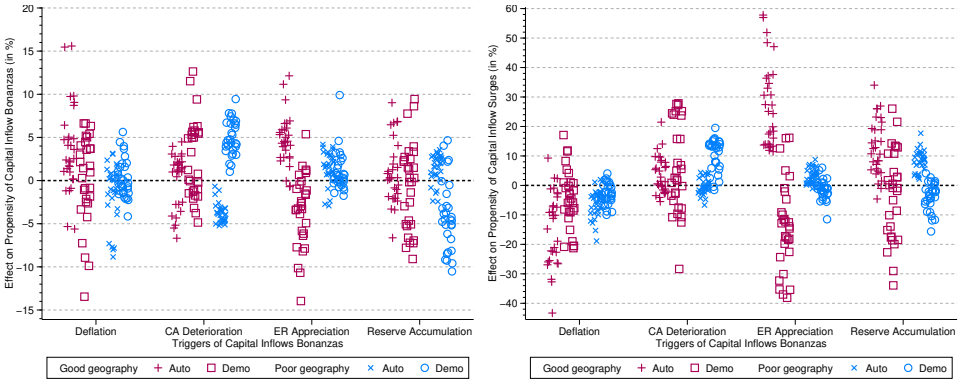
(c) Regime Change: Polyarchy (left: bonanzas, right: surges)



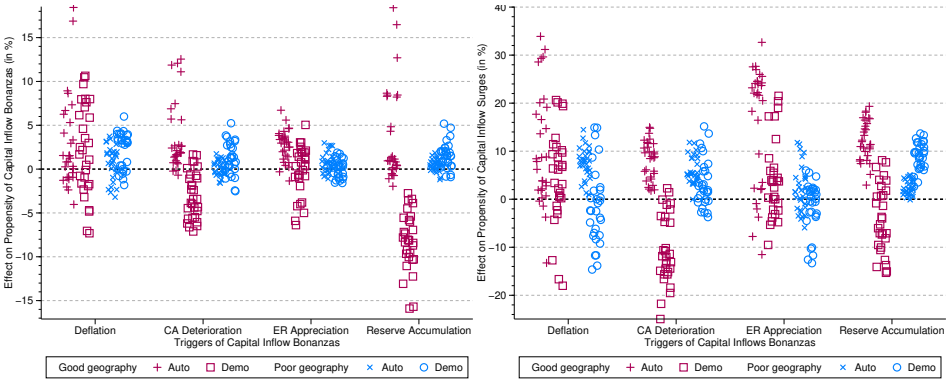
(d) Regime Change: Liberal Component (left: bonanzas, right: surges)

Notes: We present the effect of a 1 SD increase in the 'trigger' for excessive capital inflows in Autocracy (+ and x), alongside the *relative* effect in Democracy (□ and o). Panels indicate the regime change definition.

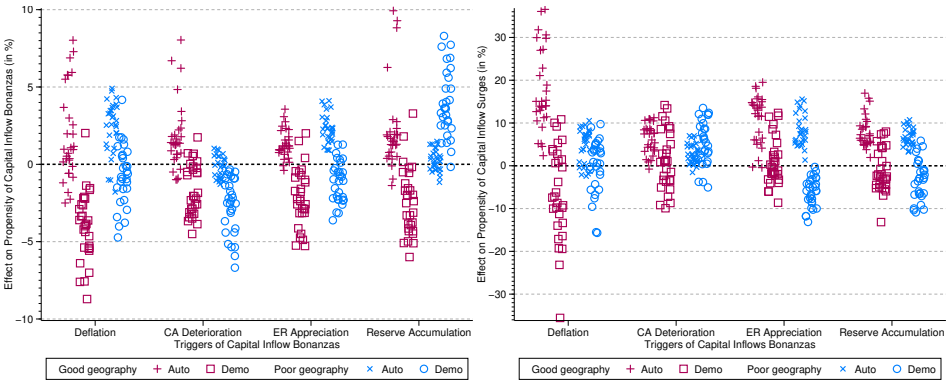
Figure 11: Democracy and Total Capital Inflow Bonanzas and Surges (full spec)



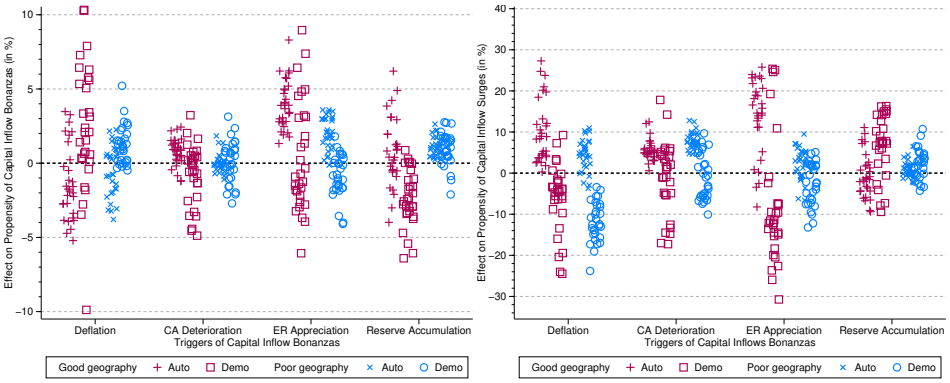
(a) Regime Change: ANRR (left: bonanzas, right: surges)



(b) Regime Change: Liberal Democracy (left: bonanzas, right: surges)



(c) Regime Change: Polyarchy (left: bonanzas, right: surges)



(d) Regime Change: Liberal Component (left: bonanzas, right: surges)

Notes: We present the effect of a 1 SD increase in the 'trigger' for excessive capital inflows in Autocracy (+ and x), alongside the *relative* effect in Democracy (□ and o). Panels indicate the regime change definition.

A number of broad-brush insights can be drawn from our analysis: (i) the magnitudes of effects during autocratic or democratic periods for a common one standard deviation in the 'trigger' variable are typically larger for 'good' than for 'poor' geography countries (greater spread of pink than blue markers in the plots); (ii) 'good' geography countries are frequently subject to large positive trigger effects on the propensity of excessive capital inflow episodes during autocracy (pink + markers are often positive), but, typically, these vulnerabilities are substantially reduced following democratic regime change (pink □ markers are often negative); this equates to a large number of marker pairs in the *left* half of Table 7 appearing in green and markers for a very small number of specifications appearing in red; (iii) 'bad' geography countries, in contrast, frequently experience (additional) positive trigger effects during democracy (blue o markers often positive); as the right half of Table 7 indicates, this is particularly the case for capital account deterioration and reserve accumulation; (iv) the patterns described appear stronger when using the V-Dem definition of liberal democracy (and its polyarchy and liberal component building blocks) rather than that of ANRR.

Democracy, Excessive Capital Inflows and the Unequal Effect of Geography This part of our empirical analysis focusing on the downsides of increased capital flows, the potential for excessive capital inflow episodes, suggests that democratic regime change typically reduces the vulnerability to capital inflow bonanzas and surges in countries with 'good' geography. This is important because these economies appear to tend to have greater vulnerability related to known trigger variables (recall that our effects are computed for a common standard deviation increase in the 'trigger' variable across 'good' and 'poor' geography samples) compared with countries characterised by 'poor' geography. However, while the magnitudes of trigger effects are smaller, democratic regime change frequently does not reduce vulnerability in 'poor' geography countries. Taken together with the results from our flow analysis above, it would appear that 'poor' geography countries do not benefit to the same extent as their better-endowed peers from undergoing democratic regime change in that the boost to capital inflows in general and FDI inflows, in particular, are clearly more modest. Furthermore, the negative aspects of increased capital inflows in the form of increased volatility and hence susceptibility to bonanzas or surges are not always ameliorated following regime change as is typically the case in the 'good' geography countries.

5 Concluding remarks

Capital inflows have more recently been viewed with great suspicion, emphasising the perils of excessive inflows in their detrimental effect on economic stability in recipient countries. But the existing literature is largely agreed that 'normal' levels of inflows, and in particular inflows of foreign direct investment, fulfil an important role in furthering economic prosperity. Yet, why capital flows to some countries but not others has long puzzled economists, until improvements in the quality

of institutions were motivated and empirically confirmed as an important factor. In this paper, we have connected this literature with the recent work on 'democracy causes growth', hence asking whether the democratic dividend observed in the latter literature can be isolated in the patterns of capital inflows as well, one of a range of plausible transmission channels for improved economic prosperity following a shift from autocracy to democracy. Our point of departure from this combination of democracy and capital flows is that we argue for strong heterogeneity in the relationship *across countries*. Studying and identifying the underlying causes that shape this heterogeneity is important because policymakers and the populace alike may otherwise have unrealistic expectations of the economic effects of regime change. At the same time, we do not posit that failure to reap the benefits from democratic regime change undermines the case for democracy *per se*.

We motivate and empirically demonstrate across a range of specifications and robustness checks that geography (proxied by measures of climate and disease environment) appears to capture the differential patterns across countries well, much better than alternative structural ('deep') determinants related to culture or legal origins. In countries with favourable geography (temperate climate, low disease environment) democratic regime change gives a substantial boost to total capital inflows as well as inflows of foreign direct investment, whereas when geographic endowment is comparatively worse (tropical climate, higher disease environment) these inflows are substantially lower. 'Good' geography countries are commonly susceptible to excessive capital inflows (bonanzas and surges), but our second major finding suggests that these detrimental effects of international capital flows are moderated when countries become democratic. In contrast, countries with comparatively worse geographic dispositions tend to miss out on this effect, and at times even see increased propensity for episodes of excessive inflows after regime change.

Why might it be the case that democracy aids prosperity in some but not other countries? Our empirical motivation suggests that geography represents a structural determinant of the magnitude and 'volatility' of capital inflows which dominates and hence partially eradicates the benefits of institutional change: geography determines the concentration of the export basket, the complexity of production, and the volatility of aggregate commodity terms of trade of a country — all these represent risk factors which make 'poor' geography countries disproportionally less attractive for foreign capital inflows. While democracy causes economic prosperity, including higher capital inflows, it does so unequally, and our research suggests that these 'unfair' patterns derive from the inherent characteristics of nature itself.

References

Acemoglu, D., Johnson, S. and Robinson, J. A., 2001. 'The colonial origins of comparative development: An empirical investigation', *American Economic Review* **91**(5), 1369–1401.

Acemoglu, D., Johnson, S. and Robinson, J. A., 2002. 'Reversal of fortune: Geography and institutions in the making of the modern world income distribution', *Quarterly Journal of Economics* **117**(4), 1231–1294.

Acemoglu, D., Naidu, S., Restrepo, P. and Robinson, J. A., 2019. 'Democracy does cause growth', *Journal of Political Economy* **127**(1), 47–100.

Aizenman, J., Jinjarak, Y. and Park, D., 2013. 'Capital flows and economic growth in the era of financial integration and crisis, 1990–2010', *Open Economies Review* **24**, 371–396.

Alfaro, L., Chanda, A., Kalemli-Ozcan, S. and Sayek, S., 2004. 'FDI and economic growth: the role of local financial markets', *Journal of International Economics* **64**(1), 89–112.

Alfaro, L., Kalemli-Ozcan, S. and Volosovych, V., 2008. 'Why doesn't capital flow from rich to poor countries? an empirical investigation', *The Review of Economics and Statistics* **90**(2), 347–368.

Anderson, J. E., 1979. 'A theoretical foundation for the gravity equation', *American Economic Review* **69**(1), 106–116.

Anderson, J. E. and Van Wincoop, E., 2003. 'Gravity with gravitas: a solution to the border puzzle', *American Economic Review* **93**(1), 170–192.

Andrews, D., 2005. 'Cross-section regression with common shocks', *Econometrica* **73**(5), 1551–85.

Ang, J. B., 2019. 'Culture, legal origins, and financial development', *Economic Inquiry* **57**(2), 1016–1037.

Angrist, J. D. and Pischke, J.-S., 2008. *Mostly harmless econometrics*, Princeton University Press.

Arcand, J. L., Berkes, E. and Panizza, U., 2015. 'Too much finance?', *Journal of Economic Growth* **20**(2), 105–148.

Asiedu, E. and Lien, D., 2011. 'Democracy, foreign direct investment and natural resources', *Journal of International Economics* **84**(1), 99–111.

Athey, S. and Imbens, G. W., 2022. 'Design-based analysis in difference-in-differences settings with staggered adoption', *Journal of Econometrics* **226**(1), 62–79.

Bai, J., 2009. 'Panel data models with interactive fixed effects', *Econometrica* **77**(4), 1229–1279.

Baum, M. A. and Lake, D. A., 2003. 'The political economy of growth: democracy and human capital', *American Journal of Political Science* **47**(2), 333–347.

Beck, T., Demirgüç-Kunt, A. and Levine, R., 2003. 'Law, endowments, and finance', *Journal of Financial Economics* **70**(2), 137–181.

Bergstrand, J. H., 1985. 'The gravity equation in international trade: some microeconomic foundations and empirical evidence', *The Review of Economics and Statistics* pp. 474–481.

Bergstrand, J. H. and Egger, P., 2007. 'A knowledge-and-physical-capital model of international trade flows, foreign direct investment, and multinational enterprises', *Journal of International Economics* **73**(2), 278–308.

Bleaney, M. and Greenaway, D., 2001. 'The impact of terms of trade and real exchange rate volatility on investment and growth in Sub-Saharan Africa', *Journal of Development Economics* **65**(2), 491–500.

Bloom, D. E. and Sachs, J. D., 1998. 'Geography, demography, and economic growth in Africa', *Brookings Papers on Economic Activity* **1998**(2), 207–295.

Bluedorn, M. J. C., Duttagupta, R., Guajardo, M. J. and Topalova, P., 2013. Capital flows are fickle: anytime, anywhere, IMF Working Paper Series 13/184, International Monetary Fund.

Boese, V. A. and Eberhardt, M., 2021. Democracy doesn't always happen over night: Regime change in stages and economic growth, CEPR Discussion Paper 16587, Centre for Economic Policy Analysis.

Bolt, J. and van Zanden, J. L., 2020. Maddison Style Estimates of the Evolution of the World Economy: A New 2020 Update, Maddison Project Working Paper 15, University of Groningen, Groningen Growth and Development Centre.

Boneva, L. and Linton, O., 2017. 'A discrete-choice model for large heterogeneous panels with interactive fixed effects with an application to the determinants of corporate bond issuance', *Journal of Applied Econometrics* **32**(7), 1226–1243.

Broner, F., Didier, T., Erce, A. and Schmukler, S. L., 2013. 'Gross capital flows: Dynamics and crises', *Journal of Monetary Economics* **60**(1), 113–133.

Brown, N., Butts, K. and Westerlund, J., 2023. Difference-in-differences via common correlated effects, Working Paper No. 1496, Queen's Economics Department.

Bussière, M. and Fratzscher, M., 2006. 'Towards a new early warning system of financial crises', *Journal of International Money and Finance* **25**(6), 953–973.

Byrne, J. P. and Fiess, N., 2016. 'International capital flows to emerging markets: National and global determinants', *Journal of International Money and Finance* **61**, 82–100.

Caballero, J. A., 2016. 'Do surges in international capital inflows influence the likelihood of banking crises?', *Economic Journal* **126**(591), 281–316.

Caprio, G. and Klingebiel, D., 1996. Bank insolvency: bad luck, bad policy, or bad banking?, *in* M. Bruno and B. Pleskovic, eds, 'Annual World Bank Conference on Development Economics', The World Bank, Washington DC.

Cerutti, E., Claessens, S. and Rose, A. K., 2019. 'How important is the global financial cycle? evidence from capital flows', *IMF Economic Review* **67**(1), 24–60.

Chan, M. K. and Kwok, S. S., 2022. 'The PCDID approach: difference-in-differences when trends are potentially unparallel and stochastic', *Journal of Business & Economic Statistics* **40**(3), 1216–1233.

Cheng, H., Hu, C. and Li, B. G., 2020. 'Lexicographic biases in international trade', *Journal of International Economics* **126**, 103346.

Cho, R., Desbordes, R. and Eberhardt, M., 2022. Too much finance...for whom? the causal effects of the two faces of financial development, CEPR Discussion Paper DP17022, Centre for Economic Policy Analysis.

Ciccone, A., 2018. International commodity prices and civil war outbreak: new evidence for Sub-Saharan Africa and beyond, CEPR Discussion Paper DP12625, Centre for Economic Policy Analysis.

Coppedge, M., Gerring, J., Knutsen, C. H., Lindberg, S. I., Teorell, J., Altman, D., Bernhard, M., Cornell, A., Fish, M. S., Gastaldi, L. et al., 2021. V-Dem Dataset v11, Varieties of Democracy Institute, Available at: https://doi.org/10.23696/vdemds21.

Dahl, R. A., 1971. *Polyarchy: Participation and opposition*, Yale University Press, New Haven and London.

Dawson, J. W., 1998. 'Institutions, investment, and growth: New cross-country and panel data evidence', *Economic inquiry* **36**(4), 603–619.

De Visscher, S., Eberhardt, M. and Everaert, G., 2020. 'Estimating and testing the multicountry endogenous growth model', *Journal of International Economics* **125**, 103325.

Diamond, J. M., 1998. *Guns, germs and steel: a short history of everybody for the last 13,000 years*, Random House.

Dollar, D. and Kraay, A., 2003. 'Institutions, trade, and growth', *Journal of Monetary Economics* **50**(1), 133–162.

Durham, J. B., 2004. 'Absorptive capacity and the effects of foreign direct investment and equity foreign portfolio investment on economic growth', *European Economic Review* **48**(2), 285–306.

Durlauf, S. N., 2020. Institutions, development, and growth: Where does evidence stand?, *in* J.-M. Baland, F. Bourguignon, J.-P. Platteau and T. Verdier, eds, 'The Handbook of Economic Development and Institutions', Princeton University Press, chapter 6, pp. 189–217.

Easterly, W. and Levine, R., 2003. 'Tropics, germs, and crops: how endowments influence economic development', *Journal of Monetary Economics* **50**(1), 3–39.

Eberhardt, M., 2022. 'Democracy, growth, heterogeneity, and robustness', *European Economic Review* **147**, 104173.

Eberhardt, M., Helmers, C. and Strauss, H., 2013. 'Do spillovers matter when estimating private returns to R&D?', *The Review of Economics and Statistics* **95**(2), 436–448.

Eberhardt, M. and Presbitero, A. F., 2015. 'Public debt and growth: Heterogeneity and non-linearity', *Journal of International Economics* **97**(1), 45–58.

Eberhardt, M. and Presbitero, A. F., 2021. 'Commodity prices and banking crises', *Journal of International Economics* **131**, 103474.

Eberhardt, M. and Teal, F., 2020. 'The magnitude of the task ahead: Macro implications of heterogeneous technology', *Review of Income and Wealth* **66**(2), 334–360.

Eberhardt, M. and Vollrath, D., 2018. 'The effect of agricultural technology on the speed of development', *World Development* **109**, 483–496.

Egger, P. H. and Lassmann, A., 2012. 'The language effect in international trade: A meta-analysis', *Economics Letters* **116**(2), 221–224.

Erten, B., Korinek, A. and Ocampo, J. A., 2021. 'Capital controls: Theory and evidence', *Journal of Economic Literature* **59**(1), 45–89.

Feldstein, M., 1999. International capital flows: Introduction, *in* M. Feldstein, ed., 'International Capital Flows', University of Chicago Press, pp. 1–4.

Forbes, K. J. and Warnock, F. E., 2012. 'Capital flow waves: Surges, stops, flight, and retrenchment', *Journal of International Economics* **88**(2), 235–251.

Fratzscher, M., 2012. 'Capital flows, push versus pull factors and the global financial crisis', *Journal of International Economics* **88**(2), 341–356.

Gallup, J. L., Mellinger, A. D. and Sachs, J. D., 1998. Geography and economic development, NBER Working Paper Series 6849, National Bureau of Economic Research.

Ghosh, A. R., Qureshi, M. S., Kim, J. I. and Zalduendo, J., 2014. 'Surges', *Journal of International Economics* **92**(2), 266–285.

Ginsburgh, V. and Weber, S., 2020. 'The economics of language', *Journal of Economic Literature* **58**(2), 348–404.

Glaeser, E. L., La Porta, R., Lopez-de Silanes, F. and Shleifer, A., 2004. 'Do institutions cause growth?', *Journal of Economic Growth* **9**(3), 271–303.

Gobillon, L. and Magnac, T., 2016. 'Regional policy evaluation: Interactive fixed effects & synthetic controls', *The Review of Economics and Statistics* **98**(3), 535–51.

Gorodnichenko, Y. and Roland, G., 2017. 'Culture, institutions, and the wealth of nations', *Review of Economics and Statistics* **99**(3), 402–416.

Gourinchas, P.-O. and Jeanne, O., 2013. 'Capital flows to developing countries: The allocation puzzle', *Review of Economic Studies* **80**(4), 1484–1515.

Gourinchas, P.-O. and Obstfeld, M., 2012. 'Stories of the twentieth century for the twenty-first', *American Economic Journal: Macroeconomics* **4**(1), 226–65.

Gruss, B. and Kebhaj, S., 2019. Commodity terms of trade: A new database, Working Paper 19/21, International Monetary Fund.

Gurevich, T., Herman, P., Toubal, F. and Yotov, Y., 2021. One Nation, One Language? Domestic Language Diversity, Trade and Welfare, USITC Economics Working Paper Series 2021-01-B, United States International Trade Commission.

Hall, R. E. and Jones, C. I., 1999. 'Why do some countries produce so much more output per worker than others?', *Quarterly Journal of Economics* **114**(1), 83–116.

Hamilton, L. C., 1992. 'How robust is robust regression?', *Stata Bulletin* **1**(2).

Head, K. and Ries, J., 2008. 'FDI as an outcome of the market for corporate control: Theory and evidence', *Journal of International Economics* **74**(1), 2–20.

Heine, S., 2007. *Cultural Psychology*, New York: Norton.

Henn, C., Papageorgiou, M. C. and Spatafora, M. N., 2013. *Export quality in developing countries*, International Monetary Fund.

Hidalgo, C. A. and Hausmann, R., 2009. 'The building blocks of economic complexity', *Proceedings of the National Academy of Sciences* **106**(26), 10570–10575.

Jordà, Ò., Schularick, M. and Taylor, A. M., 2011. 'Financial crises, credit booms, and external imbalances: 140 years of lessons', *IMF Economic Review* **59**(2), 340–378.

Jordà, Ò., Schularick, M. and Taylor, A. M., 2016. 'Sovereigns versus banks: credit, crises, and consequences', *Journal of the European Economic Association* **14**(1), 45–79.

Kaminsky, G. L., 2019. Boom-bust capital flow cycles, NBER Working Paper Series 25890, National Bureau of Economic Research.

Kaminsky, G. and Reinhart, C., 1999. 'The twin crises: the causes of banking and balance-of-payments problems', *American Economic Review* **89**(3), 473–500.

Kiszewski, A., Mellinger, A., Spielman, A., Malaney, P., Sachs, S. E. and Sachs, J., 2004. 'A

global index representing the stability of Malaria transmission', *The American Journal of Tropical Medicine and Hygiene* **70**(5), 486–498.

Knutsen, C. H., 2012. 'Democracy and economic growth: A survey of arguments and results', *International Area Studies Review* **15**(4), 393–415.

Kose, M. A., Prasad, E. S. and Terrones, M. E., 2009. 'Does openness to international financial flows raise productivity growth?', *Journal of International Money and Finance* **28**(4), 554–580.

Koyama, M., 2022. Legal capacity, GMU Working Paper in Economics 22/14, George Mason University.

La Porta, R., Lopez-de Silanes, F. and Shleifer, A., 2008. 'The economic consequences of legal origins', *Journal of Economic Literature* **46**(2), 285–332.

La Porta, R., Lopez-de Silanes, F., Shleifer, A. and Vishny, R. W., 1998. 'Law and finance', *Journal of Political Economy* **106**(6), 1113–1155.

Landes, D. S., 1999. *The Wealth and Poverty of Nations*, London: Abacus.

Lane, P. R. and Milesi-Ferretti, G. M., 2008. 'International investment patterns', *The Review of Economics and Statistics* **90**(3), 538–549.

Law, S. H. and Singh, N., 2014. 'Does too much finance harm economic growth?', *Journal of Banking & Finance* **41**, 36–44.

Lopez-Mejia, A., 1999. Large capital flows: a survey of the causes, consequences, and policy responses, Working paper 99/17, IMF.

Lucas, R. E., 1990. 'Why doesn't capital flow from rich to poor countries?', *American Economic Review Papers and Proceedings* **80**(2), 92–96.

Lührmann, A., Tannenberg, M. and Lindberg, S. I., 2018. 'Regimes of the World (RoW): Opening New Avenues for the Comparative Study of Political Regimes', *Politics & Governance* **6**(1), 60–77.

Madsen, J. B., Raschky, P. A. and Skali, A., 2015. 'Does democracy drive income in the world, 1500–2000?', *European Economic Review* **78**, 175–195.

Malik, A. and Temple, J. R., 2009. 'The geography of output volatility', *Journal of Development Economics* **90**(2), 163–178.

McArthur, J. W. and Sachs, J. D., 2001. Institutions and geography: comment on Acemoglu, Johnson and Robinson (2000), NBER Working Paper Series 8114, National Bureau of Economic Research.

McCord, G. C., Conley, D. and Sachs, J. D., 2017. 'Malaria ecology, child mortality & fertility', *Economics & Human Biology* **24**, 1–17.

Melitz, J. and Toubal, F., 2014. 'Native language, spoken language, translation and trade', *Journal of International Economics* **93**(2), 351–363.

Monnet, E. and Velde, F. R., 2021. Money, banking, and old-school historical economics, *in* A. Bisin and G. Federico, eds, 'The Handbook of Historical Economics', Elsevier, chapter 12, pp. 335–364.

Moon, H. R. and Weidner, M., 2015. 'Linear regression for panel with unknown number of factors as interactive fixed effects', *Econometrica* **83**(4), 1543–1579.

Mukand, S. W. and Rodrik, D., 2020. 'The political economy of liberal democracy', *Economic Journal* **130**(627), 765–792.

Müller, K. and Verner, E., 2021. 'Credit allocation and macroeconomic fluctuations', *Available at SSRN 3781981* .

Murray, D. R. and Schaller, M., 2010. 'Historical prevalence of infectious diseases within 230 geopolitical regions: A tool for investigating origins of culture', *Journal of Cross-Cultural Psychology* **41**(1), 99–108.

Nunn, N., 2009. 'The importance of history for economic development', *Annual Review of Economics* **1**(1), 65–92.

Nunn, N. and Puga, D., 2012. 'Ruggedness: The blessing of bad geography in africa', *The Review of Economics and Statistics* **94**(1), 20–36.

Obstfeld, M., 2009. 'International finance and growth in developing countries: what have we learned?', *IMF Staff Papers* **56**(1), 63–111.

Papaioannou, E., 2009. 'What drives international financial flows? Politics, institutions and other determinants', *Journal of Development Economics* **88**(2), 269–281.

Papaioannou, E. and Siourounis, G., 2008. 'Democratisation and growth', *Economic Journal* **118**(532), 1520–1551.

Pellegrino, B., Spolaore, E. and Wacziarg, R., 2021. Barriers to global capital allocation, NBER Working Paper Series 28694, National Bureau of Economic Research.

Persson, T. and Tabellini, G., 2009. 'Democratic capital: The nexus of political and economic change', *American Economic Journal: Macroeconomics* **1**(2), 88–126.

Pesaran, M. H., 2006. 'Estimation and inference in large heterogeneous panels with a multifactor error structure', *Econometrica* **74**(4), 967–1012.

Pesaran, M. H. and Smith, R., 1995. 'Estimating long-run relationships from dynamic heterogeneous panels', *Journal of Econometrics* **68**(1), 79–113.

Phillips, P. C. and Sul, D., 2003. 'Dynamic panel estimation and homogeneity testing under cross section dependence', *Econometrics Journal* **6**(1), 217–259.

Portes, R. and Rey, H., 2005. 'The determinants of cross-border equity flows', *Journal of International Economics* **65**(2), 269–296.

Portes, R., Rey, H. and Oh, Y., 2001. 'Information and capital flows: The determinants of transactions in financial assets', *European Economic Review* **45**(4-6), 783–796.

Prasad, E. S., Rajan, R. and Subramanian, A., 2007. Foreign capital and economic growth, NBER Working Paper Series 13619, National Bureau of Economic Research.

Rajan, R. G. and Zingales, L., 2003. 'The great reversals: the politics of financial development in the twentieth century', *Journal of Financial Economics* **69**(1), 5–50.

Reinhart, C. M. and Reinhart, V. R., 2009. Capital flow bonanzas: An encompassing view of the past and present, *in* 'NBER International Seminar on Macroeconomics', Vol. 5, The University of Chicago Press Chicago, IL, pp. 9–62.

Reinhart, C. M. and Rogoff, K. S., 2013. 'Banking crises: an equal opportunity menace', *Journal of Banking & Finance* **37**(11), 4557–4573.

Reinhart, C., Reinhart, V. and Trebesch, C., 2017. Capital flow cycles: a long, global view, *in* 'Paper presented at the IMF 18th Jacques Polak Annual Research Conference'.

Rodrik, D., Subramanian, A. and Trebbi, F., 2004. 'Institutions rule: the primacy of institutions over geography and integration in economic development', *Journal of Economic Growth* **9**(2), 131–165.

Rothenberg, A. D. and Warnock, F. E., 2011. 'Sudden flight and true sudden stops', *Review of International Economics* **19**(3), 509–524.

Sachs, J. D., 2003. Institutions don't rule: direct effects of geography on per capita income, NBER Working Paper Series 9490, National Bureau of Economic Research.

Schularick, M. and Taylor, A. M., 2012. 'Credit booms gone bust: Monetary policy, leverage cycles, and financial crises, 1870-2008', *American Economic Review* **102**(2), 1029–61.

Spolaore, E. and Wacziarg, R., 2013. 'How deep are the roots of economic development?', *Journal of Economic Literature* **51**(2), 325–369.

Stock, J. H. and Watson, M. W., 2002. 'Forecasting using principal components from a large number of predictors', *Journal of the American Statistical Association* **97**(460), 1167–1179.

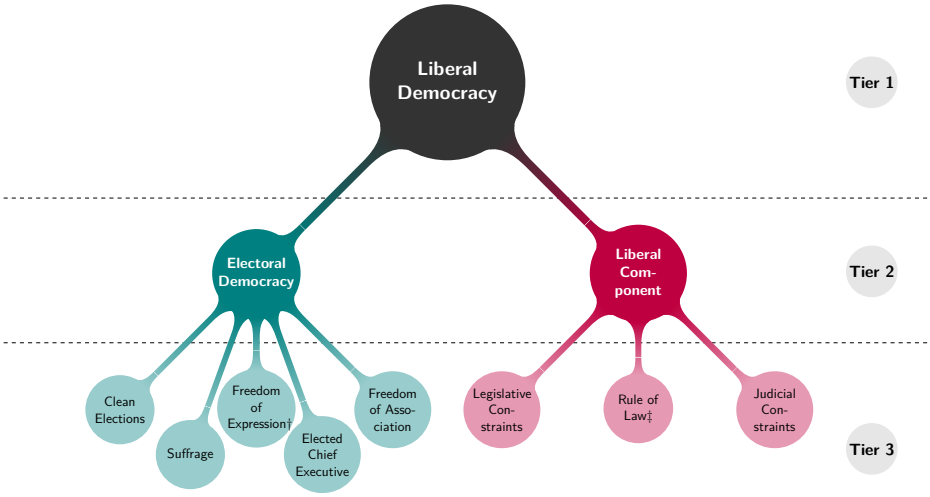
Stulz, R. M. and Williamson, R., 2003. 'Culture, openness, and finance', *Journal of Financial Economics* **70**(3), 313–349.

Xu, Y., 2017. 'Generalized synthetic control method: Causal inference with interactive fixed effects models', *Political Analysis* **25**(1), 57–76.

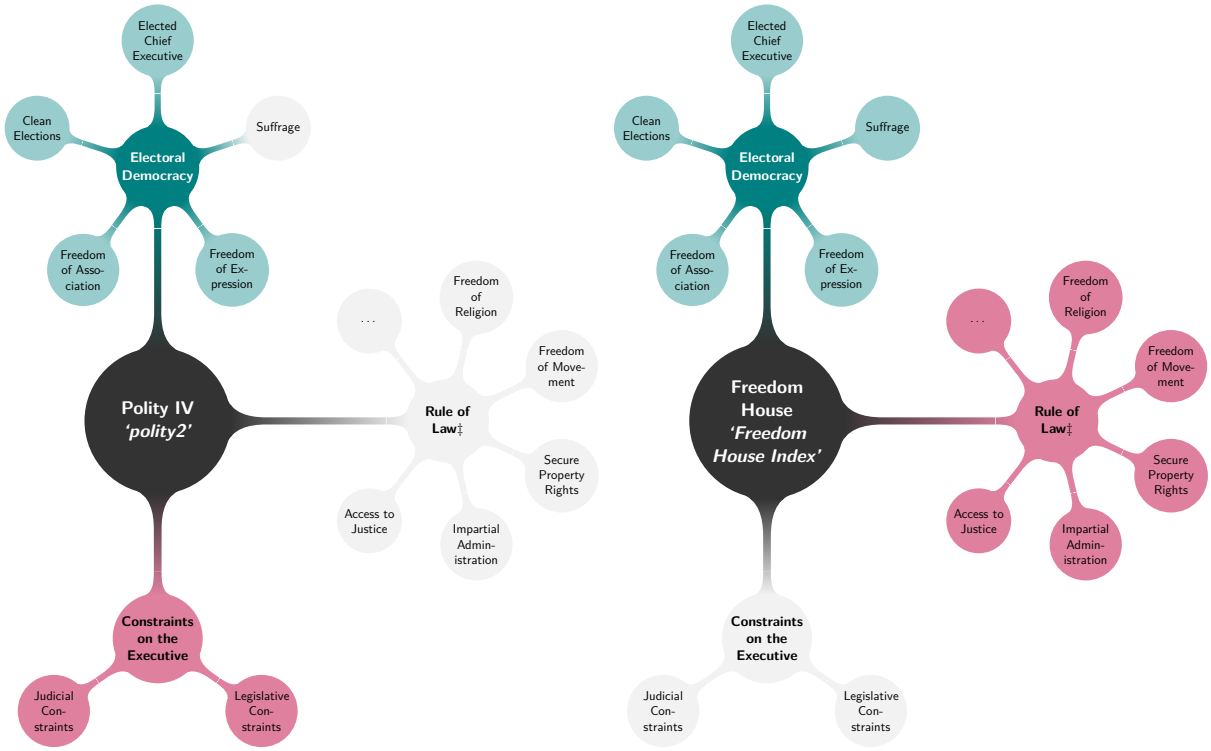
Online Appendix – Not Intended for Publication

A Data, Sample Makeup and Descriptives

Figure A-1: Definitions of Democratic Institutions



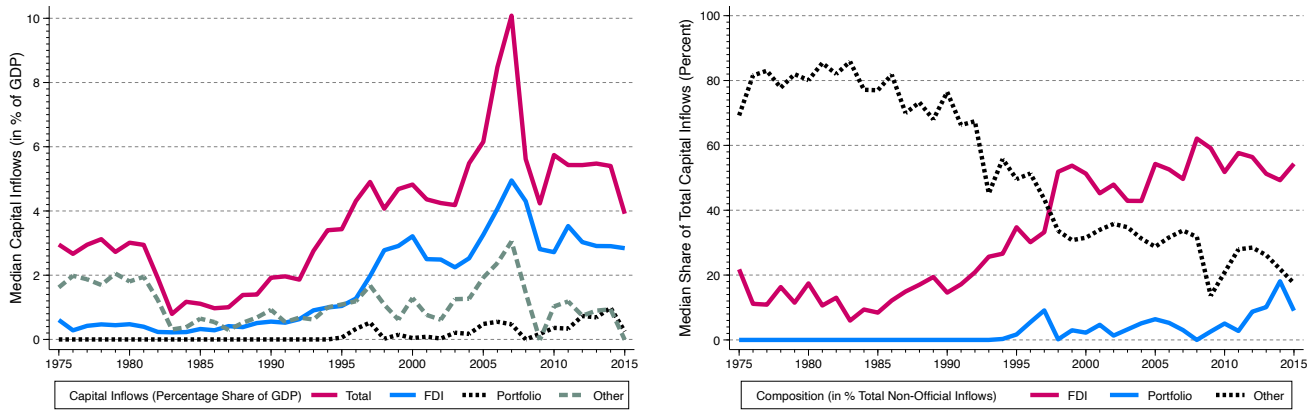
(a) V-Dem Definition of Liberal Democracy and its Components



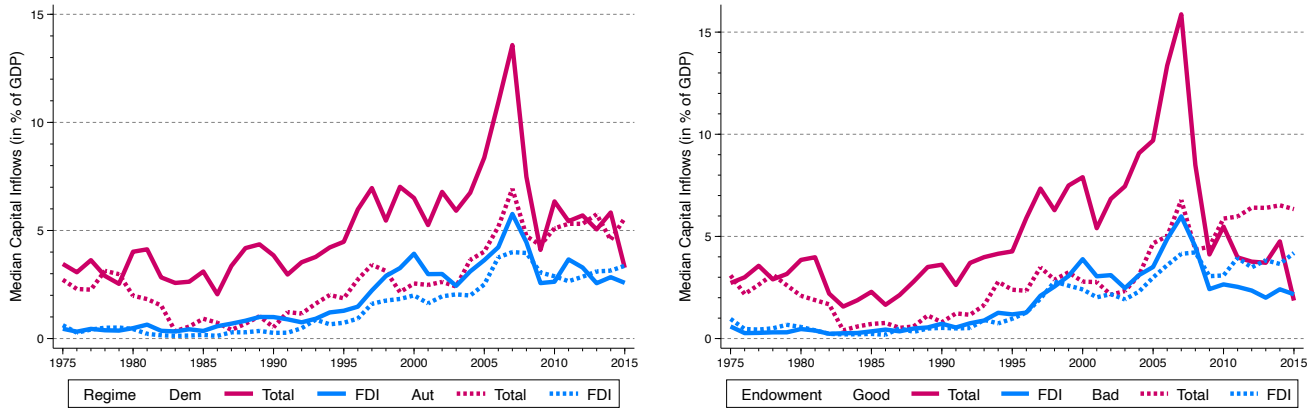
(b) The indices (Polity, FHI) combined in the ANRR definition of Democracy

Notes: The images present (a) the V-Dem conceptualisation of liberal democracy, and (b) an attempt at integrating the Polity IV 'polity2' and Freedom House FHI into the V-Dem framework. The lower panel provides greater distinction within the 'Rule of Law' set of institutions for reference. Institutions, concepts and practices shaded in light grey are not covered by the index in question. † This includes 'alternative sources of information'. ‡ In its entirety this component covers 'Individual Liberties and Equality before the Law.'

Figure A-2: Composition and Evolution of Capital Inflows



(a) Evolution (left) and Composition of Median Capital Inflows across all countries



(b) Evolution of Median Capital Inflows by Political Regime (left) and Geography

Notes: We present median capital flows (in percent of total inflows or in percent of GDP) for all countries in Panel (a) and by political regime and geography in Panel (b). Regime is defined by the V-Dem ERT variable (not countries experiencing democratic regime change), 'poor' geography by being located below the full sample average absolute latitude.

Table A-1: Sample Makeup – Capital Flow Analysis

	ISO	Country	Start	End	Obs	Miss	Income	CapFlow/GDP		ANRR Democracy Definition						Liberal Democracy Definition					
								Start	End	Always	Treat	AbsLat		Ctrl	AbsLat		Always	Treat	AbsLat		Ctrl	AbsLat	
												Hi	Lo		Hi	Lo			Hi	Lo		H	Lo
1	AGO	Angola	1985	2015	31		LMC	3.7	-1.5					26		26					31		31
2	ALB	Albania	1981	2015	35		UMC	0.0	10.5		30	30						35	35				
3	ARG	Argentina	1976	2015	40		UMC	-1.0	1.7		35	35						40	40				
4	ARM	Armenia	1993	2015	23		UMC	-2.1	9.4		18	18									23	23	
5	AUS	Australia	1970	2015	46		HIC	2.8	5.9	41							46						
6	AUT	Austria	1970	2015	46		HIC	3.5	-2.8	41							46						
7	AZE	Azerbaijan	1995	2015	21		UMC	12.9	8.5					16	16						21	21	
8	BDI	Burundi	1985	2015	31		LIC	0.8	8.0		26		26								31		31
9	BEL	Belgium	2002	2015	14		HIC	19.3	0.7	9							14						
10	BEN	Benin	1974	2014	41		LMC	2.4	5.3		37		37					41		41			
11	BFA	Burkina Faso	1974	2014	36	5	LIC	1.6	18.6		32		32					36		36			
12	BGD	Bangladesh	1976	2015	40		LMC	0.0	2.0		35	35									40	40	
13	BGR	Bulgaria	1981	2015	35		UMC	-1.2	4.9		30	30						35	35				
14	BIH	Bosnia & Herzeg	1998	2015	18		UMC	4.0	3.5					13	13			18	18				
15	BLR	Belarus	1993	2015	23		UMC	1.2	4.7		18	18						23	23				
16	BOL	Bolivia	1976	2015	40		LMC	2.1	6.1		35		35					40		40			
17	BRA	Brazil	1975	2015	41		UMC	5.5	5.9		36		36					41		41			
18	BRB	Barbados	1970	2013	44		HIC	15.2	10.6	41							44						
19	BWA	Botswana	2000	2015	16		UMC	1.9	3.9	11							16						
20	CAF	Central Afr Rep	1977	1994	18		LIC	1.4	-0.2		18		18								18		18
21	CAN	Canada	1970	2015	46		HIC	4.4	9.3	41							46						
22	CHE	Switzerland	1977	2015	39		HIC	-0.5	3.8	34							39						
23	CHL	Chile	1975	2015	41		HIC	-1.9	10.0		36	36						41	41				
24	CHN	China	1982	2015	34		UMC	0.2	4.3					29	29						34	34	
25	CIV	Cote d'Ivoire	1975	2013	39		LMC	4.7	3.7		36		36								39		39
26	CMR	Cameroon	1977	2015	39		LMC	1.7	1.3					34		34					39		39
27	COG	Congo, Rep	1978	2007	30		LMC	8.0	10.0		30		30								30		30
28	COL	Colombia	1970	2015	46		UMC	2.4	7.7	41								46		46			
29	COM	Comoros	1981	2012	25	7	LMC	1.0	4.7		23		23								25		25
30	CPV	Cabo Verde	1977	2015	39		LMC	0.1	6.8		34		34					39		39			
31	CRI	Costa Rica	1977	2015	39		UMC	9.6	11.2	34							39						
32	CYP	Cyprus	1976	2015	40		HIC	4.4	27.8	35							40						
33	CZE	Czech Rep	1993	2015	23		HIC	7.6	5.7	18							23						
34	DEU	Germany	1971	2015	45		HIC	2.0	0.9	40							45						
35	DJI	Djibouti	1991	2015	25		LMC	5.0	18.2		20		20								25		25
36	DNK	Denmark	1975	2015	41		HIC	1.7	0.7	36							41						
37	DOM	Dominican Rep	1977	2015	39		UMC	1.6	6.0		34		34								39		39
38	DZA	Algeria	1977	2015	26	13	LMC	9.8	1.1					21	21						26	26	
39	ECU	Ecuador	1976	2015	40		UMC	0.7	1.1		35		35					40		40			
40	EGY	Egypt	1977	2015	39		LMC	-4.4	1.7					34	34						39	39	
41	ESP	Spain	1975	2015	41		HIC	2.7	-1.4		36	36						41	41				
42	EST	Estonia	1993	2015	23		HIC	14.6	7.1	18							23						
43	ETH	Ethiopia	1977	2012	36		LIC	0.1	1.7		34		34								36		36
44	FIN	Finland	1975	2015	41		HIC	10.1	-16.3	36							41						
45	FRA	France	1975	2015	41		HIC	3.0	0.0	36							41						
46	GAB	Gabon	1978	2005	28		UMC	-2.6	1.0					28		28					28		28
47	GBR	United Kingdom	1970	2015	46		HIC	3.5	-0.6	41							46						
48	GEO	Georgia	1997	2015	19		UMC	7.3	11.5	14								19	19				
49	GHA	Ghana	1975	2015	41		LMC	0.5	7.8		36		36					41		41			
50	GIN	Guinea	1986	2013	28		LIC	-0.3	18.6		25		25								28		28
51	GMB	Gambia	1978	2012	30	5	LIC	1.0	-3.0		28		28								30		30
52	GNB	Guinea-Bissau	1982	2013	29	3	LIC	0.0	2.8		26		26								29		29
53	GRC	Greece	1976	2015	39	1	HIC	3.4	-9.8	34							39						
54	GTM	Guatemala	1977	2015	39		UMC	3.1	4.5		34		34					39		39			
55	HKG	Hong Kong	1998	2015	18		HIC	-85.6	64.6	13											18		18
56	HND	Honduras	1974	2015	42		LMC	4.6	7.9		37		37								42		42
57	HRV	Croatia	1993	2015	23		HIC	1.9	2.7		18	18						23	23				
58	HTI	Haiti	1971	2015	45		LIC	0.9	2.2		40		40								45		45
59	HUN	Hungary	1982	2015	34		HIC	0.0	-2.6		29	29						34	34				
60	IDN	Indonesia	1981	2015	35		UMC	0.2	5.1		30		30					35		35			
61	IND	India	1975	2015	41		LMC	0.0	6.9	36								41		41			
62	IRL	Ireland	1974	2015	42		HIC	13.7	76.4	37							42						
63	IRN	Iran	1981	2000	20		UMC	0.2	-0.2					20	20						20	20	
64	ISL	Iceland	1976	2015	40		HIC	1.3	-9.0	35							40						
65	ISR	Israel	1970	2015	46		HIC	5.9	3.1	41							46						
66	ITA	Italy	1970	2015	46		HIC	3.8	0.4	41							46						
67	JAM	Jamaica	1976	2015	40		UMC	-1.4	7.2	35								40		40			
68	JOR	Jordan	1972	2015	44		UMC	0.0	9.8					39	39						44	44	
69	JPN	Japan	1977	2015	39		HIC	0.0	0.5	34							39						
70	KAZ	Kazakhstan	1995	2015	21		UMC	7.3	7.7					16	16						21	21	

(Continued overleaf)

Table A-1: Sample Makeup – Capital Flow Analysis (continued)

	ISO	Country	Start	End	Obs	Miss	Income	CapFlow/GDP		ANRR Democracy Definition						Liberal Democracy Definition					
								Start	End	Always	Treat	AbsLat Hi	AbsLat Lo	Ctrl	AbsLat Hi	AbsLat Lo	Always	Treat	AbsLat Hi	AbsLat Lo	Ctrl	AbsLat H	AbsLat Lo
71	KEN	Kenya	1975	2014	40		LMC	2.4	6.9		36		36								40		40
72	KGZ	Kyrgyz Republic	1993	2015	23		LMC	1.8	8.5		18	18									23	23	
73	KHM	Cambodia	1992	2014	23		LMC	1.6	18.5		19		19								23		23
74	KOR	South Korea	1976	2015	40		HIC	5.2	-0.2		35	35						40	40				
75	KWT	Kuwait	1975	2015	41		HIC	-0.8	2.2					36	36						41	41	
76	LAO	Lao	1984	2015	32		LMC	0.4	9.3					27		27					32		32
77	LBN	Lebanon	2002	2015	14		UMC	10.5	15.5		9	9									14	14	
78	LBR	Liberia	1979	2015	21	16	LIC	0.1	36.5		16		16					21		21			
79	LBY	Libya	1977	2013	37		UMC	-0.1	1.1					34	34						37	37	
80	LKA	Sri Lanka	1975	2015	41		LMC	-0.8	6.1	36								41		41			
81	LSO	Lesotho	2000	2015	16		LMC	5.3	5.0	11								16	16				
82	LTU	Lithuania	1993	2015	23		HIC	-0.7	-0.4	18							23						
83	LUX	Luxembourg	2002	2015	14		HIC	701.0	1327.6	9							14						
84	LVA	Latvia	1992	2015	24		HIC	4.8	10.1		19	19					24						
85	MAR	Morocco	1975	2015	41		LMC	0.8	7.2					36	36						41	41	
86	MDA	Moldova	1994	2015	22		LMC	8.4	7.2	17								22	22				
87	MDG	Madagascar	1974	2013	40		LIC	0.3	8.1		37		37								40		40
88	MEX	Mexico	1979	2015	37		UMC	4.2	7.7		32	32						37	37				
89	MLI	Mali	1975	2014	40		LIC	0.0	3.3		36		36					40		40			
90	MLT	Malta	1971	2015	45		HIC	6.7	42.9	40							45						
91	MMR	Myanmar	1998	2015	18		LMC	4.2	3.2					13		13					18		18
92	MNG	Mongolia	1981	2015	35		LMC	0.0	29.9		30	30						35	35				
93	MOZ	Mozambique	1981	2015	35		LIC	0.0	40.2		30		30								35		35
94	MRT	Mauritania	1981	2015	22	13	LMC	8.4	17.4					18		18					22		22
95	MUS	Mauritius	1976	2015	40		HIC	-2.8	-7.2	35							40						
96	MWI	Malawi	1977	2015	39		LIC	2.5	9.3		34		34					39		39			
97	MYS	Malaysia	1974	2015	42		UMC	5.5	6.7					37		37					42		42
98	NAM	Namibia	2000	2015	16		UMC	7.8	10.5	11							16						
99	NER	Niger	1974	2013	40		LIC	2.1	18.0		37		37					40		40			
100	NGA	Nigeria	1977	2015	38	1	LMC	1.0	4.0		33		33					38		38			
101	NIC	Nicaragua	1977	2015	39		LMC	8.7	12.3		34		34					39		39			
102	NLD	Netherlands	1970	2015	46		HIC	9.4	-18.1	41							46						
103	NOR	Norway	1975	2015	41		HIC	8.1	10.0	36							41						
104	NPL	Nepal	1981	2015	35		LMC	0.3	2.1		30	30						35	35				
105	NZL	New Zealand	1972	2015	44		HIC	2.3	3.1	39							44						
106	OMN	Oman	1974	2015	42		HIC	-5.0	3.5					37		37					42		42
107	PAK	Pakistan	1976	2015	40		LMC	1.5	0.8		35	35									40	40	
108	PAN	Panama	1977	2015	39		HIC	120.0	18.0		34		34					39		39			
109	PER	Peru	1977	2015	39		UMC	0.7	8.6		34		34					39		39			
110	PHL	Philippines	1977	2015	39		LMC	4.3	2.7		34		34					39		39			
111	POL	Poland	1976	2015	40		HIC	8.1	3.2		35	35						40	40				
112	PRT	Portugal	1975	2015	41		HIC	-0.2	-5.9		36	36						41	41				
113	PRY	Paraguay	1975	2015	41		UMC	5.1	2.9		36		36					41		41			
114	RUS	Russian Fed	1994	2015	22		UMC	0.6	2.5		17	17									22	22	
115	RWA	Rwanda	1976	2015	40		LIC	-0.2	3.8					35		35					40		40
116	SAU	Saudi Arabia	1971	2015	45		HIC	-1.0	1.6					40	40						45	45	
117	SDN	Sudan	1977	2015	39		LIC	1.1	3.3		34		34								39		39
118	SEN	Senegal	1974	2014	41		LMC	3.4	7.9		37		37					41		41			
119	SGP	Singapore	1972	2015	44		HIC	19.1	38.2	39											44		44
120	SLE	Sierra Leone	1977	2014	35	3	LIC	1.9	26.6		31		31								35		35
121	SLV	El Salvador	1976	2015	40		LMC	3.6	5.4		35		35					40		40			
122	STP	Sao Tome & Pr	1974	2015	33	9	LMC	4.1	4.9		27		27					33		33			
123	SVK	Slovak Republic	1993	2015	23		HIC	6.9	7.7	18							23						
124	SVN	Slovenia	1993	2015	23		HIC	0.9	2.6	18							23						
125	SWE	Sweden	1970	2015	46		HIC	1.5	-6.0	41							46						
126	SWZ	Eswatini	2000	2015	16		LMC	7.4	0.0					11	11						16	16	
127	SYC	Seychelles	1976	2015	40		HIC	17.2	28.9					35		35					40		40
128	SYR	Syria	1977	2010	34		LIC	2.0	3.8					34	34						34	34	
129	TCD	Chad	1981	1994	14		LIC	-0.2	-2.2					14		14					14		14
130	TGO	Togo	1974	2015	42		LIC	-10.6	6.9					37		37					42		42
131	THA	Thailand	1975	2015	41		UMC	3.1	3.9		36		36					41		41			
132	TJK	Tajikistan	2002	2015	14		LIC	8.7	4.3					9	9						14	14	
133	TTO	Trinidad & Tob	1975	2011	37		HIC	3.5	-13.8	36							37						
134	TUN	Tunisia	1976	2015	40		LMC	8.3	5.2					35	35			40	40				
135	TUR	Turkey	1974	2015	42		UMC	0.7	8.4		37	37						42	42				
136	TZA	Tanzania	1976	2015	40		LMC	-0.4	6.6					35		35					40		40
137	UGA	Uganda	1980	2015	36		LIC	-0.1	5.5		31		31								36		36
138	UKR	Ukraine	1994	2015	22		LMC	6.8	4.4	17								22	22				
139	URY	Uruguay	1978	2015	38		HIC	1.8	10.6		33	33						38	38				
140	USA	United States	1970	2015	46		HIC	-0.3	5.0	41							46						

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Table A-1: Sample Makeup – Capital Flow Analysis (continued)

	ISO	Country	Start	End	Obs	Miss	Income	CapFlow/GDP		ANRR Democracy Definition						Liberal Democracy Definition					
								Start	End	Always	Treat	AbsLat		Ctrl	AbsLat		Always	Treat	AbsLat		Ctrl	AbsLat	
												Hi	Lo		Hi	Lo			Hi	Lo		H	Lo
141	VEN	Venezuela	1970	2015	45	1	UMC	0.2	1.7		40		40					45		45			
142	VNM	Vietnam	1996	2015	20		LMC	11.9	6.9					15		15					20		20
143	YEM	Yemen	1990	2015	26		LIC	-0.5	0.7					21		21					26		26
144	ZAF	South Africa	1998	2015	18		UMC	8.5	1.0	13													
145	ZMB	Zambia	1978	2015	33	5	LMC	5.8	10.0		28		28					33		33			
146	ZWE	Zimbabwe	1981	2015	21	14	LMC	1.7	8.5		16		16								21		21

Notes: We present the sample makeup for the capital flow analysis (1975-2015). Income indicates the World Bank Income Level category (Low - LIC, Lower Middle - LMC, Upper Middle - UMC, and High - HIC). We report the gross capital inflow over GDP for the first and last year of the country series, in percent. The remaining columns indicate treated and controls samples (total number of observations, respectively) for two democracy definitions: that by ANRR and the V-Dem Liberal Democracy (sample mean cutoff). 'Always' refers to countries that were democracies throughout the sample period, 'treat' to the treated sample, where absolute latitude ('Abslat') 'Hi' and 'Lo' provide the split for one of the many deep determinants we apply in our analysis. 'Ctrl' is the control sample, again split into 'Hi' and 'Lo' absolute latitude. Absolute latitude is one of the six geography proxies (plus four more in robustness checks) we adopt in the paper, in addition to proxies for culture, history and legal origin.

Table A-2: Sample Makeup – Excessive Capital Flow Analysis

	ISO	Country	Start	End	Obs	Miss	Income	Bonanzas	Surges	ANRR Democracy Definition						Liberal Democracy Definition					
										Always	Treat	AbsLat Hi	AbsLat Lo	Ctrl	AbsLat Hi	AbsLat Lo	Always	Treat	AbsLat Hi	AbsLat Lo	Ctrl	AbsLat Hi	AbsLat Lo
1	AGO	Angola	1996	2015	20		LMC	1	10					15		15					20		20
2	ALB	Albania	1994	2015	22		UMC	0	10		17	17						22	22				
3	ARM	Armenia	1994	2015	22		UMC	2	7		17	17									22	22	
4	AUS	Australia	1990	2015	26		HIC	1	10	21							26						
5	AZE	Azerbaijan	1996	2015	20		UMC	1	7					15	15						20	20	
6	BDI	Burundi	1986	2015	30		LIC	0	3		25		25								30		30
7	BGD	Bangladesh	1987	2015	29		LMC	1	0		24	24									29	29	
8	BGR	Bulgaria	1992	2015	24		UMC	1	11	19							24						
9	BHR	Bahrain	1981	2014	34		HIC	0	11					30	30						34	34	
10	BHS	Bahamas	1980	2015	36		HIC	0	12	31											36	36	
11	BLR	Belarus	1995	2015	21		UMC	2	5					16	16						21	21	
12	BLZ	Belize	1985	2015	31		UMC	0	9	26											31		31
13	BOL	Bolivia	1980	2015	36		LMC	1	8		31		31					36		36			
14	BRA	Brazil	1981	2015	35		UMC	3	6		30		30					35		35			
15	BRB	Barbados	1980	2013	34		HIC	1	10	31							34						
16	BWA	Botswana	1980	2015	36		UMC	0	9	31							36						
17	CAF	Central African Rep	1981	1994	14		LIC	0	0		14		14								14		14
18	CAN	Canada	1980	2015	36		HIC	2	13	31							36						
19	CHE	Switzerland	1981	2015	35		HIC	2	12	30							35						
20	CHL	Chile	1980	2015	36		HIC	2	11		31	31						36	36				
21	CHN	China	1987	2015	29		UMC	0	5					24	24						29	29	
22	CMR	Cameroon	1980	2015	36		LMC	1	2					31		31					36		36
23	COG	Congo, Rep	1986	2007	20	2	LMC	1	6		20		20								20		20
24	COL	Colombia	1980	2015	36		UMC	2	8	31								36		36			
25	CPV	Cabo Verde	1984	2015	32		LMC	1	12		27		27					32		32			
26	CRI	Costa Rica	1980	2015	36		UMC	2	10	31							36						
27	CYP	Cyprus	1980	2015	36		HIC	1	12	31							36						
28	CZE	Czech Republic	1994	2015	22		HIC	2	7	17							22						
29	DEU	Germany	1980	2015	36		HIC	1	12	31							36						
30	DJI	Djibouti	2001	2015	15		LMC	1	8		10		10								15		15
31	DMA	Dominica	1981	2013	33		UMC	0	12	30											33		33
32	DNK	Denmark	1980	2015	36		HIC	2	13	31							36						
33	DOM	Dominican Rep	1980	2015	36		UMC	1	3	31											36		36
34	DZA	Algeria	1980	2015	22	14	LMC	0	0					17	17						22	22	
35	ECU	Ecuador	1980	2015	36		UMC	1	6	31								36		36			
36	EGY	Egypt	1980	2015	36		LMC	2	4					31	31						36	36	
37	ESP	Spain	1980	2015	36		HIC	1	13	31							36						
38	EST	Estonia	1996	2015	20		HIC	2	7	15							20						
39	ETH	Ethiopia	1982	2012	31		LIC	2	0		29		29								31		31
40	FIN	Finland	1980	2015	36		HIC	2	13	31							36						
41	FJI	Fiji	1980	2015	36		UMC	0	12		31		31					36		36			
42	FRA	France	1980	2015	36		HIC	0	13	31							36						
43	GAB	Gabon	1980	2005	26		UMC	2	6					26		26					26		26
44	GBR	UK	1980	2015	36		HIC	3	13	31							36						
45	GEO	Georgia	1998	2015	18		UMC	1	6	13								18	18				
46	GHA	Ghana	1980	2015	36		LMC	1	8		31		31					36		36			
47	GMB	Gambia	1980	2012	27	6	LIC	2	5		25		25								27		27
48	GRC	Greece	1980	2015	34	2	HIC	2	8	29							34						
49	GRD	Grenada	1980	2013	34		UMC	0	12		31		31								34		34
50	GTM	Guatemala	1980	2015	36		UMC	3	5		31		31					36		36			
51	GUY	Guyana	1995	2015	21		UMC	0	3	16								21		21			
52	HKG	Hong Kong	1999	2015	15	2	HIC	1	4												15		15
53	HND	Honduras	1980	2015	25	11	LMC	2	8		20		20								25		25
54	HRV	Croatia	1996	2015	20		HIC	0	7		15	15						20	20				
55	HTI	Haiti	1980	2015	36		LIC	5	0		31		31								36		36
56	HUN	Hungary	1992	2015	24		HIC	2	11	19							24						
57	IDN	Indonesia	1982	2015	34		UMC	1	1		29		29					34		34			
58	IND	India	1980	2015	36		LMC	1	4	31							36						
59	ISL	Iceland	1980	2015	36		HIC	1	12	31							36						
60	ISR	Israel	1996	2015	20		HIC	2	7	15							20						
61	ITA	Italy	1980	2015	36		HIC	4	9	31							36						
62	JAM	Jamaica	1980	2015	36		UMC	1	12	31								36		36			
63	JOR	Jordan	1980	2015	36		UMC	3	14					31	31						36	36	
64	JPN	Japan	1997	2015	19		HIC	2	0	14							19						
65	KAZ	Kazakhstan	1996	2015	20		UMC	1	7					15	15						20	20	
66	KEN	Kenya	1980	2014	35		LMC	2	3		31		31								35		35
67	KGZ	Kyrgyz Republic	1996	2015	20		LMC	2	7		15	15									20	20	
68	KHM	Cambodia	1995	2014	20		LMC	1	7					16		16					20		20
69	KNA	St. Kitts and Nevis	1982	2013	32		HIC	0	11	28											32		32
70	KOR	South Korea	1980	2015	36		HIC	1	4		31	31						36	36				

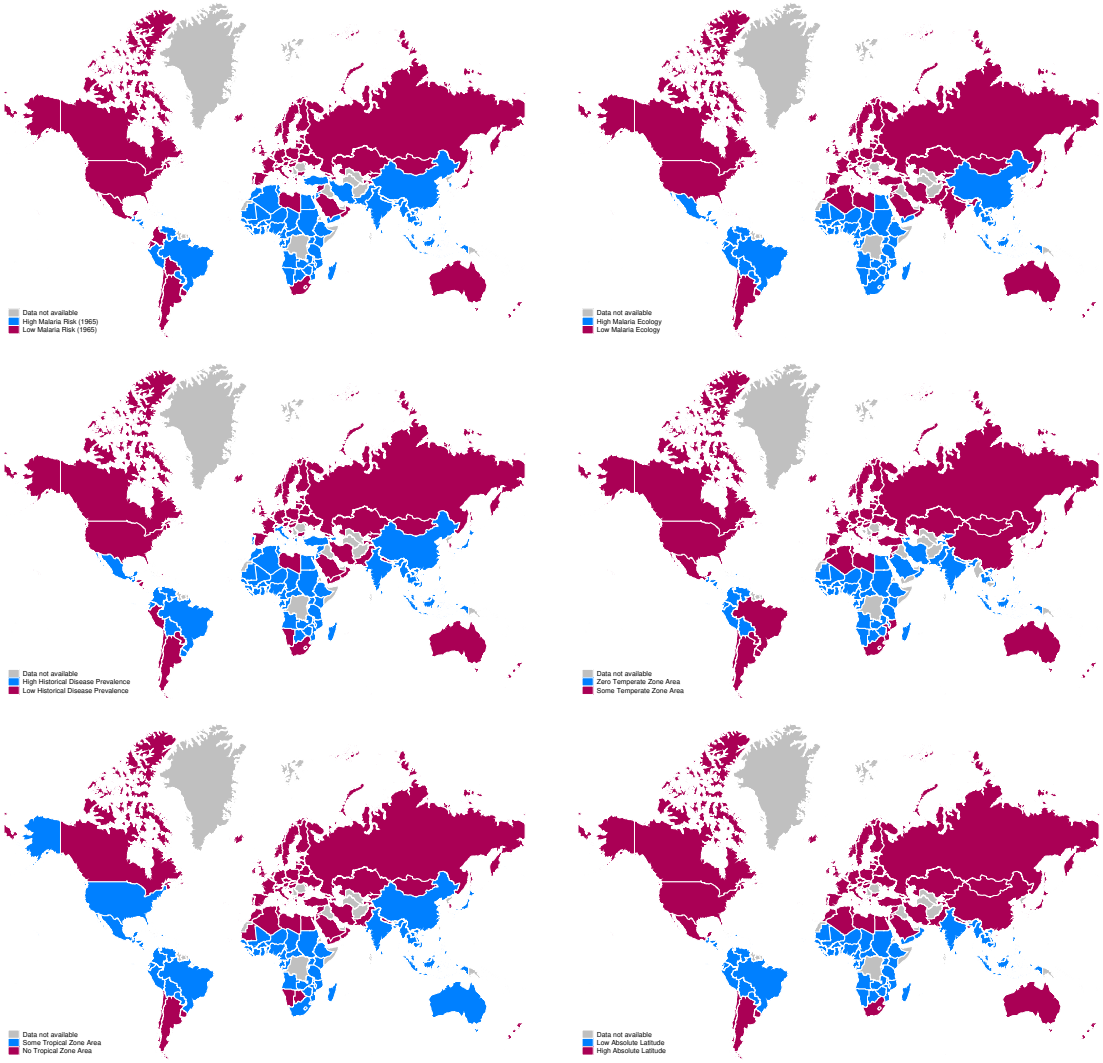
(Continued overleaf)

Table A-2: Sample Makeup – Excessive Capital Flow Analysis (continued)

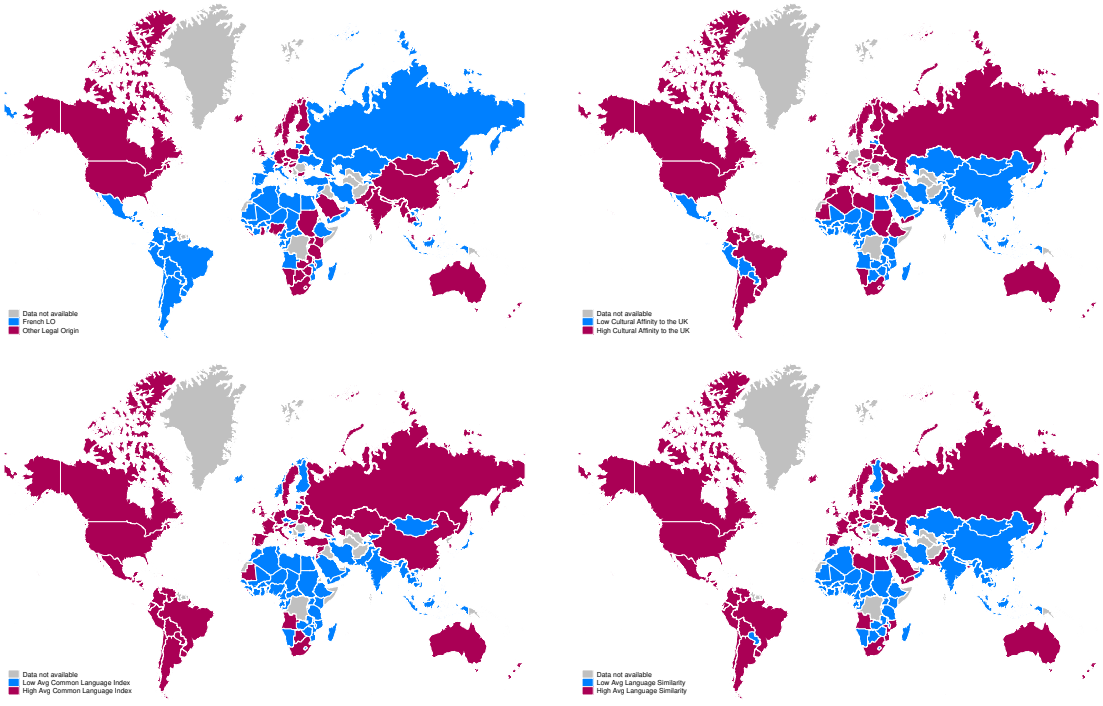
	ISO	Country	Start	End	Obs	Miss	Income	Bonanzas	Surges	ANRR Democracy Definition						Liberal Democracy Definition					
										Always	Treat	AbsLat Hi	AbsLat Lo	Ctrl	AbsLat Hi	AbsLat Lo	Always	Treat	AbsLat Hi	AbsLat Lo	Ctrl	AbsLat Hi	AbsLat Lo
71	KWT	Kuwait	1980	2015	34	2	HIC	2	4					29	29						34	34	
72	LAO	Lao	1989	2015	27		LMC	0	7					22		22					27		27
73	LBY	Libya	1991	2013	23		UMC	2	1					20	20						23	23	
74	LCA	St. Lucia	1981	2013	33		UMC	0	9	30											33		33
75	LKA	Sri Lanka	1980	2015	36		LMC	3	1	31											36		36
76	LSO	Lesotho	1981	2015	32	3	LMC	1	5		27	27						32	32				
77	LTU	Lithuania	1996	2015	20		HIC	1	7	15							20						
78	LUX	Luxembourg	2002	2015	14		HIC	2	5	9							14						
79	LVA	Latvia	1996	2015	20		HIC	2	7	15							20						
80	MAR	Morocco	1980	2015	36		LMC	2	3					31	31						36	36	
81	MDA	Moldova	1996	2015	20		LMC	4	7	15								20	20				
82	MDG	Madagascar	1980	2013	34		LIC	1	7		31		31								34		34
83	MEX	Mexico	1980	2015	36		UMC	1	8		31	31						36	36				
84	MKD	Macedonia	1997	2015	19		UMC	0	6	14								19	19				
85	MLT	Malta	1980	2015	36		HIC	1	14	31							36						
86	MMR	Myanmar	1998	2015	18		LMC	1	1					13		13					18		18
87	MNG	Mongolia	1993	2015	23		LMC	1	9	18							23						
88	MRT	Mauritania	1986	2015	16	14	LMC	0	2					13		13					16		16
89	MUS	Mauritius	1980	2015	36		HIC	2	11	31							36						
90	MWI	Malawi	1981	2015	35		LIC	1	3		30		30					35		35			
91	MYS	Malaysia	1980	2015	36		UMC	4	13					31		31					36		36
92	NGA	Nigeria	1980	2015	36		LMC	1	2		31		31								36		36
93	NIC	Nicaragua	2000	2015	16		LMC	0	9	11											16		16
94	NLD	Netherlands	1980	2015	36		HIC	2	14	31							36						
95	NOR	Norway	1980	2015	36		HIC	1	11	31							36						
96	NPL	Nepal	1980	2015	36		LMC	4	0		31	31						36	36				
97	NZL	New Zealand	2001	2015	15		HIC	3	5	10							15						
98	OMN	Oman	2001	2015	15		HIC	1	5					10		10					15		15
99	PAK	Pakistan	1980	2015	36		LMC	2	0		31	31									36	36	
100	PAN	Panama	1980	2015	36		HIC	2	9		31		31					36		36			
101	PER	Peru	1980	2015	36		UMC	2	10		31		31					36		36			
102	PHL	Philippines	1980	2015	36		LMC	1	5		31		31					36		36			
103	PNG	Papua New Guinea	1980	2015	36		LMC	0	5	31											36		36
104	POL	Poland	1991	2015	25		HIC	0	8	20							25						
105	PRT	Portugal	1980	2015	36		HIC	2	13	31							36						
106	PRY	Paraguay	1980	2015	36		UMC	2	1		31	31						36	36				
107	RUS	Russian Federation	1997	2015	19		UMC	2	6		14	14									19	19	
108	SAU	Saudi Arabia	1980	2015	36		HIC	0	3					31	31						36	36	
109	SDN	Sudan	1980	2015	36		LIC	0	2		31		31								36		36
110	SGP	Singapore	1980	2015	36		HIC	2	14												36		36
111	SLB	Solomon Islands	1980	2015	36		LMC	0	12		31		31					36		36			
112	SLV	El Salvador	1980	2015	36		LMC	1	5		31		31					36		36			
113	STP	Sao Tome and Principe	2002	2015	14		LMC	1	10	9							14						
114	SVK	Slovak Republic	1994	2015	22		HIC	1	7	17							22						
115	SVN	Slovenia	1996	2015	20		HIC	2	8	15							20						
116	SWE	Sweden	1980	2015	36		HIC	3	7	31							36						
117	SWZ	Eswatini	1980	2015	36		LMC	1	11					31	31						36	36	
118	SYC	Seychelles	1980	2015	36		HIC	3	11					31		31					36		36
119	SYR	Syria	1980	2010	31		LIC	1	3					31	31						31	31	
120	THA	Thailand	1980	2015	36		UMC	1	13		31		31								36		36
121	TON	Tonga	1980	2013	26	8	UMC	0	4					23		23					26		26
122	TTO	Trinidad and Tobago	1980	2011	32		HIC	1	3	31							32						
123	TUN	Tunisia	1984	2015	32		LMC	1	4					27	27			32	32				
124	TUR	Turkey	1980	2015	36		UMC	0	10		31	31						36	36				
125	TZA	Tanzania	1989	2015	27		LMC	1	2					22		22					27		27
126	UGA	Uganda	1994	2015	22		LIC	0	2					17		17					22		22
127	UKR	Ukraine	1995	2015	21		LMC	1	7	16											21	21	
128	URY	Uruguay	1980	2015	36		HIC	2	12		31	31						36	36				
129	USA	United States	1980	2015	36		HIC	2	11	31							36						
130	VCT	St. Vincent and the Grenadines	1980	2013	34		UMC	0	11	31											34		34
131	VNM	Vietnam	1997	2015	19		LMC	1	5					14		14					19		19
132	VUT	Vanuatu	1983	2015	33		LMC	0	10	28							33						
133	WSM	Samoa	1983	2015	28	5	UMC	0	2					23		23					28		28
134	ZAF	South Africa	1976	2015	40		UMC	2	5		31	31						36	36				
135	ZMB	Zambia	1974	2015	42		LMC	1	11		19		19					24		24			

Notes: We present the sample makeup for the excessive capital flow analysis (bonanzas, surges; 1980-2015). Income indicates the World Bank Income Level category (Low - LIC, Lower Middle - LMC, Upper Middle - UMC, and High - HIC). We report the bonanza and surge count adopting the 1SD and 1-year definitions, respectively. The remaining columns indicate treated and controls samples (total number of observations, respectively) for two democracy definitions: that by ANRR and the V-Dem Liberal Democracy (sample mean cutoff). 'Always' refers to countries that were democracies throughout the sample period, 'treat' to the treated sample, where absolute latitude ('Abslat') 'Hi' and 'Lo' provide the split for one of the many deep determinants we apply in our analysis. 'Ctrl' is the control sample, again split into 'Hi' and 'Lo' absolute latitude. Absolute latitude is one of the six geography proxies (plus four more in robustness checks) we adopt in the paper, in addition to proxies for culture, history and legal origin.

Figure A-3: Distribution of (Dichotomised) Deep Determinants



(a) Proxies for Geography



(b) French Legal Origin (top left) and Proxies for Culture

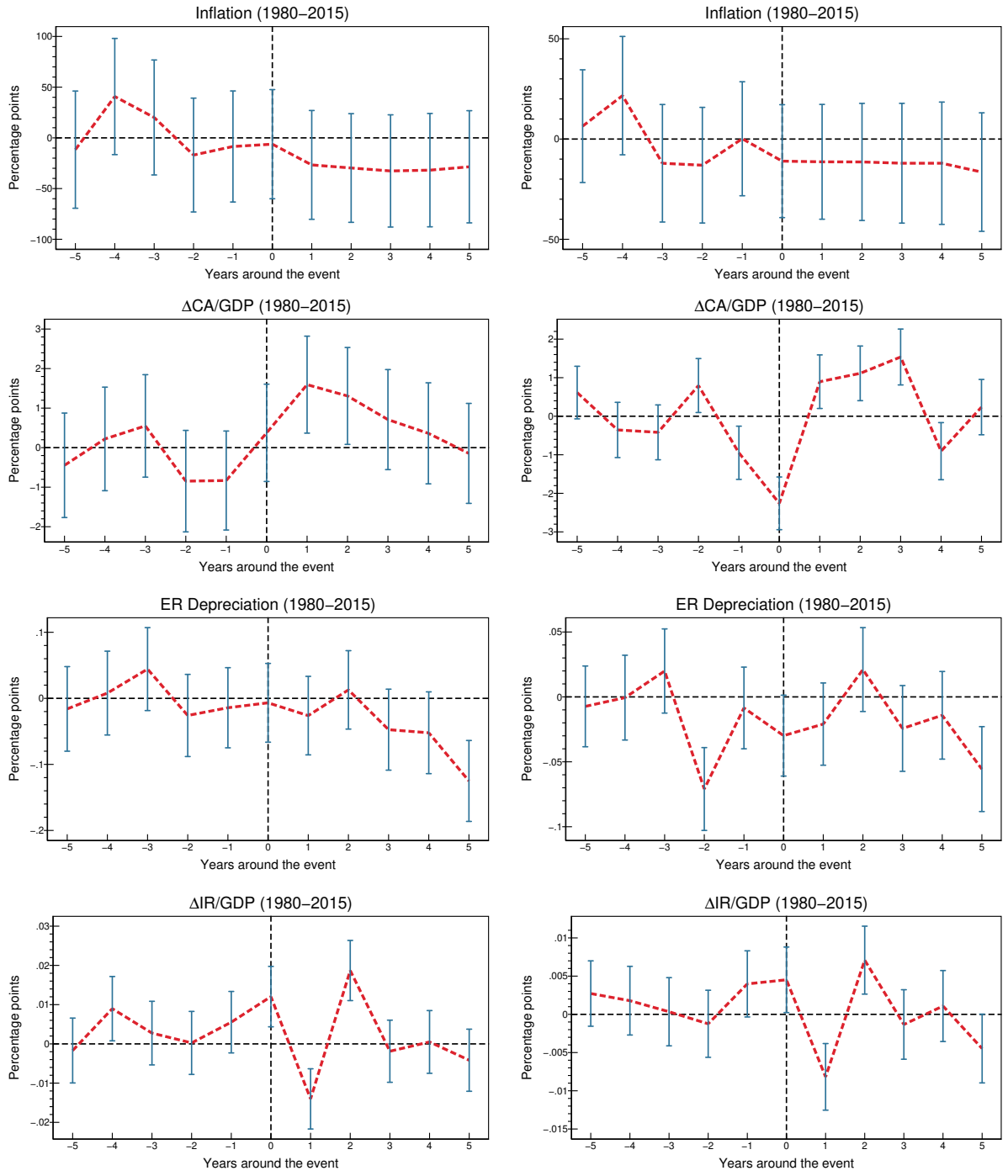
Notes: We present the distribution of countries for all deep determinant proxies. Grey indicates data are not available, dark pink (blue) shaded countries are those with supposedly beneficial (detrimental) deep determinants.

Table A-3: Deep Determinants: Pairwise Correlation

	Geography						LO	Culture		
	Malaria Ecology	Malaria Risk	Disease Prevalence	Zero Temperate	Some Tropics	Absolute Latitude	French Leg.Origin	Cult. Dist. from UK	Common Language	Language Similarity
Malaria Ecology	1.00 108									
Malaria Risk	0.58 108	1.00 109								
Disease Prevalence	0.52 108	0.50 109	1.00 109							
Zero Temperate	0.60 99	0.48 99	0.39 99	1.00 99						
Some Tropics	0.79 108	0.63 109	0.54 109	0.60 99	1.00 109					
Absolute Latitude	0.78 108	0.55 109	0.49 109	0.71 99	0.81 109	1.00 109				
French Legal Origin	0.09 108	-0.04 109	0.03 109	0.02 99	-0.02 109	0.09 109	1.00 109			
Cult. Distance from UK	0.47 102	0.41 102	0.26 102	0.56 99	0.53 102	0.41 102	-0.16 102	1.00 102		
Common Language	0.13 108	0.31 109	0.21 109	0.41 99	0.15 109	0.18 109	-0.15 109	0.38 102	1.00 109	
Language Similarity	0.28 108	0.35 109	0.30 109	0.35 99	0.31 109	0.38 109	-0.24 109	0.47 102	0.48 109	1.00 109

Notes: We present the pairwise correlation coefficients and sample sizes for the time-invariant deep determinants: geography (×6 proxies), French legal origin and culture (×3). This is for the treatment and control samples only, using Liberal Democracy as the regime change definition. Results are virtually identical if we use the full sample (including countries which have been democratic throughout the sample period). The mean (median) for 15 geography correlations is 0.60 (0.58), and for 3 culture correlations 0.44 (0.47). The mean (median) of 18 correlation between geography and culture is 0.32 (0.33), of 6 correlations between geography and legal origin is 0.03 (0.02), and of 3 correlations between legal origin and culture is -0.18 (-0.16).

Figure A-4: Event Analysis, total capital inflows, treated and control only (left: bonanza, right: surge)



Notes: We present selected event analysis plots for the period 1980-2015. The estimates are derived from event dummy lags and leads in a pooled regression with country fixed effects with 90% confidence intervals (blue bars), where the 'event' refers to a capital inflow bonanza (left column) or surge (right column) — we adopt the 1SD bonanza and single-year surge definitions, respectively. The sample is made up of countries which either experienced democratic regime change or remained autocracies throughout the sample period. Variables investigated are inflation, change in capital account-to-GDP ratio, depreciation and change in international reserves-to-GDP ratio. In contrast to the data used in our regressions there is no MA(3) transformation carried out here.

B Diagnostics and Robustness Checks

B.1 Main Analysis

Table B-1: Diagnostic Tests — PCDID Capital Flow Analysis

Democracy Indicator		ANRR		LibDem		Poly		Liberal		N
Deep Determinant Group		0	1	0	1	0	1	0	1	
Panel A: Total Non-Official Capital Inflows										
Controls: none										
Geography	Alpha $t > 1.96$	0.17	0.50	0.33	0.17	0.67	0.50	0.00	0.00	30
Alternative Deep Det	Alpha $t > 1.96$	0.50	1.00	0.50	0.25	0.75	0.50	0.00	0.00	20
Controls: export/trade										
Geography	Alpha $t > 1.96$	0.17	0.17	0.33	0.00	0.50	0.50	0.17	0.00	30
Alternative Deep Det	Alpha $t > 1.96$	0.50	0.75	0.50	0.25	0.75	0.25	0.00	0.00	20
Geography	$\chi^2(p) < 0.1$	0.00	0.13	0.00	0.17	0.00	0.27	0.00	0.00	30
Alternative Deep Det	$\chi^2(p) < 0.1$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20
Controls: export/trade, GDP pc growth, population growth										
Geography	Alpha $t > 1.96$	0.17	0.67	0.33	0.00	0.67	0.17	0.33	0.00	30
Alternative Deep Det	Alpha $t > 1.96$	0.75	0.75	0.50	0.25	1.00	0.75	0.25	0.00	20
Geography	$\chi^2(p) < 0.1$	0.67	0.93	0.33	0.93	0.83	1.00	1.00	1.00	30
Alternative Deep Det	$\chi^2(p) < 0.1$	0.70	1.00	0.40	0.50	0.75	0.85	1.00	1.00	20
Panel B: FDI Inflows										
Controls: none										
Geography	Alpha $t > 1.96$	0.33	0.67	0.00	0.00	0.67	0.17	0.33	0.17	30
Alternative Deep Det	Alpha $t > 1.96$	0.50	0.25	0.25	0.00	0.50	0.00	0.00	0.00	20
Controls: export/trade										
Geography	Alpha $t > 1.96$	0.33	1.00	0.00	0.00	0.50	0.17	0.17	0.00	30
Alternative Deep Det	Alpha $t > 1.96$	0.75	0.25	0.25	0.00	0.75	0.00	0.00	0.00	20
Geography	$\chi^2(p) < 0.1$	0.07	0.13	0.00	0.17	0.00	0.17	0.00	0.00	30
Alternative Deep Det	$\chi^2(p) < 0.1$	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	20
Controls: export/trade, GDP pc growth, population growth										
Geography	Alpha $t > 1.96$	0.00	1.00	0.33	0.17	0.50	0.33	0.17	0.17	30
Alternative Deep Det	Alpha $t > 1.96$	0.50	0.25	0.25	0.25	0.75	0.25	0.50	0.00	20
Geography	$\chi^2(p) < 0.1$	0.30	0.83	0.37	1.00	1.00	0.80	1.00	1.00	30
Alternative Deep Det	$\chi^2(p) < 0.1$	0.45	0.75	0.35	0.65	0.85	1.00	1.00	1.00	20

Notes: The table reports the rejection frequency across the 20 or 30 models analysed for each cell (and presented in Figures 4 and 5 in the maintext). The 'Alpha' test is for weak parallel trends, so if the null hypothesis is rejected the PCDID specification may be misspecified: we want to see very low rejection rates, like for the 'Liberal Component'. The χ^2 test is for bad controls, so if the null hypothesis is rejected ($p < 0.1$) we should not include this (set of) control(s): again, we want to see very low rejection rates, like for the models with export/trade as additional control. There are five alternative factor augmentations and four (alternative deep determinants) or six (geography) proxies for deep determinants, hence 20 or 30 models for each of the two deep determinant groups, respectively. These 20 or 30 models are represented in each estimate 'cloud' of the aforementioned figures.

Table B-2: Statistical Significance — PCDID Capital Flow Analysis

Democracy Indicator	ANRR		LibDem		Poly		Liberal		N
Deep Determinant Group	0	1	0	1	0	1	0	1	
Panel A: Total Non-Official Capital Inflows									
Controls: none									
Geography	0.93	0.67	1.00	0.60	0.70	0.80	1.00	0.63	30
Alternative Deep Det	0.40	0.70	0.80	0.75	0.80	0.55	0.70	0.90	20
Controls: export/trade									
Geography	0.97	0.97	1.00	0.80	0.23	1.00	1.00	0.60	30
Alternative Deep Det	0.55	0.85	0.80	0.90	0.90	0.65	0.70	0.90	20
Controls: export/trade, GDP pc growth, population growth									
Geography	0.13	0.00	0.53	0.60	0.30	0.53	0.93	0.10	30
Alternative Deep Det	0.00	0.25	0.70	0.65	0.30	0.45	0.20	0.55	20
Panel B: FDI Inflows									
Controls: none									
Geography	0.93	0.97	0.90	0.73	0.83	1.00	0.83	0.77	30
Alternative Deep Det	0.75	0.90	0.90	0.85	0.90	0.85	0.80	1.00	20
Controls: export/trade									
Geography	1.00	0.97	0.97	1.00	0.87	1.00	0.93	1.00	30
Alternative Deep Det	0.75	0.85	1.00	0.95	0.90	1.00	0.90	1.00	20
Controls: export/trade, GDP pc growth, population growth									
Geography	0.90	0.53	1.00	0.87	0.93	1.00	0.97	0.83	30
Alternative Deep Det	0.75	0.75	1.00	0.95	0.95	1.00	0.95	0.90	20

Notes: The table reports the rejection frequency across the 20 or 30 models analysed for each cell (and presented in Figures 4 and 5 in the maintext). These are for the t-tests (10% level) of the robust mean PCDID estimates (computed using the non-parametric variance estimator of Pesaran, 2006): if we see very high rejection rates this equates to statistical significance of the ATET presented in aforementioned figures. There are five alternative factor augmentations and four (alternative deep determinants) or six (geography) proxies for deep determinants, hence 20 or 30 models for each of the two deep determinant groups, respectively. These 20 or 30 models are represented in each estimate 'cloud' of the aforementioned figures.

B.2 Analysis using per capita capital flow definition

Table B-3: Diagnostic Tests — PCDID Capital Flow (per capita) Analysis

Democracy Indicator		ANRR		LibDem		Poly		Liberal		N
Deep Determinant Group		0	1	0	1	0	1	0	1	
Panel A: Total Non-Official Capital Inflows										
Controls: none										
Geography	Alpha t $>$ 1.96	0.33	0.67	0.33	0.83	0.50	1.00	0.00	0.00	30
Alternative Deep Det	Alpha t $>$ 1.96	0.25	1.00	0.75	0.50	0.75	0.75	0.50	0.00	20
Controls: export/trade										
Geography	Alpha t $>$ 1.96	0.33	0.67	0.33	1.00	0.50	1.00	0.00	0.00	30
Alternative Deep Det	Alpha t $>$ 1.96	0.50	1.00	0.75	0.50	0.75	0.75	0.25	0.00	20
Geography	$\chi^2(p) < 0.1$	0.07	0.13	0.00	0.07	0.00	0.13	0.00	0.00	30
Alternative Deep Det	$\chi^2(p) < 0.1$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20
Controls: export/trade, GDP pc growth, population growth										
Geography	Alpha t $>$ 1.96	0.33	1.00	0.33	1.00	0.50	1.00	0.00	0.17	30
Alternative Deep Det	Alpha t $>$ 1.96	0.50	1.00	0.50	0.75	0.75	0.75	0.00	0.00	20
Geography	$\chi^2(p) < 0.1$	0.60	1.00	0.53	0.90	0.80	0.93	1.00	1.00	30
Alternative Deep Det	$\chi^2(p) < 0.1$	0.70	0.95	0.90	0.40	0.90	0.55	1.00	0.75	20
Panel B: FDI Inflows										
Controls: none										
Geography	Alpha t $>$ 1.96	0.33	0.83	0.33	1.00	0.50	1.00	0.00	0.17	30
Alternative Deep Det	Alpha t $>$ 1.96	0.50	0.75	0.50	0.75	0.50	0.75	0.25	0.25	20
Controls: export/trade										
Geography	Alpha t $>$ 1.96	0.33	0.83	0.33	1.00	0.50	1.00	0.00	0.17	30
Alternative Deep Det	Alpha t $>$ 1.96	0.25	0.75	0.50	0.75	0.75	0.75	0.00	0.25	20
Geography	$\chi^2(p) < 0.1$	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	30
Alternative Deep Det	$\chi^2(p) < 0.1$	0.05	0.00	0.00	0.00	0.20	0.00	0.00	0.00	20
Controls: export/trade, GDP pc growth, population growth										
Geography	Alpha t $>$ 1.96	0.00	1.00	0.33	1.00	0.50	1.00	0.00	0.17	30
Alternative Deep Det	Alpha t $>$ 1.96	0.25	0.75	0.75	0.75	0.75	0.75	0.00	0.25	20
Geography	$\chi^2(p) < 0.1$	0.17	0.83	0.33	1.00	0.77	1.00	1.00	1.00	30
Alternative Deep Det	$\chi^2(p) < 0.1$	0.35	0.70	0.15	0.50	1.00	0.75	1.00	0.85	20

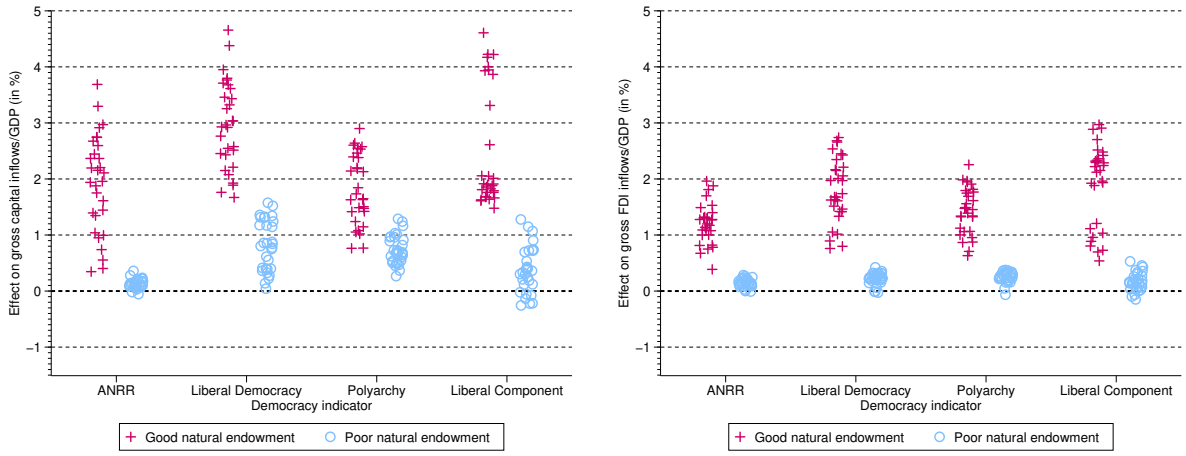
Notes: The table reports the rejection frequency across the 20 or 30 models analysed for each cell (and presented in Figures B-1 and B-2 below). The 'Alpha' test is for weak parallel trends, so if the null hypothesis is rejected the PCDID specification may be misspecified: we want to see very low rejection rates, like for some specifications of the 'Liberal Component'. The χ^2 test is for bad controls, so if the null hypothesis is rejected ($p < .1$) we should not include this (set of) control(s): again, we want to see very low rejection rates, like for the models with export/trade as additional control. There are five alternative factor augmentations and four (alternative deep determinants) or six (geography) proxies for deep determinants, hence 20 or 30 models for each of the two deep determinant groups, respectively. These 20 or 30 models are represented in each estimate 'cloud' of the aforementioned figures.

Table B-4: Statistical Significance — PCDID Capital Flow Analysis (per capita)

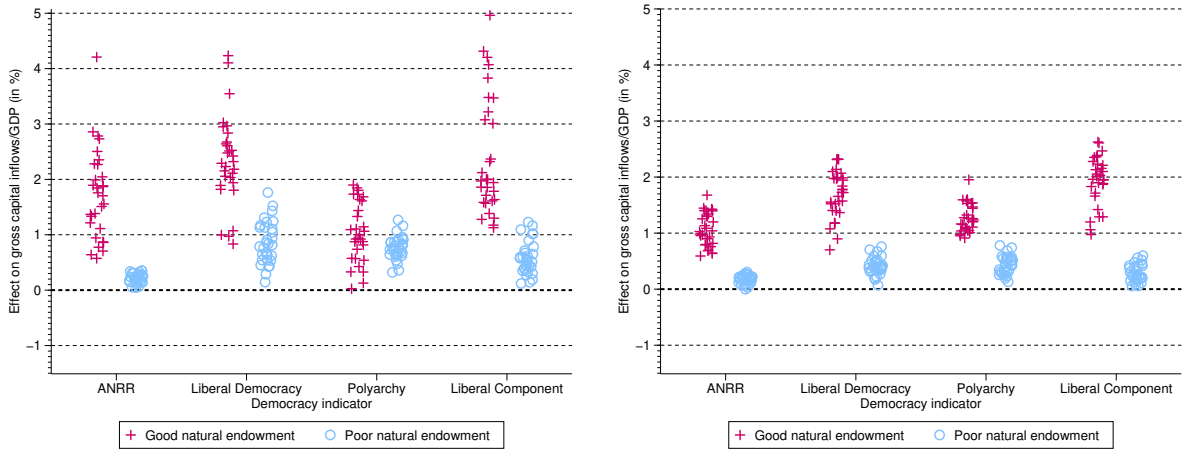
Democracy Indicator	ANRR		LibDem		Poly		Liberal		N
Deep Determinant Group	0	1	0	1	0	1	0	1	
Panel A: Total Non-Official Capital Inflows									
Controls: none									
Geography	0.83	0.27	1.00	0.83	0.90	1.00	1.00	0.70	30
Alternative Deep Det	0.45	0.20	1.00	0.95	0.85	0.85	0.70	0.95	20
Controls: export/trade									
Geography	0.73	1.00	0.87	0.90	0.13	1.00	0.87	0.80	30
Alternative Deep Det	0.65	0.85	0.85	0.90	0.40	0.80	0.85	1.00	20
Controls: export/trade, GDP pc growth, population growth									
Geography	0.00	0.07	0.70	0.80	0.47	0.50	0.70	0.87	30
Alternative Deep Det	0.00	0.25	0.65	0.80	0.20	0.60	0.90	0.65	20
Panel B: FDI Inflows									
Controls: none									
Geography	1.00	0.80	0.97	0.60	0.97	0.80	1.00	0.33	30
Alternative Deep Det	0.70	0.45	0.85	0.75	0.90	0.95	0.70	1.00	20
Controls: export/trade									
Geography	0.90	1.00	1.00	0.97	0.97	1.00	1.00	0.83	30
Alternative Deep Det	0.75	0.65	0.90	1.00	0.90	1.00	0.80	1.00	20
Controls: export/trade, GDP pc growth, population growth									
Geography	0.70	0.07	1.00	0.93	0.97	1.00	1.00	0.90	30
Alternative Deep Det	0.35	0.25	1.00	0.70	0.95	0.60	0.90	0.90	20

Notes: The table reports the rejection frequency across the 20 or 30 models analysed for each cell (and presented in Figures B-1 and B-2 below). These are for the t-tests (10% level) of the robust mean PCDID estimates (computed using the non-parametric variance estimator of Pesaran, 2006): if we see very high rejection rates this equates to statistical significance of the ATET presented in the aforementioned figures. There are five alternative factor augmentations and four (alternative deep determinants) or six (geography) proxies for deep determinants, hence 20 or 30 models for each of the two deep determinant groups, respectively. These 20 or 30 models are represented in each estimate 'cloud' of the aforementioned figures.

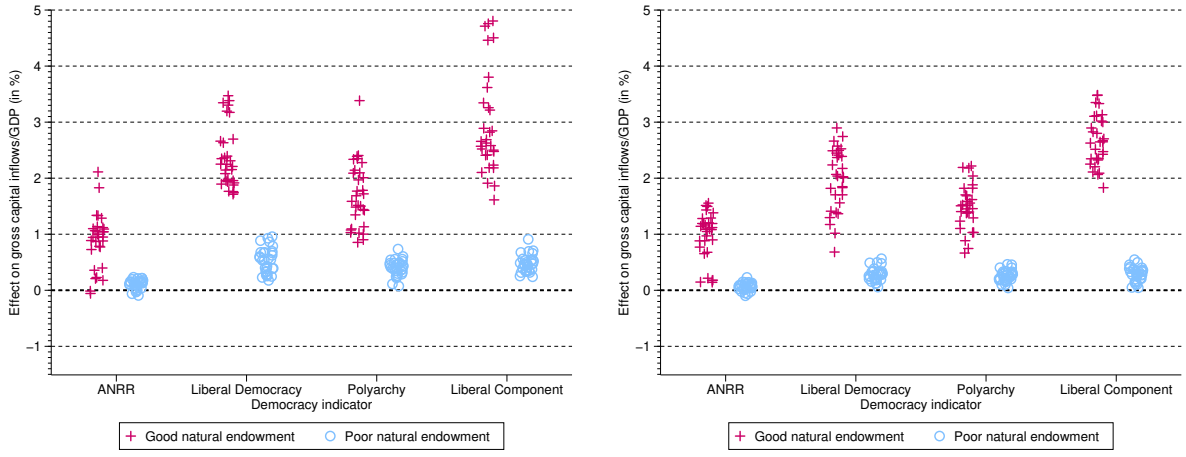
Figure B-1: Democracy, Geography and Capital Inflows (per capita definition)



(a) Total Non-Official Capital Inflows (left) and Total FDI Inflows (right) – no controls



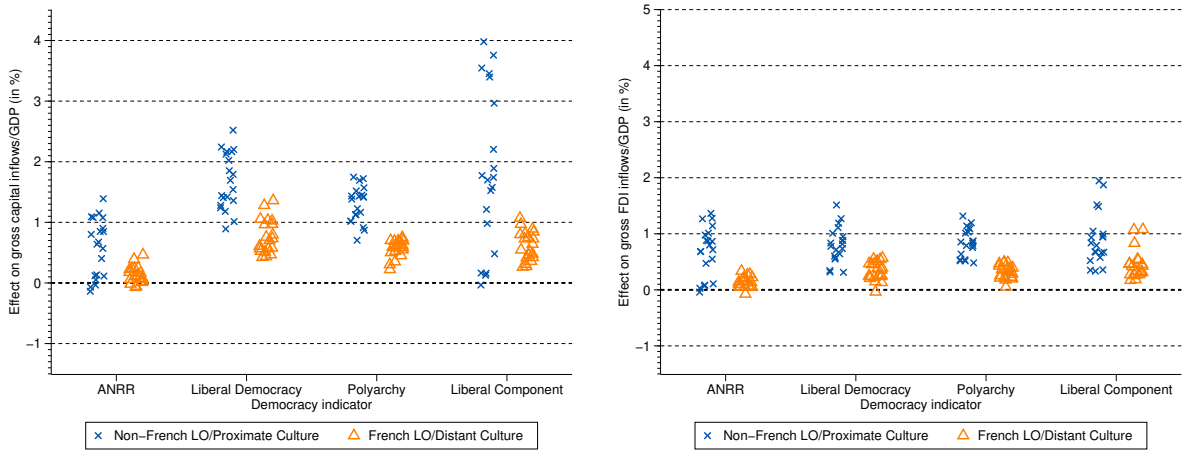
(b) Dto – trade/GDP as additional control



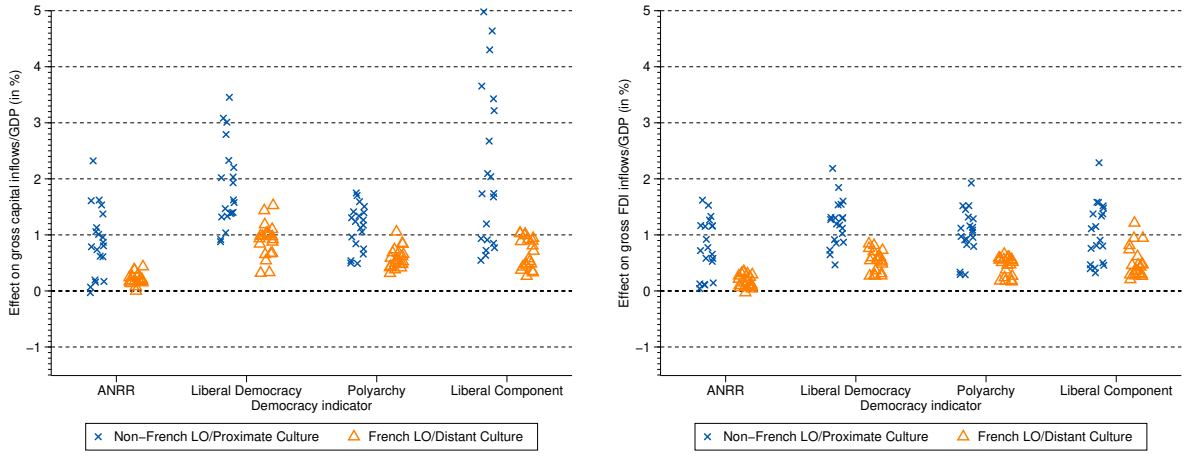
(c) Dto – trade/GDP, pop growth and GDPpc growth as controls

Notes: The plots present robust ATET (Mean Group PCDID) estimates for the causal effect of democracy on capital inflows by geography (+ and o for good and poor geography, respectively), using four different definitions of democratic regime change. These are the results using per capita capital inflows as dependent variable. See Figure 4 in the maintext for all other details.

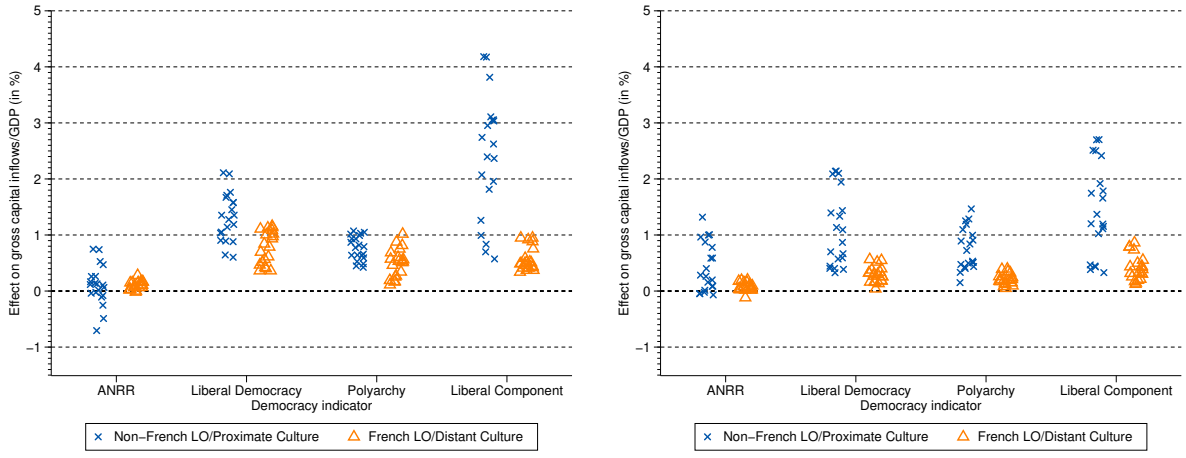
Figure B-2: Democracy, Alternative Deep Determinants and Capital Inflows (per capita definition)



(a) Total Non-Official Capital Inflows (left) and Total FDI Inflows (right) – no controls



(b) Dto – trade/GDP as additional control



(c) Dto – trade/GDP, pop growth and GDPpc growth as controls

Notes: The plots present robust ATET (Mean Group PCDID) estimates for the causal effect of democracy on capital inflows by Legal Origin and Culture (x for non-French LO/proximate culture and △ for French LO/distant culture), using four different definitions of democratic regime change. These are the results using per capita definitions of capital flow measures. See Figure 5 in the maintext for all other details.

B.3 Analysis using WDI data and reduced sample size

Table B-5: Diagnostic Tests — PCDID Capital Flow (WDI data) Analysis

Democracy Indicator		ANRR		LibDem		Poly		Liberal		N
Deep Determinant Group		0	1	0	1	0	1	0	1	
Panel A: Total Non-Official Capital Inflows										
Controls: none										
Geography	Alpha t $>$ 1.96	0.67	0.33	0.50	0.50	0.83	0.00	0.50	0.50	30
Alternative Deep Det	Alpha t $>$ 1.96	0.50	0.50	0.83	0.00	0.50	0.50	0.83	1.00	20
Controls: export/trade										
Geography	Alpha t $>$ 1.96	1.00	1.00	0.50	0.67	0.33	0.00	0.50	0.83	30
Alternative Deep Det	Alpha t $>$ 1.96	0.50	0.67	0.33	0.00	0.50	0.83	0.67	0.33	20
Geography	$\chi^2(p) < 0.1$	0.00	0.13	0.00	0.17	0.00	0.27	0.00	0.00	30
Alternative Deep Det	$\chi^2(p) < 0.1$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20
Controls: export/trade, GDP pc growth, population growth										
Geography	Alpha t $>$ 1.96	1.00	0.83	0.67	1.00	0.33	0.83	0.67	1.00	30
Alternative Deep Det	Alpha t $>$ 1.96	0.67	1.00	0.33	0.83	0.67	1.00	1.00	1.00	20
Geography	$\chi^2(p) < 0.1$	0.67	0.93	0.33	0.93	1.00	1.00	0.83	1.00	30
Alternative Deep Det	$\chi^2(p) < 0.1$	0.70	1.00	0.40	0.50	0.75	0.85	1.00	1.00	20
Panel B: FDI Inflows										
Controls: none										
Geography	Alpha t $>$ 1.96	0.83	0.33	0.33	0.17	0.67	0.50	0.67	0.33	30
Alternative Deep Det	Alpha t $>$ 1.96	0.33	0.17	0.67	0.33	0.50	0.25	0.67	0.50	20
Controls: export/trade										
Geography	Alpha t $>$ 1.96	1.00	0.33	0.17	0.00	0.83	0.50	0.33	0.17	30
Alternative Deep Det	Alpha t $>$ 1.96	0.17	0.00	0.33	0.17	0.83	0.33	0.83	0.50	20
Geography	$\chi^2(p) < 0.1$	0.07	0.13	0.00	0.17	0.00	0.17	0.00	0.00	30
Alternative Deep Det	$\chi^2(p) < 0.1$	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	20
Controls: export/trade, GDP pc growth, population growth										
Geography	Alpha t $>$ 1.96	1.00	0.50	0.67	0.33	0.83	0.83	0.83	0.33	30
Alternative Deep Det	Alpha t $>$ 1.96	0.67	0.33	0.83	0.33	1.00	0.33	0.83	0.83	20
Geography	$\chi^2(p) < 0.1$	0.30	0.83	0.37	1.00	0.80	1.00	1.00	1.00	30
Alternative Deep Det	$\chi^2(p) < 0.1$	0.45	0.75	0.35	0.65	0.85	1.00	1.00	1.00	20

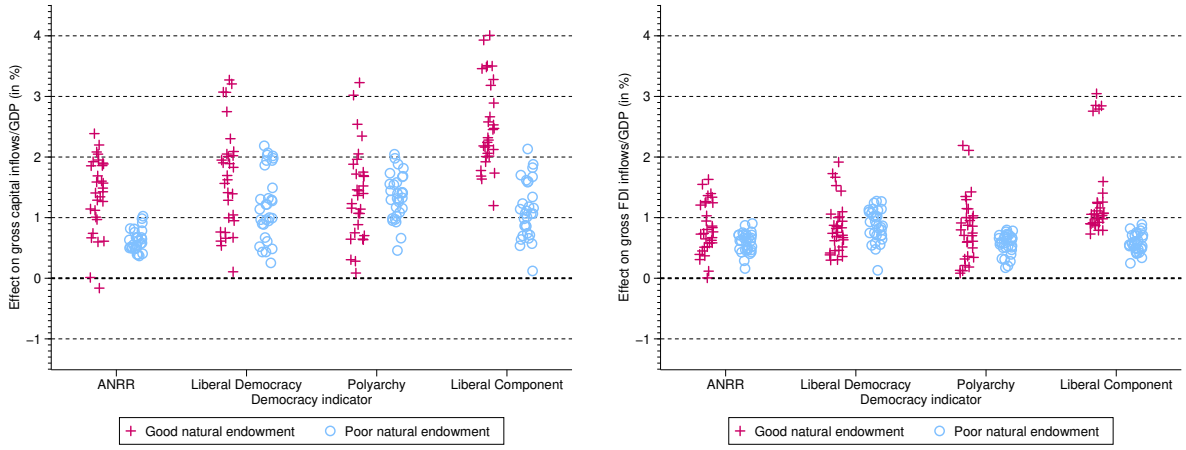
Notes: The table reports the rejection frequency across the 20 or 30 models analysed for each cell (and presented in Figures B-3 and B-4 below). The 'Alpha' test is for weak parallel trends, so if the null hypothesis is rejected the PCDID specification may be misspecified: we want to see very low rejection rates, like for some specifications of the 'Liberal Component'. The χ^2 test is for bad controls, so if the null hypothesis is rejected ($p < .1$) we should not include this (set of) control(s): again, we want to see very low rejection rates, like for the models with export/trade as additional control. There are five alternative factor augmentations and four (alternative deep determinants) or six (geography) proxies for deep determinants, hence 20 or 30 models for each of the two deep determinant groups, respectively. These 20 or 30 models are represented in each estimate 'cloud' of the aforementioned figures.

Table B-6: Statistical Significance — PCDID Capital Flow Analysis (WDI data)

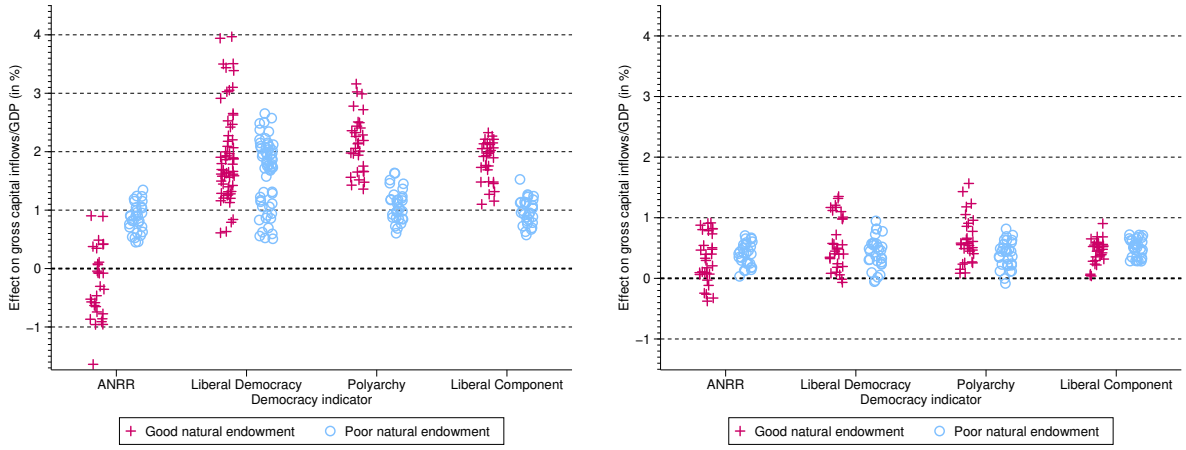
Democracy Indicator	ANRR		LibDem		Poly		Liberal		N
Deep Determinant Group	0	1	0	1	0	1	0	1	
Panel A: Total Non-Official Capital Inflows									
Controls: none									
Geography	0.33	0.33	0.57	0.43	0.40	0.93	0.93	0.73	30
Alternative Deep Det	0.20	0.35	0.75	0.60	0.75	0.40	0.75	0.95	20
Controls: export/trade									
Geography	0.00	0.77	0.57	0.73	0.87	0.83	0.73	0.80	30
Alternative Deep Det	0.00	0.65	0.75	0.65	0.45	0.75	0.70	0.95	20
Controls: export/trade, GDP pc growth, population growth									
Geography	0.00	0.07	0.30	0.10	0.80	0.00	0.17	0.00	30
Alternative Deep Det	0.00	0.05	0.45	0.05	0.50	0.05	0.20	0.05	20
Panel B: FDI Inflows									
Controls: none									
Geography	0.60	0.97	0.57	0.83	0.40	0.63	0.80	0.83	30
Alternative Deep Det	0.50	0.90	0.45	0.50	0.35	0.55	0.30	0.85	20
Controls: export/trade									
Geography	0.10	0.70	0.30	0.13	0.23	0.27	0.03	0.70	30
Alternative Deep Det	0.15	0.90	0.15	0.45	0.00	0.20	0.25	0.60	20
Controls: export/trade, GDP pc growth, population growth									
Geography	0.00	0.13	0.43	0.20	0.33	0.00	0.03	0.00	30
Alternative Deep Det	0.05	0.15	0.60	0.25	0.00	0.00	0.15	0.10	20

Notes: The table reports the rejection frequency across the 20 or 30 models analysed for each cell (and presented in Figures B-3 and B-4 below). These are for the t-tests (10% level) of the robust mean PCDID estimates (computed using the non-parametric variance estimator of Pesaran, 2006): if we see very high rejection rates this equates to statistical significance of the ATET presented in the aforementioned figures. There are five alternative factor augmentations and four (alternative deep determinants) or six (geography) proxies for deep determinants, hence 20 or 30 models for each of the two deep determinant groups, respectively. These 20 or 30 models are represented in each estimate 'cloud' of the aforementioned figures.

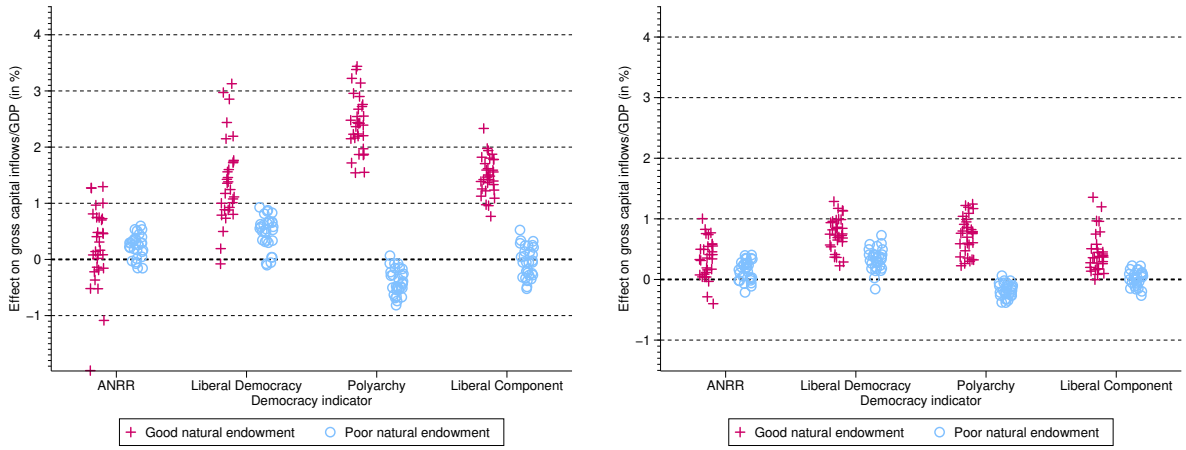
Figure B-3: Democracy, Geography and Capital Inflows (WDI)



(a) Total Non-Official Capital Inflows (left) and Total FDI Inflows (right) – no controls



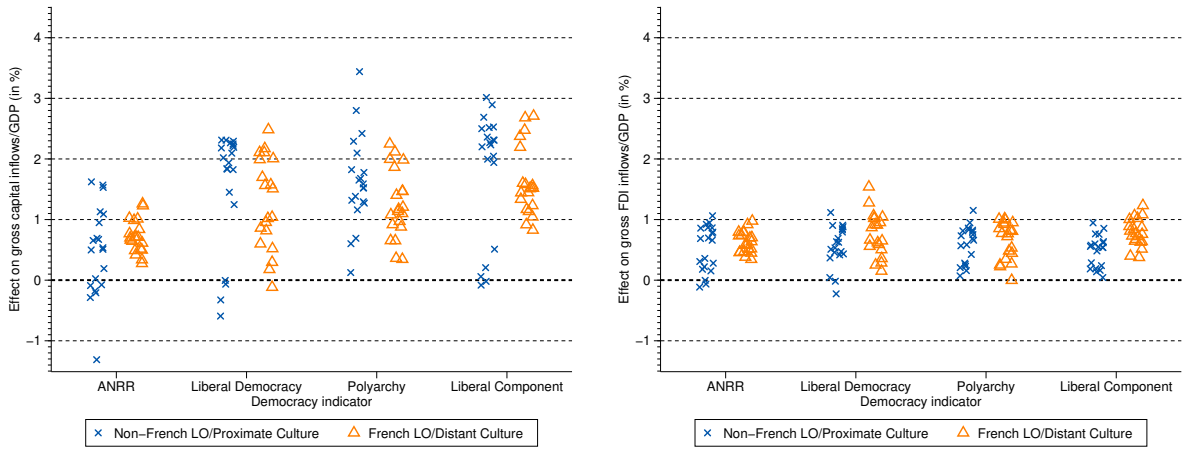
(b) Dto – trade/GDP as additional control



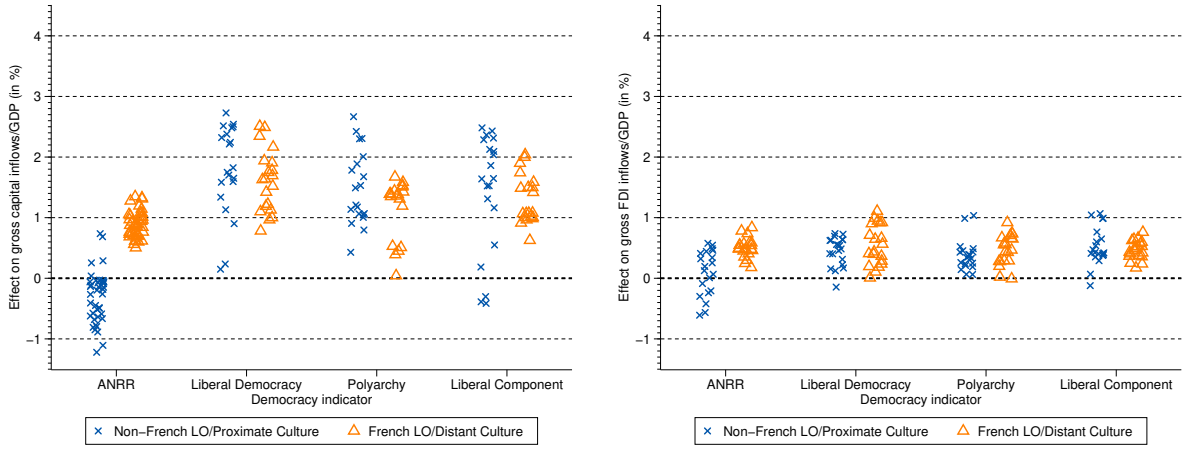
(c) Dto – trade/GDP, pop growth and GDPpc growth as controls

Notes: The plots present robust ATET (Mean Group PCDID) estimates for the causal effect of democracy on capital inflows by geography (+ and o for good and poor geography, respectively), using four different definitions of democratic regime change. These are the results using WDI data/coverage, which reduces the overall sample (treated, controls, discarded 'always' democracies) by approximately 15 percent, and the treated sample by around 30 percent. See Figure 4 in the maintext for all other details.

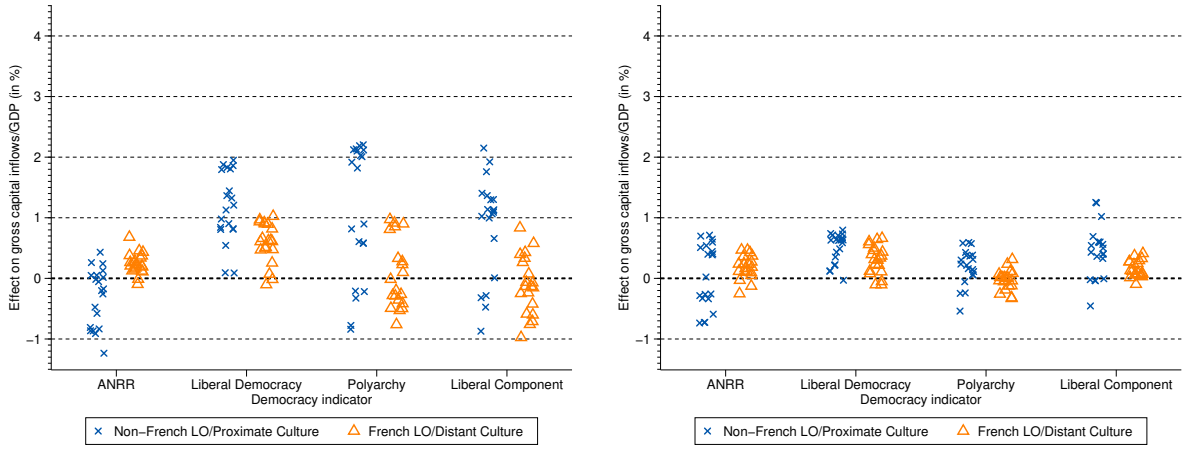
Figure B-4: Democracy, Alternative Deep Determinants and Capital Inflows (WDI)



(a) Total Non-Official Capital Inflows (left) and Total FDI Inflows (right) – no controls



(b) Dto – trade/GDP as additional control

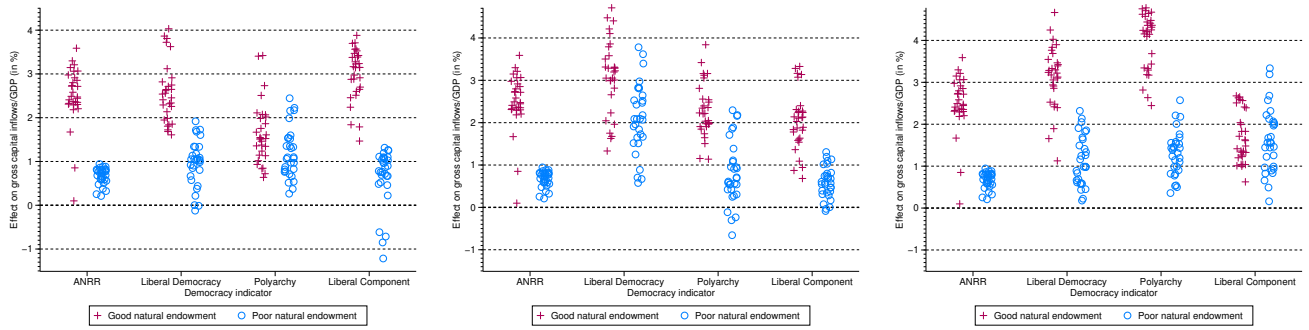


(c) Dto – trade/GDP, pop growth and GDPpc growth as controls

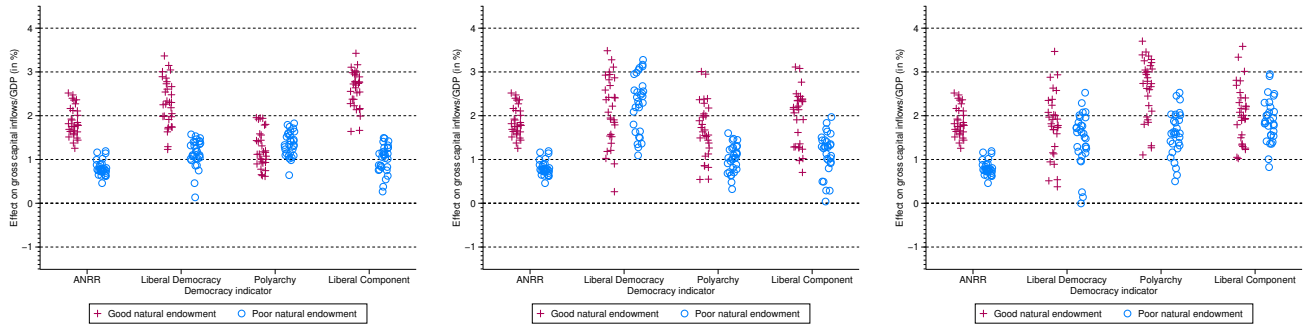
Notes: The plots present robust ATET (Mean Group PCDID) estimates for the causal effect of democracy on capital inflows by Legal Origin and Culture (x for non-French LO/proximate culture and △ for French LO/distant culture), using four different definitions of democratic regime change. These are the results using WDI data/coverage, which reduces the overall sample (treated, controls, discarded 'always' democracies) by approximately 15 percent, and the treated sample by around 30 percent. See Figure 5 in the maintext for all other details.

B.4 Analysis using tighter democracy thresholds (V-Dem data)

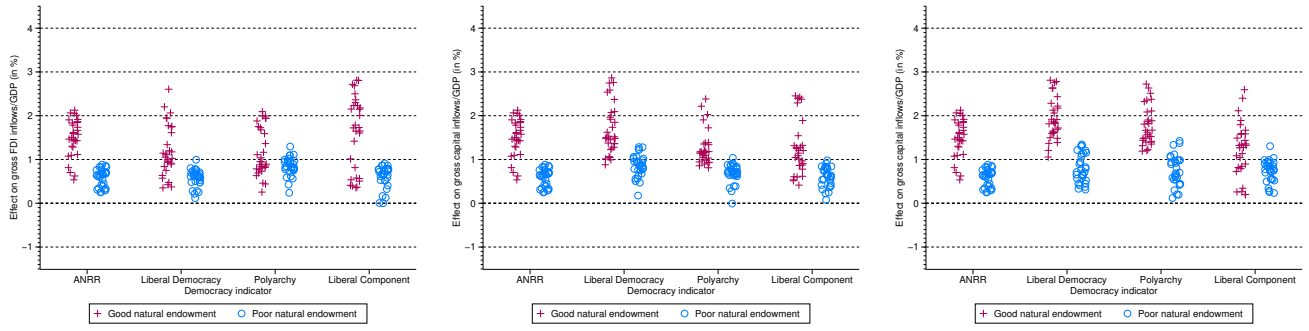
Figure B-5: Democracy, Geography and Total Capital Inflows (a,b) or FDI (c,d)



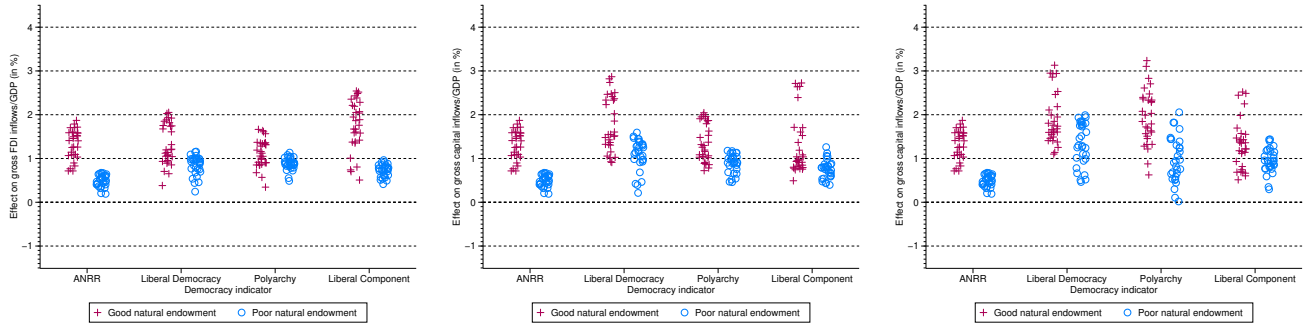
(a) Total Inflows: Benchmark (left), Democracy mean+$1/4$ SD (middle), and mean+$1/2$ SD – no controls



(b) Dto – exports/trade as control



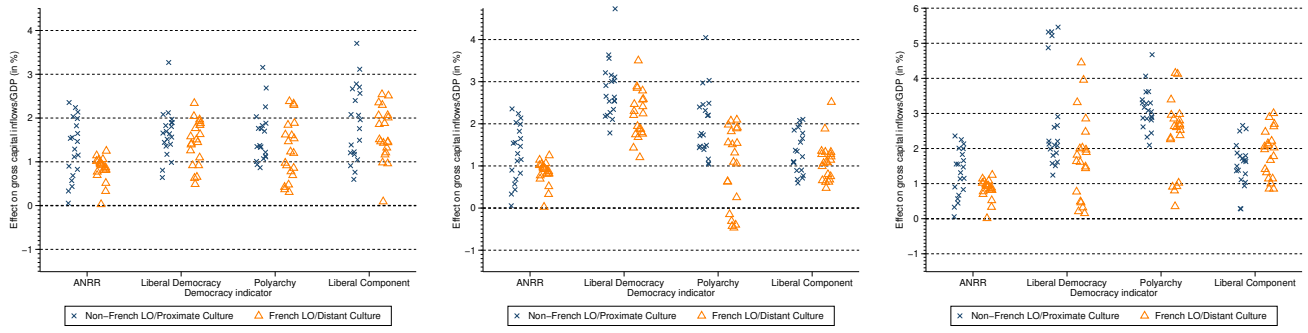
(c) FDI: Benchmark (left), Democracy mean+$1/4$ SD (middle), and mean+$1/2$ SD – no controls



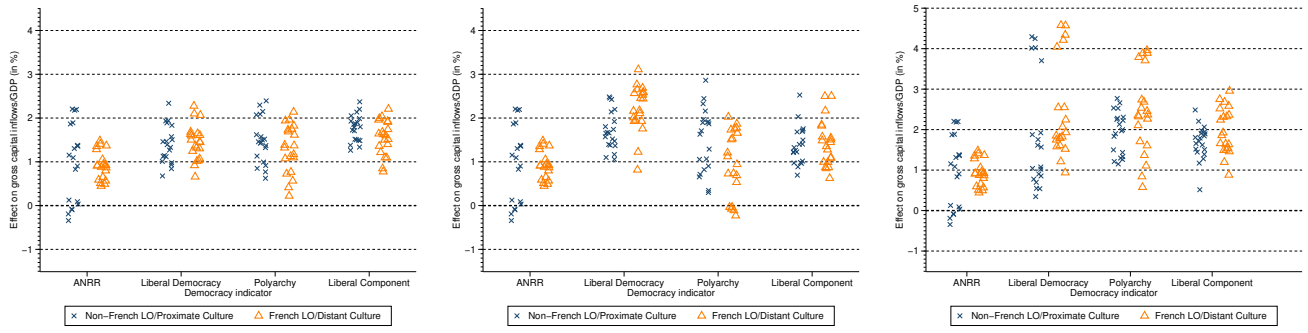
(d) Dto – exports/trade as control

Notes: The plots present robust ATET (Mean Group PCDID) estimates for the causal effect of democracy on capital inflows by geography (+ and o for good and poor geography, respectively), using four different definitions of democratic regime change. Compared with the benchmark results in Figure 4 in the maintext – replicated in the left plot of each panel – we use tighter definitions for the V-Dem democracy dummies: in the middle (right) plot the threshold is defined as the mean plus $1/4$ ($1/2$) of 1 SD. Panels (a) and (b) are for total inflows/GDP, without controls and with export/trade as controls; similarly for Panels (c) and (d), which are for FDI/GDP. Alpha tests are passed in 90+% of specifications with adjusted democracy definition, in 95+% of specifications in panels (b) and (d) exports/trade is not a 'bad control'.

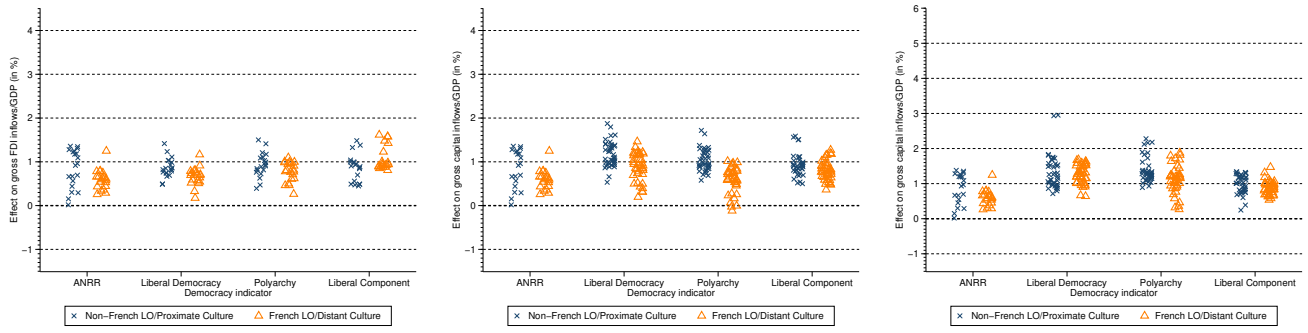
Figure B-6: Democracy, Alternative Deep Determinants and Total Capital Inflows (a,b) or FDI (c,d)



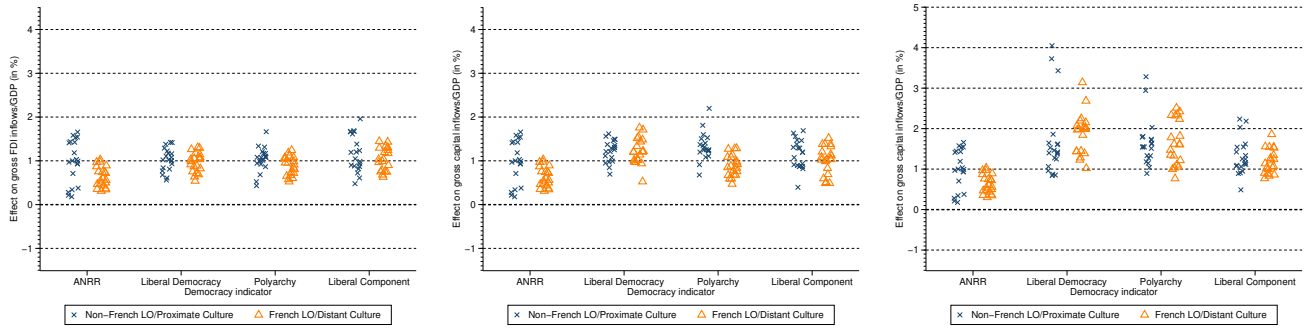
(a) Total Inflows: Benchmark (left), Democracy mean+$1/4$ SD (middle), and mean+$1/2$ SD – no controls



(b) Dto – exports/trade as control



(c) FDI: Benchmark (left), Democracy mean+$1/4$ SD (middle), and mean+$1/2$ SD – no controls

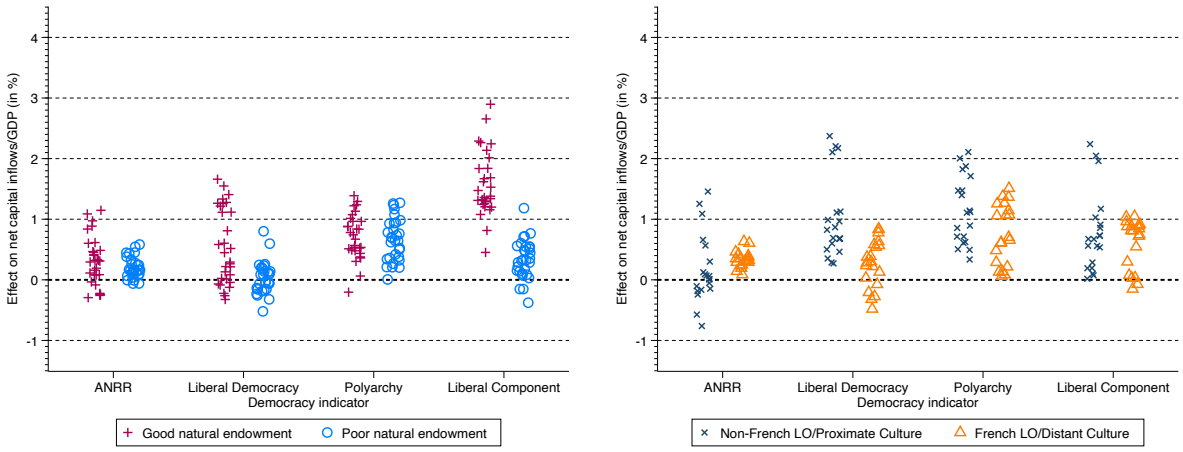


(d) Dto – exports/trade as control

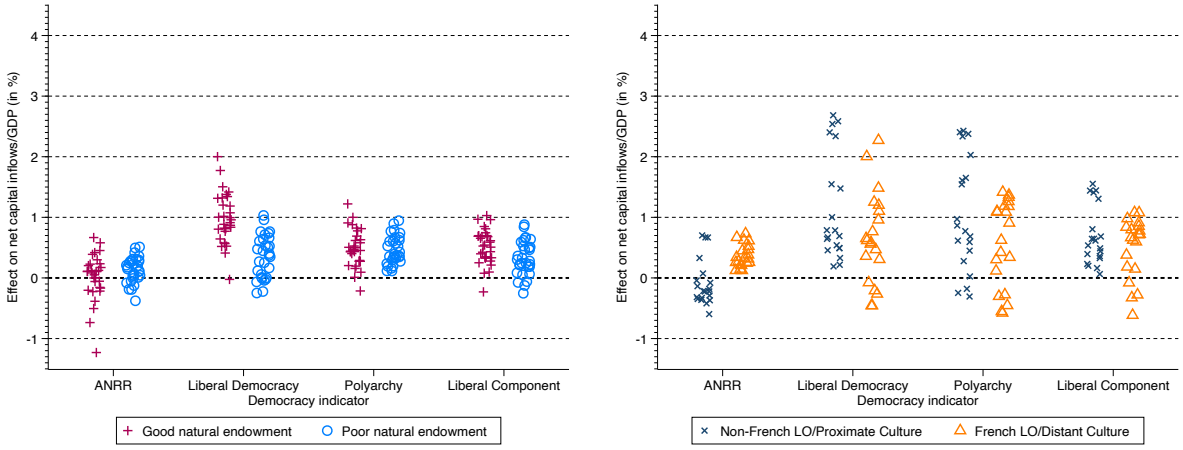
Notes: The plots present robust ATET (Mean Group PCDID) estimates for the causal effect of democracy on capital inflows by Legal Origin and Culture (x for non-French LO/proximate culture and △ for French LO/distant culture), using four different definitions of democratic regime change. See Figure B-5 for all other details.

B.5 Analysis using net (non-official) capital inflows

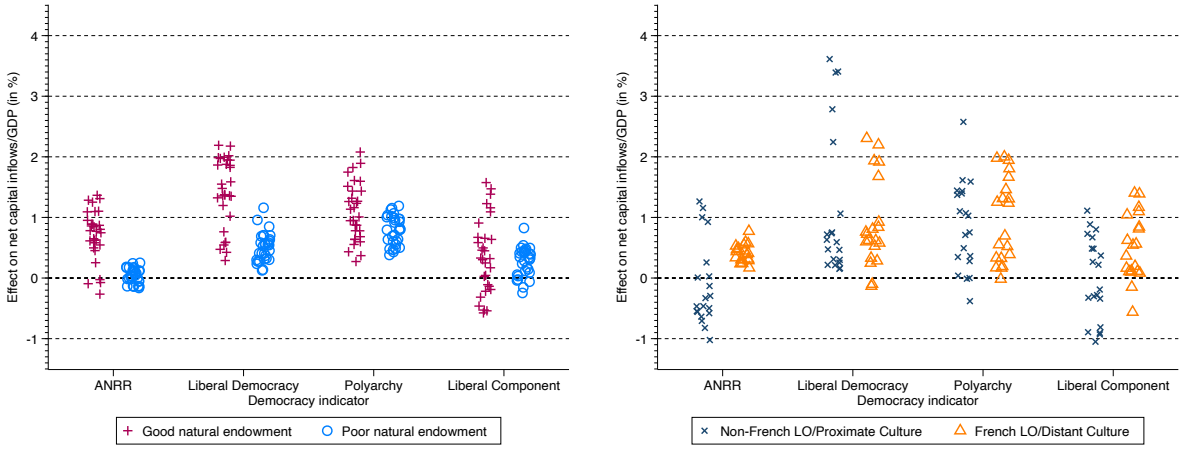
Figure B-7: Democracy and Net (Non-Official) Capital Inflows



(a) Geography (left) and alternative deep determinants (right) – no controls



(b) Dto – trade/GDP as additional control



(c) Dto – trade/GDP, pop growth and GDPpc growth as controls

Notes: The plots present robust ATET (Mean Group PCDID) estimates for the causal effect of democracy on net non-official capital inflows by geography (left column) and alternative deep determinants (right column).

Table B-7: Diagnostic Tests — Net (Non-official) capital flows

Democracy Indicator		ANRR		LibDem		Poly		Liberal		N
Deep Determinant Group		0	1	0	1	0	1	0	1	
Net Non-Official Capital Inflows										
Controls: none										
Geography	Alpha t $>$ 1.96	0.83	1.00	1.00	0.33	1.00	0.00	1.00	0.67	30
Alternative Deep Det	Alpha t $>$ 1.96	1.00	1.00	0.50	0.50	0.75	0.25	0.75	1.00	20
Controls: export/trade										
Geography	Alpha t $>$ 1.96	1.00	1.00	1.00	0.17	0.83	0.33	1.00	0.33	30
Alternative Deep Det	Alpha t $>$ 1.96	1.00	0.75	0.75	0.25	0.50	0.00	1.00	0.75	20
Geography	$\chi^2(p) < 0.1$	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	30
Alternative Deep Det	$\chi^2(p) < 0.1$	0.00	0.00	0.10	0.00	0.00	0.10	0.00	0.00	20
Controls: export/trade, GDP pc growth, population growth										
Geography	Alpha t $>$ 1.96	1.00	1.00	1.00	0.67	1.00	0.50	1.00	1.00	30
Alternative Deep Det	Alpha t $>$ 1.96	1.00	0.75	1.00	0.75	1.00	0.50	0.75	1.00	20
Geography	$\chi^2(p) < 0.1$	0.47	0.73	0.17	1.00	1.00	1.00	0.80	1.00	30
Alternative Deep Det	$\chi^2(p) < 0.1$	0.45	0.85	0.50	0.60	1.00	1.00	0.95	1.00	20

Notes: The table reports the rejection frequency across the 20 or 30 models analysed for each cell. The 'Alpha' test is for weak parallel trends, so if the null hypothesis is rejected the PCDID specification may be misspecified: we want to see *very low* rejection rates. The χ^2 test is for bad controls, so if the null hypothesis is rejected ($p < .1$) we should not include this (set of) control(s): again, we want to see *very low* rejection rates,. There are five alternative factor augmentations and four (alternative deep determinants) or six (geography) proxies for deep determinants, hence 20 or 30 models for each of the two deep determinant groups, respectively.

Table B-8: Statistical Significance — PCDID Net Capital Flow Analysis

Democracy Indicator	ANRR		LibDem		Poly		Liberal		N
Deep Determinant Group	0	1	0	1	0	1	0	1	
Net (Non-Official) Capital Inflows									
Controls: none									
Geography	0.00	0.00	0.00	0.00	0.50	0.00	0.03	0.13	30
Alternative Deep Det	0.05	0.00	0.20	0.00	0.20	0.00	0.25	0.25	20
Controls: export/trade									
Geography	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.03	30
Alternative Deep Det	0.00	0.00	0.25	0.10	0.25	0.10	0.25	0.15	20
Controls: export/trade, GDP pc growth, population growth									
Geography	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.13	30
Alternative Deep Det	0.05	0.00	0.20	0.25	0.00	0.15	0.05	0.40	20

Notes: The table reports the rejection frequency across the 20 or 30 models analysed for each cell. These are for the t-tests (10% level) of the robust mean PCDID estimates (computed using the non-parametric variance estimator of Pesaran, 2006): if we see *very high* rejection rates this equates to statistical significance of the ATET. There are five alternative factor augmentations and four (alternative deep determinants) or six (geography) proxies for deep determinants, hence 20 or 30 models for each of the two deep determinant groups, respectively.

B.6 Analysis using alternative geography proxies

Table B-9: Total Capital Inflows – Alternative Proxies of Geography (1975-2015)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Landlocked		**High UV Radiation**		**Few Frost Days**		**Low Ag-Suitability**	
	No	Yes	No	Yes	No	Yes	No	Yes
ANRR democracy	1.286***	0.129	1.465*	0.597*	1.915*	0.589*	1.022**	0.461
	[0.390]	[0.700]	[0.799]	[0.339]	[1.039]	[0.333]	[0.465]	[0.495]
Treated Countries	50	18	23	42	21	44	37	28
Treated Observations	1564	500	654	1329	582	1401	1140	843
Control Countries	22	7	15	14	15	14	8	21
Control Observations	663	128	380	397	390	387	177	600
χ^2 test (p)	0.78	0.02	0.45	0.30	0.61	0.65	0.78	0.73
Alpha test (t)	-0.06	-7.23	-0.66	-2.04	-0.50	-3.07	-1.42	-2.20
Alternative factor augmentation								
2 factors	1.262***	-0.012	1.228*	0.573	1.715*	0.620*	1.135**	0.649
3 factors	1.324***	0.063	1.568**	0.631*	1.803**	0.617*	1.021**	0.521
4 factors	1.286***	0.129	1.465*	0.597*	1.915*	0.589*	1.022**	0.461
5 factors	1.112***	0.186	1.909**	0.291	1.984**	0.599	0.683	0.500
6 factors	1.137***	0.186	1.967**	0.441	1.735*	0.704**	0.531	0.664
Liberal Democracy	1.617***	0.848	2.321***	0.794	2.786***	0.827	1.418***	1.693**
Index > median	[0.490]	[0.913]	[0.860]	[0.569]	[1.078]	[0.631]	[0.495]	[0.673]
Treated Countries	37	13	21	27	21	27	32	16
Treated Observations	1380	428	704	1015	678	1041	1117	602
Control Countries	42	14	19	33	18	34	19	33
Control Observations	1405	346	547	1086	517	1116	574	1059
χ^2 test (p)	0.62	0.06	0.97	0.15	0.81	0.40	0.63	0.53
Alpha test (t)	-1.17	-1.32	0.73	0.51	0.34	0.54	0.52	0.52
Alternative factor augmentation								
2 factors	1.853***	1.368**	1.667*	1.093**	1.633*	1.023**	1.497***	2.063***
3 factors	1.714***	0.938	1.510*	0.603	2.372**	0.878*	1.424***	1.679***
4 factors	1.617***	0.848	2.321***	0.794	2.786***	0.827	1.418***	1.693**
5 factors	1.712***	0.910	2.499***	0.848	3.167***	0.734	1.270***	1.850***
6 factors	1.624***	1.130	2.394**	0.500	2.678**	0.715	1.181***	1.519***
Polyarchy	1.891***	0.126	0.276	1.064**	1.684	1.063**	0.903*	1.610***
Index > median	[0.433]	[0.762]	[0.732]	[0.414]	[1.052]	[0.463]	[0.516]	[0.605]
Treated Countries	45	14	24	32	23	33	36	20
Treated Observations	1665	451	800	1209	734	1275	1256	753
Control Countries	34	13	15	28	15	28	14	29
Control Observations	1120	323	433	892	443	882	417	908
χ^2 test (p)	0.38	0.32	1.00	0.14	0.88	0.22	0.45	0.79
Alpha test (t)	-3.12	-1.91	-0.94	0.39	-1.04	0.23	-0.73	-1.62
Alternative factor augmentation								
2 factors	1.858***	0.922	0.716	1.471***	1.063	1.361***	1.018*	1.685**
3 factors	1.541***	0.704	0.942	1.243***	1.446	1.071**	0.881*	1.577**
4 factors	1.891***	0.126	0.276	1.064**	1.684	1.063**	0.903*	1.610***
5 factors	1.830***	0.232	0.574	1.079**	1.513	0.700*	0.939*	1.846***
6 factors	1.743***	0.279	0.976	1.143***	1.601	0.672*	0.954	1.384**
Liberal Component	1.815***	0.574	2.375***	0.816	2.750***	0.881*	1.102*	2.004***
Index > median	[0.669]	[0.907]	[0.872]	[0.531]	[0.925]	[0.534]	[0.668]	[0.567]
Treated Countries	43	13	24	30	22	32	30	24
Treated Observations	1606	449	820	1138	745	1221	1069	897
Control Countries	31	12	15	27	15	27	18	24
Control Observations	1000	287	401	867	412	856	544	724
χ^2 test (p)	0.61	0.01	0.33	0.83	0.41	0.84	0.48	0.92
Alpha test (t)	0.59	-2.81	0.02	0.67	-0.21	0.62	0.67	-0.86
Alternative factor augmentation								
2 factors	2.241***	1.221	2.172**	1.118**	2.456***	1.266**	1.551**	2.051***
3 factors	1.877***	0.676	2.550***	0.727	2.830***	0.93	1.192*	2.097***
4 factors	1.815***	0.574	2.375***	0.816	2.750***	0.881*	1.102*	2.004***
5 factors	1.803***	0.53	2.126**	0.803	2.640***	0.901	1.177*	2.273***
6 factors	1.726***	0.624	2.240**	0.014	2.843***	0.218	1.032*	1.522***

Notes: This table presents the analysis for a number of alternative proxies for geography — whether a country is landlocked, high UV radiation exposure, low number of frost days per year, and low suitability for agriculture. These results are for the model with export/trade as additional control.