

AFRICAN GOVERNANCE AND DEVELOPMENT  
INSTITUTE

A G D I Working Paper

WP/16/003

**Age of politicians and Regulatory Reform**

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**AGDI Working Paper**

Research Department

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February 2016

**Abstract**

This article discusses the relationship between the identity of the rulers of the executive and reform. Thus, we enrich the literature on the determinants of reform and the result of the executive. This is a new and very important literature, as these are the reforms that allow progress. We use a sample of 141 countries over the period 2003-2013 to investigate the link between the age of politicians and regulatory reforms. We created an ad hoc database for the age of politicians and for reform, we use micro-reform data. An econometric model is used to discover if the age of a political leader in office can be a driving force that is more or less likely to bring about regulatory reforms. Our results suggest that the age of politicians has a positive incidence on the reform that they bring about. The results are robust for the reform measures and techniques used. The results also indicate that older politicians implement more reforms than the young ones. More precisely, the paper found that older politicians who are in their sixties bring about the most regulatory reforms than politicians of any other age ranges.

**Keywords:** Age of politicians, Regulation, Reforms

**JEL:** P11, P16, K20, L51, D78

## **1. Introduction**

The first question that this paper addresses is, why is it difficult to reform an economy? This is an interesting premise as it provides a fundamental orientation that would encompass various key analysis for economic reforms. Indeed, such a question would always leave an analysis in limbo. According to Fernandez and Rodrik (1991), this is a result of power struggle. For example, economic institutions that generate incentives for economic progress can simultaneously allocate income and power so that a predatory dictatorship and other political stakeholders can be penalized. The fundamental problem is that there will necessarily have disputes and conflicts about economic institutions. Moreover, one would argue that different institutions have different consequences for the development of a nation. Additionally, economic growth which plays a major role in the development of a nation can be induced by institutions in creating both winners and losers (e.g. Rodrik 1996, Acemoglu and Robinson, 2000, 2008; Acemoglu et al, 2011; Tcheta-Bampa and Kodila-Tedika, 2014; Asongu, 2013, 2016; Andrés et al., 2015; Tchamyou, 2015). This vision is not the only one considered (Tresiman, 2014). In addition, the stakeholders in the political and socioeconomic arena are major players for reform.

Recently, the identity of politicians has been a focal interest of several studies. Jones and Olken (2005) using a unique instrument for change in leadership based on deaths of leaders while in office, provide empirical evidence that leaders do cause economic growth. Besley, Montalvo and Reynal-Querol (2011) further provide empirical evidence that the educational achievement of leaders matters for economic growth to occur. In addition to that, economic growth, if observed in a given country, should be regarded as a necessary condition that occurs based on various (regulatory) reforms implemented. According to Dreher et al. (2009), reforms are more likely to occur during the tenure of former entrepreneurs. These scholars argue that entrepreneurs belonging to a left-wing party are more successful in

inducing reforms than members of a right-wing party, with the same previous profession. With regard to former professional scientists, the more they promote reforms, the longer they stay in office. As such, one can argue that promoting reforms is linked to the idea of change to occur. These reforms, while giving incentives to political leaders to want to be not just the mere initiator but the beneficiary as well, constitute a way by which political leaders hold on to stay longer in their leadership positions.

On the other hand, it is essential for a state to implement sound reforms in order to strengthen its political and socioeconomic institutions. This argument has been the driving force of many developed countries around the world. Moreover, one can argue that sound reforms should go along with the cognitive capacity of political leaders. Kodila-Tedika (2014a) argues that the concept of cognitive capacity of African leaders is not linked to the state capacity of a nation. This argument, however, is not the case for most developed countries around the world. The indifference in the relationship between the state's capacity and the cognitive capacity of leaders indicates that despite the high cognitive capacity observed in African leaders, most African states however remain in a deplorable condition.

Throughout this research paper, we link characteristics of political leaders to empirical reforms. The empirical determinants of reform remains an under-studied field with more focus on the effects of democracy on reforms (Persson, 2009; Persson and Tabellini, 2006; Grosjean and Senik, 2011; Olper and Raimondi, 2013; Giuliano et al, 2013. Amin and Djankov, 2014; Tresiman, 2014). The contribution of this research is to fill this gap. The paper will not focus on the impact of democracy, but on the psychological or biological leaders' features. Indeed, Tresiman (2014) considers that most of the economies in transition have actually been impacted by leaderships in terms of the reforms achieved in the country, despite evidence of other controlling variables.

On the other hand, while linking the identity of political leaders to some economic variables, Constant and Tien (2010) reveal that in Africa, foreign education is a significant determinant of Foreign Direct Investment (FDI) inflows, beyond other standard characteristics. While intuitive, this result does not necessarily indicate “sheepskin effects” or superior human capital obtained abroad. Rather, it indicates the powerful role of social capital, networks, and connections that African political leaders built while abroad. They mobilize these resources and utilize them when they occupy a leadership position. For Hayo and Neumeier (2012), in Germany, the tenures of prime ministers from a poorer socioeconomic background are associated with higher levels of public spending and debt financing. This result is also confirmed for the Organization for Economic Co-operation and Development (OECD) countries (Hayo and Neumeier, 2013).

The research paper aims to refine this consideration relying in particular on previous research conducted by Casaburi and Troiano (2014), Alesina et al. (2015) and Tresiman (2015). Casaburi and Troiano (2014) show a negative correlation between the age of politicians and the application of a tax as a result of a program. Additionally, Alesina et al. (2015) indicate, using data from Italian local authorities that the age of a politician has an influence on political governance, noting that younger politicians are more likely to behave strategically in response to the incentives of the election – they increase government spending and get high levels of government transfers during the pre-election years. These young politicians also formulate hypotheses which indicate the difference between the behavior of young and old politicians. These hypotheses firstly assume that young politicians have a long time horizon, with a low discount rate. Secondly, the hypotheses assume that young political leaders think about their career plan and thirdly assume that young political leaders are more energetic and more productive at work than their older counterparts. Tresiman (2015) suggests that in authoritarian states, the reformist leaders tend to democratize or lose power relatively

quickly. Conversely, leaders that have stayed longer in power are rarely reformers, whereas autocrats also become less militant after their first year in office.

Nonetheless, it is not easy to differentiate the effect of age on reforms. Indeed, if as stated by Tresiman (2015), leaders who have stayed longer in their office are least reformers. His conclusion is not necessarily justified theoretically. Empirical evidence from this research paper would tend to prove otherwise. Furthermore, the notion of longevity in power remains relative compared to the age of the political leader. In other words, one can stay longer in a leadership position while remaining relatively young as the case of Joseph Kabila, current president of the Democratic Republic of Congo (Congo – Kinshasa). Similarly, one may stay longer in power while being an older political leader as the case of Denis Sassou-Nguesso, current president of the Republic of Congo (Congo–Brazzaville).

It is true that the notion of longevity in power of political leaders remain quiet challenging. Alesina et al. (2015) in their study suggested three hypotheses that can advocate youth leadership. In their view, being young means one who is more combative and can fight on several platforms for reforms. Additionally, a young politician leader may want to implement reforms in order to portray a good image either with the international community, particularly for developing countries, to get the image of one who wants change. This can therefore increase the chance of being re-elected. Old politicians according to Alesina et al. (2015) however, refer to those who have no real career plan and nothing to lose after their stay in office. The reality however is that old politicians want at least to leave a legacy behind them.

These theoretical arguments therefore do not settle the expected effect. Thus our goal is to consider empirically the effect of age on reforms. We depart from most of the literature on our variables to be explained by promoting regulatory reforms to facilitate business. This (approach) has recently been incorporated and used by Amin and Djankov (2014). Secondly,

we build a direct age database managers for the period 2003-2013. The results allow to link the age of politicians to regulatory reforms. The research paper wants to discover whether or not the age of a political leader in office can be a driving force that is more or less likely to bring about regulatory reforms. The structure of the study is as follows:

Section two provides two cases countries where important regularization reforms were carried out. Next, we present the research data in section three. Section four presents and discusses the results. Finally, we draw a conclusion.

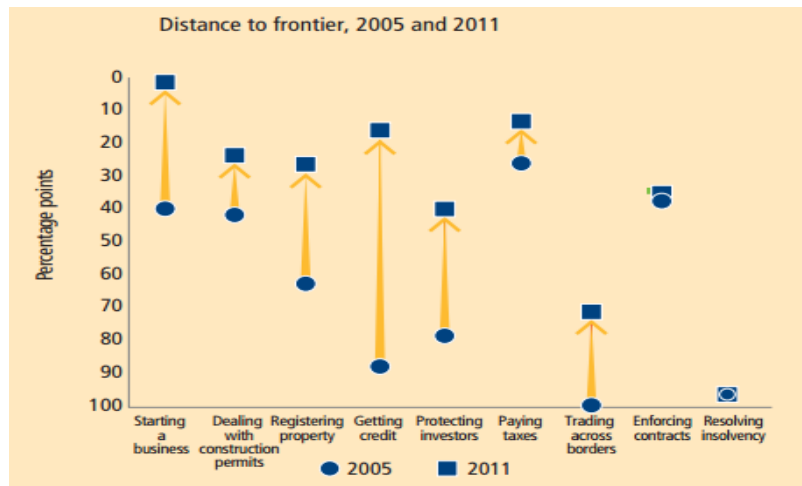
## **2. Case Studies survey: Rwanda and Georgia**

Countries in this section are the best performers in terms of regulatory reforms between 2004 and 2013<sup>2</sup>. Accordingly, Rwanda and Georgia were found to be at least twice in the list of top 10 best reformers in *Doing Business*. This index does not take into account any measurement of progress. Consider the distance to the border - Average gap between an economy at a given time, the best performance achieved by the savings on each of the *Doing Business* indicators since 2003 or since the first year of data collection for the concerned indicator - in percentage points.

Between 2005 and 2013, Rwanda has improved up to 33.1. The distance to the border was 33.7 in 2005 and stood at 70.5 in 2012) (World Bank, 2012). The following informative graph shows the distance to the border for each component of the index of ease of doing business (e.g. entrepreneurship, obtaining driving licenses, registering properties, loans, protection of investors, paying taxes, trading across borders, enforcing contracts and resolving insolvency). As such, it is clear from the graph to point out significant changes on at least 5 indicators. This is displayed as follows:

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<sup>2</sup>Years considered in our study



Source: World Bank (2012)

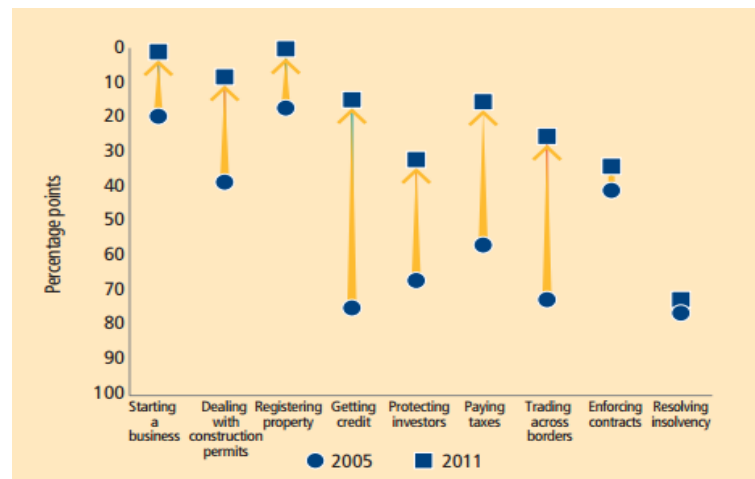
To position well, it took Rwanda 34 reforms. These ambitious reforms have contributed toward the creation of companies, transfer of property, trading across borders and enforcing contracts. In 2015, 62<sup>nd</sup> of 189 whereas in 2006, when the first ranking of doing business, this country occupied the 132<sup>th</sup> position. From a leadership standpoint, Rwanda has not fundamentally changed. Politically, it is a presidential country where the president Paul Kagame is both head of state and head of government.

He has been the president of Rwanda since 2000 at the age of 43 years. He had as Premier Bernard Makuza, who remained in power between 2000 and 2011. Bernard Makuza arrived at the prime minister at the age of 39. The latter will be replaced by Pierre Habumuremyi for the period 2011-2014, following his appointment to the Senate. Pierre Habumuremyi came to power at the age of 50 years. Paul Kagame, despite his years in power, has continued to reform the economy of his country and he cannot be considered young neither for his biological age nor in politics.

**Georgia.** Between 2005 and 2013, Georgia has improved her doing business ranking to the value of 32.3. The distance to the border was 48.4 in 2005 and stood at 80.8 in 2012 (World Bank, 2012). The following informative graph shows the distance to the border of each



component for the easiness of doing business (entrepreneurship respectively, obtaining driving licenses, registering properties, loans, protection of investors, paying taxes, trading across borders, enforcing contracts, resolving insolvency). In general, it is clear from the graph that there are significant changes in at least 5 indicators.



Source: World Bank (2012)

In order to gain such position, it took Georgia 36 reforms. Nowadays (2015), Georgia is ranked 24th out of 189 countries whereas in 2006, when the first ranking came up, the country occupied the 98<sup>th</sup> position.

For Rwanda, it is the president who holds to the executive powers. He is accompanied by a prime minister. Under the entire period of our study, Mikheil Saakashvili was no longer the president of the Republic of Georgia: from 25 November 2007 to 20 January 2008, Nino Burjanadze became the interim president after the resignation of Saakashvili. It's from 2004 that Simeon Dkankov, the architect of the index of doing business, worked with the government of the country.

This brief presentation seems to link reforms to the young leaders. Nevertheless, it would not be correct to draw such a conclusion though.

### **3. Data**

The sample consists of 141 countries for which information on our main variables is available. The time period covered by the study is 2003-2013. In the analysis, we utilize several sources of data including the World Bank's Doing Business project and World Development Indicators, Inter-Parliamentary Union (IPU), Polity IV, Freedom House, Djankov et al. (2007), and La Porta et al. (1999). The definition of all variables and their sources is provided in Appendix 1. The summary of the descriptive statistics are provided in Appendix2.

We built the data of the authors in consulting the biographies of every politician on Britannica Online Encyclopedia, Academic Edition (<http://www.britannica.com>) on Wikipedia and different from official government websites. The research paper distinguishes between the age of a political leader by considering the age of achievement in the interval of twenty years, with category 20 year old given a scores of 1 and other categories namely, 30, 40, 50, 60, 70 year and 80 year old, given a score of zero. Following the Alesina et al. (2015) view, one can consider a politician to be relatively young if his age is below 50 years and older if his is at least 50 years old. This motive the distinction between the young and old political leaders.

### **4. Empirical Results**

This section presents the results obtained in our research paper. These results are divided into two sub-sections. In the first sub-section, we compare two categories of age: the young and old.

#### **4.1 Old versus Young**

As displayed in Table 1, we used the dependent variable old and young as well as explanatory variables such as dummy variables for regional and religions, legal origin and

control variables to run an Ordinary Least Squares (OLS) model. The dependent variable, in effect, is measured in terms of the number of reforms (expressed in a logarithm function). As observed in the first specification, the age variable is found to be statistically significant for both young and old age categories. Additionally, the OLS results seem to present an advantage for the young age category, in that the coefficient of this variable is more important than that of the old category. Moreover, the level of confidence is almost the same for both the young and old age categories. In adding control variables such as democracy, election, GDP per capita and latitude, in the second specification, the gap of magnitude (between the young and old) substantially drop even though the young category seems to be more important. Nevertheless, we observe a considerable change at the two last specifications which include more control variables. In considering the difference in coefficients, one can deduced that being younger seem to be more determining than being older, as apparent in the first specifications. This can be interpreted as a weaker (see Model 1 in Table 1) than the results observed in the second columns (see Model 2 in Table 1) where more variables are controlled implying that one can claim for more substantial statistics.

Table 1: Main result (OLS)

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Old	0,189*	0,202**	0,223**	0,261***
	(0,099)	(0,099)	(0,100)	(0,101)
Young	0,230**	0,223**	0,222**	0,240**
	(0,104)	(0,103)	(0,104)	(0,105)
Control variables	Yes	Yes	Yes	Yes
Religion dummy	No	Yes	Yes	Yes
Legal origin	No	No	Yes	Yes
Dummy regional	No	No	No	Yes
Number of observations	1 361	1 361	1 337	1 337
R2	0,051	0,075	0,088	0,119

note: .01 - \*\*\*; .05 - \*\*; .1- \*;

Control variables: democracy, election, GDP per capita, latitude, election.

The results of Table 2, intend to test the robustness of both young and old age categories using a logit model. In this regard, we consider reform as a dummy variable which scores 1 if for the year X at least one reform is been recorded, and 0 otherwise. The result of the logit model is presented as follows:

**Table 2: Sensibility test (logit)**

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Old	0,821*	0,901*	0,970**	1,186**
	(0,450)	(0,462)	(0,476)	(0,515)
Young	0,889*	0,901*	0,931*	1,100**
	(0,467)	(0,475)	(0,489)	(0,526)
Control variables	Yes	Yes	Yes	Yes
Religion dummy	No	Yes	Yes	Yes
Legal origin	No	No	Yes	Yes
Dummy regional	No	No	No	Yes
Number of observations	1 220	1 220	1 196	1 196
Pseudo-R2	0.0256	0.0409	0.0466	0.0689

note: .01 - \*\*\*; .05 - \*\*; .1 - \*;

Control variables: democracy, election, GDP per capita, latitude, election.

Based on result from Table 2, different specifications suggest that the age variable increases the probability of observing at least one reform during the year. However, there are variations based on whether a leader is young or old in age. In Model 1 (which is in Table 1), it appears that the younger politicians increase more the probability of having reform than their older counterparts. This is not the case in Model 2 which goes against the second specification in Table 1. The last two specifications of Table 2 confirm the results of Table 1 (It would have been good to use coefficient results of Table 2 and their p-value for significance level, as evidence, to support this statement...)

## 4.2 Age per decades

In this section, we no longer consider the young and old age categories. Instead, we decompose these categories in age per decades. The result from Table 3 present insignificant coefficients for leaders who were 20 and 80 years old. Graphically, this has produced a U-shape nexus. Table 3 displays positive and significant results for all political leaders whose age range between 30 and 70. The results are summed-up as follow:

**Table 3: Result with OLS**

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
20	0,005 (0,219)	-0,031 (0,221)	0,128 (0,225)	0,122 (0,235)
30	0,599*** (0,163)	0,542*** (0,162)	0,465*** (0,165)	0,442*** (0,164)
40	0,268** (0,106)	0,260** (0,106)	0,216* (0,110)	0,245** (0,111)
50	0,261*** (0,101)	0,263** (0,102)	0,236** (0,105)	0,278*** (0,107)
60	0,295*** (0,102)	0,293*** (0,103)	0,265** (0,106)	0,333*** (0,109)
70	0,214* (0,111)	0,251** (0,111)	0,230** (0,114)	0,292** (0,116)
80	0,037 (0,193)	0,023 (0,197)	0,083 (0,191)	0,123 (0,184)
Control variables	Yes	Yes	Yes	Yes
Religion dummy	No	Yes	Yes	Yes
Legal origin	No	No	Yes	Yes
Dummy regional	No	No	No	Yes
Number of observations	1 220	1 220	1 196	1 196
R2	0,046	0,080	0,099	0,129

note: .01 - \*\*\*; .05 - \*\*; .1 - \*;

Control variables: democracy, election, GDP per capita, latitude, election.

We re-estimate the previous specification using a logit model in Table 4. The two extremities(20 and 80 years), as in previous tables, seem to keep the same tendency. However, the difference is observed for the age ranged between 30 and 70 years. Political leaders who are at least 30 years older, have less probability, as indicated in Table 1 to bring about reforms. As shown below (see Table 4), in the last two columns for the age 30, this

variable is found to be insignificant. While, for the other variables the trend of results remain the same (as in previous tables).

One can observed that even in decomposing young and old age categories in range of age, the result indicates that the old age category shows more significance in terms of coefficients but also in terms of magnitude. From the empirical results obtained, it is visible that leaders who are around 60 bring about more reforms, as evidenced from Table 4 confirms. This can also be confirmed for Table 3, although the age range that stood-out present different statistics found to be substantial in both tables 3 and 4. Table 4 robustness results can be represented as follows:

Table 4: Robustness (Logit)

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
20	0,844 (1,330)	0,745 (1,342)	1,141 (1,360)	1,305 (1,399)
30	1,545** (0,752)	1,410* (0,771)	1,099 (0,760)	1,175 (0,787)
40	0,922* (0,480)	0,928* (0,494)	0,862* (0,511)	1,076** (0,544)
50	0,978** (0,467)	1,005** (0,483)	0,953* (0,499)	1,218** (0,533)
60	1,075** (0,472)	1,112** (0,491)	1,056** (0,506)	1,396*** (0,541)
70	0,780 (0,495)	0,947* (0,514)	0,901* (0,527)	1,208** (0,562)
80	0,091 (0,784)	0,063 (0,809)	0,221 (0,807)	0,463 (0,804)
Control variables	Yes	Yes	Yes	Yes
Religion dummy	No	Yes	Yes	Yes
Legal origin	No	No	Yes	Yes
Dummy regional	No	No	No	Yes

Number of observations	1 220	1 220	1 196	1 196
Pseudo-R2	0.0256	0.0469	0.0532	0.0746

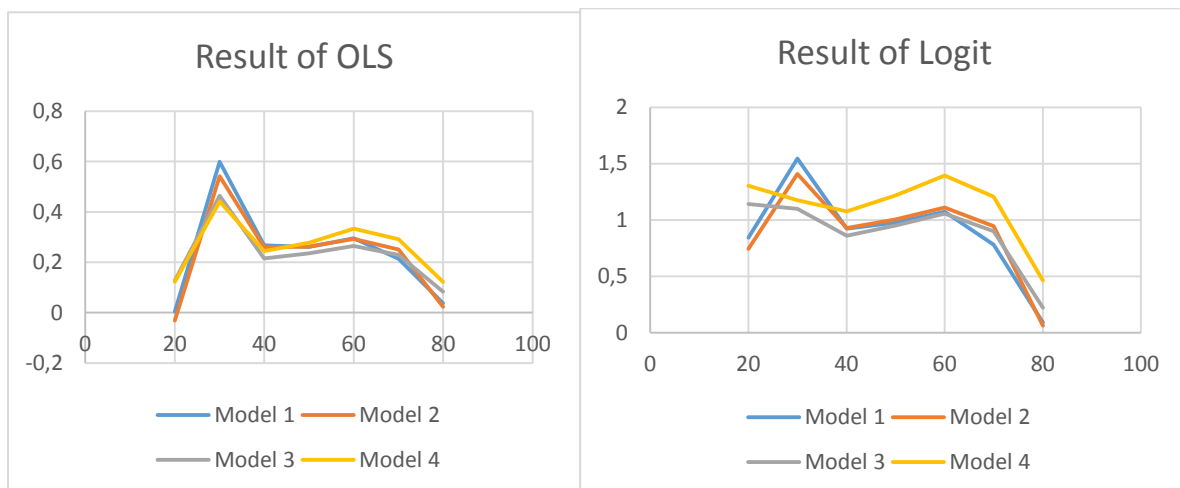
note: .01 - \*\*\*; .05 - \*\*; .1 -

\*;

Control variables: democracy, election, GDP per capita, latitude, election.

Figure 1 (below) depicts the trend of the magnitude of the OLS and Logit coefficients without mentioning their significance. We observed that both graphs (OLS results and Logit results) are more skewed to the left than to the right, which present a declining tendency. The peak of 30 years old disappears in the third and fourth specifications of the logit model, whereas the peak of 60 years old remains for all cases.

Figure 1: Curve of coefficients



## 5. Conclusion

This research paper intended to examine the link between the age of politicians and regulatory reforms using a sample size of 141 countries. The paper distinguishes between the age of politician leaders in terms of young and old. The results of the study suggest that, on average, in considering both young and old age categories, and while decomposing these categories in range of ages of 20 to 80 using a logit model, the result indicates that the old age category shows more significance in term of coefficients, but also in term of magnitude. Additionally, the empirical findings of the paper indicate that older politicians who are in

their sixties bring about the most regulatory reforms than the politicians of any other age ranges. Moreover, these regulatory reforms should be positively linked to the cognitive capacity of political leaders in order to strengthen a nation's political and socioeconomic institutions.

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### **Appendix 1: Description of variables**

<b>Variable</b>	<b>Description</b>
Reform	Dummy equal to 1 if a country implemented one or more reform during the year and 0 otherwise. Source: Doing Business, <a href="http://www.doingbusiness.org">www.doingbusiness.org</a> .
Number of reforms	Log of 1 plus the total number of reforms for a given country-year. Source: Doing Business
Democracy	Dummy equal to 1 if a country has a democracy score of 5 or higher in 2003 and 0 otherwise. Source: Polity IV.
Election	Dummy variable equal to 1 if an election took place 12 months prior to the start of the Doing Business reforms period for the Lower House of the country and 0 otherwise. Source: Inter Parliamentary Union (IPU) and <a href="http://websitesearches.com">websitesearches.com</a> .
GDP per capita	Log of GDP per capita in 2003. Source: Penn World Tables.
Latitude	Absolute distance of a country from the equator divided by 90. Source: La Porta et. al. (1999).
Rule of Law	Values of Rule of Law index in 2003. Source: World Bank. <a href="http://www.worldbank.org/wbi/governance/data">www.worldbank.org/wbi/governance/data</a>
Europe and Central Asia (ECA)	Dummy indicating a country in Europe or Central Asia region. Source: WDI, World Bank.
East Asia and Pacific	Dummy indicating a country in East Asia or Pacific region. Source: WDI, World Bank
Latin America and Caribbean (LAC)	Dummy indicating a country in Latin America or Caribbean region. Source: WDI, World Bank.
Middle East and North Africa (MENA)	Dummy indicating a country in Middle East or North Africa region. Source: WDI, World Bank.
NorthAmerica	Dummy indicating a country in North America region. Source: WDI, World Bank
South Asia	Dummy indicating a country in South Asia region. Source: WDI, World Bank.
Sub-SaharanAfrica (SSA)	Dummy indicating a country in Sub-Saharan Africa region. Source: WDI, World Bank
English legalorigin	Dummy indicating a country's legal system based on the English common law. Source: Djankov et. al. (2007).
French legalorigin	Dummy indicating a country's legal system based on the French civil law. Source: Djankov et. al. (2007).

Germanlegalorigin	Dummy indicating a country's legal system based on German civil law. Source: Djankov et. al. (2007).
Scandinavianlegalorigin	Dummy indicating a country's legal system based on Scandinavian legal system. Source: Djankov et. al. (2007).
Socialistlegalorigin	Dummy indicating a country's legal system is Socialist. Source: Djankov et. al. (2007).
Muslim	Dummy indicating the main religion in the country is Islam. Source: La Porta et. al. (1999).
Catholic	Dummy indicating the main religion in the country is Catholicism. Source: La Porta et. al. (1999).
Protestant	Dummy indicating the main religion in the country is Protestantism. Source: La Porta et. al. (1999).
Age	

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## Appendix 2: Summary of descriptive statistics

Variable	Obs	Country	Mean	Std. Dev.	Min	Max
Latitude	1409	144	.3019585	.1905559	.0111	.7111
Reform	1409	144	.6813343	.4661245	0	1
Reform1	1409	144	.6981458	.5594623	0	2.197225
Democracy	1409	144	5.621008	3.848666	0	10
GDP per capita	1361	139	8.574096	1.165828	6.36308	10.49635
Rule of Law	1400	143	-.0807643	.9534134	-1.61	1.95
Muslim	1409	144	.2647268	.4413442	0	1
Catholic	1409	144	.3427963	.4748126	0	1
Protestant	1409	144	.1483322	.3555551	0	1
Election	1409	144	.23066	.4214048	0	1
English legal origin	1385	141	.3018051	.4592069	0	1
French legal origin	1385	141	.4743682	.4995229	0	1
German legal origin	1385	141	.1155235	.3197681	0	1
Scandinavian legal origin	1385	141	.0288809	.1675322	0	1
Socialist legal origin	1385	141	.0794224	.2704945	0	1
Sub-Saharan Africa (SSA)	1409	144	.2661462	.4420985	0	1
South Asia	1409	144	.0425834	.2019876	0	1
North America	1409	144	.0141945	.1183339	0	1
Middle east and North Africa	1409	144	.1064585	.308533	0	1

Latin America and Caribbean	1409	144	.1540099	.3610864	0	1
East Asia and Pacific	1409	144	.1270405	.3331365	0	1
Europe and Central Asia	1409	144	.2895671	.4537225	0	1
20	1409		.0023659	.0486024	0	1
30	1409	144	.0163236	.1267619	0	1
40	1409	144	.1596877	.3664463	0	1
50	1409	144	.389638	.4878413	0	1
60	1409	144	.2824698	.4503605	0	1
70	1409	144	.1142654	.3182463	0	1
80	1409	144	.0177431	.132063	0	1

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