



Educated dictators attract more foreign direct investment

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ABSTRACT

Since political risk is greater in dictatorships than in democracies, this paper investigates the hypothesis that foreign investors scrutinize public information on dictators to assess this risk. It checks whether foreign investors use five relevant dictators' characteristics: age, political experience, education level, education in economics, and prior experience in business. The study is performed on a sample of 100 dictatorial countries from 1973 to 2008. We find that educated dictators are more attractive to foreign investors. We obtain strong evidence that greater educational attainment of the leader is associated with higher FDI. We also find evidence that the leader having tertiary education in economics and prior experience in business is associated with greater FDI. By contrast, the leader's age, and political experience have no relationship with FDI.

1. Introduction

Foreign direct investment (FDI) is a driving force of global integration for a nation. One of the major obstacles to FDI is the risk of expropriation, while the protection of private ownership increases individual incentives to invest in the country. Another risk of international investment is related to the implementation of inappropriate macroeconomic policy and, more broadly, business-unfriendly public policy. These are the components of the political risk which international investors face. As a consequence, institutions associated with the protection of property rights have been widely shown to enhance FDI (Gastanaga et al., 1998; Daude and Stein, 2007; Asiedu and Lien, 2011). So have institutional devices that guarantee policy stability and limit government interference in the economy (Büthe and Milner, 2008; Jensen, 2008).

Formal institutions partly explain why democracies tend to attract more FDI than nondemocratic regimes (e.g., Jensen, 2003, 2008) but have less relevance for explaining the variations in FDI inflows in regimes in which such institutions are either non-existent or less effective (Gehlbach and Keefer, 2012; Jensen et al., 2014). In this paper, we switch the focus from political institutions to an overlooked factor, namely the personal characteristics of the dictator. In regimes in which policy choices depend foremost on the discretion of a single individual, the leader's characteristics can play a greater role in attracting FDI than institutions. Indeed, these characteristics can help potential investors anticipate dictators' future policy choices when making their investment decisions.

We consider two sets of characteristics that could be useful for investors: first, personal characteristics that indicate the leader's competence in economic matters (namely his educational attainment, whether he studied economics, and whether he has prior working experience in the business sector); second, personal characteristics that may influence his expected tenure length and thereby his incentives to expropriate investment (namely his age and prior political experience).

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The empirical purpose 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 find that educated leaders are more attractive for foreign investors in dictatorships: greater educational attainment is associated with higher FDI inflows. We also show evidence that dictators who studied economics are more appealing to foreign investors. However, we find no relationship between dictators' age and prior political experience and FDI inflows: we interpret this finding as evidence that incompetence deters investment to a greater extent than expropriation risk. Additionally, we do not observe the same link between leaders' education and inward FDI in democracies, supporting the view that leaders' education is a signal used by foreign investors only when executive power is unconstrained.

The contribution of this paper is twofold. We first advance the understanding of the determinants of FDI inflows. The literature has mainly focused on the macroeconomic conditions and institutional framework of the host country. Even studies specifically focusing on dictatorships adopt a strictly institutional perspective (Gehlbach and Keefer, 2012; Bastiaens, 2016; Wright and Zhu, 2018). We extend this literature to the traits of leaders and thereby contribute to explaining FDI inflows when institutional constraints are weak.

We also contribute to the literature in terms of the impact of leaders' profiles on economic outcomes. Several studies (e.g., Dreher et al., 2009; Besley et al., 2011; Congleton and Zhang, 2013) have shown that leaders' characteristics are related to their macroeconomic performance, because they influence their policy preferences, technical skills, or dedication to public interest. We identify another (indirect) mechanism at work behind these findings by showing that leaders' profiles also impact investors' expectations and thus influence macroeconomic performance through this channel.

The remainder of the paper is organized as follows. Section 2 discusses the literature. Section 3 details the expected relationship between dictator characteristics and investor decisions. Section 4 presents the data and the methodology used to test our hypotheses. Section 5 displays the main estimations. In Section 6, we proceed with some additional tests and robustness checks. Section 7 concludes.

2. Related literature

In this section, we present the literature associated with our research question. We first briefly survey the literature on the determinants of FDI inflows. We then report the main results of 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 that minimize costs and maximize revenues. Determinants of FDI can therefore be divided into two broad categories influencing 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 by 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 in 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 views of 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 for FDI, leading to a detrimental impact of trade on FDI. The literature tends to support the positive relation between trade and FDI, with work such as that of Liu et al. (2001) on 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 et al. (1998) observe that oil prices for oil exporting countries exert a negative impact on FDI in their work on 49 developing countries in line with the resource curse hypothesis. 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 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.

The first strand of this literature deals with the impact of democracy on FDI. The accumulated evidence supports a beneficial effect of democracy. Jensen (2003) finds robust evidence that democratic institutions foster FDI in 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 a study of 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. Lacroix et al. (2018) analyze how democratic transitions influence FDI inflows. With a sample of 115 developing

countries from 1970 to 2014, they do not find, on average, any relation between democratic transition and FDI inflows. However, they observe that consolidated democratic transitions—those that do not go into reverse for at least five years—enhance FDI inflows, with greater increase 10 years after the transition.

Asiedu and Lien (2011) extend this question by checking if this relationship is influenced by the share of natural resources in exports in 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 focusing on democratic liberties. Harms and Ursprung (2002) examine whether political and civil repression exert influence on FDI in a sample of 62 developing countries, in line with the hypothesis that multinational companies would be attracted to 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 civil liberties and political liberties separately. They point out that repression of civil liberties can provide incentives to foreign investors, while repression of political liberties has the opposite effect. They find support for this hypothesis in a dataset of FDI from US firms in 105 developing and developed countries.

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 et al. (2017) propose a comparative analysis of the effects of dimensions of institutional quality on FDI for 83 developing countries. They find strong support for a larger impact of expropriation risk than of other institutional characteristics such as government stability, political accountability, and corruption.

Some rare works examine variations in FDI flows within dictatorships. Broadly speaking, this strand of the literature has focused either on the impact of formal institutions or on dictators' time horizons, with the idea that inward FDI increases either when dictators are constrained by strong institutions, or when they expect long-term benefits from investment and are motivated to limit taxation and protect private property. Regarding time horizons, Moon (2015) finds evidence that autocrats with a higher probability of staying in power attract more FDI. Bak (2016) finds that FDI inflows in autocracies follow a political cycle: they reach their lowest point in the early years of the dictator's tenure, then increase over time and eventually decrease again as the autocrat's tenure approaches the end. This is consistent with the results of earlier works finding that dictators' likelihood of expropriating foreign investment decreases throughout their tenure (Li, 2009) and that dictators' tenure is also correlated with better protection of property rights (Clague et al., 1996). Likewise, Fails (2014) finds a positive relationship between risk of leader replacement and political risk (measured by data from the political risk insurance industry).

The evidence regarding authoritarian institutions is more mixed. Bastiaens (2016) finds that signatories of bilateral investment treaties attract more FDI when they allow for some degree of political participation. However, Gehlbach and Keefer (2012) find that institutionalized ruling parties with the ability to select leaders, as well as competitively elected legislatures have no impact on FDI inflows, although they are significant predictors of expropriation risk and domestic investment. One subsequent study by Wright and Zhu (2018) even finds that power concentration is attractive for fixed asset investors. More indirect evidence on expropriation risk confirms these findings: Jensen et al. (2014) find that the existence of multiparty legislatures is not sufficient to guarantee property rights protection and prevent nationalization. Wilson and Wright (2017) use data on nationalization in the oil sector and find that expropriation is less likely in non-personalist dictatorships with legislatures; the existence of a legislature has no effect on expropriation risk in personalist regimes.

2.2. Economic impact of leaders' profiles

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 et al. (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 backgrounds also affect their policy preferences. Using data on OECD countries, they conclude that leaders who held blue-collar jobs prior to pursuing their political careers produce larger public deficits. Neumeier (2018) focuses on professional experience by assessing the economic performance of US state governors who were businesspersons before entering politics. He finds that governors with backgrounds in business have a beneficial impact on economic performance, since their tenures are associated with higher economic growth and lower unemployment.

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 United States, and find that they depend, in part, on central bankers' background, former members of the central bank staff bringing about the lowest inflation rates. Several studies of German federal states arrive at similar conclusions: prime ministers from working-class families 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 of Swiss finance ministers shows that trained economists are more likely to manipulate financial reports to conceal budget surpluses (Clémenceau and Soguel, 2017).

Most of these works either exclusively focus on democracies or do not distinguish political regimes (an exception being Besley et al., 2011), making it 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 both democracies (Atella and Carbonari, 2017) and 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 decisions under dictatorships

As suggested by the literature (e.g., Boutchkova et al., 2012; Brogaard and Detzel, 2015), investment decisions and returns are affected by political uncertainty. The available evidence also shows that FDI is highly sensitive to monetary, tax, and regulatory policies (Gastanaga et al., 1998; Baccini et al., 2014) and that uncertainty about future public policies can deter investment even in relatively stable environments (Julio and Yook, 2016). This pattern should be particularly pronounced in authoritarian regimes, in which the leader has leeway to enact reforms with adverse consequences for the host country's economy.

Following Pastor and Veronesi (2012, 2013), we can assume that political uncertainty is driven by two components. First, policy uncertainty refers to uncertainty around the type of policy which is going to be implemented by the government. The scope of policies is very large, from inappropriate political economy to more targeted and specific microeconomic policy. For international investors and beyond macroeconomic management failure, policy uncertainty in dictatorship includes two potential high risks: expropriation, meaning the invested capital becomes the property of the dictator, and extortion, meaning the investment return is captured by the dictator. Expropriation can be more or less complete, while extortion can be punctual or continuous and more or less extensive. Second, policy impact uncertainty corresponds to the uncertain consequences of the implemented policies on the investment return. Both these types of uncertainty form the political risk the investor faces.

What is difficult for foreign investors is to assess the likelihood of policies and political risk, even though they do not make their decision in a radical uncertainty environment in Knight's sense (1921). Moreover, it is harder to assess these probabilities in dictatorships than in democracies, because the variance of 'leaders' behavior is larger in the former context.

Most theoretical and empirical analyses are based on a democratic framework, although there are large differences in probability variances between democracy and dictatorship leading to large differences in investment decisions. Indeed, from investors' perspective, economic and political environments deeply diverge between democratic and dictatorial regimes. In democracies, political risk is alleviated by institutions that protect property rights such as the constitution or the 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 variations in discretionary power among dictatorships, the scope of potential public policy decisions is broader than in democracies and the probability of expropriation and extortion is broader as well.

Using the prior Pastor and Veronesi's distinction (2012, 2013), policy uncertainty is greater in dictatorships than in democracies, while we can assume that policy impact uncertainty does not depend on the political regime. As a result, political uncertainty and risk are greater in dictatorships than in democracies. From an empirical perspective, variations in economic performance are greater within autocracies than within democracies (Weede, 1996; Almeida and Ferreira, 2002).

Facing political uncertainty, international investors must anticipate dictators' decisions to assess the expected profitability of their investment. Investors know that dictators try to maximize the rent they extract from the national economy. Besides personal consumption, this rent can serve several purposes such as buying off opponents, investing in the security apparatus, or securing wealth in anticipation of a regime breakdown (Wright, 2008b).¹ On the other hand, extracting excessive rent from the economy has a negative impact on the economy and, ultimately, on the amount of rent captured by the dictator (Olson, 1993). Dictators therefore have to choose an optimal amount of rent to extort from the economy to maximize their wealth and probability of survival without depleting available resources.

International investors are aware of the underlying logic of the decision-making process but do not know the final decision made by authoritarian leaders. To anticipate this decision, they can only use public information,² and three kinds of information are available.

First, they can examine the dictator's past behavior and decisions to predict his future choices. By evaluating past decisions and

¹ We do not make any assumption about what motivates resource transfers from the productive sector to the ruling elite: dictators may attempt to strategically invest in regime survival or be motivated by personal enrichment. We simply take for granted that these transfers are fairly common in nondemocratic regimes, in line with the literature.

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

using adaptive anticipations, investors gain first insight into the economic choices made by the dictator. The limitation of this source of information is that many dictators have short tenures, and their rule is often not long enough to draw inferences from past to future decisions.

Second, the formal institutions of the regime may provide indications on the extent of the leader's discretionary power. However, authoritarian institutions vary widely in their constraining power, and not all of them are effective safeguards against expropriation (see Wright, 2008a; Gehlbach and Keefer, 2012; Jensen et al., 2014).

Third, investors may examine the dictator himself: by observing the leader's personal characteristics, background, and pathway to power, they can gain initial insight into his future economic choices. This type of information has several advantages: first, it is readily available information, which can be accessed without deep knowledge of the country's institutional environment; second, the information is more reliable than public promises and discourses; and third, the leader's traits are likely to be good predictors of his future behavior if power is heavily concentrated.

We therefore put forward a first, general hypothesis which states an existing relationship between FDI flows and dictators' characteristics.

H1. : *Dictators' personal characteristics have an impact on FDI inflows.*

More specifically, we expect that FDI inflows will be driven by personal characteristics related to either leaders' expected tenure length or their knowledge of the economy.

Regarding leaders' expected tenure length, we follow prior research and assume that dictators' incentives to expropriate will decrease as their time horizons increase (Olson, 1993). The dictator has no incentive to invest in long-term economic development if he expects his tenure to be short. This is why dictators who are secure in office tend to invest more in growth-enhancing policies or institutions (Clague et al., 1996; Wright, 2008a, 2008b; Li, 2009; Jong-A-Pin and Mierau, 2011).

Dictators' discount rates (and, in turn, expropriation risk) are difficult to observe directly, but two characteristics of leaders constitute good approximations of their expected tenure length. The first is the length of their political experience prior to entering office: all else being equal, career politicians (e.g., Hu Jintao in China) probably have longer time horizons than complete outsiders (e.g., Samuel Doe in Liberia) because they can rely on an established network to consolidate their power. These individuals may also expect continued political activities after leaving office.

Our second proxy for expected tenure length is the leader's age. Older dictators are more likely to engage in rent extraction, simply because they face a higher mortality risk (Jong-A-Pin and Mierau, 2011). Furthermore, aging dictators can deter investment for reasons other than their incentives to expropriate: investors may simply want to avoid policy reversals following leadership transitions (see Fails, 2014). We thus expect dictators' age to correlate negatively with FDI inflows, and their prior political experience to enhance FDI, because international investors should be sensitive to these leaders' characteristics.³

H2a. : *Aging dictators produce decreased FDI inflows.*

H2b. : *Dictators with prior political experience attract increased FDI inflows.*

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. Expropriation risk and policy risk are probably not quite independent from each other,⁴ but even leaders whose positions were relatively secure have made some disastrous policy choices for ideological reasons or out of sheer ignorance. For example, China's growth rate was estimated at -28% for the year 1961, shortly before Mao put an end to the Great Leap Forward. Ne Win's "Burmese way to socialism" similarly ruined Myanmar. Ne Win is also infamous for the demonetization of several banknote denominations without the possibility of conversion, a step he apparently took partly to curb inflation and partly because his astrologer advised him to release new denominations whose numerals added up to nine (Maung, 1990).

Formal educational attainment is public information that can inform potential investors about the dictator's future public policies. Investors can expect more educated dictators to adopt more balanced decisions, which can be embodied in more pro-business policies. Generally, educated leaders may make more informed decisions or accept more rational advice about their policies: Besley et al. (2011) and Congleton and Zhang (2013) have shown that college-educated leaders produce higher growth rates. Both studies assign this effect to educated leaders' greater ability to identify sensible economic policy choices. So, we can state a new hypothesis as follows:

H3. : *More educated dictators attract increased FDI flows.*

Lastly, among readily available dictator characteristics, those related to economics are the most relevant. In particular, we assume that a leader's knowledge of economics may provide an element of future decision forecasting. The leader's economic knowledge has two sources. First, prior business experience is a good indicator of future decisions of dictators for international investors. Second,

³ A more obvious indicator of leaders' expected tenure length is their actual longevity in power, which has been shown to correlate positively with FDI (Li, 2009). This indicator cannot be used here: first, investors do not have access to this information when the leader has just come to power. Second, as the leader's past years in power add up, investors update their beliefs about his expected tenure length but also gain more information about his economic policy choices, which can either encourage or deter investment.

⁴ For example, it is possible that economic failures lead to regime instability. Conversely, political instability may bring less competent leaders to power (see Besley et al., 2011). The literature also suggests that leaders who fear for their seats are more likely to be surrounded by incompetent advisors (Zakharov, 2016).

Table 1
Summary statistics on main variables.

	Mean	Std. dev.	Observations
H2a: Age	57.67	11.65	1451
H2b: Political experience	11.63	11.69	1425
H3: Education level:			
primary	0.05	0.22	1414
secondary	0.20	0.40	1414
undergraduate	0.42	0.49	1414
graduate	0.33	0.47	1414
H4a: Study in economics (y/n)	0.09	0.28	1451
H4b: Business experience (y/n)	0.07	0.26	1451
Inward FDI (% GDP)	2.83	7.05	1451

Notes: we provide the statistics for the period 1973–2008.

having education in economics may influence the policies of the dictator. These expectations are in line with earlier works showing that former businesspersons are more likely to implement market-liberalizing reforms (Dreher et al., 2009) and generate more growth, less unemployment (Neumeier, 2018), and lower public deficits (Joachimssen and Thomasius, 2014). Education in economics also improves decision makers' macroeconomic performance according to some of these studies (Dreher et al., 2009; Joachimssen and Thomasius, 2014). Accordingly, our last two hypotheses are related to the leader's background in economics:

H4a. : Dictators with education in economics attract increased FDI flows.

H4b. : Dictators with prior business experience attract increased FDI flows.

4. Empirical methodology

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

4.1. Data description

The analysis focuses on authoritarian regimes—which we identify using Cheibub et al. (2010) dichotomous democracy measure—and spans the period from 1973 to 2008. The unit of analysis is the country-year. We exclude all years during which a change of leadership has taken place since it would force us to adopt an arbitrary rule to link the FDI inflows to any of the leaders of the year. The resulting dataset includes 1570 observations (207 leaders) spread over 100 countries. Table 1 reports the descriptive statistics for the key variables.

Our dependent variable⁵ 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. In our sample, FDI inflows represent, on average, 2.83% of the national GDP.

To measure the independent variables, we rely on three datasets of political leaders (Goemans et al., 2009; Ellis et al., 2015; Baturo, 2016).

First, we consider the dictator's age (*Age*) and the length of his experience in politics prior to entering office⁶ (*Political experience*), both continuous variables measured in years. According to hypotheses H2a and H2b, we expect that the first has a negative impact and the second a positive impact on FDI flows. The mean age of leaders is about 58 years, while they have, on average, a political experience of 11.63 years.

Second, we use a set of three dummy variables indicating the highest level of education of the leader in office (i.e., the dummies are mutually exclusive). *Primary*, *Secondary*, and *Tertiary* are respectively equal to one if the leader holds a primary, secondary, or higher education degree, and to zero otherwise. *Primary* is our reference in the estimations. According to hypothesis H3, we expect an increasing impact of education levels on FDI flows. As shown in Table 1, 42% of leaders have undergraduate education, while 33% have graduate education.

Third, we use *Education in economics*, a dummy variable equal to one if the leader holds a higher education degree in economics or management and to zero otherwise, and *Business experience*, a dummy variable equal to one if the leader has prior executive experience in the corporate sector. According to hypotheses H4a and H4b, we expect a positive impact of these variables on FDI flows. We point out that 9% of leaders have studied economics or management, while 7% of leaders have prior experience in business.

Since there is correlation between both variables, we create a single binary variable indicating if the leader has either economic education or business experience. We call it the economic record of the dictator (*Economic record*).

Correlation also exists between education and economic record since a leader with economic education has, by definition, tertiary

⁵ See Appendix A for the description of the variables and their sources.

⁶ We also test an alternative definition of the variable, a dummy variable taking the value of one if the leader has prior experience in politics and zero otherwise to check a potential nonlinear effect. While this variable is not significant, the results are similar.

education. To take this aspect into account, we create four interaction variables between education and economic record: “Secondary if neither business experience nor study in economics study,” “Secondary if either business experience or study in economics,” “Tertiary if neither business experience nor study in economics,” and “Tertiary if either business experience or study in economics”, with primary education as the reference.

We 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 USD 1000 constant 2010. In line with [Chakrabarti \(2001\)](#), we expect a positive impact. We also include the annual growth rate of Consumer Price Index 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 value of imports and exports in percentage of GDP (*Trade*). A positive relation between trade and FDI is expected, following former works such as [Liu et al. \(2001\)](#) and [Egger and Pfaffermayr \(2004\)](#). Government size is also controlled by 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 total population (*Population*). There is mixed evidence for this variable: while [Akhtaruzzaman et al. \(2017\)](#) find no significant influence, [Blanton and Blanton \(2007\)](#) consider that a larger population increases opportunities for rebellion and violation of human rights, which can be detrimental to FDI.

As institutional variables, we introduce four factors in the specification. First, a dummy variable indicates the occurrence during the year of intrastate conflict (*Intrastate conflict*), following earlier work indicating that domestic political violence has a negative impact on inward FDI ([Braithwaite et al., 2014](#); [Barry, 2018](#)). 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 dictatorship* 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, who are unlikely to have education in economics or business experience and may deter investment for reasons unrelated to their background.⁷ 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 control for checks on the executive using the Freedom House political rights index (*Political rights*), since we adopt a broad definition of authoritarian regimes that may include some false positives (see [Cheibub et al., 2010](#)). Furthermore, political rights have been found to enhance investment ([Harms and Ursprung, 2002](#); [Adam and Filippaios, 2007](#)). Following the literature which jointly considers democracies and dictatorships, we expect a negative⁸ sign for the coefficient.

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 effect and γ_t are the dummy variables for years. We assume that $\varepsilon_{i,t}$ is the error term, is i.i.d.

We decide not to introduce dynamics in our specification. First, we have tested the introduction of a lagged realization of FDI, which is not significant. The estimation is presented in the robustness checks. Second, the introduction of the lagged realization leads to econometric concerns, since it is correlated with the error term ([Nickell, 1981](#)). The resolution of this bias rests on dynamic GMM models. In our context these models contain lagged realizations of FDI as GMM-style instruments for the first lag of FDI. However, such models do not allow taking into account the time-invariant characteristics of the dictator (e.g., education). Therefore, we carry out a fixed effects estimator to estimate the coefficients instead of a dynamic model. Similarly, we prefer fixed effects related to the country, not the dictator, to random effects. In our robustness checks, we propose alternative methods and models.

5. Main estimations

We first report results regarding the effect of the leader's education and background in economics. These results are displayed in [Table 2](#). To handle potential multicollinearity issues between the explanatory variables, we provide seven specifications. In the first one (model 1), we do not include the characteristics of the leader to check the stability of the control variables compared to the other specifications. In the four following models (models 2 to 5), we introduce successively each of the four following characteristics: age,

⁷ Military dictatorships typically have short lifespans and experience more coups d'état than any other type of dictatorship ([Hadenius and Teorell 2007](#); [Geddes et al. 2014](#)). Archigos data also indicate that military leaders have a greater probability of exiting office in an irregular way.

⁸ Higher values on the index indicate poor protection of political rights.

Table 2
Baseline estimations in dictatorships.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Coef	Coef	Coef	Coef	Coef	Coef	Coef
	(se)	(se)	(se)	(se)	(se)	(se)	(se)
Age		−0.0038 (0.024)				0.0037 (0.029)	0.0037 (0.029)
Political experience			0.011 (0.028)			0.021 (0.028)	0.021 (0.028)
Leader's education (primary as reference):							
Secondary				4.76** (2.26)		5.19** (2.22)	
Tertiary				5.55*** (1.66)		5.81*** (1.60)	
Economic record: business experience or study in economics					1.29 (0.95)	1.90* (0.99)	
Leader's education (primary as reference):							
Secondary if neither business experience nor study in economics							5.19** (2.22)
Secondary if either business experience or study in economics							NO
Tertiary if neither business experience nor study in economics							5.81*** (1.60)
Tertiary if either business experience or study in economics							7.71*** (1.87)
GDP per capita	−0.22 (0.15)	−0.22 (0.15)	−0.22 (0.15)	0.23 (0.15)	0.24 (0.14)	0.24 (0.14)	−0.27* (0.14)
Inflation	−0.00014* (0.000074)	−0.00013* (0.000077)	−0.00014* (0.000080)	−0.00015* (0.000075)	−0.00013* (0.000072)	−0.00013* (0.000072)	−0.00015* (0.000077)
Trade	0.12** (0.047)	0.12** (0.047)	0.12** (0.047)	0.12** (0.047)	0.12*** (0.046)	0.12*** (0.046)	0.12*** (0.047)
Government expenditures	0.062 (0.086)	0.062 (0.086)	0.071 (0.088)	0.071 (0.091)	0.059 (0.085)	0.059 (0.085)	0.070 (0.090)
Resources rents	−0.0097 (0.069)	−0.0094 (0.070)	−0.012 (0.073)	0.0099 (0.075)	0.0077 (0.069)	0.0077 (0.069)	0.011 (0.076)
Population	−0.032* (0.018)	−0.033* (0.018)	−0.033* (0.020)	−0.031* (0.018)	−0.032* (0.019)	−0.032* (0.019)	−0.033* (0.020)
Dictatorship type (civilian as reference):							
Military dictatorship	1.22 (1.23)	1.20 (1.21)	1.38 (1.48)	1.36 (1.41)	1.32 (1.24)	1.66 (1.49)	1.66 (1.49)
Monarchy	−3.01 (2.08)	−3.13 (2.18)	−2.96 (2.09)	−2.91 (2.09)	−2.96 (2.05)	−2.69 (2.25)	−2.69 (2.25)
Intrastate conflict	0.67 (0.41)	0.66* (0.40)	0.67 (0.43)	0.53 (0.41)	0.65 (0.39)	0.49 (0.38)	0.49 (0.38)
Communist / radical left	0.49 (1.81)	0.45 (1.81)	−0.093 (2.43)	0.034 (2.46)	0.91 (2.07)	0.14 (2.45)	0.14 (2.45)
Political rights	−0.14 (0.21)	−0.15 (0.21)	−0.17 (0.22)	0.12 (0.23)	0.14 (0.20)	0.13 (0.24)	0.13 (0.24)
Constant	−5.45* (2.99)	−5.19 (3.63)	−5.57* (3.29)	−11.0*** (3.70)	−5.62* (3.02)	−11.9*** (4.52)	−11.9*** (4.52)
Country fixed effects	yes	yes	yes	yes	yes	yes	yes
Year fixed effects	yes	yes	yes	yes	yes	yes	yes
Observations	1451	1451	1425	1414	1451	1413	1413
Adjusted R-squared	0.24	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 $p < 0.01$. NO means no observation.

political experience, educational attainment, and economic record. In model 6, we introduce in the specification all characteristics together. In model 7, we include age, political experience, and the four interaction variables between education and economic record to take that account collinearity between education and economic record.

Several conclusions emerge. First, we do not find evidence supporting hypotheses H2a and H2b: *Age* and *Political experience* are insignificant in all estimations. This suggests that dictators' expected tenure length is not a main driver of foreign investment. A possibility is that short time horizons have ambiguous effects on investment: aging dictators have incentives to expropriate (which should deter investment), but this effect is offset by uncertainty over potential successors, which sometimes has the counterintuitive effect of increasing investment in the short term (Albertus and Gay, 2019). Second, 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* and *Tertiary* are significantly positive in all estimations. Moreover, we observe that the impact increases with the level of education, with a greater

coefficient for *Tertiary*. We arrive at this result when considering education variables or when taking into account interaction variables between education and economic record. Compared to primary education, a country ruled by a dictator with tertiary education receives more FDI than a country ruled by a dictator with undergraduate studies. If we consider, for instance, the specification in model 4, the effect magnitude on FDI proportion is 4.76 percentage points when the leader has secondary education and 5.55 points when he has tertiary education. This result confirms our hypothesis H3.

Third, we find limited evidence that prior experience in business and education in economics are positively valued by foreign investors. Economic record is significantly positive in the specification including all leader characteristics but it is not significant when included alone. We also find that both interaction variables “Tertiary if neither business experience nor study in economics” and “Tertiary if either business experience or study in economics” are significantly positive with a higher coefficient for the latter one. As a result, we find support for Hypotheses H4a and H4b.

These estimations therefore provide some support for the key hypothesis H1 that dictators’ characteristics have an impact on FDI flows. We conclude that education level but also education in economics and former business experience of the leader exert an influence on foreign investors by providing them with information about the future policy choices of the leader.

We turn to the analysis of the control variables. Among macroeconomic variables, we observe a positive and significant influence of trade, which accords with the findings of Liu et al. (2001) and Egger and Pfaffermayr (2004) about the complementarity between trade and FDI. Inflation has a significantly negative impact on FDI flows in line with Coskun (2001) and Buckley et al. (2007), confirming the detrimental influence of inflation on FDI. We point out a negative influence but generally not significant of GDP per capita on FDI flows, which diverges from former works such as Chakrabarti (2001). We additionally observe a negative impact of population, which can also be interpreted as a greater market size being associated with lower FDI flows. These findings are rather at odds with those in the literature. However, the fact that our sample is restricted to dictatorships can explain such different findings from works considering all types of political regimes. Finally, neither government size nor the share of natural resources in GDP has a significant relation with FDI flows.

Institutional variables are not significant. Again, this difference from the literature may 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 on a dictatorship. We also observe that the Communist nature of a regime has no significant impact on FDI share. Finally, the lack of significance for the variables associated with the type of dictatorship show that investors do not differentiate between types of dictatorships when making FDI decisions.

Intrastate conflicts have no impact on FDI. This surprising result could be because we removed years of leadership change from the sample; we thus automatically excluded years during which a leader was overthrown in 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.

Our results for economic record however stress the question to know whether prior business experience or education in economics matter for FDI flows. Our former results could not disentangle between both variables. To this end, we perform additional estimations by disaggregating the economic record between prior business experience and education in economics in Table 3.

We first adopt a specification including variables for education achievement and four interaction variables between business experience and education in economics: “No business experience and no study in economics”, “Business experience and no study in economics”, “No prior business experience and study in economics”, “Business experience and study in economics”, with the first one as the reference in the estimations.

This specification provides information on the comparative impact of business experience and study in economics but suffers from the correlation between education in economics and the level of education since a leader with education in economics has by definition tertiary education.

We therefore perform a second specification in which we include six interaction variables to avoid this concern: “Secondary with no business experience and no study in economics”, “Secondary with business experience”, “Tertiary with no business experience and no study in economics”, “Tertiary with business experience and no study in economics”, “Tertiary with no business experience and study in economics”, “Tertiary with business experience and study in economics”, with primary education as the reference.

In the first specification, we observe that only one interaction variable is significantly positive: *No prior business experience and study in economics*. For the rest, the interaction variables including prior experience in business are both not significant.

In the second specification, we find that all interaction terms are significant. We however observe that interaction variables have greater coefficients when they include the fact that the leader has studied economics.

In a nutshell, the estimations show that business experience and education in economics both favor FDI flows with a greater role for education in economics. We therefore find support for hypotheses H4a and H4b.

6. Additional estimations

In this section, we perform additional estimations to check the relevance of our findings. We first check whether the influence of the education and background of leaders is similar in democracies (6.1). Next, we analyze the relationship between alternative educational and occupational backgrounds and FDI inflows (6.2). We then check whether our results are sensitive to the estimation method and the selection of cases (6.3). Finally, we investigate the issue of reverse causality (6.4).

Table 3
Estimations with detailed economic record.

	Coef (se)	Coef (se)
Age	0.0036 (0.029)	0.0036 (0.029)
Political experience	0.023 (0.028)	0.023 (0.028)
Leader's education (primary as reference):		
Secondary	5.23** (2.21)	5.23** (2.21)
Tertiary	5.81*** (1.59)	5.81*** (1.59)
No business experience and no study in economics	ref	ref
Business experience and no study in economics	1.01 (0.76)	1.01 (0.76)
No business experience and study in economics	1.30** (0.54)	1.30** (0.54)
Business experience and study in economics	2.35 (1.47)	2.35 (1.47)
Primary		ref
Secondary with no business experience and no study in economics		5.23** (2.21)
Secondary with business experience		NO
Tertiary with no business experience and no study in economics		5.81*** (1.59)
Tertiary with business experience and no study in economics		6.82*** (2.02)
Tertiary with no business experience and study in economics		7.12*** (1.77)
Tertiary with business experience and study in economics		8.17*** (2.06)
GDP per capita	−0.28* (0.14)	−0.28* (0.14)
Inflation	−0.00015* (0.000076)	−0.00015* (0.000076)
Trade	0.12*** (0.047)	0.12*** (0.047)
Government expenditures	0.069 (0.090)	0.069 (0.090)
Resources rents	0.010 (0.076)	0.010 (0.076)
Population	−0.033* (0.020)	−0.033* (0.020)
Type of dictatorship (civilian as reference):		
Military dictatorship	1.69 (1.49)	1.69 (1.49)
Monarchy	−2.68 (2.25)	−2.68 (2.25)
Intrastate conflict	0.47 (0.38)	0.47 (0.38)
Communist / radical left	0.16 (2.45)	0.16 (2.45)
Political rights	0.13 (0.24)	0.13 (0.24)
Constant	−11.8*** (4.49)	−11.8*** (4.49)
Country fixed effects	yes	yes
Year fixed effects	yes	yes
Observations	1413	1413
Adjusted R-squared	0.24	0.24

Notes: Standard errors in brackets are clustered by country. *, ** and *** mean respectively $p < 0.1$, $p < 0.05$ and $p < 0.01$. NO means no observation.

6.1. A comparison: the impact of leader characteristics on FDI in democracies

To analyze the relevance of our interpretation of the main findings in more depth, we can examine whether the same results are found in democracies. If this is the case, then our view that leaders' education and economic record are particularly important to attract FDI in dictatorships because of the discretionary decisions taking place in these regimes would not be correct. In other words,

Table 4
Estimations in democracies.

	(1)	(2)
	Coef	Coef
	(se)	(se)
Age		0.021 (0.016)
Political experience		−0.042* (0.025)
Leader's education and eco experience or study in economics:		
Primary level		ref
Secondary if neither business experience nor study in economics		2.69** (1.05)
Secondary if either business experience or study in economics		1.86* (1.02)
Tertiary if neither business experience nor study in economics		1.88** (0.90)
Tertiary if either business experience or study in economics		1.30 (1.03)
GDP per capita	0.084 (0.13)	0.14 (0.11)
Inflation	−0.00057 (0.00088)	0.000088 (0.00017)
Trade	0.32 (0.23)	0.045** (0.022)
Government expenditures	0.25 (0.26)	0.039 (0.047)
Resources rents	−0.42 (0.29)	−0.20*** (0.074)
Population	−0.035 (0.024)	−0.012** (0.0047)
Intrastate conflict	1.96 (1.71)	0.65 (0.75)
Communist / radical left	−6.05 (5.84)	−1.59 (1.34)
Political rights	−0.62 (0.49)	−0.34* (0.17)
Constant	−22.2 (18.0)	−3.38 (2.49)
Country fixed effects	yes	yes
Year fixed effects	yes	yes
Observations	1434	1298
Adjusted R-squared	0.08	0.14

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

applying the same model to democratic nations offers a kind of counterfactual analysis.

Table 4 displays the estimations for democracies. We have redone two specifications of the baseline estimations for dictatorships: the model with only control variables and the model with all leaders' characteristics including interaction variables between education and economic record.

First, we find that education that leaders' education does not affect FDI inflows the same way in democracies as it does in dictatorships. On the one hand, the interaction variable "Secondary if either business experience or study in economics" is positively significant while "Tertiary if either business experience or study in economics" is not significant. Thus for leaders with economic record, we see that a leader with secondary education attracts more FDI inflows than a leader with tertiary education. On the other hand, the interaction variable "Secondary if neither business experience nor study in economics" is positively significant like "Tertiary if neither business experience nor study in economics", but the former one has a higher coefficient. It means that for leaders with no economic record, a leader with secondary education attracts more FDI inflows than a leader with tertiary education.

Second, we observe that economic record does not exert a positive impact on FDI inflows in dictatorships. On the one hand, the interaction variable "Tertiary if neither business experience nor study in economics" is positively significant while "Tertiary if either business experience or study in economics" is not significant. It means that a leader with tertiary education but no economic record attracts more FDI inflows than a leader with tertiary education and an economic record. On the other hand, the interaction variable "Secondary if neither business experience nor study in economics" is positively significant like "Secondary if either business experience or study in economics" is not significant, but the former one has a higher coefficient. It means that a leader with secondary education but no economic record attracts more FDI inflows than a leader with secondary education and an economic record.

Regarding the remainder of the independent variables, we observe that the age of the leader has no impact for democracies as was the case for dictatorships. An additional difference between democracies and dictatorships concerns the influence of political experience before entering office: it has a significantly negative impact in democracies, while it is not significant in dictatorships. In

other words, foreign investors would consider career politicians less attractive in democracies, while they do not care about political experience in dictatorships.

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

6.2. Other educational and occupational background

We analyze whether backgrounds other than in economics play a similar role in attracting FDIs in dictatorships. In particular, investors might expect a ruler with a law degree or a prior legislative career to strengthen the rule of law.⁹

The estimations are presented in Table 5. We proceed similarly as before: we first test the effect of law/legislative record while controlling for economic record and educational achievement. Law/legislative record is defined as either a law degree or a prior career as a legislator or party cadre. We then consider interaction variables between law/legislative record and education level to address the problem of correlation between law degree and tertiary education.

In the first specification, we observe that economic record is significantly positive while law/legislative record is significantly negative. In the second specification, we find that the coefficients are higher for education when the dictator has no law/legislative background: the coefficient for 'Secondary if neither legislative career nor study in law' is higher than the coefficient for 'Secondary if either legislative career or study in law', and the coefficient for 'Tertiary if neither legislative career nor study in law' is higher than the coefficient for 'Tertiary if either legislative career or study in law'. Thus, education of the dictator has a higher impact on FDI inflows when the dictator does not have a law/legislative background.

To sum it up, these results confirm our main findings since they show that an economic record of the dictator contributes to favor FDI inflows even when the law record is controlled and in opposition to the detrimental influence of a law record.

6.3. Robustness checks

We check the robustness of our results in different ways. The results of the robustness tests are displayed in Tables 6–8. For all tests, we redo the baseline model, including all variables for leaders' characteristics. The first column of Table 6 reproduces the baseline estimation as it was shown in the last column of Table 2.

First, we include the lag of the explained variable, FDI, in the set of explaining variables. We observe the same findings with greater educational attainment associated with greater FDI inflows, limited evidence that prior experience in business and education in economics are positively valued by foreign investors, and no impact of age, and political experience.

Second, we exclude year fixed effects from the estimations. Again, we find similar results.

Third, we include a time trend rather than year fixed effects in the estimations. We can then account for the influence of a possible trend influencing FDI flows. We again confirm the positive relationship between level of education and FDI inflows, and we find again limited evidence for the impact of previous business experience and study in economics.

Fourth, we perform the estimations with country random effects, rather than country fixed effects. We obtain results that differ slightly from the baseline estimation. We only find a significantly positive coefficient for "Tertiary if either business experience or study in economics". Hence, we still have some evidence that greater education and economic record of the leader are positively related to FDI inflows.

Fifth, we exclude China from the sample. Since China is a unique case attracting a high volume of FDI inflows, one can wonder if our findings are preserved when we exclude this country. We confirm the main findings.

Sixth, 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, leaders of these regimes are more constrained by the ruling party and state ideology, which give them less leeway in economic policies and thus make their own characteristics less relevant. We therefore follow former works testing the exclusion of these countries (e.g., Papaioannou and Siourounis, 2008). We find the same results.

Seventh, 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 one year, two years or less, three years or less, and four years or less. These changes in the sample of countries do not affect the main conclusions. We again find that greater educational attainment is associated with greater FDI inflows, and we again obtain some evidence for the impact of study in economics and prior business experience.

Finally, we analyze whether our results are sensitive to the use of alternative classifications of political regimes. We thus replicate our main estimates after restricting the sample to countries classified as "dictatorships" by Geddes et al. (2014). The rationale behind this choice is that Geddes et al. (2014) rely on a definition of dictatorship similar to the one used by Cheibub et al. (2010): unlike Polity IV, it is a dichotomous measure, which avoids arbitrariness in the choice of the cutoff point. A further advantage is that, in addition to democracies, the dataset excludes transitional governments and cases of state failures/foreign occupation from the universe of authoritarian regimes (in contrast to Cheibub et al., 2010, who treat nondemocratic regimes as a residual category).

Finally, the dataset offers a classification of authoritarian regime types, which we can use as control variables. We thus replace our

⁹ This was suggested to us by one of our reviewers. As there are virtually no former judges or lawyers among dictators, we selected the most common occupational background among those with a law degree, namely a prior career as a legislator or party cadre.

Table 5
Alternative dictator background.

	Coef (se)	Coef (se)
Age	0.006 (0.026)	0.002 (0.026)
Political experience	0.023 (0.026)	0.027 (0.029)
Leader's education (primary as reference):		
Secondary	7.40*** (2.55)	
Undergraduate or graduate	8.13*** (1.94)	
Economic record: business experience or study in economics	1.69* (0.96)	
Legislative/party career or study in law	−2.35* (1.26)	
Primary level		ref
Secondary if neither legislative career nor study in law		7.39*** (2.68)
Secondary if either legislative career or study in law		4.95** (1.91)
Tertiary if neither legislative career nor study in law		8.25*** (2.01)
Tertiary if either legislative career or study in law		5.74*** (1.59)
GDP per capita	−0.31** (0.14)	−0.29** (0.14)
Inflation	−0.00015* (0.000086)	−0.00015* (0.000087)
Trade	0.12*** (0.046)	0.12*** (0.046)
Government expenditures	0.072 (0.087)	0.073 (0.088)
Resources rents	0.012 (0.076)	0.011 (0.076)
Population	−0.038* (0.020)	−0.040* (0.020)
Type of dictatorship (civilian as reference):		
Military dictatorship	0.33 (1.21)	0.12 (1.26)
Monarchy	−2.47 (2.23)	−2.76 (2.28)
Intrastate conflict	0.63* (0.38)	0.65 (0.41)
Communist / radical left	−1.79 (2.67)	−1.97 (2.62)
Political rights	0.11 (0.24)	0.099 (0.23)
Constant	−12.5*** (4.41)	−11.9*** (4.40)
Country fixed effects	yes	yes
Year fixed effects	yes	yes
Observations	1413	1413
Adjusted R-squared	0.25	0.24

Notes: Standard errors in brackets are clustered by country. *, ** and *** mean respectively $p < 0.1$, $p < 0.05$ and $p < 0.01$. NO means no observation.

previous controls with three new regime dummies, labeled *Military*, *Partisan*, and *Personal*, which are respectively equal to one if political power rests with the military, a ruling party, or a single individual. The reference category is comprised of less common regime types, including monarchies and oligarchies. Note that these dummies are not mutually exclusive.¹⁰

This alternative definition of the sample does not alter the main findings: FDI inflows are significantly larger when the leader has secondary or tertiary education (with a larger coefficient for tertiary education); and among university-educated leaders, having studied economics or worked as an executive in the private sector increases the effect. Age and political experience still have no effect

¹⁰ The original classification includes hybrids of the three aforementioned types such as “military-personal”: such observations take on the value of 1 in both dummies. Geddes et al. (2014) have their own convention for merging hybrid subtypes into overarching categories, but we did not follow it.

Table 6
Robustness checks with alternative methods and specifications.

	Baseline model	With lagged FDI	Without year dummies	With trend time	Random effects
	Coef. (se)	Coef. (se)	Coef. (se)	Coef. (se)	Coef. (se)
Age	0.0037 (0.029)	0.0011 (0.025)	0.043 (0.031)	0.012 (0.029)	0.00044 (0.023)
Political experience	0.021 (0.028)	0.022 (0.026)	0.0095 (0.025)	0.025 (0.025)	0.010 (0.019)
Leader's education and eco experience or study in economics:					
Primary level	ref	ref	ref	ref	ref
Secondary if neither business experience nor study in economics	5.19** (2.22)	5.67** (2.22)	5.26** (2.64)	6.36** (2.55)	1.15 (1.25)
Secondary if either business experience or study in economics	NO	NO	NO	NO	NO
Tertiary if neither business experience nor study in economics	5.81*** (1.60)	6.26*** (1.64)	6.02*** (2.18)	7.26*** (2.30)	1.91 (1.22)
Tertiary if either business experience or study in economics	7.71*** (1.87)	8.15*** (1.93)	8.57*** (2.99)	9.27*** (2.97)	2.19* (1.21)
Lagged FDI (GDP%)		0.20 (0.13)			
GDP per capita	-0.27* (0.14)	-0.21* (0.11)	0.16 (0.15)	-0.27* (0.14)	0.14 (0.099)
Inflation	-0.00015* (0.000077)	0.00011 (0.000075)	-0.00014** (0.000058)	-0.00015** (0.000057)	-0.00015*** (0.000056)
Trade	0.12*** (0.047)	0.11** (0.053)	0.13** (0.048)	0.12** (0.047)	0.082** (0.033)
Government expenditures	0.070 (0.090)	0.047 (0.083)	0.0076 (0.086)	0.041 (0.079)	0.028 (0.059)
Resources rents	0.011 (0.076)	0.053 (0.078)	0.00066 (0.068)	0.0043 (0.073)	0.051 (0.039)
Population	-0.033* (0.020)	0.030 (0.018)	0.0066 (0.012)	0.026 (0.017)	0.0039** (0.0018)
Intrastate conflict	0.49 (0.38)	0.71* (0.38)	0.85** (0.40)	0.52 (0.37)	0.63 (0.47)
Type of dictatorship (civilian as reference)					
Military dictatorship	1.66 (1.49)	1.85 (1.45)	1.50 (1.68)	1.77 (1.56)	1.61 (1.02)
Monarchy	-2.69 (2.25)	-2.40 (2.52)	0.73 (1.65)	0.99 (1.62)	0.086 (1.10)
Communist / radical left	0.14 (2.45)	0.18 (2.29)	0.41 (2.79)	0.44 (2.41)	0.87 (0.92)
Political rights	0.13 (0.24)	0.18 (0.21)	0.000078 (0.27)	0.029 (0.26)	0.0019 (0.16)
Time trend				0.12*** (0.038)	
Constant	-11.9*** (4.52)	-12.2** (5.33)	-15.7** (6.53)	-243.3*** (77.7)	-6.75* (3.95)
Country fixed effects	yes	yes	yes	yes	no
Year fixed effects	yes	yes	no	no	yes
Observations	1413	1277	1413	1413	1413

Notes: Standard errors in brackets are clustered by country. *, ** and *** mean respectively $p < 0.1$, $p < 0.05$ and $p < 0.01$. NO means no observation.

on FDI inflows. A notable change is that political regime type now seems to influence FDI inflows: the coefficient associated with personalist regimes is positive and significant.

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.

6.4. Reverse causality

We can consider the possibility of reverse causality in our analysis: we investigate how leaders' characteristics can exert an influence on FDI flows, but one can argue that FDI flows can contribute to leaders' characteristics. There are several reported cases of foreign-imposed dictators (e.g., Congo's Denis Sassou Nguesso), with the possibility that these interventions have been at least partly motivated by foreign investors' interests (Dube et al., 2011).

Table 7
Robustness checks with 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
Age	0.0064 (0.030)	0.0042 (0.030)	0.0037 (0.029)	0.0037 (0.029)	0.0044 (0.029)	0.0045 (0.029)
Political experience	0.016 (0.027)	0.014 (0.028)	0.021 (0.028)	0.021 (0.028)	0.018 (0.028)	0.019 (0.028)
Leader's education and eco experience or study in economics:						
Primary level	ref	ref	ref	ref	ref	ref
Secondary if neither business experience nor study in economics	5.23** (2.22)	4.95** (2.41)	5.19** (2.22)	5.19** (2.22)	5.37** (2.28)	5.37** (2.29)
Tertiary if either business experience or study in economics	NO	NO	NO	NO	NO	NO
Secondary if either business experience or study in economics	5.79*** (1.60)	5.67*** (1.73)	5.81*** (1.60)	5.81*** (1.60)	5.97*** (1.66)	5.97*** (1.67)
Tertiary if either business experience or study in economics	7.79*** (1.83)	7.70*** (1.96)	7.71*** (1.87)	7.71*** (1.87)	7.92*** (1.96)	7.93*** (1.96)
GDP per capita	-0.29* (0.15)	-0.29* (0.15)	-0.27* (0.14)	-0.27* (0.14)	-0.27* (0.14)	-0.27* (0.14)
Inflation	-0.00015* (0.00082)	-0.00017** (0.00083)	-0.00015* (0.00077)	-0.00015* (0.00077)	-0.00014* (0.00076)	-0.00014* (0.00076)
Trade	0.12*** (0.047)	0.12*** (0.047)	0.12*** (0.047)	0.12*** (0.047)	0.13** (0.048)	0.13** (0.048)
Government expenditures	0.070 (0.089)	0.058 (0.10)	0.070 (0.090)	0.070 (0.090)	0.072 (0.092)	0.072 (0.092)
Resources rents	0.011 (0.076)	0.0087 (0.078)	0.011 (0.076)	0.011 (0.076)	0.014 (0.078)	0.014 (0.078)
Population	0.076 (0.054)	0.073 (0.054)	-0.033* (0.020)	-0.033* (0.020)	-0.033* (0.020)	-0.033* (0.020)
intra-state conflict during the year	0.50 (0.39)	0.42 (0.40)	0.49 (0.38)	0.49 (0.39)	0.44 (0.38)	0.44 (0.38)
Type of dictatorship (civilian as reference):						
Military	1.43 (1.47)	1.38 (1.64)	1.66 (1.49)	1.67 (1.50)	1.65 (1.53)	1.66 (1.56)
Royal	-3.00 (2.33)	-3.25 (2.42)	-2.69 (2.25)	-2.68 (2.25)	-2.80 (2.31)	-2.79 (2.31)
Communist / radical left leader	0.19 (2.39)	NO	0.14 (2.45)	0.14 (2.45)	0.21 (2.45)	0.21 (2.47)
Freedom House political rights index	0.12 (0.25)	0.13 (0.27)	0.13 (0.24)	0.12 (0.24)	0.15 (0.25)	0.15 (0.25)
Constant	-12.0*** (4.55)	-11.6*** (4.39)	-11.9*** (4.52)	-11.9*** (4.52)	-12.1** (4.65)	-12.1** (4.65)
Country fixed effects	yes	yes	yes	yes	yes	yes
Year fixed effects	yes	yes	yes	yes	yes	yes
Observations	1393	1326	1411	1401	1386	1378
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 $p < 0.01$. NO means no observation.

Table 8
Baseline estimation with Geddes' dictatorship definition.

	Coef (se)
Age	0.015 (0.021)
Political experience	0.028 (0.020)
Leader's education and eco experience or study in economics:	
Primary level	Ref
Secondary if neither business experience nor study in economics	4.09*** (1.52)
Secondary if either business experience or study in economics	NO
Tertiary if neither business experience nor study in economics	4.38*** (1.20)
Tertiary if either business experience or study in economics	5.44*** (1.47)
GDP per capita	0.11 (0.12)
Inflation	0.000062 (0.000038)
Trade	0.041** (0.018)
Government expenditures	0.036 (0.058)
Resources rents	0.021 (0.049)
Population	0.0055 (0.0085)
Dictatorship type	
Personal (GWF)	1.54* (0.84)
Military (GWF)	0.87 (1.04)
Party (GWF)	0.0057 (0.69)
Intrastate conflict	0.43 (0.28)
Communist / radical left	-1.38 (2.46)
Political rights	0.12 (0.14)
Constant	-6.42** (2.62)
Country fixed effects	yes
Year fixed effects	yes
Observations	1394
Adjusted R-squared	0.14

Notes: Standard errors in brackets are clustered by country. *, ** and *** mean respectively $p < 0.1$, $p < 0.05$ and $p < 0.01$. NO means no observations.

From a theoretical perspective, reverse causality is questionable. Foreign investors may influence the choice of leaders, but it is unclear why they would choose educated leaders or leaders with business experience: they have incentives to choose leaders associated with their interests in a direct way, not leaders with characteristics that might be associated with their interests.

Nonetheless, one can still consider that reverse causality can occur in cases in which foreign investors are willing to have a more educated leader (or a leader with education in economics and business experience), because they expect these leaders to bring them higher returns. If this assumption is correct, we should observe higher educational levels and a higher frequency of education in economics and/or business experience among foreign-imposed leaders. Table 9 compares the characteristics of foreign-imposed and other leaders. We first note that foreign-imposed leaders correspond to a tiny number of our observations: 20 out of a total of 1269. This preliminary observation suggests that foreign investors do not exert a major influence on the selection of leaders' characteristics in general. We also observe that foreign-imposed leaders have lower education than the others: 5% of them have graduate education and 30% undergraduate education, compared to 29.3% and 45.8%, respectively, for the others. Finally, none of the foreign-imposed leaders has either business experience or a background in economics. Thus, we determine that the characteristics of dictators that influence FDI flows are not related to foreign intervention in their appointment.

In addition, we perform estimations in which the dependent variable is alternatively the level of education of the leader (a variable equal to zero if the education level is primary, one if it is secondary, two if it is tertiary) and the economic record with the set

Table 9
Public characteristics and foreign intervention in our estimation sample.

	Foreign imposition	
	No	Yes
	(N = 1269)	(N = 20)
Education level:		
primary	5.28%	0%
secondary	19.64%	65%
graduate	45.78%	30%
postgraduate	29.30%	5%
Neither study in economics nor business experience	88.97%	100%
No study in economics and business experience	1.81%	0
Study in economics and no business experience	4.73%	0
Study in economics and business experience	4.49%	0

Note: Foreign imposition takes the value of one if the dictator was foreign-imposed or if his direct predecessor was removed by a foreign intervention.

Table 10
Reverse causality? Incidence of FDI on leader education and economic education or experience.

	Leader's education level		Economic record	
	OLS estimation		Logit estimation	
	Coef	(se)	Coef	(se)
Lagged FDI inflows (% of GDP)	0.0016	(0.0023)	0.00031	(0.00038)
Constant	2.04 ***	(0.088)	0.055 ***	(0.015)
Country fixed effects	no		no	
Year fixed effects	yes		yes	
Observations	1277		1277	
Adj. R ² or pseudo R ²	0.01		0.01	

Notes: Standard errors in brackets are clustered by country. *** means $p < 0.01$. Education level which a categorical variable is estimated through an OLS estimation because both ordered logit and probit model do not converge. Economic education or experience which is a binary variable is estimated through a logit estimation.

of explaining variables including the lagged FDI and year fixed effects. The observation of a positive and significant relation for the lagged FDI would suggest that the causality between FDI and leader's characteristics can be reversed. The results are reported in [Table 10](#). We find no significant relation, suggesting that greater FDI does not contribute to favor educated leaders to come to power.

The theoretical argument about a possible reverse causality is consequently not empirically founded.

7. Conclusions

In this paper, we investigate whether dictators' characteristics have an impact on FDI inflows. Political risk is a key obstacle to FDI, leading foreign investors to scrutinize any information about the host country before implementing investment decisions. As a consequence, we test the hypothesis that dictators' characteristics influence FDI inflows, because foreign investors view them as a signal of the awareness of leaders about 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 is associated with higher FDI. We also obtain evidence that education in economics and prior business experience are associated with greater FDI. Several robustness checks support these results. By contrast, we do not find evidence that age, or prior political experience influence FDI flows. This finding therefore shows the key importance of education among the traits of leaders in influencing FDI. We furthermore do not observe the same conclusions for the relationship for leaders' education and economic record with FDI in democracies, which corroborates our hypothesis that leaders' education and economic record are valuable signals for foreign investors in dictatorships only.

The results presented in this paper help understand what shapes FDI inflows in dictatorships by clarifying the role of leaders' characteristics. After macroeconomic factors and institutional framework of the host country, the educational background of the dictator is scrutinized by foreign investors. Leaders' education profiles can therefore affect macroeconomic performance of a country not through their influence on policy choices but through their impact on the expectations of foreign investors.

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Supplementary materials

Supplementary material associated with this article can be found, in the online version, at [doi:10.1016/j.jce.2019.11.006](https://doi.org/10.1016/j.jce.2019.11.006).

Appendix A. Description of variables

Variable	Description
Primary	Dummy variable equal to one if leader's educational attainment is primary education and to zero otherwise. Source: Ellis et al. (2015) .
Secondary	Dummy variable equal to one if leader's educational attainment is secondary education and to zero otherwise. Source: Ellis et al. (2015) .
Tertiary	Dummy variable equal to one if leader's educational attainment is undergraduate or graduate education and to zero otherwise. Source: Ellis et al. (2015) .
Business experience	Dummy variable equal to one if the leader has prior executive experience in the corporate sector and to zero otherwise. Source: Baturó (2016) .
Study in economics	Dummy variable equal to one if the leader holds a higher education degree in economics or management and to zero otherwise. Source: Baturó (2016) .
GDP per capita	GDP per capita in constant 2010 USD. Source: World Bank (2017) .
Inflation	Consumer price index (annual%). Source: World Bank (2017) .
Trade	Sum of imports and exports as a share of GDP. Source: World Bank (2017) .
Government expenditures	General government final consumption expenditures (excluding military expenditures) as a percentage of GDP. Source: World Bank (2017) .
Resource rents	Natural resource rents as a percentage of GDP. Source: World Bank (2017) .
Population	Population in million inhabitants. Source: World Bank (2017) .
Intrastate conflict	Dummy variable for ongoing intrastate armed conflicts (> 25 battle-related fatalities). Source: UCDP/PRIO (2017).
Type of dictatorship	Regime type (civilian dictatorship, military dictatorship, monarchy). Source: Cheibub et al. (2010) .
Civilian dictatorship	Dummy variable equal to one if the dictatorship is a civilian one, zero else. Source: Cheibub et al. (2010) .
Military dictatorship	Dummy variable equal to one if the dictatorship is a military one, zero else. Source: Cheibub et al. (2010) .
Monarchy	Dummy variable equal to one if the dictatorship is a monarchy, zero else. Source: Cheibub et al. (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. Source: Baturó (2016) .
Political rights	Freedom House political rights index, 1 (free) to 7 (unfree). Source: Quality of Government (2017).
Political experience	Years of political experience prior to assuming office. Source: Baturó (2016) .
Age	Leader's age. Source: Goemans et al. (2009) .
Foreign imposition	Dummy variable equal to one if the leader was imposed by another state or his predecessor lost power due to foreign intervention. Source: Goemans et al. (2009) .
Military (GWF)	Dummy variable equal to one if the regime is a military dictatorship. Source: Geddes et al. (2014) .
Party	Dummy variable equal to one if the dictatorship is a party regime. Source: Geddes et al. (2014) .
Personal	Dummy variable equal to one if the regime is a personalist dictatorship. Source: Geddes et al., 2014 .

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