

Are some dictators more attractive to foreign investors?

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Abstract

This study examines the impact of dictators' characteristics on FDI. We test the hypothesis that foreign investors scrutinize public information on leaders to assess the risk of expropriation in dictatorships. In particular, we assume they use three suitable dictators' characteristics: education level, education in economics and management, and prior experience in business. We perform fixed effects estimations to explain FDI inflows on an unbalanced panel of 100 dictatorial countries from 1973 to 2008. We find that educated dictators, dictators with education in economics and business experience are more attractive to foreign investors. Our results are robust to several tests and checks, notably when we compare them to counterfactual democratic nations.

JEL Codes: F21, F23.

Keywords: foreign direct investment, dictatorship, political risk.

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1. Introduction

Foreign direct investment (FDI) is a driving force of global integration for a country. A major obstacle to foreign direct investment is the risk of expropriation, since the protection of private ownership increases individual incentives to invest in the country. As a consequence, numerous works have shown the positive impact of institutions associated with the protection of property rights on FDI inflows all around the world (Gastanaga, Nugent and Pashamova, 1998; Daude and Stein, 2007; Asiedu and Lien, 2011). Another risk related to international investment is related to the implementation of inappropriate macroeconomic policy. Both these risks are the components of the political risk which international investors face.

However leaders' characteristics can have a greater role to attract FDI than institutions in dictatorships. Discretionary decisions in dictatorial regimes make the institutional framework less important than in democracies. Thus, investors have to scrutinize any potential information—including dictators' individual traits—to assess political risk. These characteristics help them anticipate dictators' future policy choices when taking their investment decisions. Among dictator traits, three could play a key role in the investor decisions since they give pro-business indications about the future decisions of the dictator: education level, education in economics, and prior experience in business. For instance, more educated dictators can reduce expropriation risk because they are more likely to be aware of the potential economic benefits from FDI for their country and, in turn, for themselves through enhanced political stability or by grabbing more resources from the expanded economy.

The objective of this study is thus to examine the impact of dictators' characteristics on FDI inflows. We perform fixed effects estimations to explain FDI inflows on an unbalanced panel of 100 countries from 1973 to 2008. We combine several datasets for information on dictators with macroeconomic data from the World Bank to have a broad dataset well-designed for our analysis. We consider a set of variables to assess the characteristics of dictators: educational attainment, education in economics, and prior business experience. Together, these variables provide foreign investors with information on the dictator's background, which can help them take the optimal economic decision.

We find that educated leaders are more attractive for foreign investors in dictatorship:

greater educational attainment is associated with higher FDI inflows. We also obtain evidence that dictators who studied economics and those with a former experience in business are more appealing to foreign investors. Additional estimations corroborate our key findings. First, we find no impact of other characteristics of dictators like age, political experience, and tenure length on FDI inflows. Second, we do not observe the same link between leaders' characteristics and FDI inflows in democracies, supporting the view that leaders' characteristics is a signal used by foreign investors only in dictatorships.

The contribution of our paper is therefore twofold. We first advance the understanding of the determinants of FDI inflows by examining how characteristics of leaders can influence the decisions of foreign investors, especially in dictatorship context. This strand of literature has mainly focused on the macroeconomic conditions and the institutional framework of the host country. We extend this literature toward the traits of leaders.

We also contribute to the literature on the impact of leaders' profiles on economic outcomes. Besley, Montalvo and Reynal-Queyrol (2011) and Congleton and Zhang (2013) have shown that leaders' education influences macroeconomic performance. We help understanding the mechanism at work behind this finding by showing that leaders' education does not only influence their policy choices but also impacts investors' expectations and thus influences macroeconomic performance through this channel.

The remainder of the paper is organized as follows. Section 2 discusses existing literature. Section 3 details the expected relationship between dictator characteristics and investor decision. Section 4 presents the data and the methodology used in the paper to test our hypotheses. Section 5 displays the results. Section 6 concludes.

2. Related literature

In this section we present literature associated with our research question. We first present a brief survey of the literature on the determinants of FDI inflows. We then report the main results of the studies devoted to the economic impact of leaders' profiles.

2.1 Determinants of FDI inflows

There is an extensive literature on the determinants of FDI inflows. Companies choose locations for their investments based on their expected profitability. As a consequence, they care about factors minimizing costs and maximizing revenues. Determinants of FDI can therefore be divided into two broad categories which influence costs and/or revenues: macroeconomic conditions, and institutional characteristics.

The first category of determinants of FDI includes host-country factors associated with macroeconomic conditions. They include the market size and the potential of the market measured with GDP and GDP growth since they are associated with greater potential revenues. In a seminal paper on the determinants of FDI inflows, Schneider and Frey (1985) find a positive impact of GNP per capita for 80 developing countries. Chakrabarti (2001) tests the relevance of a range of macroeconomic determinants for FDI including market size measured by GDP per capita for a large cross-section of 135 countries. He concludes that market size is the only robust determinant of FDI with a positive impact.

Trade openness has been widely investigated as a potential determinant of FDI. There are conflicting views on this linkage. On the one hand, trade and FDI can be complements for exporting companies and greater trade openness favors a positive investment climate in line with the view from Grossman and Helpman (1991). On the other hand, trade and FDI are alternative ways of serving a foreign market and as such trade can be a substitute to FDI, leading to a detrimental impact of trade on FDI. Literature tends to support the positive relation between trade and FDI, with works like Liu, Wang and Wei (2001) for China or Egger and Pfaffermayr (2004) on OECD countries.

Natural resources have also been found to affect FDI but the literature is not conclusive. On the one hand, Gastanaga, Nugent and Pashamova (1998) observe that oil price for oil exporting countries exerts a negative impact on FDI in their work for 49 developing countries. On the other hand, Asiedu (2006) finds the opposing conclusion in a study on 22 African countries by pointing out that natural resources promote FDI.

Inflation can influence FDI inflows in the sense that low inflation is associated with reduced uncertainty in the economy and also preserves the real value of earnings in local currency for foreign investors. In accordance with these hypotheses, Coskun (2001) for Turkey and Buckley et al. (2007) for China find empirical support for the detrimental role of inflation on FDI.

The second category of works includes studies testing institutional determinants of FDI. Given the topic of our research, these works are of particular interest for this investigation.

A first strand of this literature deals with the impact of democracy on FDI. Evidence is rather supportive of a beneficial effect of democracy. Jensen (2003) finds robust evidence that democratic institutions foster FDI on a sample of more than 100 countries. Using data for 83 developing countries, Busse and Hefeker (2007) show that basic democratic rights are positive for FDI inflows in an investigation. In a study using 14 OECD countries and 24 emerging countries, Guerin and Manzocchi (2009) find evidence for the attractive power of democracy for FDI inflows and additionally show that parliamentary democracies attract more FDI than presidential democracies.

Asiedu and Lien (2011) extend this question by checking if this relationship is influenced by the share of natural resources in exports on a sample of 112 developing countries. They conclude that democracy only favors FDI if the share of natural resources in exports is below a certain threshold. Therefore, the beneficial impact of democracy may not be unconditional.

Wisniewski and Pathan (2014) provide a complementary analysis for the beneficial impact of democracy through an analysis of political factors characterizing 33 OECD democracies. They find positive support for a long tradition of democracy and observe that left-wing executives are more attractive than right-wing executives for FDI inflows.

The analysis of the impact of democracy on FDI has been complemented by several works looking at democratic liberties. Harms and Ursprung (2002) examine whether political and civil repression exerts an influence on FDI on a sample of 62 developing countries in line with the hypothesis that multinational companies would be attracted by countries without liberties. They do not support this hypothesis by observing a negative influence of political and civil repression on FDI.

Adam and Filippaios (2007) extend this investigation by considering separately civil liberties and political liberties. They point out that repression of civil liberties can give incentives to foreign investors while repression of political liberties has the opposite effect. They find support for this hypothesis on a dataset of FDI from US firms to 105 developing and developed countries.

Corruption has also been widely examined as a potential determinant of FDI. Wei (2000) investigates how corruption affects the ability of a country to attract FDI with a sample of 45 host countries, mainly developed, receiving FDI inflows from 12 developed countries. The conclusion is that corruption deters FDI. Mathur and Singh (2011) confirm this finding on a sample of 29 emerging countries. Hakkala, Nörback and Svaleryd (2008) analyze the impact of corruption with micro-level data for Swedish multinational firms. They find again that corruption diminishes the probability that a firm will invest in a country with evidence for a causal effect. While the above-mentioned studies confirm a negative effect of corruption on FDI, Egger and Winner (2005) arrive at a different conclusion. They test the link for a sample of 73 developed and less developed countries and find that greater corruption is associated with higher FDI. They explain this finding by the fact that corruption can help circumvent administrative restrictions.

Finally, the protection of property rights has been studied in line with the view that foreign investors should be particularly sensitive to this dimension. Busse and Hefeker (2007) provide a broad investigation of the relation between institutions and FDI for a sample of 83 developing countries. They show that law enforcement is detrimental to corruption. Akhtaruzzaman, Berg and Hajzler (2017) propose a comparative analysis of the dimensions of institutional quality on FDI for 83 developing countries. They find strong support to the larger impact of expropriation risk than other institutional characteristics like government stability, political accountability, or corruption.

2.2 Economic impact of leaders' profiles

A limitation of the former studies is that formal institutional constraints can hardly explain variations of FDI inflows in countries where such institutions are typically weak or ineffective. In regimes in which policy choices depend foremost on the discretion of a single individual, the leader's personal characteristics may exert more weight in decisions to invest. Additionally, the lack of transparency in the decision-making process and the uncertainty associated with leadership transitions in most dictatorships can make foreign investors more likely to rely on "objective," immediately visible clues (such as leaders' education or background) to make their decision.

There is growing evidence that decision-makers' profiles influence their policy choices—and, in turn, their macroeconomic performance—even when their power is limited.

Using data from 197 countries on the period between 1848 and 2004, Besley, Montalvo and Reynal-Querol (2011) find that college-educated leaders produce higher growth rates. Relatedly, Congleton and Zhang (2013) compare growth rates under 41 US presidents, and uncover a significant effect of their educational attainment and prior political experience. Both studies assign this effect to educated leaders' greater ability to identify sensible economic policy choices. Dreher et al. (2009) find that political leaders with prior business experience and former economists are more likely to implement market-liberalizing reforms.

In addition to their skills, Hayo and Neumeier (2016) show that leaders' educational and professional background also affects their policy preferences. Using data on OECD countries, they conclude that leaders who held blue-collar jobs prior to pursuing their political career produce larger public deficits.

Smaller-scale studies on specific sectoral policies broadly confirm these conclusions. Göhlmann and Vaubel (2007) compare inflation rates from 10 European countries (1973-1998), the Euro area and the US, and find that they in part depend on central bankers' background, former members of the central bank staff bringing about the lowest inflation rates. Several studies on German federal states arrive at similar conclusions: prime ministers stemming from a working-class family tend to spend more on social welfare, education and security (Hayo and Neumeier, 2012) and to produce larger deficits (Hayo and Neumeier, 2014). Conversely, public deficits are lower when the finance minister has gained finance expertise through prior positions in the financial business sector or in academia (Joachimsen and Thomasius, 2014). Economic expertise also has its drawbacks: a study on Swiss finance ministers shows that trained economists are more likely to manipulate financial reports in order to conceal budget surpluses (Clémenceau and Soguel, 2016).

Most of these works either exclusively focus on democracies or do not distinguish political regimes (the sole exception being Besley, Montalvo and Reynal-Querol, 2011), making it hence difficult to generalize these findings. It is indeed conceivable that some personal traits lead to different outcomes according to regime type: for example, longer tenures are associated with better economic outcomes in democracies (Moessinger, 2014), but the opposite holds true for dictatorships (Papaioannou and van Zanden, 2015). In some other cases, effects are similar: the aging of decision-makers has been found to adversely impact economic development in democracies (Atella and Carbonari, 2017) and in

dictatorships (Jong-A-Pin and Mierau, 2011).

Our paper therefore extends this literature by analyzing whether leaders' personal traits influence macroeconomic performance through the expectations of investors next to the investigated channel of their preferences and policy choices in dictatorships.

3. International investment decision under dictatorship

For international investors, economic and political environments deeply diverge between democracy and dictatorship. In particular, political risk varies greatly according to the political context. In democracies, political risk is alleviated by institutions that protect property rights such as constitution or rule of law. Furthermore, leadership selection through elections and electoral accountability constitute a first protection against extremist rulers and arbitrary policy choices. By contrast, dictatorship is to some extent the reign of discretion. Even if there are probably variations in discretionary power among dictatorships,¹ most dictators are able to implement any decision, from irrational economic policies to extortion, while the scope of potential public policy decisions is narrower in democracy.

Facing this political risk, international investors must anticipate dictators' decisions in order to assess the expected profitability of their investment. Investors know that dictators try to maximize their rent extorted from the national economy. This rent serves as a way of both being richer and keeping power by distributing a share of this rent to their supporters or coopting opponents (Gandhi and Przeworski, 2006). On the other side, extracting excessive rent from economy has a negative impact on economy and finally on the amount of rent captured by the dictator (Olson, 1993, and Wintrobe, 1990, 1998). Dictators therefore have to choose the optimal amount of rent extorted from the economy in order to maximize their wealth and their probability of survival without depleting available resources.

¹ The literature has not yet come to a consensus about the effectiveness of institutional constraints in dictatorships and their impact on macroeconomic performance. There is a well-documented statistical association between the existence of seemingly democratic institutions (such as parties and legislatures) and growth and investment in autocracies (Gandhi, 2006; Wright, 2008a; Li, 2009; Gehlbach and Keefer, 2012) which has long been attributed to the constraining effect of such institutions; yet, recent works have cast doubts on legislatures' ability to effectively limit authoritarian power (Jensen, Malesky and Weymouth, 2014).

International investors are aware of the underlying logic of the decision-making process but do not know the final decision. To anticipate it, they can only use public information² and two kinds of information are available. First, investors can examine the dictators' past behavior. By evaluating past decision and by using adaptive anticipation, investors have a first insight about the economic choices made by the dictator. The limitation of this source of information is that many dictators have short tenures and the length of their government is often not long enough to allow such anticipation. The second kind of public information that can be used by investors is dictators' personal characteristics. These characteristics may indeed affect the terms of the trade-off between rent extortion and long-term economic development: for example, dictators' expected tenure length has often been argued to increase their incentives to invest on growth-enhancing policies or institutions (Olson, 1993; Alesina et al. 1996; Clague et al., 1996; Wright, 2008b; Li, 2009; Jong-A-Pin and Mierau 2011). Yet, there is another central characteristic of leaders – namely their (expected) ability to identify and implement sensible economic policy choices – that may also affect investors' decisions. For instance, investors can expect more educated dictators to adopt more balanced decisions which could be embodied in more pro-business policies. Of course, dictators' characteristics are not a perfect predictor of his decisions, but they give suitable information to investors about political risk.

Among dictator characteristics readily available, those related to economy are the most relevant. In particular, we assume that prior experience related to business is a good indicator of future decisions of dictators for international investors. Similarly, education in economics is also a biographical element which influences the policies of the dictator, as demonstrated by the literature surveyed before. Knowledge of economy, through business and economic experience and/or education, can be used to anticipate dictator decisions. In a related vein, education level is also valuable information about the dictator decision-making. Investors can assume that educated dictators make more rational decision or accept more rational advice about their policies.

We can sum up our discussion in four hypotheses about the FDI flows and public information about dictator characteristics. The first one is the general hypothesis which states an existing relationship between the FDI flows and the dictator characteristics.

² We exclude the possibility that international investors hold private information because then they become supporters or partners of the dictator. Therefore, their purpose is no longer to anticipate the political risk of the investment but to participate to the rent extraction.

H1: Dictators' characteristics have an impact on the FDI flows.

The three other hypotheses detail characteristics that impact FDI flows in nations ruled by autocrats. H2 deals with the education level of the dictator, while H3 introduced a specific domain of education related to economics and management. Finally, H4 states the relationship between dictators' prior experience in business and FDI flows.

H2: More educated dictators attract more FDI flows.

H3: Dictators with education in economics attract more FDI flows

H4: Dictators with prior business experience attract more FDI flows

These hypotheses are subject to our empirical study in the remaining part of the paper.

4. Empirical methodology

To test our hypotheses, we implement econometric study of national FDI flows at macroeconomic level for dictatorships.

4.1 Data description

The analysis focuses on authoritarian regimes—which we identify using Cheibub, Gandhi and Vreeland's (2010) dichotomous democracy measure—and spans the period from 1973 to 2008. The unit of analysis is the country-year; however, we exclude all years during which a change of leadership has taken place. The resulting dataset includes 1,570 observations (207 leaders) spread over 100 countries.

Our dependent variable is drawn from the World Development Indicators (World Bank, 2016) and is defined as net foreign direct investment inflows expressed as a percentage of the GDP (see Table 1 for summary statistics).

To measure the independent variables, we rely on three datasets on political leaders (Goemans et al. 2009; Ellis et al. 2015; Baturu 2016; see Appendix A for more details). We focus on three specific variables, although we hereafter examine other dictator characteristics. The first one is a set of four dummy variables indicating the level of education of the leader in office. *Primary*, *Secondary*, *Undergraduate*, and *Graduate* are respectively equal to one if the leader has reached primary, secondary, undergraduate and graduate education and to zero otherwise. *Primary* is our reference in the estimations. According to H2, we expect an increasing impact of education levels on FDI inflows.

The second variable *Education in economics* is a dummy variable equal to one if the leader has received education in economics or management and to zero otherwise. The third variable *Business experience* is a dummy variable equal to one if the leader has prior experience in business. According to hypotheses H3 and H4, we expect a positive impact of these variables on FDI flows.

We also control for several economic and institutional factors. These variables are listed in Appendix A along with their sources and exact definitions.

We consider six economic factors in line with the literature. We first introduce *GDP per capita*, defined as GDP per capita in 1,000 USD constant 2010. In line with Chakrabarti (2001), we expect a positive impact. We also include the annual rate of CPI to control for inflation (*Inflation*). We assume that inflation exerts a negative influence on FDI in line with Buckley et al. (2007). Openness to trade is also taken into account with the share of trade in percentage of GDP (*Trade*). A positive relation between trade and FDI is expected following former works like Liu, Wang and Wei (2001) and Egger and Pfaffermayr (2004). Government size is also controlled with the share of government expenditures in the GDP (*Government expenditures*). On the one hand, greater government size can be associated with more investment in public infrastructure which attracts FDI. On the other hand, it can also be associated with greater taxation which deters FDI. We capture the influence of natural resources exploitation on FDI with the share of natural resources rents in GDP (*Resource rents*). Mixed evidence on this variable leads us not to predict a positive or negative influence. Finally, we control for the market size with total population (*Population*). We then expect a positive relation with FDI.

As institutional variables, we introduce four factors in the specification. First, a dummy variable indicates the occurrence during the year of an intrastate conflict (*Intrastate conflict*). This variable takes into account the worst political risk for the investor. Obviously, the expected sign of the associated coefficient is negative. Second, the type of dictatorship is captured by a set of three dummy variables: *Civilian dictatorship*, *Military dictatorship* and *Monarchy*, which are respectively equal to one if the dictatorship is a civilian one, a military one, or a monarchy, and zero otherwise. Civilian is our reference in the estimations. We take into account the type of dictatorship to make sure that the results are not driven by military dictators, which are unlikely to have education in economics or

business experience and may deter investment for reasons unrelated to their background.³ Monarchies on the other hand may foster investment through greater stability (Hadenius and Teorell 2007) and better property rights protection (Knutsen and Fjelde 2013). The third institutional variable is a dummy variable indicating if the regime is a communist or radical left-wing regime (*Communist / radical left*). Lastly, we also include the Freedom House political rights index to control for the variation of official expropriation risk (*Political rights*). According to the previous literature which jointly considers democracies and dictatorships, we should expect a negative⁴ sign for the coefficient, but as we work exclusively on dictatorships, we expect a non-significant impact. In dictatorships, the official political rights can be violated thank to discretionary power of the dictator.

4.2 Econometric strategy

Our empirical model can be defined as follows

$$FDI_{i,t} = \alpha_E ECO_{i,t} + \alpha_I INSTI_{i,t} + \alpha_D DICTA_{i,t} + \beta_i + \gamma_t + \varepsilon_{i,t}$$

where *FDI* defined as the FDI inflows in proportion of GDP for a country *i* at time *t* is explained by economic factors (*ECO_{i,t}*), institutional factors (*INSTI_{i,t}*) and the characteristics of the dictator (*DICTA_{i,t}*). β_i is the unobserved national specific effects and γ_t are the dummy variables for years. We assume that $\varepsilon_{i,t}$, the error term, is i.i.d.

Given the great variation of FDI in dictatorship, we decide not to introduce dynamics in our specification. In particular, we do not introduce a lagged variable of FDI, because we do not have any theoretical reason to do so. Indeed, we have no reason to think that economic conditions or institutional characteristics or dictator characteristics in *t-1* period have an impact on the FDI at *t* period. Furthermore, the introduction of lagged variable leads to econometric concerns since it is correlated to the fixed effects, as suggested by Nickell (1981). The resolution of this bias rests on dynamics model which contains lagged variables of explanatory variable. Such a model would eliminate lots of observations from the sample since many dictators have short tenures. Therefore, we carry

³ Military dictatorships typically have short lifespans (Geddes 1999; Hadenius and Teorell 2007) and experience more coups d'état than any other type of dictatorship (Powell 2012). Archigos data also indicate that military leaders have a greater probability of exiting office in an irregular way.

⁴ Higher values on the index indicate poor protection of political rights.

out fixed effects estimator to estimate the coefficients instead of dynamic model. Similarly, we prefer fixed effects which are related to the country, not to the dictator, rather than random effects. In our robustness checks, we propose alternative methods and models.

In order to handle potential multicollinearity issues between the three explanatory variables (educational attainment, study in economics and prior business experience), we provide six specifications. In the first one (model 1), we do not include the characteristics of the leader in order to check the stability of the control variables compared to the other specifications. In the three following models (models 2 to 4), we introduce successively the variable depicting the leader's characteristics: his education level, his education in economics, and his prior experience in business. In model 5, we introduce in the specification all three characteristics together. And lastly, in model 6, we provide an alternative specification: we create an interactive variable between education in economics and prior experience in business. This new variable takes four values with regard to the leader's situation about the two characteristics; a dictator without both education in economics and experience in business serving as reference. This specification limits the multicollinearity.

5. Results

This section reports the results. We first present the main estimations and then provide additional estimations. We continue with several robustness tests.

4.1 Main estimations

Table 2 reports the results of the main estimations. We consider several specifications by including different sets of the measures of dictators' education. While model 1 does not include any of these variables, models 2, 3, and 4 respectively add one dimension of dictators' backgrounds: educational attainment, education in economics, and prior business experience. Finally, models 5 and 6 consider all three dimensions of the education of dictators. Several conclusions emerge.

First, we find that greater educational attainment of the leader is associated with higher FDI inflows. The analysis of the variables for the level of education shows that *Secondary* is not significant, meaning there is no difference with primary education, while

Undergraduate and *Graduate* are significantly positive with a greater coefficient for *Graduate*. Whatever the specification, the conclusion is similar. Moreover, we observe that the impact increases with the level of education. Compared to primary education, a country ruled by a dictator with graduate studies receives more FDI than a country ruled by a dictator with undergraduate studies. The effect magnitude on FDI proportion is 4 points of percentage when the leader has undergraduate education and 5.5 points when he is graduated. This result confirms our hypothesis H2.

Second, prior experience in business tends to be attractive for foreign investors. We observe a positive coefficient for *Prior business experience* in models 3 and 5 which is significant in the latter model. Moreover, in the model 6 we show a significantly positive coefficient for *Business experience and no study in economics*. We find no statistically significant coefficients for *Study in economics* in models 3 and 4. But in model 6, we observe that the variable *No prior business experience and study in economics* has a significant and positive coefficient. In other words, our strategy of interactive variable gives differentiated results from the other specifications. As the combination of the two situations (*Business experience and studies in economics*) has no significant influence, we conclude that they do not have any cumulative effect, they have only sole impacts. In terms of magnitude, both effects are very close. A dictator with prior business experience and no education in economics leads to an increase of the FDI flows of 1.3 points of GDP, while a dictator without such experience and with education in economics leads to a 1.2 increase of points of GDP. As a result, and based on the model 6, we conclude that both hypotheses H3 and H4 are confirmed by our empirical test.

Finally and obviously, the confirmation of hypotheses H2, H3 and H4 leads to the confirmation of the general hypothesis that states that dictators' characteristics impact FDI flows.

We turn to the analysis of the control variables. Among macroeconomic variables, inflation and population have a significantly negative impact on FDI inflows, while openness to trade exerts a positive and significant influence. With the exception of the observed sign for population, the significant coefficients have the expected sign. As explained in the description of prior literature, evidence is rather mixed on several determinants of FDI like for instance natural resources rents. Thus, our results are not at odds with previous works.

Institutional variables are all not significant. This difference with former literature

can result from the fact that our sample is only composed of dictatorships while previous studies use samples mixing democracies and dictatorships. As discussed above, the protection of rights has no significant impact of FDI toward a dictatorship. This lack of influence can be explained by the discretionary power of the dictator which annihilates the potential protection effect of the rule of law. The lack of significance for the variables associated with the type of dictatorship show that investors do not make differences between types of dictatorships when taking FDI decisions.

Intrastate conflicts have no impact on FDI. This surprising result could be due to the fact that we removed years of leadership change from the sample: we thus automatically excluded years during which a leader was overthrown by a civil war (i.e., the most severe cases of conflict). Relatedly, our measure of intrastate conflicts includes not only civil wars fought over government but also some low-intensity insurgencies as well as secessionist conflicts that affect only a limited portion of the state territory. Given their features, these types of conflict do not affect FDI.

We also observe that the communist nature of the regime has no significant impact on FDI share. In other words, this characteristic has no incidence on investors' decisions, which means foreign investors are not influenced by their political opinion about communist regimes when deciding to invest abroad.

4.2 The lack of impact of other leader characteristics

Overall, the results so far show that education of dictators exerts an influence on foreign investors. They consequently support our hypothesis that investors are sensitive to information on leaders in dictatorial regimes when assessing political risk and take into account their education and prior experience as a signal. We must however question whether leaders' education plays a particular role in comparison with other individual traits of the leaders to analyze the relevance of this interpretation.

Namely we interpret that education is of particular importance but this trait has to be compared with other leader characteristics which are common information for investors. To this end, we redo the estimations by adding three leader characteristics. We first take into account the age of the leader (*Age*). We also consider his political experience with the number of years of political experience prior to assuming office (*Political experience*). We finally consider the years in office with a dummy variable equal to one if the leader has

been in office for more than 5 years and to zero otherwise (*Years in office*). These variables can also influence decisions of foreign investors by providing them information on the stability of the regime.

Table 3 reports the estimations. We find again evidence that leaders' education has a positive impact on FDI inflows. On the one hand, *Undergraduate* and *Graduate* are significantly positive with a greater coefficient for the latter in all estimations. This confirms the positive impact of educational attainment of leaders on FDI inflows. On the other hand, we find significantly positive coefficients for *Business experience and no study in economics* and *No prior business experience and study in economics* in most estimations. This again provides support that business experience and study in economics can favor FDI inflows. At the same time, we observe that none of the three other variables for leaders' traits is significant in any of the estimations. The dictator's age, his years of prior political experience, and his tenure length, do not have any significant impact on FDI inflows.

This conclusion therefore supports our interpretation that leaders' education plays an important role in attracting FDI. Not all leaders' traits matter to exert an impact on the decisions of foreign investors.

4.3 A counterfactual: leader characteristics on FDI in democracy

To dig deeper the relevance of our interpretation of the main findings, we can wonder whether the same results are observed in democracies. If this is the case, then our view that leaders' education is particularly important to attract FDI in dictatorships because of the discretionary decisions taking place in these regimes would not be correct. In other words, applying the same model for democratic nations offers a kind of counterfactual analysis.

Table 4 displays the estimations for democracies. We have redone all specifications presented in the main estimations for dictatorships in Table 2. We observe that leaders' education does not affect FDI inflows the same way in democracies as in dictatorships.

While educational attainment has a consistent and positive impact on FDI inflows in dictatorship with greater level of education associated with a greater impact, it does not have such consistent impact in democracies. *Undergraduate* is not significant in almost all estimations, while *Secondary* and *Graduate* are significantly positive in all estimations with a greater coefficient for *Secondary*. Hence, the results for democracies tend to show that foreign investors prefer leaders with secondary education while for dictatorships

greater level of education is always positively valued.

Education in economics and prior business experience of leaders do not influence FDI inflows in democracies. Variables combining both traits never reach significance in any of the estimations. It therefore appears as a major difference with results for dictatorships.

Thus, these results support the view that leaders' education exerts a greater influence to attract FDI inflows in dictatorships. They corroborate our interpretation that leaders' education is a signal of particular importance for foreign investors in dictatorships because of the discretionary decisions associated with these regimes.

4.4 Robustness checks

We check the robustness of our results in different ways. The results of the robustness tests are displayed in Tables 5 and 6. For all tests we redo the baseline model including all variables for leaders' education. The first column of Table 5 reproduces the baseline estimation as it was shown in the last column of Table 2.

First, we include the lagged variable of the explained variable, FDI, in the set of explaining variables. We overall observe the same findings with greater educational attainment associated with greater FDI inflows and limited evidence in favor of the positive influence of previous business experience. The only difference lies in the lack of significance for *No prior business experience and study in economics*.

Second, we exclude year fixed effects from the estimations. Again, we overall find similar results with more support for the impact of study in economics. Namely, educational attainment of the leader is still beneficial for FDI inflows. In addition, we observe then more empirical support for the positive impact of previous business experience and study in economics. We now observe that any of these traits exerts a significantly positive impact on FDI inflows.

Third, we perform the estimations with country random effects rather than country fixed effects. We obtain results which slightly differ from the baseline estimation. For level of education, we find a significantly positive coefficient for *Graduate* while *Undergraduate* is not significant anymore. Hence, we still have evidence that greater education of the leader is positively related to FDI inflows. For previous business

experience, we have limited evidence of its positive influence, while nothing is significant for study in economics.

Fourth, we exclude China from the sample. Since China is a particular case attracting a high volume of FDI inflows, one can wonder if our findings are preserved when we skip this country. We confirm the main findings. On the one hand, we still show that greater educational attainment is associated with greater FDI inflows. All three education level variables are significant but *Graduate* has the highest coefficient. On the other hand, we obtain strong support for the positive impact of previous business experience and study in economics on FDI inflows with all variables associated with these traits being significantly positive.

Fifth, we exclude Communist regimes from the sample. These countries have particular characteristics which can drive the findings: on the one hand, education in economics may not have the same content in Communist countries; on the other hand, leaders of these regimes are more constrained by the ruling party and by the state ideology, which give them less leeway in economic policies and hence make their own characteristics less relevant. We therefore follow former works testing the exclusion of these countries (e.g., Papaioannou and Siourounis, 2008). We confirm the positive relationship between level of education and FDI inflows, and we find again evidence for the impact of previous business experience and study in economics.

Sixth, we exclude countries for which we have a small number of observations. We test alternatively four exclusions all displayed in the table: countries with only 1 year, 2 years or less, 3 years or less, and 4 years or less. We observe that these changes in the sample of countries do not affect the main conclusions. We still point out that greater educational attainment is associated with greater FDI inflows: *Undergraduate* and *Graduate* are always significantly positive with a greater coefficient for *Graduate*. We again obtain some evidence for the impact of previous business experience and study in economics with the significantly positive coefficients of terms including one of both traits but excluding the other.

Our main results have thus been confirmed by several robustness tests, leading to findings that support the view that leaders' education has an impact on FDI inflows.

5. Conclusion

In this paper, we investigate whether dictators' characteristics exert an impact on FDI inflows. Political risk is a key obstacle to FDI leading foreign investors to scrutinize any information on the host country before implementing investment decisions. As a consequence, we test the hypothesis that leaders' education and prior experience in dictatorships exert an impact on FDI inflows because foreign investors consider it as a signal of greater awareness of leaders for the economic benefits of FDI.

Our main conclusion is that educated dictators are more attractive to foreign investors. We find strong evidence that greater educational attainment of the leader promotes FDI. We also obtain evidence that prior experience in business and education in economics contribute to enhancing FDI. Additional estimations confirm the conclusion. We show that other characteristics of leaders like age, political experience, and tenure length do not affect FDI. This finding therefore shows the key importance of education among the traits of leaders in influencing FDI. We furthermore do not observe any relationship between leaders' education and FDI in democracies, which corroborates our hypothesis that leaders' education is a valuable signal for foreign investors in dictatorships only.

The results of the paper help understanding what shapes FDI inflows in dictatorships by showing the role of leaders' characteristics in dictatorships. Next to the macroeconomic factors and the institutional framework of the host country, the educational and economic background of the dictator is taken into account by foreign investors. Leaders' profiles can therefore affect macroeconomic performance of a country not through their influence on their policy choices but through their impact on the expectations of foreign investors.

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Table 1a: FDI net inflows, % GDP (summary statistics, 1973-2008)

	Mean	Std. dev	50%	N
FDI inflows	2.69	6.86	1.00	1,570

Table 1b: Independent variables (summary statistics, 1973-2008)

	Freq.	Percent	N
Education: primary	71	4.64	1,529
Education: secondary	334	21.84	1,529
Education: graduate	615	40.22	1,529
Education: postgraduate	509	33.29	1,529
Study in economics	138	8.79	1,570
Business experience	111	7.07	1,570

Table 2: Main estimations

	(1)	(2)	(3)	(4)	(5)	(6)
GDP per capita	-0.22 (0.015)	-0.24 (0.15)	-0.25* (0.14)	-0.24* (0.14)	-0.28*** (0.14)	-0.28** (0.014)
Inflation	-0.00014* (0.000074)	-0.00014* (0.000076)	-0.00015* (0.000072)	-0.00013* (0.000072)	-0.00013* (0.000075)	-0.00015* (0.000075)
Trade	0.12** (0.047)	0.12** (0.047)	0.12*** (0.046)	0.12*** (0.046)	0.12*** (0.046)	0.12*** (0.046)
Government expenditures	0.062 (0.086)	0.062 (0.090)	0.066 (0.085)	0.059 (0.085)	0.059 (0.089)	0.063 (0.089)
Resources rents	-0.0097 (0.069)	-0.013 (0.073)	-0.0083 (0.069)	-0.0074 (0.069)	-0.013 (0.073)	-0.013 (0.073)
Population	-0.032* (0.018)	-0.038** (0.018)	-0.033* (0.019)	-0.032* (0.019)	-0.039** (0.018)	-0.039** (0.018)
Intrastate conflict	0.67 (0.41)	0.55 (0.42)	0.65 (0.39)	0.63 (0.39)	0.49 (0.37)	0.49 (0.36)
Military dictatorship	1.22 (1.23)	1.84 (1.38)	2.01 (1.36)	2.03 (1.36)	2.05 (1.36)	2.05 (1.36)
Monarchy	-3.01 (2.08)	-1.44 (2.03)	-1.24 (1.97)	-1.27 (1.99)	-1.23 (1.97)	-1.23 (1.99)
Communist / radical left	0.49 (1.81)	0.033 (2.45)	0.067 (2.42)	0.062 (2.43)	0.068 (2.42)	0.068 (2.43)
Political rights	-0.14 (0.21)	-0.12 (0.22)	-0.14 (0.22)	-0.14 (0.22)	-0.14 (0.22)	-0.14 (0.22)
Secondary		3.78 (2.46)			3.96 (2.47)	3.96 (2.47)
Undergraduate		4.01** (1.97)			3.99** (1.96)	3.99** (1.96)
Graduate		5.52*** (1.62)			5.62*** (1.59)	5.62*** (1.59)
Prior business experience			1.70 (1.04)		1.32** (0.58)	
Studied economics				1.54 (1.24)	1.13 (1.36)	
No business experience and no study in economics						ref
Business experience and no study in economics						1.33** (0.61)
No prior business experience and study in economics						1.22** (0.49)
Business experience and study in economics						2.44 (1.59)
Constant	-5.45* (2.99)	-10.3*** (3.57)	-5.55* (2.99)	-5.55* (2.99)	-10.3*** (3.48)	-10.3*** (3.48)
Country fixed effects	yes	yes	yes	yes	yes	yes
Year fixed effects	yes	yes	yes	yes	yes	yes
Observations	1,451	1,414	1,451	1,451	1,414	1,414
Adjusted R-squared	0.24	0.24	0.24	0.24	0.24	0.24

Notes: Standard errors in brackets are clustered by country. *, ** and *** mean respectively $p < 0.1$, $p < 0.05$ and $p < 0.01$

Table 3: Other leaders' characteristics

	(1)	(2)	(3)	(4)	(5)
GDP per capita	-0.29** (0.14)	-0.23 (0.15)	-0.28* (0.14)	-0.28** (0.14)	-0.29** (0.14)
Inflation	-0.00015* (0.000078)	-0.00014* (0.000081)	-0.00015* (0.000074)	-0.00015* (0.000078)	-0.00015* (0.000076)
Trade	0.12*** (0.046)	0.12** (0.047)	0.12*** (0.046)	0.12*** (0.047)	0.12*** (0.046)
Government expenditures	0.063 (0.089)	0.070 (0.088)	0.063 (0.090)	0.063 (0.089)	0.063 (0.089)
Resources rents	-0.015 (0.075)	-0.011 (0.073)	-0.013 (0.073)	-0.014 (0.075)	-0.015 (0.074)
Population	-0.041** (0.020)	-0.035* (0.020)	-0.039** (0.019)	-0.038** (0.018)	-0.042** (0.020)
Intrastate conflict	0.48 (0.37)	0.65 (0.41)	0.49 (0.36)	0.51 (0.35)	0.47 (0.38)
Military dictatorship	2.32 (1.46)	1.37 (1.48)	2.05 (1.35)	2.12 (1.35)	2.31 (1.47)
Monarchy	-0.98 (1.98)	-3.22 (2.31)	-1.23 (1.97)	-0.84 (1.96)	-1.10 (1.99)
Communist / radical left	0.18 (2.49)	-0.18 (2.38)	0.071 (2.42)	0.21 (2.46)	0.13 (2.49)
Political rights	-0.12 (0.24)	-0.17 (0.23)	-0.14 (0.23)	-0.13 (0.23)	-0.12 (0.23)
Secondary	4.20* (2.47)		3.97 (2.54)	3.94 (2.48)	4.21* (2.46)
Undergraduate	4.13** (1.95)		4.00* (2.03)	3.94** (1.94)	4.15** (1.96)
Graduate	5.82*** (1.60)		5.63*** (1.66)	5.60*** (1.58)	5.84*** (1.59)
No business experience and no study in economics	ref		ref	ref	ref
Business experience and no study in economics	1.27 (0.77)		1.34** (0.61)	1.46** (0.59)	1.21 (0.79)
No prior business experience and study in economics	1.26** (0.52)		1.23** (0.52)	1.15** (0.48)	1.28** (0.49)
Business experience and study in economics	2.54 (1.58)		2.44 (1.59)	2.58 (1.57)	2.49 (1.60)
Years in office	0.027 (0.30)	0.0014 (0.33)	0.028 (0.34)		
Age	0.0045 (0.027)	-0.0091 (0.028)		0.012 (0.024)	
Political experience	0.026 (0.028)	0.016 (0.032)			0.028 (0.026)
Constant	-11.3** (4.34)	-5.01 (3.70)	-10.4*** (3.52)	-11.1** (4.34)	-11.0*** (3.70)
Country fixed effects	yes	yes	yes	yes	yes
Year fixed effects	yes	yes	yes	yes	yes
Observations	1,413	1,425	1,414	1,414	1,413
Adjusted R-squared	0.24	0.24	0.24	0.24	0.24

Notes: Standard errors in brackets are clustered by country. *, ** and *** mean respectively $p < 0.1$, $p < 0.05$ and $p < 0.01$

Table 4: Estimations in democracies

	(1)	(2)	(3)	(4)	(5)	(6)
GDP per capita	0.12 (0.12)	0.13 (0.12)	0.14 (0.12)	0.11 (0.12)	0.12 (0.12)	0.12 (0.12)
Inflation	-0.00022* (0.00012)	-0.00011 (0.00014)	-0.00011 (0.00017)	-0.00021* (0.00012)	-0.00021* (0.00012)	-0.00015 (0.00013)
Trade	0.044** (0.021)	0.046** (0.022)	0.043** (0.021)	0.045** (0.021)	0.044** (0.021)	0.045** (0.022)
Government expenditures	-0.016 (0.040)	-0.022 (0.042)	-0.041 (0.046)	-0.015 (0.040)	-0.011 (0.041)	-0.032 (0.042)
Resources rents	-0.18*** (0.066)	-0.19*** (0.071)	-0.20*** (0.070)	-0.18*** (0.066)	-0.18** (0.068)	-0.19*** (0.071)
Population	-0.010** (0.043)	-0.013** (0.053)	-0.012** (0.051)	-0.010** (0.044)	-0.011** (0.043)	-0.012** (0.051)
Intrastate conflict	0.74 (0.67)	0.66 (0.76)	0.62 (0.76)	0.75 (0.67)	0.75 (0.66)	0.63 (0.76)
Communist / radical left	-1.78 (1.44)	-2.20* (1.29)	-0.79 (1.25)	-1.94 (1.44)	-1.67 (1.46)	-2.24* (1.29)
Political rights	-0.19 (0.18)	-0.34* (0.18)	-0.27 (0.17)	-0.24 (0.19)	-0.20 (0.18)	-0.29* (0.17)
Secondary	2.32** (0.96)	2.67** (1.06)		2.28** (0.95)	2.29** (0.95)	2.68** (1.07)
Undergraduate	1.26 (0.92)	1.55* (0.93)		1.23 (0.91)	1.23 (0.92)	1.56 (0.95)
Graduate	1.87** (0.84)	2.12** (0.96)		1.84** (0.84)	1.86** (0.83)	2.12** (0.97)
No business experience and no study in economics	<i>ref</i>	<i>ref</i>		<i>ref</i>	<i>ref</i>	<i>ref</i>
Business experience and no study in economics	-0.66 (0.53)	-0.90 (0.56)		-0.67 (0.54)	-0.64 (0.53)	-0.89 (0.57)
No prior business experience and study in economics	0.72 (1.67)	0.91 (1.61)		0.73 (1.67)	0.76 (1.68)	0.85 (1.63)
Business experience and study in economics	-0.18 (0.71)	-0.37 (0.76)		-0.17 (0.71)	-0.16 (0.71)	-0.39 (0.74)
Years in office		0.12 (0.31)	0.12 (0.33)	0.28 (0.25)		
Age		0.023 (0.017)	0.019 (0.019)		0.012 (0.013)	
Political experience		-0.042* (0.025)	-0.036 (0.024)			-0.036 (0.022)
Constant	-3.13 (2.24)	-3.75 (2.70)	-1.52 (2.53)	-3.07 (2.27)	-3.88 (2.35)	-2.43 (2.10)
Country fixed effects	yes	yes	yes	yes	yes	yes
Year fixed effects	yes	yes	yes	yes	yes	yes
Observations	1,337	1,298	1,309	1,337	1,337	1,298
Adjusted R-squared	0.14	0.14	0.14	0.14	0.14	0.14

Notes: Standard errors in brackets are clustered by country. *, ** and *** mean respectively $p < 0.1$, $p < 0.05$ and $p < 0.01$

Table 5: Alternative methods and specifications

	Baseline model Coef. (se)	With lagged variable Coef. (se)	Without year dummies Coef. (se)	Random effect Coef. (se)
Lagged FDI (GDP %)		0.20 (0.13)		
GDP per capita	-0.28** (0.14)	-0.21* (0.11)	-0.17 (0.14)	-0.14 (0.099)
Inflation	-0.00015* (0.000075)	-0.00011 (0.000073)	-0.00012** (0.000050)	-0.00015*** (0.000055)
Trade	0.12*** (0.046)	0.11** (0.053)	0.13*** (0.047)	0.084** (0.034)
Government expenditures	0.063 (0.089)	0.041 (0.082)	-0.020 (0.086)	0.030 (0.061)
Resources rents	-0.013 (0.073)	-0.054 (0.077)	0.0035 (0.063)	0.047 (0.039)
Population	-0.039** (0.018)	-0.034* (0.019)	-0.0027 (0.015)	0.0037** (0.018)
Intrastate conflict	0.49 (0.36)	0.70* (0.36)	0.80** (0.39)	0.64 (0.47)
Military dictatorship	2.05 (1.36)	2.20 (1.44)	1.86 (1.49)	1.90** (0.91)
Monarchy	-1.23 (1.99)	-1.10 (2.15)	-0.45 (1.54)	0.043 (0.98)
Communist / radical left	0.068 (2.43)	0.16 (2.25)	-0.91 (2.69)	-0.53 (0.85)
Political rights	-0.14 (0.22)	-0.21 (0.20)	-0.013 (0.25)	-0.0085 (0.15)
Secondary	3.96 (2.47)	4.60* (2.37)	4.47* (2.63)	1.11 (1.31)
Undergraduate	3.99** (1.96)	4.63** (1.93)	4.64** (2.17)	1.60 (1.23)
Graduate	5.62*** (1.59)	6.06*** (1.60)	6.18*** (2.11)	2.44* (1.40)
No business experience and no study in economics	ref 1.33**	ref 1.22**	ref 1.48***	ref 1.33*
Business experience and no study in economics	(0.61) 1.22**	(0.58) 0.78	(0.48) 1.40***	(0.73) 0.41
No prior business experience and study in economics	(0.49) 2.44	(0.48) 2.44	(0.33) 2.82*	(1.59) -0.074
Business experience and study in economics	(1.59)	(1.54)	(1.48)	(1.07)
Constant	-10.3*** (3.48)	-10.8** (4.12)	-12.3** (5.23)	-6.92** (3.44)
Country fixed effects	yes	yes	yes	no
Year fixed effects	yes	yes	no	yes
Observations	1,413	1,277	1,414	1,414

Notes: Standard errors in brackets are clustered by country. *, ** and *** mean respectively $p < 0.1$, $p < 0.05$ and $p < 0.01$

Table 6: Sample restrictions of dictatorships

	Without China	Without Communist regimes	Exclusion of countries with only one year	Exclusion of countries with two years or less	Exclusion of countries with three years or less	Exclusion of countries with four years or less
GDP per capita	-0.29** (0.14)	-0.29** (0.15)	-0.28** (0.14)	-0.28* (0.14)	-0.28** (0.14)	-0.28** (0.14)
Inflation	-0.00014* (0.000079)	-0.00017** (0.000079)	-0.00015* (0.000075)	-0.00015* (0.000075)	-0.00014* (0.000074)	-0.00014* (0.000074)
Trade	0.12*** (0.046)	0.12*** (0.047)	0.12*** (0.046)	0.12*** (0.046)	0.13** (0.048)	0.13** (0.048)
Government expenditures	0.062 (0.088)	0.050 (0.10)	0.063 (0.089)	0.063 (0.089)	0.065 (0.091)	0.064 (0.091)
Resources rents	-0.012 (0.073)	0.0069 (0.075)	-0.013 (0.073)	-0.013 (0.073)	-0.015 (0.075)	-0.015 (0.075)
Population	-0.076 (0.055)	-0.072 (0.055)	-0.039** (0.018)	-0.039** (0.018)	-0.039** (0.018)	-0.039** (0.018)
intrastate conflict during the year	0.49 (0.37)	0.41 (0.38)	0.49 (0.36)	0.49 (0.37)	0.44 (0.36)	0.44 (0.37)
Type of dictatorship (civil as reference):						
Military	1.86 (1.33)	1.86 (1.47)	2.05 (1.36)	2.04 (1.37)	1.99 (1.39)	2.04 (1.42)
Royal	-1.61 (2.32)	-1.85 (2.45)	-1.23 (1.99)	-1.22 (1.99)	-1.46 (2.16)	-1.41 (2.17)
Communist / radical left leader	0.097 (2.36)		0.068 (2.43)	0.068 (2.43)	0.13 (2.43)	0.15 (2.45)
Freedom House political rights index	-0.14 (0.23)	-0.15 (0.25)	-0.14 (0.22)	-0.14 (0.22)	-0.16 (0.23)	-0.16 (0.23)
Secondary	4.10* (2.45)	3.90 (2.58)	3.96 (2.47)	3.95 (2.47)	4.23* (2.53)	4.20 (2.54)
Undergraduate	4.10** (1.95)	4.05* (2.04)	3.99** (1.96)	3.98** (1.97)	4.28** (2.03)	4.23** (2.05)
Graduate	5.66*** (1.60)	5.56*** (1.72)	5.62*** (1.59)	5.62*** (1.59)	5.80*** (1.66)	5.80*** (1.66)
No business experience and no study in economics	ref	ref	ref	ref	ref	ref
Business experience and no study in economics	1.32** (0.61)	1.24** (0.62)	1.33** (0.61)	1.33** (0.61)	1.34** (0.62)	1.26* (0.66)
No prior business experience and study in economics	1.28*** (0.48)	1.34*** (0.49)	1.22** (0.49)	1.22** (0.48)	1.23** (0.49)	1.24** (0.49)
Business experience and study in economics	2.53* (1.52)	2.63* (1.57)	2.44 (1.59)	2.44 (1.59)	2.47 (1.60)	2.47 (1.61)
Constant	-10.6*** (3.53)	-10.4*** (3.44)	-10.3*** (3.48)	-10.3*** (3.48)	-10.5*** (3.68)	-10.5*** (3.67)
Country fixed effects	yes	yes	yes	yes	yes	yes
Year fixed effects	yes	yes	yes	yes	yes	yes
Observations	1,394	1,327	1,412	1,402	1,387	1,379
Adjusted R-squared	0.25	0.24	0.24	0.24	0.24	0.24

Notes: Standard errors in brackets are clustered by country. *, ** and *** mean respectively $p < 0.1$, $p < 0.05$ and $p < 0.01$

Appendix A: Variables sources and description

Variable name	Description	Source
Primary	Dummy variable equal to one if leader's educational attainment is primary education and to zero otherwise	Ellis, Horowitz and Stam (2015)
Secondary	Dummy variable equal to one if leader's educational attainment is secondary education and to zero otherwise	Ellis, Horowitz and Stam (2015)
Undergraduate	Dummy variable equal to one if leader's educational attainment is undergraduate education and to zero otherwise	Ellis, Horowitz and Stam (2015)
Graduate	Dummy variable equal to one if leader's educational attainment is graduate education and to zero otherwise	Ellis, Horowitz and Stam (2015)
Business experience	Dummy variable equal to one if the leader has prior professional experience as a businessman and to zero otherwise	Baturo (2016)
Study in economics	Dummy variable equal to one if if the leader received education in economics and to zero otherwise	Baturo (2016)
GDP per capita	GDP per capita in constant 2010 USD	World Bank (2017)
Inflation	Consumer price index (annual %)	World Bank (2017)
Trade	Trade as a share of GDP	World Bank (2017)
Government expenditures	General government final consumption expenditures (excluding military expenditures) as a percentage of GDP	World Bank (2017)
Resource rents	Natural resource rents as a percentage of GDP	World Bank (2017)
Population	Population in million inhabitants	World Bank (2017)
Intrastate conflict	Dummy variable for ongoing intrastate armed conflicts (>25 battle-related fatalities)	UCDP/PRIO (2017)
Type of dictatorship	Regime type (civilian dictatorship, military dictatorship, monarchy)	Cheibub, Gandhi and Vreeland (2010)
Civilian dictatorship	Dummy variable equal to one if the dictatorship is a civilian one, zero else	Cheibub, Gandhi and Vreeland (2010)
Military dictatorship	Dummy variable equal to one if the dictatorship is a military one, zero else	Cheibub, Gandhi and Vreeland (2010)

Monarchy	Dummy variable equal to one if the dictatorship is a monarchy, zero else	Cheibub, Gandhi and Vreeland (2010)
Communist / radical left	Dummy variable equal to one if the ruling party is Communist or from the far-left family and to zero otherwise	Baturo (2016)
Political rights	Freedom House political rights index, 1 (free) to 7 (unfree)	Quality of Government (2017)
Political experience	Years of formal political experience prior to assuming office	Baturo (2016)
Age	Leader's age	Goemans, Gleditsch and Chiozza (2009)
Years in office	Running sum of years spent in power	Goemans, Gleditsch and Chiozza (2009)