

# Empowering Knowledge: Political Leaders, Education, and Economic Liberalization

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## Abstract

Recent literature reports significant effects of political leaders in driving economic policies but does not provide an exhaustive answer as to why. This paper argues that educational background plays an important role in shaping leaders' ideas and beliefs, which in turn matter for policy making in the long run. Using a cross-country data covering 137 countries and regions over 1960-2005, the paper documents a robustly positive relationship between leaders' educational attainment and faster liberal reforms, regardless of regime type. The effects are more salient for leaders who majored in economics, social science, and natural science. Moreover, the effects of education seem to be orthogonal to alternative channels such as partisan politics, geopolitical factors, and public opinions.

**Keywords:** Political leaders, Education, Economic liberalization, Ideas

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“The ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed, the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually slaves of some defunct economist.”

— John Maynard Keynes, *The General Theory of Employment, Interest and Money*

## 1 Introduction

The triumph of capitalism is one of the most significant events in the 20th century (Frieden, 2007; Shleifer, 2009). Economic liberalization has become a compelling choice for policy makers around the world, notwithstanding debates about its growth impacts (Estevadeordal and Taylor, 2013; Heybey and Murrell, 1999; Rodrik, 2006). Conventional wisdom attributes the prominence of the liberalization paradigm to institutional, geopolitical, and partisan factors (Berger et al., 2013; Dutt and Mitra, 2005; Giavazzi and Tabellini, 2005; Giuliano, Mishra and Spilimbergo, 2013; Haggard and Webb, 1994). By contrast, more recent literature focuses on how political leaders may play an active role in driving policies and economic performance (Dreher et al., 2009; Jones and Olken, 2005).

These explanations for economic liberalization stem from two different views on political leadership. The first, the representation view, emphasizes that leaders behave within constraints and their behaviors are motivated by specific interests. According to this view, polarized policy positions are a reflection of divided economic interests (Lipset and Rokkan, 1967; Grossman and Helpman, 1996; Roemer, 1999). The second, the autonomy view, suggests that leaders exert impacts on policies (Schumpeter, 1942, 2010; Przeworski, 2014). The second view has an obvious implication for scholars to pay more attention to the effects of leaders’ characteristics on policy making.

This paper aims to add to the second route of the literature by studying how political leaders’ educational attainment and fields affect their choices of economic liberalization. We understand education as a source of ideas, a belief about how the economy works. Ample evidence from experiments and surveys shows that the behavior of students who are economics majors more often exhibits individualism and self-interested motivation (Bauman and Rose, 2011; Carter and Irons, 1991; Frank, Gilovich and Regan, 1993; Hausman and McPherson, 1993; Kirchgässner, 2005). It is not obvious, however, whether more education must promote pro-market values. After all, highly educated “intellectuals are disproportionately opposed to capitalism as compared with other groups of similar socioeconomic status within capitalist

society” (Nozick, 1998). There has been little empirical research on how educational attainment affects the policy preferences of political elites.

The paper addresses this issue by analyzing the relationship between national leaders’ education and economic liberalization among 137 countries for 1960-2005. We combine two sources of data. First, we construct a data set covering the biographic information for 841 heads of national government. The data set documents a rich set of personal characteristics of leaders, such as years and level of education, fields of study, career paths, and family backgrounds. We follow the coding criteria of existing data sets, most notably Archigos (Goemans, Gleditsch and Chiozza, 2009), and supplement them with manually collected information. Second, we rely on a data set on economic liberalization, as measured by changing statutory contents over time, constructed by the Research Department of the International Monetary Fund (IMF) (Giuliano, Mishra and Spilimbergo, 2013).

Our analysis establishes a robustly positive relationship between leaders’ total years of education and reforms toward economic liberalization during the leaders’ tenure. This relationship holds in democracies as well as autocracies, and in parliamentary as well as presidential systems. Further investigation on the fields of study suggests that the effect is more pronounced for economics (and business), social science, and natural science. By contrast, higher education in engineering, humanities, and the military does not produce a strong effect of inducing liberalization relative to less educated leaders.

The empirical investigation provides tests of potential bias in the estimates due to nonrandom selection of leaders. First, we examine whether the effect of education could be correlated with pretrends of reforms in a dynamic model. The test finds no evidence that reform is correlated with the trajectory of reform prior to the leaders’ entry. Meanwhile, years of education have a persistently positive impact of inducing reforms throughout a leader’s tenure. We also follow Jones and Olken (2005) in estimating the effect of education years on a small sample of unpredicted leadership transitions. We find that transitions to more highly educated leaders tended to bring forth reforms, and the magnitudes of the estimated effects are considerably larger than the baseline results.

The paper also tests for alternative confounding channels. We find the following. First, although affiliation with left-wing parties lowers the pace of reform, the effect of leaders’ education is orthogonal to the influence of political parties. Second, the effect remains robust when accounting for regional and geopolitical factors. Third, the effect of education does not seem to be driven by leaders’ responsiveness to public opinions related to economic liberty. These results are consistent with the theoretical explanation that education affects leaders’ policy preferences

through shaping their ideas rather than interest politics.

The remainder of the paper is organized as follows. Section 2 provides a summary of the relevant literature. Section 3 describes the overall patterns of leaders' education and economic liberalization from the 1960s to the 2000s. Section 4 introduces the data. Section 5 presents the empirical strategy. Section 6 reports the baseline results, which is followed in section 7 by tests on the dynamic effects of education. Section 8 proceeds with tests on alternative channels. Section 9 concludes.

## 2 Relation to the Literature

The present paper primarily speaks to the growing literature on how policy makers' personal characteristics matter for policies and performance. The most directly related paper is Dreher et al. (2009), who link market oriented reforms to national leaders' educational and professional backgrounds in 72 countries over 1970-2002. They report a strong effect of leaders with entrepreneurial backgrounds on inducing reforms, but do not find a robust impact of educational background. Our findings echo those of Dreher et al. (2009) in identifying significant effects of leaders' background on their pro-market policy choices. The present paper also provides some new insights. First, our paper strengthens the external validity of the claim that leaders matter for economic reform, through studying a sample of 137 countries over 1960-2005. Second, the policy measures used in our research are based on statutory contents rather than outcomes. Thus, these measures may arguably disentangle leader effects due to intrinsic policy preferences and those due to the leaders' competence in managing the policies. Third, our findings enrich the state of knowledge by identifying a sizable and comparatively robust effect of education on policy making through the use of new data. In doing so, the paper reconciles Dreher et al. (2009) with Besley, Montalvo and Reynal-Querol (2011), which report a positive growth impact of highly educated leaders. According to our investigation, the effect of education matters not only on the extensive margin, but also on the intensive margin. Increasing years of education is positively associated with the tendency of liberalization even if controlling for a college degree and the related areas of study.

A strand of recent works offers related insights on the background of political leaders. Brender and Drazen (2013) report a large medium-term effect of national leadership turnovers on change in the composition of public expenditure for democratic countries. Hayo and Neumeier (2014) focus on Germany and find that the pattern of fiscal spending is correlated with the prime ministers' initial social status. For subnational politicians, Neumeier (2018) is in ac-

cordance with Dreher et al. (2009) in showing that leaders with business experience enhance economic performance. Other empirical papers extend this paradigm to studying the policy impacts of appointed officials, such as finance ministers, development ministers, and central bankers (Fuchs and Richert, 2018; Göhlmann and Vaubel, 2007; Jochimsen and Thomasius, 2014). Most of these papers focus on the career or family backgrounds of leaders, rather than their education. Our paper thus adds to the existing literature by highlighting the importance of education, which we interpret as a source of ideas.

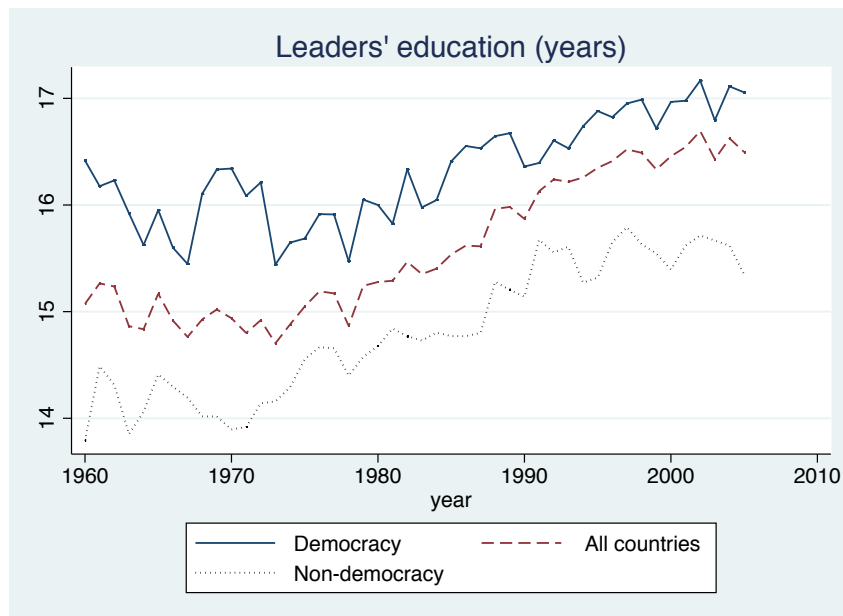
In addition, this paper is related to the political economy of liberalization. Giavazzi and Tabellini (2005) study the coevolution of political liberalization and economic liberalizations and examine how the timing of liberations affects economic performance. Another body of research attests to the positive interplay between political liberalization and the expansion of economic liberty over time (Campos and Horváth, 2012; Burgoon, Demetriades and Underhill, 2012; De Haan and Sturm, 2003; Leibrecht and Pitlik, 2015; Rode and Gwartney, 2012). Scholars have paid relatively limited attention to the role of political leaders in facilitating economic reforms. Noticeable exceptions include Minasyan (2018), who finds that U.S. educated national leaders exhibit more right-leaning ideologies. Barro and Lee (2005) report that political leaders with external connections are more likely to reach out to the IMF to pursue structural reforms. Bennett and Long (2019) provide evidence that politicians benefit electorally from increasing economic liberty in the context of gubernatorial elections in the United States. Our research supports the argument that the ideas and beliefs of political leaders play an instrumental role of inducing economic reforms, in addition to the influence of institutions. The findings presented in this paper also suggest that the effects of education are nuanced by institutional constraints, such as political democracy, parliamentary versus presidential system, and partisan affiliation.

### **3 Aggregate Patterns**

Figure 1 plots the average educational attainment of national leaders over time. The average educational attainment of national leaders assumed a rising trend during the post-World War II years. National leaders in the new millennium on average had 16.4 years of education, contrasting with 14.5 years in the 1960s. Similarly, in the 1960s, 42 percent of national leaders did not have a college degree; that ratio dropped to 28 percent in the new millennium.

Figure 2 presents notable changes in the areas of study by national leaders over time. In the 1960s, approximately 20% of national leaders held a college degree in economics or business. The proportion increased to 40% in 2010. Meanwhile, the ratio of leaders who had a military

Figure 1: Educational Attainment of Leaders



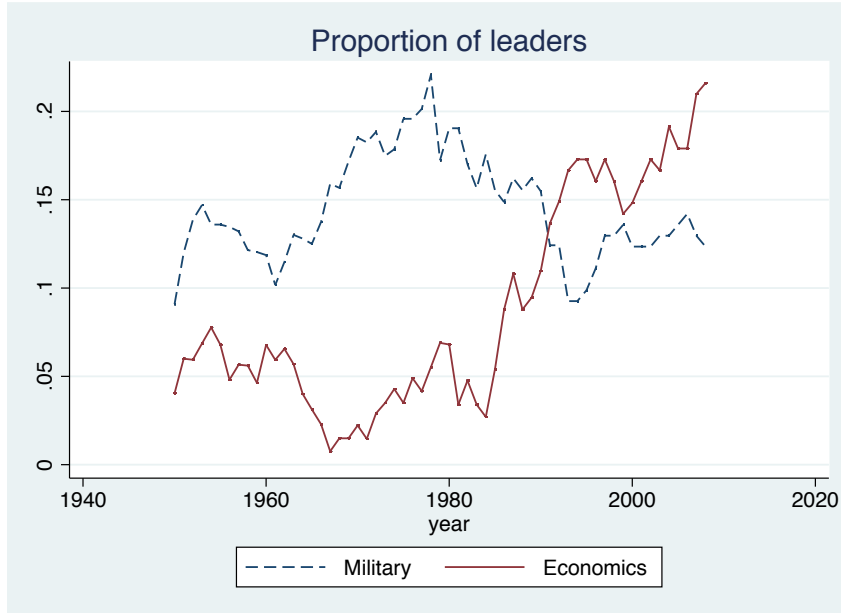
Notes: The figure presents the trends in average educational attainment, as measured by years of education, of national leaders in the world since the 1960s. The solid, dotted, and dashed curves respectively indicate the trends computed for all democracies, non-democracies, and all countries. The plots are based on authors' data.

major dropped over 1960-2010.

On economic policies, the world became increasingly liberalized over the second half of the 20th century. Figure 3 plots annual changes in the world average liberalization index along six policy dimensions, the specific definitions of which are discussed in Section 4. The indexes of these policy dimensions registered considerable increases over the period. The enhancement of economic liberty was most telling after the 1990s, when the average educational attainment of national leaders followed a rising trend. We propose two potential mechanisms for understanding this correlation.

First, education provides an opportunity for immersion in economic thinking, which tends to have a direct impact on recipients' attitudes toward the market. Political economists provide various theoretical accounts for the correlation between the fundamental ideologies of citizens and the preference about redistributive policies (Benabou and Tirole, 2006; Pickering and Rockey, 2011). Economists have consensus on an overwhelming majority of policy issues such as trade, price control, monopoly, and competition (Gordon and Dahl, 2013). Social science has documented sizable effects of economics education on the behaviors of students through changing beliefs (Carter and Irons, 1991; Frederick, 2005; Lopes, Graça and Correia, 2015; Kirchgässner, 2005). Cantoni et al. (2017) investigate how textbooks affect political attitudes

Figure 2: Leaders' Majors: Economics (or Business) versus Military



Notes: The figure presents the proportions of leaders with college or advanced degrees in economics (or business) and military. The solid curve indicates the proportion for economics and business majors. The dashed curve indicates the proportion for military major. The plots are based on authors' data.

Figure 3: Liberalization Reforms: Trends of the World



Notes: The graphs show the average change in the economic liberalization indexes for all countries in each year along six policy dimensions: domestic financial market, capital account, product market, agriculture market, trade, and current account. The plots are based on data from Spilimbergo, Prati and Ostry (2009). A description of the data is provided in Section 4.

of college students in China. Our paper provides an empirical investigation following this line of research, suggesting that education may affect policy making through shaping the beliefs of political leaders.

Second, leaders may develop personal networks through education, reinforcing the nexus between education and economic reform. Social proximity may help reduce informational asymmetry and enhance the effectiveness of policy making (Arriola, 2009; Krause and O’Connell, 2016; Lewis, 2009). Leaders with an elite educational background tend to fill cabinet positions with like-minded agents. Networks are an instrumental angle for explaining pro-business cabinet nominations by leaders, such as Barack Obama’s pick of Tim Geithner as Secretary of Treasury (Green, 2010).

Table 1 lists some notable cases of highly educated leaders adopting sharp liberalization reforms. Indian Prime Minister Manmohan Singh (2004-14) is a prominent figure who pushed forward economic liberalization in India. Singh obtained a PhD degree in economics after studying economics with Nicholas Kaldor at Cambridge. Singh implemented massive structural reforms as the Minister of Finance and later as the Prime Minister. All Ministers of Finance and Governors of the Reserve Bank of India in the Singh administration had graduate degrees, including Palaniappan Chidambaram (Minister of Finance for two terms), who had an MBA from Harvard, and Duvvuri Subbarao (central banker, 2008-2013) who had a PhD in economics.

Another example is Greek Prime Minister Andreas Papandreu (1981-89, 1993-96), who earned a PhD in economics at Harvard and later became a professor of economics at Minnesota, Northwestern, and Berkeley. Significant rises in the liberalization indexes were registered during Papandreu’s tenure despite his own affiliation with the Panhellenic Socialist Movement. Similar comovements in leaders’ education and economic liberalization can be found in the Philippines under Diosdado Macapagal (Liberal Party, 1961-65), Colombia under Ernesto Samper (Liberal Party, 1994-98), Brazil under Fernando Henrique Cardoso (Social Democratic Party, 1996-2003), and Singapore under GOH Chok Tong (People’s Action Party, 1990-2004). Except the People’s Action Party in Singapore, the ruling parties in all the other cases represented left-wing or center-left positions.

## 4 Data

### 4.1 Economic Liberalization

The set of dependent variables we use follows the liberalization indexes adopted by Giuliano, Mishra and Spilimbergo (2013). The data were collected by economists in the IMF to evaluate



Table 1: Leaders' Educational Background and Economic Liberalization: Examples

Country	Leaders	Education	Field	Exiting year	Agriculture	Product	Trade	Capital	Current	Finance
Greece	Georgios Rallis	College	Military	1980	N.A.	0.00	72.74	33.33	35.71	16.67
Greece	Andreas Papandreou	Ph.D.	Economics	1988	N.A.	0.00	89.62 (†)	33.33	42.86 (†)	22.22 (†)
Philippines	Carlos P. Garcia	College	Law	1961	100.00	N.A.	0.00	N.A.	7.14	N.A.
Philippines	Diosdado Macapagal	Ph.D.	Law*	1965	100.00	N.A.	46.66 (†)	N.A.	64.29 (†)	N.A.
India	Atal Bihari Vajpayee	Master	Political Science	2003	0.00	45.45	45.00	66.67	50.00	55.56
India	Manmohan Singh	Ph.D.	Economics	2005	N.A.	54.55 (†)	69.50 (†)	100.00 (†)	57.14 (†)	55.56
Colombia	Cesar Gaviria	College	Economics	1993	33.33	0.00	80.83	66.67	78.57	50.00
Colombia	Ernesto Samper	Master	Economics	1997	33.33	63.64 (†)	80.50	66.67	85.71 (†)	61.11 (†)
Brazil	Itamar Franco	College	Civil Engineering	1994	100.00	0.00	80.17	0.00	14.29	38.89
Brazil	Fernando Henrique Cardoso	Ph.D.	Sociology	2001	100.00	90.91 (†)	78.00	66.67 (†)	14.29	50.00 (†)
Turkey	Suleyman Demirel	College	Engineering	1992	0.00	0.00	53.61	100.00	71.43	50.00
Turkey	Tansu ciller	Ph.D.	Economics	1995	0.00	18.18 (†)	83.29 (†)	100.00 (†)	71.43	55.56 (†)
Singapore	LEE Kuan Yew	College	Law	1990	N.A.	0.00	99.33	100.00	100.00	77.78
Singapore	GOH Chok Tong	Master	Economics	2004	N.A.	63.64 (†)	100.00 (†)	100.00	100.00	94.44 (†)

Notes: Authors manually collect information on leaders' educational backgrounds. See Section 4 for a description of the data. The indexes of economic liberalization are obtained from Spilimbergo, Prati and Ostry (2009). † indicates the occurrence of liberalization reform, as measured by an increase in the liberalization index, during the leader's tenure. \*

structural reforms for its member countries. These indexes measure the level of institutional barriers to competition. As Spilimbergo, Prati and Ostry (2009) explain, the codings are based on “policies that increase the role of market forces and competition in the economy.” The documentation of liberalization is based on formal institutions: laws and regulatory statutes, rather than evaluation of real outcomes. These measures help to disentangle political leaders’ intentions and performance, which may be affected by bureaucratic efficacy. Giuliano, Mishra and Spilimbergo (2013) provide more thorough documentation of all the coding schemes and data sources. Here we provide a sketch of the definitions of the economic liberalization indexes to be used for the empirical analyses.

Each policy category is normalized to the range  $[0, 1]$ . (1) Domestic Financial Market measures the openness of banks and security markets. A reform is registered as a positive change to the index whenever a policy is adopted to promote competition in the following: interest rate controls, entry barriers, private ownership, proper supervision and regulation, domestic bond and equity markets, and the extent of credit controls. (2) Capital Account deals with restrictions on financial transactions between residents and nonresidents, external borrowing and lending, and approval requirements for foreign direct investment. (3) Production Market concerns entry barriers and regulatory burdens in domestic industries. (4) Agriculture Market captures the elimination of state intervention in imports and exports of agricultural products. (5) Trade is based on average tariff rates. (6) Current Account indicates individuals’ freedom over the proceeds from international trade under the IMF’s Article VIII.

The original policy measures are unbalanced across different dimensions and cover over 130 countries over 1960-2005. To deal with the difficulty in estimating an unbalanced panel, we use interpolation for missing variables by assuming constant values of the liberalization indexes for the missing periods; then we aggregate the measures of the six dimensions into a composite index. This creates a balanced panel of economic liberalization in 137 countries. For a robustness check, we obtain the principal component of the six liberalization measures, following Jackson (2005). We also follow Giuliano, Mishra and Spilimbergo (2013) to stack the six policy dimensions for each country-year in the estimations. The results obtained from different specifications are qualitatively similar.

The data on economic liberalization adopted in this paper have an overlap of policies with the cross-country measures of economic freedom developed by the Fraser Institute (Gwartney, Lawson and Norton, 2008). There are also noticeable differences between the two. First, on methodology, the data set developed by Spilimbergo, Prati and Ostry (2009) primarily measures the de jure institutions, as indicated by laws and regulatory statutes, while Gwartney, Lawson

and Norton (2008) are based on evaluation of outcomes using mixed methods and data sources, including statutes, surveys, expert evaluations, and case studies. Hence, Spilimbergo, Prati and Ostry (2009) is arguably more suitable for studying formal policy reforms intended by political leaders, while Gwartney, Lawson and Norton (2008)'s measure is more informative of the effectiveness of the government in protecting economic freedom, which depends on de jure and de facto institutions, as well as state capacity.

Second, the areas of policy focus of the two data sets are different. Spilimbergo, Prati and Ostry (2009) study structural reforms that are more related to macroeconomic policies. By contrast, Gwartney, Lawson and Norton (2008) focus more closely on the domestic economic environment, with the size of government, legal quality, control of inflation, freedom to trade, and regulation as the main areas of focus. In comparison with Gwartney, Lawson and Norton (2008), Spilimbergo, Prati and Ostry (2009) are less concerned with economic institutions about small government and low inflation. The recent literature provides a more nuanced view about the correlation between the size of government, as measured by the ratio of tax revenue to gross domestic product (GDP), and economic performance (Besley and Persson, 2009). Nevertheless, the size of government depends on the state capacity to tax and hence is more a policy "output" than an "input". This reason lends us cautious optimism in using Spilimbergo, Prati and Ostry (2009)'s approach for studying how education shapes leaders' policy choices. We provide a comparison of the key variables in the two data sets in the appendix.

## 4.2 Leaders' Education

The data on political leaders are part of a data project on national leaders and rules of political selection in the post-World War II period.<sup>1</sup> We follow Goemans, Gleditsch and Chiozza (2009) as well as Przeworski (2013) in identifying the head of the administration as the national leader. As in Goemans, Gleditsch and Chiozza (2009), we identify the general party secretary of the Communist Party in communist countries as the national leader. However, we do not consider hidden figures, such as Juan Peron in Argentina, 1973, and Deng Xiaoping in China, 1996, as the "effective leader," "the person that de facto exercised power in a country," as Goemans, Gleditsch and Chiozza (2009) do. The real influence of these hidden figures on policy making is unclear due to the opacity of authoritarian rules. Hence, the identification of hidden leaders would require invoking ad hoc judgments. Nevertheless, our codings agree with those of Goemans, Gleditsch and Chiozza (2009) in most cases where the chief executive can be unambiguously identified: parliamentary, presidential, or monarchy. For the premier-

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<sup>1</sup>The data description is relegated to the appendix.

presidential system, we code in favor of the former if the constitution grants the power of presiding over domestic economic affairs to the premier. The results are robust to different coding schemes.

The main variable of interest is Education Years, the total years of education a leader had received. We collected this information from the Internet and other sources, such as Encyclopedia Britannica. This approach is novel in the sense that it emphasizes the influence of education on the intensive margin. Where the precise information is unavailable, we supplement the variable Education Years with a manual calculation. To this end, we follow Besley and Reynal-Querol (2011) to code the level of formal education for political leaders into an eight-way variable. The category education is defined as the following: 1, illiterate; 2, literate but no formal education; 3, elementary school; 4, secondary school; 5, any professional school or special training beyond secondary school; 6, college (bachelor's degree); 7, graduate study (master); 8, doctor. We then assign the following years to the education category: 6 years for elementary school, 12 years for secondary school, 14 years for professional school, 16 years for college, 18 years for graduate study with a master's degree, plus one year for each additional master's degree, and finally, 23 years for a doctoral degree. We also use the binary variable college to capture the effects of university education (undergraduate study or above). The results are qualitatively similar using alternative measures for education.

In addition to education, we use information on leaders' fields of study at the university level. A background in economics is likely to nurture pro-market ideas, as discussed in Section 3. By contrast, an educational background in engineering and or the military may lead to more hostile attitudes toward the market. Robert Nozick (1998) argues that exposure to a central authority in school may drive students to anti-market values, because the "distribution of goods and rewards via a centrally organized distributional mechanism later strikes intellectuals as more appropriate than the 'anarchy and chaos' of the marketplace," which is often the case in engineering and the military education (Bartlett and Lutz, 1998; Campbell and McCormack, 1957). To account for the heterogeneous influence of different fields, we collect information on leaders' field of study for their highest degree. We classify the majors into seven categories: economics (or business), social science, natural science, humanities, engineering (or agriculture), military, and others (the default group). In view of the research arguing that Western educated leaders are associated with a higher probability of democratization, we collect information to construct the variable Overseas Study, which indicates whether a leader received education in Western Europe or English-speaking developed countries.

### 4.3 Leaders' Other Characteristics

We control for personal characteristics that may confound the incentive and ability to push forward liberalization. Leaders' Age captures several factors that may affect their resolution to reform. Younger leaders may have higher incentives to seek changes but lack experience and sources to pass legislative bills. Leaders with longer tenure may garner more support, but they may have lower incentives to reform due to a shorter time horizon (Bowen et al., 2016). Following this reasoning, we add two variables: First Term, a dummy variable indicating whether a leader was in the first term, and Years in Office, which documents the number of cumulative years in office.

We also control for a set of variables capturing public sector experience prior to the position of national leaders. They include dummy variables indicating whether a leader had any previous experience serving in the Public sector, as a state Legislator, as Governor, and as a Party Leader.

### 4.4 Political and Economic Variables

We control for political and economic variables that may be correlated with liberalization. GDP per capita and the growth rate are obtained from the Penn World Table 8.0. We control for countries' level of human capital, constructed by Barro and Lee (2013) based on a weighted average of citizens' primary, secondary, and tertiary education. The binary variable democracy follows Cheibub, Gandhi and Vreeland (2010). The definition of a parliamentary system follows Przeworski (2013).

We further adopt several commonly used measures of the quality of political institutions that may be correlated with economic liberalization: Political Rights and Civil Liberty are obtained from the Freedom House (Gwartney, Lawson and Norton, 2008), Polity2 and Constraint on the Executive are obtained from the Polity IV project (Marshall, Jaggers and Gurr, 2002). We collect information on the ruling parties and construct dummy variables indicating left- or right-leaning parties (details are in Section 8.1 and the Appendix). Finally, we adopt measures from the World Value Survey (WVS) to study how political leaders interact with public opinion on reforms. Table 2 provides a summary of the key variables used in the econometric analyses.

## 5 Specification

The baseline analysis focuses on the effects of leaders' educational attainment on reform toward economic liberalization. Following Giuliano, Mishra and Spilimbergo (2013), we measure

Table 2: Summary Statistics

Variable	N	Mean	Standard Deviation	Min	Max
Sum_Liberalization	5621	155.86	148.27	0	583.58
Liberalization (by sector)	20,395	42.96	37.04	0	100
Change_Liberalization ( $\Delta y_{ijt}$ )	19,779	1.16	8.13	-100	100
Growth	5,173	0.02	0.06	-0.44	0.77
GDP per capita (PWT 8.0)	5,073	7,164	7,450	227.3	52,414
Human Capital (Barro & Lee, 2013)	4,444	2.11	0.62	1.02	3.57
Education Years	5,133	15.64	3.62	0	27
Education	5,194	5.8	1.36	1	8
College	5,194	0.67	0.47	0	1
Leader's age	5,047	56.5	10.96	18	91
Female	5,279	0.032	0.177	0	1
First Term	5,279	0.69	0.46	0	1
Years in Office	5,279	7.65	7.68	0	48
Democracy	5,091	0.48	0.5	0	1
Overseas Study (Europe or North America)	5621	0.299	0.321	0	1
Economics	5,621	0.114	0.317	0	1
Law	5,621	0.222	0.415	0	1
Social Science	5,621	0.108	0.310	0	1
Engineering	5,621	0.075	0.263	0	1
Humanities	5,621	0.090	0.285	0	1
Military	5,621	0.163	0.369	0	1
Science	5,621	0.023	0.149	0	1
Legislator	5,191	0.452	0.527	0	1
Governor	5,206	0.132	0.339	0	1
Party Leader	5,197	0.456	0.498	0	1
Public Sector	5,203	0.943	0.232	0	1
Party_Left	5,621	0.120	0.324	0	1
Party_Right	5,621	0.269	0.443	0	1
Political Rights	4,064	3.789	2.213	1	7
Civil Liberty	4,064	3.824	1.897	1	7
Polity2 (normalized)	5,091	0.528	0.375	0	1
Constraint on Executive	4,948	4.121	2.305	1	7
Political Scale	694	0.52	0.08	0.22	0.89
Income Equality	721	0.53	0.16	0	1
Government Responsible	667	0.74	0.08	0.54	1
Competition Good	697	0.45	0.15	0	1
Confidence in Government	647	0.56	0.16	0.09	1
Confidence in Company	696	0.47	0.14	0	0.99

reform as the annual change in the composite measure of liberalization, obtained by summing up the liberalization indexes over the six policy dimensions.

$$\Delta y_{it} = y_{it} - y_{i,t-1}$$

In the above equation,  $y_{it}$  is the measure of aggregate liberalization (level) of country  $i$  in year  $t$ . In turn, its first difference,  $\Delta y_{it}$ , is a measure of enhancement of economic liberty. We estimate the effect of national leaders' educational attainment on reform by the following equation.

$$\Delta y_{it} = \theta \cdot EDU_{it} + \alpha \cdot y_{i,t-1} + X_{it}\beta + \mu_i + \zeta_t + \epsilon_{it} \quad (1)$$

$EDU_{it}$  is a measure of leaders' educational background (years, college degree, or areas of study).  $X_{it}$  is a set of control variables, including leaders' personal characteristics (age, gender, term, length of tenure, previous work experience) and country-level political and economic variables. A concern about the estimation of the effect of education is that education may capture

features other than leaders' beliefs. For example, highly educated leaders may have higher capability in negotiation and be more successful in legislation. To deal with this problem, we control for several variables potentially confounding capacity. We include in the estimation equation four dummies, Legislator, Governor, Party Leader, and Public Sector, respectively, indicating whether the leader was a legislator, governor, party leader, or ever had any work experience in the public sector before assuming power. In addition, we use the tenure-average growth rate for leaders as a proxy for their ability. We control for a set of measures of institutional quality and economic development, as discussed in Section 4.4.  $\mu_i$  stands for country fixed effects.  $\zeta_t$  represents year fixed effects. Finally,  $\epsilon_{it}$  represents the random disturbance term. We cluster the standard errors of the coefficients at the leader level to allow for arbitrary correlations over time within each individual leader's tenure.

The estimates may be biased due to time dependence in the sequence of reform. To test for this problem, we conduct a panel unit root test for the first difference of the liberalization indexes and leaders' education, following Maddala and Wu (1999). All the tests reject the null hypothesis that a given variable is non-stationary by a large margin. We report the tests in Table A1 in the appendix. Nevertheless, we control for  $y_{i,t-1}$ , the lagged variable of composite liberalization, to alleviate temporal dependence in liberalization policies. The standard Nickell bias is not a major concern with a long panel spanning over 45 years. We also provide several alternative specifications as a robustness check. First, we estimate a model using the level of composite liberalization as the dependent variable without controlling for the lagged liberalization to avoid the Nickell bias problem (Table A3). Second, we allow for first-order serial correlation in  $\epsilon_{it}$  and estimate a model with an AR(1) disturbance term (Table A4). Third, we apply the general methods of moments to deal with the endogeneity problem due to the dynamic feature of the model (Table A5). The results obtained from the alternative models are robust and similar to those presented in the main text.

## 6 Main Results

### 6.1 Baseline

Table 3 presents the baseline estimates as specified by Equation (1). Column 1 includes only education years, the lagged liberalization index, country fixed effects, and year fixed effects. The results show that a one-year increase in educational attainment is associated with an increase in liberalization by 0.445 percentage point. This translates to roughly 20% of the annual variation

Table 3: Does Education Matter for Liberalization?

Sample:	Dependent variable: Annual Change in Liberalization_Sum ( $\Delta y_{it}$ )						
	(1) All	(2) All	(3) All	(4) Democracies	(5) Non-democracies	(6) Parliamentary	(7) Non-parliamentary
Education Years	0.445*** (0.139)	0.466*** (0.162)	0.876*** (0.241)	0.535** (0.258)	0.522** (0.218)	0.740*** (0.276)	0.348* (0.201)
Lag log GDP per capita		-2.103 (1.798)	-3.636 (2.766)	-3.141 (3.338)	-4.664 (3.111)	-8.167* (4.595)	-2.071 (2.247)
Lag Human Capital		1.983 (3.892)	-0.485 (6.136)	-7.849 (5.613)	18.573** (9.046)	-24.280** (9.821)	6.499 (4.697)
First Term		0.129 (1.074)	0.991 (1.355)	1.318 (1.536)	-2.243 (2.320)	-2.744 (2.486)	0.801 (1.303)
Years in Office		-0.188** (0.082)	-0.222* (0.119)	-0.215 (0.195)	-0.305** (0.141)	0.006 (0.200)	-0.163* (0.092)
Age		-0.016 (0.056)	0.016 (0.076)	0.06 (0.074)	0.158 (0.112)	0.00 (0.135)	-0.04 (0.064)
Female		-0.512 (3.283)	1.727 (3.272)	2.301 (3.897)	26.533*** (8.358)	-1.177 (4.232)	2.177 (4.556)
Overseas Study		0.381 (1.104)	0.823 (1.683)	2.068 (1.501)	-1.504 (2.636)	3.078 (2.240)	-0.865 (1.402)
Legislator		-1.217 (1.031)	0.595 (1.570)	0.512 (1.520)	-4.525** (2.038)	-1.878 (2.626)	-1.221 (1.204)
Governor		0.876 (1.563)	1.973 (2.178)	2.054 (1.759)	3.563 (3.004)	-1.164 (3.287)	2.121 (1.854)
Party Leader		0.651 (0.946)	1.356 (1.347)	0.415 (1.227)	-1.233 (1.790)	-0.679 (1.798)	0.208 (1.151)
Public sector		-4.301 (3.518)	-5.191 (5.219)	-0.845 (3.539)	-9.27 (12.016)	3.552 (5.652)	-5.811 (4.657)
Term Average Growth		0.133 (0.212)	0.314 (0.287)	(0.119) (0.340)	0.496* (0.299)	(0.495) (0.492)	0.467* (0.247)
Political Rights (Freedom House)			0.134 (0.977)				
Civil Liberty (Freedom House)			1.067 (0.914)				
Polity2 (Polity IV)			21.550** (8.520)				
Constraint on Executive (Polity IV)			-3.530*** (1.141)				
Lag Liberalization	-0.063*** (0.006)	-0.078*** (0.008)	-0.111*** (0.012)	-0.100*** (0.012)	-0.085*** (0.020)	-0.102*** (0.018)	-0.083*** (0.010)
Country Fixed Effects	✓	✓	✓	✓	✓	✓	✓
Year Fixed Effects	✓	✓	✓	✓	✓	✓	✓
R-squared	0.213	0.24	0.183	0.223	0.19	0.277	0.256
Countries	137	105	104	87	68	41	90
Observations	4,945	3,615	2,581	2,003	1,409	893	2,722

Notes: This table presents the estimates for annual changes in the liberalization indexes as specified by Equation (1). Education Years is the number of total years of formal education received by the leader. First Term is a dummy variable indicating whether the leader was in his or her first term. Years in Office is the number of years that the leader had spent in office. Age is the leader's current age when in office. Female is the dummy variable indicating the gender of the leader. Overseas Study is a dummy variable indicating whether the leader had studied in North America, Western Europe, Australia, or New Zealand. Legislator is a dummy variable indicating whether the leader had once served as a state legislator. Governor is a dummy variable indicating whether the leader had once served as a governor. Party Leader is a dummy variable indicating whether the leader had once served as a leader of a political party. Human Capital is the index of the country-average education obtained from Barro and Lee (2013). Term Average Growth is the average growth rate of GDP per capita throughout the leader's tenure. The Standard errors clustered at the leader level are reported in the parentheses. All results are estimated by linear regressions with specified fixed effects. Column 4 is estimated for democratic countries, as defined by Cheibub, Gandhi and Vreeland (2010). Column 5 is estimated for non-democratic countries. Column 6 is estimated for countries with parliamentary regimes following the definition of Przeworski (2013). Column 7 is estimated for non-parliamentary systems. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .



in liberalization.<sup>2</sup> Lagged liberalization ( $y_{ist}$ ) has a negative sign, suggesting a mean reversion pattern. That is, countries with more liberal economic systems reform more slowly.

In column 2, we include a set of control variables for leaders' personal characteristics. The estimate for education years is similar. The estimated coefficients of the personal characteristics show that liberalization is faster for leaders at an earlier stage in office, a finding that is consistent with the argument of reform fatigue proposed by Bowen et al. (2016). The variables for first-term leaders, age, and gender do not seem to affect reform significantly. In addition, we find that exposure to Western education has a positive but insignificant effect. Having had a previous career serving as a legislator, governor, party leader, or other public sector position also does not help increase the level of liberalization. There is no systemic evidence that strong performers promoted reforms more.

In column 3, we additionally control for the measure of political rights and civil liberty, both obtained from Freedom House (Gwartney, Lawson and Norton, 2008). This reduces the sample size by half compared with column 1, since the data start from 1973. We also control for Polity2 from the Polity IV project, which captures the quality of democracy according to an aggregate measure of political competition, participation, and entry barriers, along with constraint on the executive from Polity IV. Consistent with the previous literature, such as De Haan and Sturm (2003) and Giavazzi and Tabellini (2005), political democracy has a strong positive impact of promoting economic liberalization. The coefficient for constraint on executive is negative when controlling for Polity2, perhaps because of the constraint on executive is correlated with more veto players. On top of that, education years remain significantly positive and the magnitude becomes larger.

Columns 4 and 5 investigate how the effect of leaders' education may vary along with political regimes.<sup>3</sup> Because democracies tend to select more educated leaders (Besley and Reynal-Querol, 2011), and democracies are more likely to liberalize the economic system (Giuliano, Mishra and Spilimbergo, 2013), it may be the case that the findings are driven by regime types rather than by leaders. To disentangle leader effects from institutional effects, we separately estimate the model for democracies and non-democracies. The estimates for education years in both columns remain positive and significant, and not statistically distinguishable. Hence, highly educated leaders in autocracies are as effective as those in democracies in pushing forward economic reforms. These results lend supports to the autonomy view of political leadership, which implies

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<sup>2</sup>One standard deviation in years of education is 3.6 years, and one standard deviation in the composite liberalization index is 8.13. So education roughly explains  $(0.445 \cdot 3.62) / 8.13 \cong 19.8\%$  of the variation in liberalization.

<sup>3</sup>To maintain a large sample size, we do not include the political institutional variables in the other columns. The results are robust when we control for them in Columns 4 through 7 in Table 1.

that leaders affect policies and performance aside from the influence of institutions.

In columns 6 and 7, we study whether different systems of government, as distinguished by parliamentary and presidential systems, imply divergent effects of education years. A priori the difference is unclear. In parliamentary systems, the executive commands legislative majority and thus may be more decisive in legislation. However, the requirement that the ruling party needs the support of the legislative majority may lead to a fragmented coalition and renders it difficult to change the status quo. For presidential (non-parliamentary) systems, executives more often face an opposition legislative majority. Cheibub, Przeworski and Saiegh (2004) argue that presidents may avoid deadlocks through decrees or legislative bargaining, and empirically show that divided governments do not perform worse than majority-controlled governments in presidential systems. In columns 5 and 6, nevertheless, we find that the estimated coefficient of education years is larger and more significant for parliamentary systems.

## 6.2 Areas of Study

The estimates presented in Table 3 are consistent with the premise that education matters for policy making. A natural follow-up question is whether leaders' different areas of study have the same or different impacts on policies. As discussed in Section 3, exposure to education on economics may have a long-term impact on policy preferences through shaping beliefs. A larger coefficient for majoring in economics is suggestive of the belief channel. In Table 4, we estimate the effects of university education. Column 1 employs only the dummy variable indicating a bachelor's degree or beyond. The coefficient is 2.78 and statistically significant. According to this result, whether national leaders have a college (or higher) degree explains roughly 16% of the variation in reforms. From Columns 2 to 8, we respectively examine the effect of university education in different fields of study by adding the interaction term between the college dummy and an indicator for major. In Column 9, we include all interaction terms together with the college dummy, treating other college majors, including medicine, athlete or artist, education, and all other majors, as the default category.

Three observations follow from Table 4. First, having studied economics has a relatively larger impact on leaders' propensity to promote economic reforms compared with leaders who are otherwise less educated. While the interaction term between economics and college is not precisely estimated, the test for joint significance of the college dummy and the interaction reports a p-value at 0.011. It is worth noting, however, that having studied social science or natural science are also associated with economic liberalization in juxtaposition with lower-educated leaders. In the case of natural science, the effect appears to be larger than majoring

Table 4: Does Major Matter for Liberalization?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dependent variable: Annual Change in Liberalization-Sum ( $\Delta y_{it}$ )									
College or Above	2.782** (1.089)	2.792** (1.124)	2.980*** (1.091)	2.705** (1.122)	3.243*** (1.125)	3.210*** (1.139)	3.214*** (1.118)	2.746** (1.093)	0.037 (2.226)
College or Above × Economics		1.324 (1.457)							4.474* (2.657)
College or Above × Law			-0.037 (1.330)						3.291 (2.542)
College or Above × Social Science				1.958 (1.484)					4.917** (2.404)
College or Above × Engineer					-3.430* (2.038)				0.248 (2.947)
College or Above × Humanities						-1.599 (1.380)			1.944 (2.371)
College or Above × Military							-4.593 (4.070)		-1.207 (4.701)
College or Above × Science								6.087 (4.079)	9.287** (4.560)
Lag Liberalization	-0.077*** (0.008)	-0.077*** (0.008)	-0.077*** (0.008)	-0.077*** (0.008)	-0.078*** (0.008)	-0.077*** (0.008)	-0.077*** (0.008)	-0.078*** (0.008)	-0.080*** (0.008)
F-statistics for College + Major		6.46	3.56	7.85	0.01	1.13	0.12	4.58	
p-value		0.011	0.059	0.005	0.93	0.287	0.728	0.033	
Country Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
Control Variables	✓	✓	✓	✓	✓	✓	✓	✓	✓
R-squared	0.239	0.24	0.24	0.24	0.24	0.24	0.24	0.241	0.243
Countries	105	104	104	104	104	104	104	104	104
Observations	3619	3587	3587	3587	3587	3587	3587	3587	3587

Notes: This table presents the estimates for annual changes in the liberalization indexes as specified by Equation (1). College or Above is a dummy variable indicating whether the leader had college or above college education. Economics and other indicators are dummy variables indicating whether the leader had studied in specific majors. The results are based on all countries for columns 1-9. The control variables include Lag log GDP per capita, Lag Human Capital, First term, Years in Office, Female, Age, Overseas Study, Legislator, Governor, Party Leader, Public Sector, Term Average Growth, and the lagged liberalization index. The estimates for the control variables are not reported. Standard errors clustered at the leader level are reported in parentheses. For each major, the Table reports the F-statistics and the p-value for joint significance of the coefficient of College or Above and the corresponding interaction term. All results are estimated by linear regressions with specified fixed effects. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

in economics.<sup>4</sup> We provide two conjectures for understanding this finding. The first is that the result may suggest that the level or total years of education affects beliefs on top of the influence of the major.<sup>5</sup> The second possibility is that many leaders may have a double major in economics or enrolled in economics courses. For example, Diosdado Macapagal, a former president of the Philippines, held a PhD degree in economics and a doctor degree in law.

Second, the results reported in Columns 5, 6, and 7 show that leaders with a major in engineering, humanities, or military do not promote economic liberalization relative to lower educated ones. The interaction terms have negative coefficients and lead to insignificance of the joint statistics, as reported at the bottom of Table 4. Third, when we allow the effect of college education to vary on a set of categories of majors, the advantage of economics, social science, and natural science preserves. As Column 9 shows, the coefficients of the interaction terms for economics, social science, and natural science are positive and significant, but the coefficients of the other interactions are not. These findings provide additional support for the importance of ideas in policy making.

## 7 Accounting for Endogeneity

The estimation of leaders' effects on policies faces a tangible identification challenge that the selection is not random. Countries may select highly educated leaders or technocrat types to fix problems in the face of economic crisis (Drazen and Easterly, 2001). When that is the case, it is the mandate of the electorate (selectorate), not the leaders, to carry out reforms.

We adopt two estimation strategies to address this concern. The first approach is to estimate the baseline model as specified by Equation (1), but using a dynamic model accounting for the pre-trends of reforms. The model for estimation is the following.

$$\Delta y_{it(m)} = \sum_{\tau=t-s}^t Tenure_{\tau} \cdot EDU_{it(m)} + \sum_{\gamma=t+1}^{t+h} PRE_{\gamma} \cdot EDU_{it(n)} + \alpha \cdot y_{i,t-1} + X_{it}\beta + \mu_i + \zeta_t + \epsilon_{it} \quad (2)$$

In Equation (2), the dependent variable is economic reform in country  $i$  presided by leader  $m$  in year  $t$ . The leader following  $m$  is  $n$ . Let  $t-s$  be the first year when  $m$ 's tenure starts and  $t+h$  be the first year when  $n$ 's tenure starts. In turn, time  $t$  is  $s$  years after the point when  $m$  first

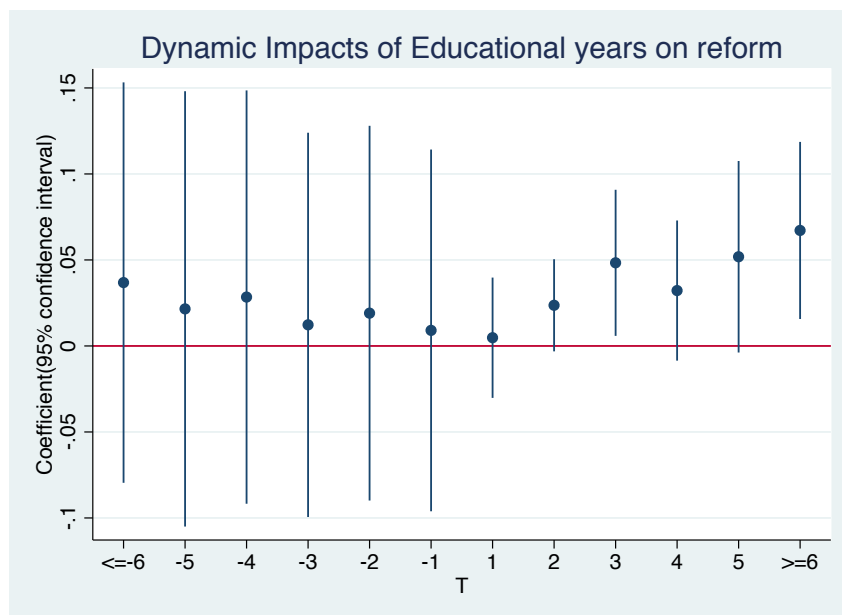
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<sup>4</sup>Note that Dreher et al. (2009) have a similar finding that the dummy for studying in natural science has a more positive coefficient than in economics using different measures of economic reform.

<sup>5</sup>When we further include education years as an independent variable, along with the college dummy and the majors, the effect of education years supersedes those of the college degrees. This finding is consistent with the first conjecture. The results with education years are presented in Table A8 in the appendix.

comes into office (provided that  $m$  remains the incumbent) and  $h$  years before the point when her successor  $n$  comes into office. The parameters  $Tenure_\tau$  and  $PRE_\gamma$ , respectively, capture the dynamic effect of the incumbent’s tenure and the “pre-entry effect” of the successor. If reforms are really due to leaders’ personal influence and decision making rather than overall shifts of policy consensus or incremental institutional change, we should observe that future leaders do not “promote” economic reforms, only incumbents matter. Figure 4 plots the estimated coefficients and the corresponding 95% confidence intervals. There is no pre-trend in the effect of leaders’ education years on reforms. At the same time, education years of incumbent leaders have a persistently positive impact on reforms. This pattern alleviates the concern that highly educated leaders are only selected to fulfill the popular mandate of reform.

Figure 4: Dynamic Effects of Leaders’ Education on Liberalization



Note: This graph shows the dynamic effects of Education Years on the annual change in the aggregated liberalization index, estimated according to Equation (2). The control variables include Lag log GDP per capita, Lag Human Capital, First Term, Years in Office, Female, Age, Overseas Study, Legislator, Governor, Party Leader, Public Sector, Term Average Growth, and the lagged liberalization index. The effect of education on the current year,  $T = 0$ , is normalized to zero. The estimated coefficients and the 95% confidence intervals are presented.

Moreover, we follow Jones and Olken (2005) to explore quasi-random leadership transitions. This identification strategy focuses on the scenarios in which leaders died in office and power alternation was not precisely anticipated. We define a transition as random if the predecessor died in office by accidental or natural causes. Following this definition, we are able to identify 38 cases of random transition between 1960 and 2010 with observations for liberalization. Among the transition scenarios, 13 cases feature a transition to a more highly educated leader, and

all of them register a positive change in the liberalization index in each sector. By contrast, among the cases where leaders' education became lower or stayed the same, policy changes were close to zero. We systemically estimate the changes in liberalization indexes using the following equation.

$$\Delta y_{ist} = \gamma_1 1(\text{Education\_Higher})_{it} + \gamma_2 1(\text{Education\_Lower})_{it} + \alpha \cdot y_{i,s,t-1} + X_{it}\beta + \mu_{i,s} + \zeta_t + \epsilon_{i,s,t} \quad (3)$$

Table 5: Random Transitions: Difference-in-Difference Approach

Dependent variable: $\Delta y_{it}$			
	(1)	(2)	(3)
Post-transition $\times$ 1(Education_Higher)	5.866** (2.405)	6.049** (2.456)	7.182* (4.116)
Post-transition $\times$ 1(Education_Lower)		1.552 (1.903)	-4.314 (3.467)
Lag Liberalization_Sum	-0.074*** (0.019)	-0.073*** (0.019)	-0.122** (0.050)
Country Fixed Effects	✓	✓	✓
Year Fixed Effects	✓	✓	✓
Control Variables			✓
R-squared	0.237	0.238	0.328
Countries	38	38	38
Observations	770	770	497

Notes: This table presents the estimates for annual changes in the liberalization indexes in the quasi-transition sample as specified by Equation (2). Post-transition is a dummy variable indicating the period after the transition. 1(Education\_Higher) is the dummy variable indicating that the successor received a higher level of education than the predecessor. 1(Education\_Lower) is the dummy variable indicating that the successor received a lower level of education than the predecessor. The control variables include Lag log GDP per capita, Lag Human Capital, First Term, Years in Office, Female, Age, Overseas Study, Legislator, Governor, Party Leader, Public Sector, Term Average Growth, and the lagged liberalization index. The estimates for the control variables are not reported. Standard errors clustered at the leader level are reported in the parentheses. All results are estimated by linear regressions with specified fixed effects. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

The estimations are restricted to the five-year windows around the transitions. The dummy variable 1(Education\_Higher) indicates the post-transition period with the presence of a more highly educated new leader. Accordingly, 1(Education\_Lower) indicates the post-transition period with the new leader being less educated. Thus, the coefficients  $\gamma_1$  and  $\gamma_2$  capture the effects of different kinds of transitions distinguished by education. As Table 5 shows, transitions to more educated leaders are associated with a sizable increase in liberalization. The coefficients are larger than in the baseline results presented in Table 3. Meanwhile, transitions to lower educated leaders did not help promote reforms, as the interaction term is (insignificantly) negative. The results presented in Table 5 strengthen the credibility of leaders' personal effects on policies.

## 8 Robustness

In this section, we investigate several alternative channels that may give rise to economic liberalization. First, the propensity of liberalization is likely to be correlated with the ideologies of ruling parties, which in turn lead to the selection of highly educated leaders. Second, the estimates may be driven by specific episodes of regime changes due to geopolitical factors. Third, highly educated leaders may respond more strongly to pro-market public sentiments.

### 8.1 Partisan affiliation

It is possible that left-wing parties select more politicians from grass roots backgrounds, and leaders of right-wing parties tend to come from elite backgrounds and have higher education. After all, the literature supports that family backgrounds matter for policy making (Hayo and Neumeier, 2014). To disentangle the channel of partisan politics, we collect information on leaders' partisan affiliation. For each party with an identifiable ideological position, we codify it into left-versus-right categories. The default category includes centrist parties and the parties without a clear ideological commitment.

Columns 1 to 4 in Table 6 present the estimates using education years. We first control for the dummies for left or right affiliations. As column 1 shows, the coefficients of the left and right affiliations are, respectively, negative and positive, although they are not precisely estimated. On top of that, the coefficients for education years remain significant. In columns 3 and 4, we additionally include the interaction term between education years and the partisan affiliation. The coefficients of both interaction terms are positive and statistically insignificant. Overall, highly educated leaders of both right- and left-wing promote economic liberalization significantly more than less educated ones do. This result is consistent with a finding by Dreher et al. (2009) that left-wing politicians are not necessarily inferior in promoting economic reforms.

In columns 5 to 8, we obtain results using the college dummy as an alternative measure of education. In columns 5 and 7, we find a similar pattern that left partisan affiliation hindered liberalization, now with a statistically significant coefficient. However, the interaction term between the education dummy and the left-party affiliation is positive and insignificant. Meanwhile, the college dummy remains significant. Note that the sum of the coefficients for the college dummy and the interaction term is  $1.78+2.88 = 4.66$ , statistically significant above the 99% level. A logical interpretation is that the affiliation with left wing parties only hinder reforms for less educated leaders, not but for those who obtained university educations. The results are similar for right wing affiliations. Overall, the effects of education are robust when

Table 6: Parties versus Personal Education

	Dependent Variable: $\Delta y_{i,t}$							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Education Years	0.455*** (0.163)	0.466*** (0.161)	0.403*** (0.198)	0.450*** (0.182)				
College or Above					2.868*** (1.073)	2.782*** (1.089)	2.098* (1.139)	2.126* (1.236)
Left	-1.634 (1.150)		-4.017 (4.556)		-1.936* (1.142)		-4.206** (2.040)	
Right		0.459 (1.057)		-0.413 (4.707)		0.421 (1.059)		-1.481 (1.908)
Education Years $\times$ Left			0.148 (0.277)					
Education Years $\times$ Right				0.053 (0.287)				
College or Above $\times$ Left							2.88 (2.181)	
College or Above $\times$ Right								2.515 (2.329)
Lag Liberalization	-0.079*** (0.008)	-0.079*** (0.008)	-0.079*** (0.008)	-0.078*** (0.008)	-0.078*** (0.008)	-0.077*** (0.008)	-0.078*** (0.008)	-0.077*** (0.008)
F-Statistics			5.850	3.800			7.570	5.080
P-value			0.016	0.052			0.006	0.025
Country Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓
Year Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓
Control Variables	✓	✓	✓	✓	✓	✓	✓	✓
R-squared	0.241	0.24	0.241	0.24	0.24	0.239	0.24	0.239
Countries	105	105	105	105	105	105	105	105
Observations	3,615	3,615	3,615	3,615	3,615	3,615	3,615	3,615

Notes: This table presents the estimates for annual changes in the liberalization indexes as specified by Equation (1). Left is a dummy variable indicating whether the leader is affiliated with a left-wing political party. We categorize all left, central-left, and communist parties in Table A.12 in the appendix as left. Right is a dummy variable indicating whether the leader is affiliated with a right-wing political party. We code all right and central-right parties in Table A.12 in the appendix as "rights". The control variables include Lag log GDP per capita, Lag Human Capital, First term, Years in office, Female, Age, Overseas Study, Legislator, Governor, Party Leader, Public Sector, Term Average Growth, and the lagged liberalization index. The estimates for the control variables are not reported. Standard errors clustered at the leader level are reported in parentheses. All results are estimated by linear regressions with specified fixed effects. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .



taking into account the interplay between education and partisan affiliation.

## 8.2 Regional Heterogeneity

Table 7: Regional Heterogeneity

	Dependent Variable: $\Delta y_{ijt}$					
	Exclude Eastern Europe (1)	Exclude Eastern Europe (2)	Exclude Latin America (3)	Exclude Latin America (4)	Exclude Both (5)	Exclude Both (6)
Education Years	0.273** (0.126)	0.365** (0.160)	0.445*** (0.155)	0.444** (0.185)	0.228* (0.133)	0.301* (0.180)
Lag Liberalization	-0.060*** (0.006)	-0.078*** (0.008)	-0.058*** (0.007)	-0.074*** (0.009)	-0.054*** (0.006)	-0.073*** (0.009)
Country Fixed Effects	✓	✓	✓	✓	✓	✓
Year Fixed Effects	✓	✓	✓	✓	✓	✓
Control Variables						
R-squared	0.204	0.231	0.221	0.263	0.212	0.253
Countries	127	97	115	86	105	78
Observations	4718	3482	4017	2823	3790	2690

Notes: This table presents the estimates for annual changes in the liberalization indexes as specified by Equation (1). Columns 1-3 are obtained from regressions respectively excluding former socialist countries, Latin American countries, and both. The control variables include Lag log GDP per capita, Lag Human Capital, First Term, Years in Office, Female, Age, Overseas Study, Legislator, Governor, Party Leader, Public Sector, Term Average Growth, and the lagged liberalization index. The estimates for the control variables are not reported. Standard errors clustered at the leader level are reported in the parentheses. All results are estimated by linear regressions with specified fixed effects. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

We account for region heterogeneity to ensure that our findings are not just driven by geopolitical dynamics in specific regions. One such scenario which may have driven the results is political regime change and the consequent market-opening reforms in former-communist countries during the 1990s. It is possible that both economic liberalization and the selection of highly educated leaders (sometimes with a background in economics) were stimulated by transitions to democracy. Another possibility of region heterogeneity arises from Latin America, where structural reforms were affected by electoral cycles (Remmer, 1993).

We first exclude the post-communist countries from the sample and reestimate the baseline results according to the specifications for estimating columns 1 and 2 in Table 3. The results are presented in columns 1 and 2 in Table 7. In columns 3 and 4, we exclude Latin American countries. It follows that the size of the estimated coefficients becomes considerably smaller compared with the baseline estimates presented in Table 3. Hence, former-communist countries and Latin America do provide significant variations for identifying the role of leaders' education. At any rate, the coefficients remain significantly positive when these countries are excluded from the sample. Even when we exclude both groups, the sizes of the effects are similar and stay at the conventional significance level, as columns 5 and 6 show. These results are in favor of the external validity of our estimates.

Table 8: Are More Educated Leaders More Responsive to Public Opinions?

Dependent variable: Annual Change in Liberalization_Sum ( $\Delta y_{it}$ )						
	(1)	(2)	(3)	(4)	(5)	(6)
Education Years	0.718 (0.827)	0.698 (0.746)	0.723 (0.796)	0.822 (0.889)	0.191 (0.879)	0.828 (0.809)
Political Scale	-4.029 (11.366)					
Income Equality		-5.289 (6.679)				
Government Responsible			-12.987 (9.171)			
Competition is Good				-24.657 (17.766)		
Confidence in government					11.424 (6.916)	
Confidence in Company						14.401* (8.509)
(Education years) × (Political Scale)	0.101 (0.683)					
(Education years) × (Income Equality)		0.421 (0.412)				
(Education years) × (Government Responsible)			0.881 (0.564)			
(Education years) × (Competition is Good)				1.294 (1.140)		
(Education years) × (Confidence in Government)					-0.59 (0.365)	
(Education years) × (Confidence in Company)						-0.842 (0.542)
Lag Liberalization_Sum	-0.169*** (0.026)	-0.165*** (0.024)	-0.177*** (0.025)	-0.177*** (0.026)	-0.163*** (0.026)	-0.173*** (0.025)
Country fixed effects	✓	✓	✓	✓	✓	✓
Year fixed effects	✓	✓	✓	✓	✓	✓
Control variables	✓	✓	✓	✓	✓	✓
R-squared	0.332	0.322	0.321	0.326	0.338	0.319
Countries	23	25	24	23	22	24
Observations	499	547	523	499	484	523
F-statistics	0.600	1.550	2.490	1.420	0.130	0.000
p-value	0.441	0.215	0.117	0.236	0.719	0.986

Notes: This table presents the estimates for annual changes in the liberalization indexes as specified by Equation (1). The definitions of all public opinions variables from the WVS are presented in Table A.4 in the appendix. The control variables include Lag log GDP per capita, Lag Human Capital, First Term, Years in office, Female, Age, Overseas Study, Legislator, Governor, Party Leader, Public Sector, Term Average Growth, and the lagged liberalization index. The estimates for the control variables are not reported. Standard errors clustered at the leader level are reported in parentheses. All results are estimated by linear regressions with specified fixed effects. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

### 8.3 Public Opinion

Finally, we explore the channel that some leaders may react to pro-market public sentiments and push for economic reforms. Previous research has established a linkage between the pursuit of economic reforms and electoral gains in the context of U.S. states and Latin America (Bennett and Long, 2019; Stokes, 2001). It is possible that more highly educated leaders are more sophisticated in decision making, and they are more likely to cater to public opinions on liberalization. When that is the case, we should observe positive interactions between education and pro-market opinions. Lacking systematic information about citizens' attitudes on specific policies, we employ the World Value Survey (WVS) to obtain a country-level measure of attitudes toward the role of the state and the market. We assemble six measures on the following issues: (1) a self-reported ideological index along the left-right space; (2) the desirably degree of income inequality a society should allow; (3) whether the government or individuals should take more responsibility for their wellbeing; (4) whether more competition is desirable or not; (5) whether one trusts in the government or not; and (6) whether one trusts in large companies or not. We use interpolation for missing values within each country spell, and rescale each measure on  $[0, 1]$  such that a larger (more positive) value indicates more pro-market attitudes. The contents of all the questions are provided in Table A.9 in the appendix.

Table 8 reports the results. Because the WVS data are unbalanced across country and over time, the sample size is considerably reduced. As a result, the coefficient of education years is not precisely estimated, notwithstanding that the magnitudes of the estimated coefficients are similar. Notably, pro-market attitudes do not induce more responsiveness for economic liberalization among highly educated leaders. An arguable exception is the confidence in large companies, which reports a positive and significant (90%) coefficient of the interaction term. With a caveat that these results are at best suggestive, the analysis here is consistent with the autonomy view of leaders' policy making.

## 9 Conclusion

This paper provides a systematic investigation of how national leaders' education affects economic liberalization. Using a cross-country data set on economic liberalization over nearly half a century, the paper documents a robust pattern that highly educated leaders induce more reforms. Moreover, education matters for policy changes regardless of the configuration of political regimes and pre-existing socioeconomic structures. Leaders who have studied in different fields during their university education affect the reform tendency differently; however,

the total years of education seems to supersede college majors in driving these outcomes.

The paper offers a refined understanding about policy making with regard to two contrasting views of political leadership: the representation theory and the autonomy theory. In view of the finding that democracies selected more educated leaders (Besley and Reynal-Querol, 2011), education becomes a tangible channel through which democratic institutions enhance economic liberty, not only through the channel of politicians' political incentives, but also through the channel of selecting politicians who are likely to entertain liberal ideas in policy making.

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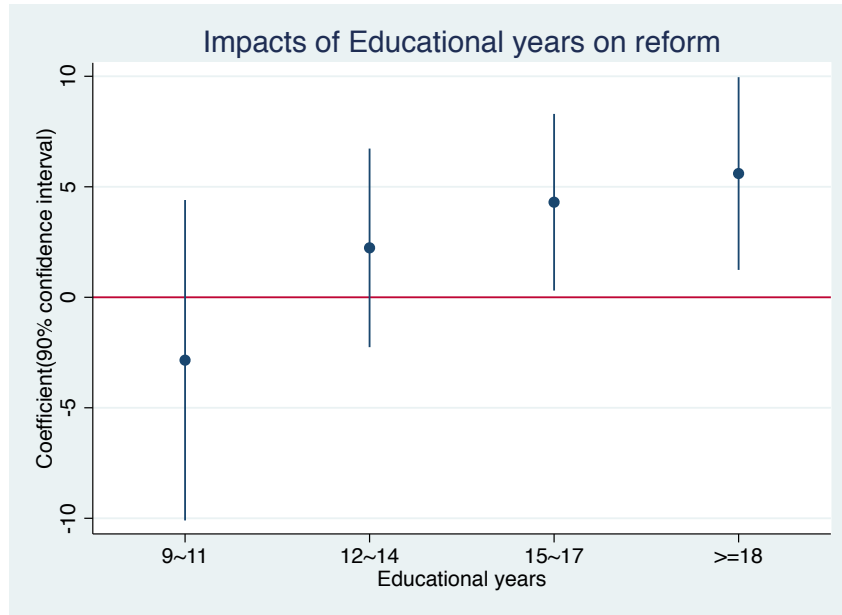


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# Appendix Not for publication

## A. Figures and Tables

Figure A1: Educational Attainment: Categorical Measure



Notes: This graph plots the coefficients of categorical education measures and the 90% of the estimated coefficients according to Equation (1). The base group is country-years with leaders' education years less than 8 years. The dependent variable is the annual change in the aggregated liberalization index. The control variables include Lag log GDP per capita, Lag Human Capital, First Term, Years in Office, Female, Age, Overseas Study, Legislator, Governor, Party Leader, Public Sector, Term Average Growth, and the lagged liberalization index. We control for country and year fixed effects. The standard errors are clustered at the leader level.

Table A1: Unit root tests for key variables

	$\Delta$ (Financial)	$\Delta$ (Capital)	$\Delta$ (Product)	$\Delta$ (Agriculture)	$\Delta$ (Trade)	$\Delta$ (Current)	Education Years	Education
$\chi^2(256)$	579.12	1378.93	2420.75	1023.77	1193.88	887.21	371.47	326.56
p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002
Countries	99	123	134	89	68	89	134	134
Years	44	46	46	33	46	33	46	46

Notes: The table presents the ADF-fisher unit root tests for key variables according to Maddala and Wu(1999). The null hypothesis is that a specific variable is non-stationary. For all variables, the null hypothesis is rejected at the conventional significance level.

Table A2: Robustness Check: Principal Component

Dependent variable: Principal Component of Changes in Liberalization ( $\Delta y_{it}$ )							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Education Years	0.518*** (0.152)	0.480*** (0.180)	0.937*** (0.281)	0.523* (0.291)	0.566** (0.244)	0.892*** (0.342)	0.324 (0.219)
Lag Log GDP per capita		-2.461 (2.092)	-3.529 (3.401)	-4.539 (4.184)	-4.075 (3.513)	-9.930* (5.276)	-2.596 (2.582)
Lag Human Capital		4.622 (4.504)	1.869 (7.691)	-7.607 (7.068)	21.956** (10.017)	-23.382* (13.074)	8.078 (5.427)
First Term		0.455 (1.275)	1.704 (1.815)	1.993 (2.049)	-2.451 (2.730)	-2.534 (3.256)	1.194 (1.514)
Years in Office		-0.241** (0.093)	-0.288** (0.142)	-0.276 (0.243)	-0.336** (0.153)	-0.087 (0.235)	-0.187* (0.106)
Age		0.003 (0.062)	0.05 (0.091)	0.102 (0.094)	0.172 (0.119)	0.092 (0.161)	-0.036 (0.071)
Female		1.395 (3.945)	2.925 (4.132)	3.726 (5.075)	27.554*** (8.281)	0.578 (5.459)	4.908 (5.387)
Overseas Study		0.052 (1.318)	0.358 (2.088)	2.144 (1.849)	-3.497 (3.005)	2.442 (2.700)	-1.103 (1.681)
Legislator		-0.821 (1.222)	0.904 (1.958)	0.704 (1.901)	-5.210** (2.258)	-2.355 (3.143)	-0.432 (1.440)
Governor		1.202 (1.898)	2.262 (2.837)	1.837 (2.327)	3.437 (3.293)	-2.236 (4.059)	2.817 (2.283)
Party Leader		1.533 (1.118)	2.866* (1.702)	1.607 (1.552)	-1.153 (1.962)	0.209 (2.169)	1.072 (1.368)
Public Sector		-4.024 (4.004)	-4.898 (6.119)	-0.957 (4.503)	-10.319 (12.807)	5.163 (6.259)	-5.062 (5.277)
Term Average Growth		0.196 (0.250)	0.427 (0.346)	0.045 (0.445)	0.508 (0.319)	0.319 (0.580)	0.460 (0.297)
Political Rights (Freedom House)			-0.143 (1.207)				
Civil Liberty (Freedom House)			1.765 (1.127)				
Polity2 (Polity IV)			25.727** (10.025)				
Constraint on Executive(Polity IV)			-4.255*** (1.345)				
Lag Liberalization	-0.045*** (0.005)	-0.060*** (0.007)	-0.097*** (0.011)	-0.087*** (0.012)	-0.071*** (0.016)	-0.093*** (0.018)	-0.063*** (0.008)
Country Fixed Effects	✓	✓	✓	✓	✓	✓	✓
Year Fixed Effects	✓	✓	✓	✓	✓	✓	✓
$R^2$	0.184	0.202	0.191	0.234	0.195	0.273	0.204
Countries	137	105	104	87	68	41	90
Observations	4,945	3,615	2,581	2,003	1,409	893	2722

Notes: This table presents the estimates for annual changes in the liberalization indexes. The dependent variable is the principal component of the liberalization indexes in each country-year. The Standard errors clustered at the leader level are reported in the parentheses. All results are estimated by linear regressions with specified fixed effects. Column 4 is estimated for democratic countries, as defined by Cheibub, Gandhi and Vreeland (2010). Column 5 is estimated for non-democratic countries. Column 6 is estimated for countries of parliamentary regimes following the definition of Przeworski (2013). Column 7 is estimated for non-parliamentary systems. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

Table A3: Baseline: Does Education Matter for Liberalization? (No lag term)

Dependent variable: Liberalization_Sum (Level)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
				Democracies	Non-democracies	Parliamentary	Non-parliamentary
Education Years	2.420** (0.945)	2.386** (1.012)	3.541*** (1.146)	2.469** (1.089)	2.514** (1.245)	4.097*** (1.462)	1.508 (1.198)
Lag Log GDP per capita		34.805*** (12.135)	20.598 (13.489)	0.216 (17.177)	37.377* (19.811)	-43.027* (22.839)	46.534*** (12.041)
Lag Human Capital		-24.601 (31.090)	-17.083 (38.898)	-52.057 (37.824)	-0.379 (53.020)	-89.132 (65.208)	-7.698 (35.371)
First Term		-2.446 (5.446)	-4.639 (5.891)	-11.503* (6.941)	4.416 (9.215)	-17.356* (9.474)	0.718 (6.779)
Years in Office		-0.563 (0.565)	-0.711 (0.669)	-1.56 (1.071)	-0.043 (0.723)	0.12 (1.154)	-0.313 (0.607)
Age		-0.456 (0.281)	-0.414 (0.334)	-0.296 (0.357)	0.64 (0.514)	-0.038 (0.450)	-0.586* (0.341)
Female		16.315 (14.898)	11.037 (13.462)	19.454 (15.682)	44.247** (20.686)	6.73 (20.917)	29.37 (19.620)
Overseas Study		2.228 (6.783)	3.348 (8.141)	1.987 (6.832)	-8.738 (13.469)	-3.215 (10.091)	0.219 (8.236)
Legislator		-4.496 (6.073)	0.823 (7.361)	-5.04 (7.226)	-18.950* (9.768)	-2.324 (11.318)	-4.971 (7.049)
Governor		0.971 (9.272)	2.516 (10.202)	-4.43 (9.734)	7.039 (19.336)	-18.966 (15.875)	14.39 (10.081)
Party Leader		10.991** (5.365)	9.618* (5.742)	3.271 (5.897)	-2.786 (9.042)	7.403 (8.374)	5.86 (6.411)
Public Sector		-9.598 (14.216)	-11.832 (15.781)	2.188 (17.716)	-16.521 (24.709)	22.969 (21.387)	-4.279 (15.632)
Term Average Growth		2.481*** (0.865)	4.291*** (0.849)	1.602 (1.067)	2.261* (1.229)	(0.695) (1.380)	4.343*** (0.970)
Political Rights			-1.024 (3.158)				
Civil Liberty			3.697 (3.226)				
Polity2 (Polity IV)			49.587 (42.088)				
Constraint on Executive (Polity IV)			-11.701** (5.796)				
Country Fixed Effects	✓	✓	✓	✓	✓	✓	✓
Year Fixed Effects	✓	✓	✓	✓	✓	✓	✓
R <sup>2</sup>	0.835	0.868	0.893	0.894	0.832	0.894	0.878
Countries	137	105	104	87	68	41	90
Observations	5067	3615	2581	2003	1409	893	2722

Notes: This table presents the estimates for the liberalization indexes without lagged dependent variables. The dependent variable is the composite liberalization indexes (level) in each country-year. The Standard errors clustered at the leader level are reported in the parentheses. All results are estimated by linear regressions with specified fixed effects. Column 4 is estimated for democratic countries, as defined by Cheibub, Gandhi and Vreeland (2010). Column 5 is estimated for non-democratic countries. Column 6 is estimated for countries of parliamentary regimes following the definition of Przeworski (2013). Column 7 is estimated for non-parliamentary systems. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

Table A4: Baseline: Does Education Matter for Liberalization? AR(1) disturbance

Dependent variable: Annual Change in Liberalization-Sum ( $\Delta y_{it}$ )							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
				Democracies	Non-democracies	Parliamentary	Non-parliamentary
Education Years	0.489*** (0.125)	0.616*** (0.167)	0.961*** (0.247)	0.669*** (0.246)	0.986*** (0.291)	1.013** (0.396)	0.537*** (0.188)
Lag log GDP per capita		-1.539 (1.962)	-1.486 (2.685)	-2.87 (3.095)	0.307 (3.894)	-1.065 (4.073)	-2.728 (2.278)
Lag Human Capital		1.71 (4.665)	-1.192 (6.831)	-9.496 (6.851)	28.867 (84.783)	-16.611 (11.756)	6.441 (5.099)
First term		-0.238 (1.136)	0.733 (1.532)	0.529 (1.590)	-3.296 (6.292)	-1.132 (2.418)	0.733 (1.307)
Years in Office		-0.190** (0.093)	-0.264** (0.129)	-0.252 (0.193)	-0.212 (0.186)	-0.041 (0.218)	-0.166 (0.106)
Age		-0.046 (0.059)	0.012 (0.078)	0.02 (0.079)	0.084 (0.128)	0.055 (0.134)	-0.053 (0.066)
Female		0.222 (2.855)	3.551 (3.544)	2.923 (3.273)	26.681 (20.934)	-1.34 (6.129)	2.817 (3.386)
Overseas Study		0.171 (1.249)	-0.54 (1.748)	1.735 (1.590)	-1.931 (3.033)	4.05 (2.744)	-1.377 (1.447)
Legislator		-1.161 (1.171)	-0.6 (1.681)	-0.156 (1.601)	-4.235 (2.872)	-1.052 (2.756)	-1.873 (1.321)
Governor		0.886 (1.617)	1.901 (2.213)	1.979 (2.142)	2.035 (6.310)	-2.893 (3.485)	2.634 (1.795)
Party Leader		1.118 (1.041)	2.198 (1.463)	0.372 (1.351)	-0.901 (3.543)	0.487 (2.158)	0.703 (1.224)
Public Sector		-3.379 (3.036)	-2.468 (3.996)	1.551 (3.641)	-12.680* (7.028)	13.365* (7.238)	-5.628 (3.601)
Term Average Growth		0.124 (0.186)	0.428* (0.243)				
Political Rights			0.23 (0.860)				
Civil Liberty			0.963 (0.942)				
Polity2			20.531** (8.401)				
Constraint on Executive			-3.593*** (1.185)				
Lag Liberalization	-0.075*** (0.006)	-0.096*** (0.007)	-0.140*** (0.010)	-0.123*** (0.011)	-0.113* (0.063)	-0.118*** (0.018)	-0.095*** (0.008)
Country Fixed Effects	✓	✓	✓	✓	✓	✓	✓
Year Fixed Effects	✓	✓	✓	✓	✓	✓	✓
Countries	139	105	104	88	68	42	93
Observations	4870	3510	2477	1943	1341	887	2709

Notes: This table presents the estimates for annual changes in the liberalization indexes assuming AR(1) disturbance term. All results are estimated by linear regressions with specified fixed effects. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

Table A5: GMM Estimation

	Difference GMM		System GMM	
	(1)	(2)	(3)	(4)
Education years	0.449** (0.184)	0.875*** (0.254)	0.364*** (0.088)	0.414*** (0.121)
lag liberalization	-0.136*** (0.020)	-0.151*** (0.019)	-0.008** (0.003)	-0.029*** (0.007)
Hansen Test	1.000	1.000	1.000	1.000
AR(1)	0.000	0.000	0.000	0.000
AR(2)	0.951	0.754	0.964	0.766
Country fixed effects	✓	✓	✓	✓
Year fixed effects	✓	✓	✓	✓
Control variables		✓		✓
Countries	139	105	139	105
Observations	4,843	3,490	5,009	3,615

Notes: This table presents the estimates for annual changes in the liberalization indexes using generalized method of moments (GMM). The control variables include Lag log GDP per capita, Lag Human Capital, First term, Years in Office, Female, Age, Overseas Study, Legislator, Governor, Party Leader, Public Sector, Term Average Growth, and the lagged liberalization index. The robust standard errors clustered at the country level are reported in the parentheses. All results are estimated by linear regressions with specified fixed effects. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

Table A6: Does Education Matter for Liberalization? Stacking Sectors

Dependent variable: Annual Change in Liberalization by Sector ( $\Delta y_{ijt}$ )							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Education Years	0.097*** (0.028)	0.097*** (0.034)	0.151*** (0.048)	0.126** (0.055)	0.136** (0.061)	0.145*** (0.046)	0.086* (0.045)
Lag Log GDP per capita		-0.976** (0.417)	-0.953 (0.596)	-1.464** (0.627)	-1.466 (0.936)	-3.483*** (0.732)	-0.651 (0.543)
Lag Human Capital		1.215 (0.877)	2.029 (1.333)	0.169 (1.187)	5.733** (2.646)	-3.104* (1.794)	1.890* (1.083)
First Term		0.204 (0.197)	0.198 (0.250)	0.302 (0.269)	-0.424 (0.602)	-0.147 (0.398)	0.276 (0.252)
Years in Office		-0.019 (0.018)	-0.032 (0.026)	-0.038 (0.034)	-0.004 (0.040)	-0.005 (0.039)	-0.011 (0.021)
Age		0.004 (0.010)	0.003 (0.014)	0.018 (0.015)	0.031 (0.026)	0.034* (0.018)	-0.008 (0.013)
Female		0.341 (0.618)	0.448 (0.647)	0.366 (0.737)	43.972*** (3.319)	-0.382 (0.950)	0.953 (0.834)
Overseas Study		0.068 (0.227)	-0.037 (0.324)	0.254 (0.294)	-0.179 (0.681)	0.636* (0.325)	-0.183 (0.300)
Legislator		-0.017 (0.208)	0.126 (0.279)	0.052 (0.285)	-0.858 (0.619)	0.323 (0.406)	-0.049 (0.259)
Governor		0.056 (0.297)	0.112 (0.359)	0.148 (0.334)	0.058 (0.913)	0.228 (0.482)	0.147 (0.372)
Party Leader		-0.175 (0.193)	0.056 (0.251)	-0.087 (0.246)	-0.979** (0.473)	-0.038 (0.270)	-0.359 (0.254)
Public Sector		-0.91 (0.721)	-1.13 (0.960)	-0.326 (0.654)	-3.623 (4.422)	0.027 (0.750)	-1.027 (1.056)
Term Average Growth		0.090** (0.038)	0.113** (0.049)	0.084 (0.060)	0.127* (0.070)	0.015 (0.081)	0.130*** (0.046)
Political Rights (Freedom House)			0.095 (0.173)				
Civil Liberty (Freedom House)			0.242 (0.170)				
Polity2 (Polity IV)			4.523*** (1.606)				
Constraint on Executive(polity IV)			-0.707*** (0.220)				
Lag Liberalization	-0.129*** (0.007)	-0.132*** (0.008)	-0.160*** (0.010)	-0.155*** (0.011)	-0.206*** (0.023)	-0.176*** (0.019)	-0.130*** (0.009)
Country-sector Fixed Effects	✓	✓	✓	✓	✓	✓	✓
Sector-Year Fixed Effects	✓	✓	✓	✓	✓	✓	✓
R-squared	0.12	0.122	0.138	0.153	0.217	0.216	0.13
Countries	137	105	104	87	68	41	90
Observations	18513	15241	11924	9504	4959	3994	11247

Notes: This table presents the estimates for annual changes in the liberalization indexes by country-sector-year. The Standard errors clustered at the leader level are reported in the parentheses. All results are estimated by linear regressions with specified fixed effects. Column 4 is estimated for democratic countries, as defined by Cheibub, Gandhi and Vreeland (2010). Column 5 is estimated for non-democratic countries. Column 6 is estimated for countries of parliamentary regimes following the definition of Przeworski (2013). Column 7 is estimated for non-parliamentary systems. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .



Table A7: Robustness Check: Effects by Sector

	Dependent variable: $\Delta y_{it(j)}$ for a sector $j$					
	Agriculture	Product	Trade	Capital	Current	Finance
Education Years	0.200*** (0.076)	0.009 (0.031)	-0.007 (0.067)	0.213* (0.128)	0.119* (0.062)	0.140** (0.065)
Lag Liberalization	-0.094*** (0.018)	-0.040*** (0.009)	-0.165*** (0.015)	-0.219*** (0.018)	-0.120*** (0.013)	-0.145*** (0.013)
Country Fixed Effects	✓	✓	✓	✓	✓	✓
Year Fixed Effects	✓	✓	✓	✓	✓	✓
Control Variables	✓	✓	✓	✓	✓	✓
R-squared	0.104	0.162	0.13	0.152	0.131	0.181
Countries	78	92	100	74	62	74
Observations	2575	3302	2899	2036	2393	2036

Notes: This table presents the estimates for annual changes in the liberalization indexes by each sector. The control variables include Lag log GDP per capita, Lag Human Capital, First Term, Years in Office, Female, Age, Overseas Study, Legislator, Governor, Party Leader, Public Sector, Term Average Growth, and the lagged liberalization index. The Standard errors clustered at the leader level are reported in the parentheses. All results are estimated by linear regressions with specified fixed effects. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

Table A8: Major versus Education Years

	Dependent variable: Annual Change in Liberalization.Sum ( $\Delta y_{it}$ )							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Education years	0.374** (0.186)	0.388** (0.188)	0.399** (0.187)	0.383** (0.188)	0.373** (0.187)	0.415** (0.189)	0.392** (0.187)	0.426** (0.191)
College or Above	1.224 (1.256)	1.246 (1.267)	1.269 (1.252)	1.161 (1.272)	1.681 (1.294)	1.543 (1.271)	1.586 (1.267)	0.982 (1.275)
College or Above $\times$ Economics		0.971 (1.475)						
College or Above $\times$ Law			0.183 (1.332)					
College or Above $\times$ Social Science				1.733 (1.494)				
College or Above $\times$ Engineer					-3.08 (2.055)			
College or Above $\times$ Humanity						-1.85 (1.389)		
College or Above $\times$ Military							-4.247 (4.039)	
College or Above $\times$ Science								6.501 (4.046)
Lag Liberalization	-0.078*** (0.008)	-0.079*** (0.008)	-0.078*** (0.008)	-0.079*** (0.008)	-0.079*** (0.008)	-0.079*** (0.008)	-0.078*** (0.008)	-0.079*** (0.008)
Country Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓
Year Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓
Control Variables	✓	✓	✓	✓	✓	✓	✓	✓
R-squared	0.24	0.241	0.241	0.241	0.242	0.241	0.241	0.242
Countries	105	104	104	104	104	104	104	104
Observations	3615	3583	3583	3583	3583	3583	3583	3583
F-statistics		1.53	0.77	2.65	0.43	0.03	0.45	3.47
p-value		0.2165	0.3797	0.1042	0.5118	0.8574	0.5042	0.0628

This table presents the estimates for annual changes in the liberalization indexes as specified by Equation (1). College or Above is a dummy variable indicating whether the leader had college or above college education. Economics and other indicators are dummy variables including whether the leader had studied in specific majors. The results are based on all countries for columns 1-9. The control variables include Lag log GDP per capita, Lag Human Capital, First Term, Years in office, Female, Age, Overseas Study, Legislator, Governor, Party Leader, Public Sector, Term Average Growth, and the lagged liberalization. The estimates for the control variables are not reported. Standard errors clustered at the leader level are reported in the parentheses. For each major, the Table reports the F-statistics and the p-value for joint significance of the coefficient of College or Above and the corresponding interaction term. The two numbers in brackets report the number of leaders and leader-years with corresponding majors. All results are estimated by linear regressions with specified fixed effects. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

Table A9: Random Transitions in Leadership

Country	Year	Leader	Cause of Death
Morocco	1961	Mohammed V	Complications during surgery
Morocco	1999	Hassan II	Heart disease
Mozambique	1986	Samora Machel	Accident
Ecuador	1981	Jaime Roldos Aguilera	Accident
Israel	1969	Levi Eshkol	Heart disease
Nepal	1972	Mahendra	Heart disease
Pakistan	1988	Mohammed Zia Ul-Haq	Accident
Syria	2000	Hafez Al-Assad	Heart disease
Taiwan (China)	1975	Chiang Kai-Shek	Heart disease
Taiwan (China)	1988	Chiang Ching-Kuo	Heart disease
France	1974	George Pompidou	Cancer
Spain	1975	Francisco Franco Bahamonde	Heart disease
New Zealand	1974	Norman E. Kirk	Heart disease
Algeria	1978	Houari Boumedienne	Waldenstrom's disease
Egypt	1970	Gamal Abdel Nasser	Heart disease
Kenya	1978	Jomo Kenyatta	Natural causes
Bolivia	1969	Rene Barrientos Ortuna	Killed in an accident
China	1976	Mao Tse-Tung	Parkinson's disease
Iran	1989	Ayatollah Ruhollah Khomeini	Complications during surgery
Romania	1965	Gheorghe Gheorghiu-Dej	Pneumonia
Australia	1967	Harold E. Holt	Drowned
Botswana	1980	Sir Seretse Khama	Cancer
Gabon	1967	Leon Mba	Cancer
Niger	1987	Seyni Kountche	Cancer
Nigeria	1998	Sani Abacha	Heart disease
Trinidad and Tobago	1981	Eric E. Williams	Unknown
Brazil	1969	Arthur Da Costa e Silva	Heart disease
India	1964	Jawaharlal Nehru	Stroke
India	1966	Lal Bahadur Shastri	Heart disease
Japan	1980	Masayoshi Ohira	Heart disease
Japan	2000	Keizo Obuchi	Stroke
Jordan	1999	Hussein Ibn Talal El-Hashim	Cancer
Thailand	1963	Sarit thanarat	Heart disease
Hungary	1993	Jozsef Antall	Cancer
Iceland	1970	Bjarni Benediktsson	Accident

Notes: This table presents the list of leaders who died with office. In that case, the transition of leadership is quasi-random in the sense that it was not scheduled or planed ahead.

Table A10: Public opinion with regard to the state and market: WVS

Variable	Range	Options	wave 1 1981-1984	wave 2 1990-1994	Wave 3 1995-1998	wave 4 1999-2004	wave 5 2005-2008	wave 6 2010-2012
Political Scale	[1-10]	1:Left 10:Right	✓	✓	✓	✓	✓	✓
Income Equality	[1-10]	1:Incomes should be made more equal 10:We need larger income differences		✓	✓	✓	✓	✓
Government Responsibility	[1-10]	1:The government should take more responsibility 10: People should take more responsibility		✓	✓	✓	✓	✓
Competition is good	[1-10]	1:Competition is harmful 10:Competition is good		✓	✓	✓	✓	✓
Confidence in government	[1-4]	1:A great deal 2:Quite a lot 3:Not very much 4:None at all		✓	✓	✓	✓	✓
Confidence in Companies	[1-4]	1 Not at all 2: Not very much 3: Quite a lot 4: A great deal	✓	✓	✓	✓	✓	✓

Notes: This table presents the definition of public opinion variables according to the World Value Survey (WVS). Each category is adjusted such as a more positive value reflects a more “pro-market” political attitude.

## B. Data Description

The data set of national leaders covers all countries that were independent at any time after 1917, each from the inception of the first representative institutions or from the date of independence, whichever comes first, through 2010. A national leader is defined as the head of government. The identity of the head of government is defined by `title_ce` in Przeworski (2013): Title of the nominal head of government (chief executive, as distinct from the nominal head of state), according to the constitution. “-1 if there is no constitution or more than one; 0 if monarch or governor general (if the constitution states that the monarch is the chief executive); 1 if prime minister (president of the government or equivalent); 2 if president who cannot be removed in good behavior during a fixed term, whether directly or indirectly elected; 3 if the constitution gives executive powers both to president, who cannot be removed during a fixed term, and to a prime minister; 4 if collective; 5 if other.” The coding scheme is adjusted for communist countries, for which the head of government is defined as the general secretary of the ruling Communist Party. The specific definition of variables are the following.

**countryn:** The name of the country.

**country:** The ID for the country as in Przeworski (2013).

**cowcodes:** The number of the country in the Correlates of War (COW) data set.

**year:** The year of observation.

**ceid:** The ID of the head of government.

**cen:** The name of the head of government.

**edu\_ce:** Categorical variable indicating the level of education of the head of government. 1, illiterate; 2, literate but no formal education; 3, elementary school; 4, secondary school; 5, professional school, such as art, mechanics, or military; 6, college; 7, master; 8, PhD.

**edu\_cyear:** The total years of education received by the head of government. If detailed information about years of education is unavailable, the data adopts the following criteria to assign the following number of years to **edu\_cyear**: illiterate-0; literate but no formal education-3; elementary school-6; secondary school-12; professional school, such as arts, mechanics, or military - 12; college - 16 ; master (including MBA)- 18; PhD - 23.

**edu\_cemajor:** The major of the head of government, defined according to the highest degree: 1, second school or lower; 2, humanity, arts or education; 3, natural science; 4, engineering, forestry, or agriculture; 5, economics, business, or finance; 6, law; 7, social science; 8, military; 9, medicine; 10, athlete or artist; 11, others.

**firstterm\_ce:** a dummy variable indicating whether the leader was in the first term.

**Nterm\_ce:** number of terms that the leader has served (including the current one). In parliamentary systems, the term may end before the scheduled elections. An incomplete term is counted if it lasted for at least one year.

**length\_ce:** number of years that the leader has stayed in office. In the case that two terms are not consecutive, we count total years of serving the office up to the current year.

**exp\_ce\_public:** a dummy variable indicating whether the leader had worked in the public sector prior to the current term (being a member of a political party does not count as a public sector job).

**exp\_ce\_legis:** a dummy variable indicating whether the leader had served as a legislator prior to the current term.

**exp\_ce\_governor:** a dummy variable indicating whether the leader had served as a governor, which is defined by a chief executive officer of local or subnational government prior to the current term.

**exp\_ce\_party:** a dummy variable indicating whether the leader had served as the secretary or chair of the party prior to the current term.

**overseas study:** a dummy variable indicating that the leader had experience of overseas study prior to the current term.

**code\_overseas:** the country code (“country”) if the leader had experience of overseas study prior to the current term.

## C. Liberalization Indexes: A Comparison

Table A11: Comparison between Spilimbergo, Prati and Ostry (2009) and Gwartney, Lawson and Norton (2008)

Policy	Spilimbergo, Prati and Ostry (2009)	Gwartney, Lawson and Norton (2008)
Financial Sector	<ol style="list-style-type: none"> <li>1. Interest rate controls</li> <li>2. Credit controls</li> <li>3. Competition restrictions</li> <li>4. State ownership</li> <li>5. Quality of banking supervision</li> <li>6. Development of bond and equity</li> </ol>	
Capital Account	<ol style="list-style-type: none"> <li>1. Restrictions on financial credits</li> <li>2. Restriction on capital transactions</li> <li>3. Multiple exchange rates</li> </ol>	
Product Market	<ol style="list-style-type: none"> <li>1. Unbundling of generation in electricity</li> <li>2. Non-government regulator in electricity</li> <li>3. Liberalized wholesale market in electricity</li> <li>4. Privatization in electricity</li> <li>5. Competition in telecommunication</li> <li>6. Non-government regulator in telecommunication</li> <li>7. Liberalized interconnection changes in telecommunication</li> <li>8. Privatization in telecommunication</li> <li>9. Intervention in export commodity</li> </ol>	
Trade	<ol style="list-style-type: none"> <li>1. Tariff rates</li> </ol>	<ol style="list-style-type: none"> <li>1. Tariff rates</li> <li>2. Regulatory barriers in trade</li> <li>3. Actual vs. expected size of trade</li> <li>4. Official and black market exchange rates</li> <li>5. International capital market controls</li> </ol>
Current Account	Free from restriction on proceeds from trade	
Size of government		<ol style="list-style-type: none"> <li>1. Government consumption share</li> <li>2. Transfers and subsidies</li> <li>3. Government enterprises and investment</li> <li>4. Top marginal tax rate</li> </ol>
Law and Property Rights		<ol style="list-style-type: none"> <li>1. Judiciary independence</li> <li>2. Impartial courts</li> <li>3. Protection of intellectual property</li> <li>4. Military in politics</li> <li>5. Law and order</li> </ol>
Sound Money		<ol style="list-style-type: none"> <li>1. Growth of money</li> <li>2. Standard deviation of annual inflation</li> <li>3. Annual inflation</li> <li>4. Freedom to own foreign currency</li> </ol>
Regulation		<ol style="list-style-type: none"> <li>1. Credit market regulation</li> <li>2. Labor market regulations</li> <li>3. Business regulations</li> </ol>

Notes: This table provides a comparison of the coding schemes on economic liberalization between Spilimbergo, Prati and Ostry (2009) and Gwartney, Lawson and Norton (2008).

## D. Countries and Leaders in the Sample

Table A12: Partisan affiliation

Country	Leader	Entry Year	Party	Party's Ideology
Albania	Mehmet Shehu	1960	Party of Labour of Albania	Communist
Albania	Adil Carcani	1982	Party of Labour of Albania	Communist
Albania	Aleksander Meksi	1992	Democratic Party of Albania	Centre-Right
Albania	Illir Meta	1998	Socialist Party of Albania	Centre-Left
Albania	Sali Berisha	2005	Democratic Party of Albania	Centre-Right
Algeria	Ferhat Abbas	1962	National Liberation Front	Centre-Left
Algeria	Ahmed Ben Bella	1963	National Liberation Front	Centre-Left
Algeria	Houari Boumediene	1965	National Liberation Front	Centre-Left
Algeria	Chadli Bendjedid	1979	National Liberation Front	Centre-Left
Algeria	Ali Kafi	1992	National Liberation Front	Centre-Left
Algeria	Liamine ZeLroual	1994	National Liberation Front	Centre-Left
Algeria	Abdelaziz Bouteflika	1999	National Liberation Front	Centre-Left
Angola	Jose Eduardo dos Santos	1997	Popular Movement for the Liberation of Angola	Left
Argentina	Arturo Frondizi	1960	Intransigent Radical Civic Union	Centre-Left
Argentina	Jose Maria Guido	1962	Radical Civic Union	Centre-Left
Argentina	Arturo Umberto Illia	1963	Radical Civic Union	Centre-Left
Argentina	Isabel Martinez de Peron	1974	Justicialist Party	
Argentina	Raul Alfonsin	1983	Radical Civic Union	Centre-Left
Argentina	Carlos Menem	1989	Justicialist Party	
Argentina	Fernando de la Rúa	1999	Radical Civic Union	Centre-Left
Argentina	Eduardo Duhalde	2002	Justicialist Party	
Argentina	Nestor Carlos Kirchner	2003	Justicialist Party	
armenia	Levon Ter-Petrosyan	1991	Pan-Armenian National Movement	
Australia	Harold Holt	1966	Liberal Party of Australia	Centre-Right
Australia	John McEwen	1967	National Party of Australia	
Australia	John Gorton	1968	Liberal Party of Australia	Centre-Right
Australia	William McMahon	1971	Liberal Party of Australia	Centre-Right
Australia	Gough Whitlam	1972	Australian Labor Party	Centre-Left
Australia	Malcolm Fraser	1975	Liberal Party of Australia	Centre-Right
Australia	Robert James Lee Hawke	1983	Australian Labor Party	Centre-Left
Australia	Paul Keating	1991	Australian Labor Party	Centre-Left
Australia	John Howard	1996	Liberal Party of Australia	Centre-Right
Austria	Julius Raab	1960	Austrian People's Party	Centre-Right
Austria	Alfons Gorbach	1961	Austrian People's Party	Centre-Right
Austria	Josef Klaus	1964	Austrian People's Party	Centre-Right
Austria	Bruno Kreisky	1970	Social Democratic Party of Austria	Centre-Left
Austria	Fred Sinowatz	1983	Social Democratic Party of Austria	Centre-Left
Austria	Franz Vranitzky	1986	Social Democratic Party of Austria	Centre-Left
Austria	Viktor Klima	1997	Social Democratic Party of Austria	Centre-Left
Austria	Wolfgang Schuessel	2000	Austrian People's Party	Centre-Right
Azerbaijan	Ayaz Mutallibov	1991	Social Democratic Party of Azerbaijan	Centre-Left
Azerbaijan	Abulfaz Elchibey	1992	Azerbaijani Popular Front Party	Centre-Right
Azerbaijan	Heydar Aliyev	1993	New Azerbaijan Party	Centre-Right
Azerbaijan	Iham Aliyev	2003	New Azerbaijan Party	Centre-Right
Bahamas	Lynden Pindling	1973	Progressive Liberal Party	Centre-Left
Bahamas	Hubert Ingraham	1992	Free National Movement	Centre-Right
Bahamas	Perry Gladstone Christie	2002	Progressive Liberal Party	Centre-Left
Bangladesh	Tajuddin Ahmad	1971	Bangladesh Awami League	
Bangladesh	Sheikh Mujibur Rahman	1972	Bangladesh Krishak Sramik Awami League	
Bangladesh	Abu Sadat Mohammad Sayem	1975	Bangladesh Awami League	
Bangladesh	Ziaur Rahman	1977	Bangladesh Nationalist Party	
Bangladesh	Abdus Sattar	1981	Bangladesh Nationalist Party	
Bangladesh	Ahsanuddin Chowdhury	1982	The Jatiya Party	
Bangladesh	Hussain Muhammad Ershad	1983	The Jatiya Party	
Bangladesh	Khaleda Zia	1991	Bangladesh Nationalist Party	
Bangladesh	Sheikh Hasina	1996	Bangladesh Awami League	
belarus	Alexander Lukashenko	1995	Independent	
Belgium	Theo Lefevre	1961	Christian Social Party	Centre
Belgium	Pierre Harmel	1965	Humanist Democratic Centre	Centre



Belgium	Paul Vanden Boeynants	1966	Humanist Democratic Centre	Centre
Belgium	Edmond Leburton	1973	Socialist Party	Centre-Left
Belgium	Leo Tindemans	1974	Christian Democratic and Flemish	Centre-Right
Belgium	Wilfried Martens	1979	Christian Democratic and Flemish	Centre-Right
Belgium	Jean-Luc Dehaene	1992	Christian Democratic and Flemish	Centre-Right
Belgium	Guy Verhofstadt	1999	Open Flemish Liberals and Democrats	Centre-Right
Benin	Mathieu Kerekou	1972	People's Revolutionary Party of Benin	Left
Benin	Nicephore Soglo	1991	Renaissance Party of Benin	
Bhutan	Jigme Thinley	1998	Independent	
Bhutan	Sangay Ngedup	1999	People's Democratic Party	
Bhutan	Yeshey Zimb	2000	Bhutan Peace and Prosperity Party	
Bhutan	Khandu Wangchuk	2001	Bhutan Peace and Prosperity Party	
Bolivia	Rene Barrientos	1965	Popular Christian Movement	Centre-Right
Bolivia	Jaime Paz Zamora	1989	Revolutionary Left Movement	Left
Bolivia	Gonzalo Sanchez de Lozada	1993	Revolutionary Nationalist Movement	Centre-Right
Bolivia	Jorge Quiroga	2001	Revolutionary Nationalist Movement	Centre-Right
Botswana	Sir Seretse Khama	1975	Botswana Democratic Party	Centre-Right
Botswana	Festus Mogae	1998	Botswana Democratic Party	Centre-Right
Brazil	Juscelino Kubitschek	1960	Social Democratic Party	Centre-Left
Brazil	Joao Goulart	1961	Brazilian Labour Party	Centre-Left
Brazil	Humberto de Alencar Castelo Branco	1964	National Renewal Alliance	Right
Brazil	Artur da Costa e Silva	1967	National Renewal Alliance	Right
Brazil	Emilio Garrastazu Medici	1969	National Renewal Alliance	Right
Brazil	Ernesto Geisel	1974	National Renewal Alliance	Right
Brazil	Joao Figueiredo	1979	Democratic Social Party	Right
Brazil	Jose Sarney	1985	Brazilian Democratic Movement Party	Centre
Brazil	Fernando Collor de Mello	1990	Brazilian Labour Party	Centre-Left
Brazil	Itamar Franco	1993	Brazilian Democratic Movement Party	Centre
Brazil	Fernando Henrique Cardoso	1995	Brazilian Social Democracy Party	Centre-Right
Brazil	Luiz Inacio Lula da Silva	2003	Workers' Party	Centre-Left
Bulgaria	Todor Zhivkov	1960	Bulgarian Communist Party	Communist
Bulgaria	Petar Mladenov	1989	Bulgarian Communist Party	Communist
Bulgaria	Dimitar Iliev Popov	1990	Independent	
Bulgaria	Philip Dimitrov	1991	Union of Democratic Forces	Centre-Right
Bulgaria	Lyuben Berov	1992	Independent	
Bulgaria	Reneta Indzhova	1994	Independent	
Bulgaria	Zhan Videnov	1995	Bulgarian Socialist Party	Centre-Left
Bulgaria	Ivan Kostov	1997	Union of Democratic Forces	Centre-Right
Bulgaria	Simeon Saxe-Coburg-Gotha	2001	National Movement for Stability and Progress	Centre
Bulgaria	Sergei Stanishev	2005	Bulgarian Socialist Party	Centre-Left
Burkinafaso	Blaise Compaore	1987	Congress for Democracy and Progress	
Burundi	Jean-Baptiste Bagaza	1980	Union for National Progress	
Burundi	Pierre Buyoya	1988	Union for National Progress	
Burundi	Sylvie Kinigi	1993	Union for National Progress	
Burundi	Sylvestre Ntibantunganya	1994	Front for Democracy in Burundi	Centre-Left
Burundi	Domitien Ndayizeye	2003	Front for Democracy in Burundi	Centre-Left
Burundi	Pierre Nkurunziza	2005	National Council for the Defense of Democracy	
Cambodia	Lon Nol	1966	Social Republican Party	Right
Cambodia	Son Sann	1967	Buddhist Liberal Democratic Party	
Cambodia	Penn Nouth	1968	People's Socialist Community	Centre
Cambodia	Pol Pot	1975	Communist Party	Communist
Cambodia	Chan Sy	1981	Cambodian People's Party	Centre
Cambodia	Hun Sen	1985	Cambodian People's Party	Centre
Cambodia	Norodom Ranariddh	1993	FUNCINPEC	Centre-Right
Cambodia	Ung Huot	1997	FUNCINPEC	Centre-Right
Cameroon	Paul Biya	1982	People's Democratic Movement	
Canada	John George Diefenbaker	1960	Progressive Conservative	Right
Canada	Lester B. Pearson	1963	Liberal Party of Canada	Centre-Left
Canada	Joseph Philippe Pierre Yves Elliott Trudeau	1968	Liberal Party of Canada	Centre-Left
Canada	Joe Clark	1979	Progressive Conservative	Right
Canada	Martin Brian Mulroney	1984	Progressive Conservative	Right
Canada	Jean Chretien	1993	Liberal Party of Canada	Centre-Left
Canada	Paul Edgar Philippe Martin	2003	Liberal Party of Canada	Centre-Left

Cape Verde	Carlos Veiga	1996	Movement for Democracy	Centre
Cape Verde	Gualberto do Rosario	2000	Movement for Democracy	Centre
Cape Verde	Jose Maria Neves	2001	African Party for the Independence of Cape Verde	Centre-Left
Central Africa	Andre Kolingba	1981	Central African Democratic Party	
Central Africa	Ange-Felix Patasse	1993	Movement for the Liberation of the Central African People	Centre-Left
Central Africa	Francois Bozize	2003	Independent	
Chad	Francois Tombalbaye	1960	Chadian Progressive Party	
Chad	Felix Malloum	1975	Chadian Progressive Party	
Chad	Idriss Deby	1991	Patriotic Salvation Movement	Centre
Chile	Jorge Alessandri Rodriguez	1960	Christian Democratic Party	Centre-Left
Chile	Eduardo Frei Montalva	1964	Christian Democratic Party	Centre-Left
Chile	Salvador Allende	1970	Socialist Party of Chile	Centre-Left
Chile	Patricio Aylwin	1990	Christian Democratic Party	Centre-Left
Chile	Eduardo Frei Ruiz-Tagle	1994	Christian Democratic Party	Centre-Left
Chile	Ricardo Lagos	2000	Party for Democracy	Centre-Left
China	Mao Zedong	1960	Communist Party of China	Communist
China	Hua Guofeng	1976	Communist Party of China	Communist
China	Hu Yaobang	1981	Communist Party of China	Communist
China	Zhao Ziyang	1987	Communist Party of China	Communist
China	Jiang Zemin	1989	Communist Party of China	Communist
China	Hu Jintao	2002	Communist Party of China	Communist
Colombia	Alberto Lleras Camargo	1960	Colombian Liberal Party	Centre-Left
Colombia	Guillermo Leon Valencia	1962	Colombian Conservative Party	Centre-Right
Colombia	Carlos Lleras Restrepo	1966	Colombian Liberal Party	Centre-Left
Colombia	Misael Pastrana Borrero	1970	Colombian Conservative Party	Centre-Right
Colombia	Alfonso Lopez Michelsen	1974	Colombian Liberal Party	Centre-Left
Colombia	Julio Cesar Turbay Ayala	1978	Colombian Liberal Party	Centre-Left
Colombia	Belisario Betancur	1982	Colombian Conservative Party	Centre-Right
Colombia	Virgilio Barco Vargas	1986	Colombian Liberal Party	Centre-Left
Colombia	Cesar Gaviria	1990	Colombian Liberal Party	Centre-Left
Colombia	Ernesto Samper	1994	Colombian Liberal Party	Centre-Left
Colombia	Andres Pastrana Arango	1998	Colombian Conservative Party	Centre-Right
Colombia	Alvaro Uribe	2002	Democratic Center	Right
Costa Rica	Mario Echandi Jimenez	1960	National Union Party	Centre-Right
Costa Rica	Francisco Orlich Bolmarcich	1962	National Liberation Party	Centre-Left
Costa Rica	Jose Joaquin Trejos Fernandez	1966	National Unification Party	
Costa Rica	Daniel Oduber Quiros	1974	National Liberation Party	Centre-Left
Costa Rica	Rodrigo Carazo Odio	1978	Unity Coalition	
Costa Rica	Luis Alberto Monge	1982	National Liberation Party	Centre-Left
Costa Rica	Oscar Arias	1986	National Liberation Party	Centre-Left
Costa Rica	Rafael Angel Calderon Fournier	1990	Social Christian Unity Party	Centre-Right
Costa Rica	Jose Maria Figueres Olsen	1994	National Liberation Party	Centre-Left
Costa Rica	Miguel Angel Rodriguez	1998	Social Christian Unity Party	Centre-Right
Costa Rica	Abel Pacheco de la Espriella	2002	Social Christian Unity Party	Centre-Right
Croatia	Franjo Greguric	1991	Croatian Democratic Union	Centre-Right
Croatia	Hrvoje Sarinic	1992	Croatian Democratic Union	Centre-Right
Croatia	Nikica Valentinc	1993	Croatian Democratic Union	Centre-Right
Croatia	Zlatko Matesa	1995	Croatian Democratic Union	Centre-Right
Croatia	Ivica Racan	2000	Social Democratic Party	Centre-Left
Croatia	Ivo Sanader	2003	Croatian Democratic Union	Centre-Right
Cyprus	Makarios III	1960	Independent	
Cyprus	Spyros Kyprianou	1977	Democratic Party	Centre-Right
Cyprus	George Vasilios	1988	United Democrats	
Cyprus	Tassos Papadopoulos	2003	Democratic Party	Centre-Right
Czech	Vaclav Klaus	1993	Civic Democratic Party	Centre-Right
Czech	Milos Zeman	1998	Czech Social Democratic Party	Centre-Left
Czech	Vladimir Spidla	2002	Czech Social Democratic Party	Centre-Left
Czech	Stanislav Gross	2004	Czech Social Democratic Party	Centre-Left
Czech	Jiri Paroubek	2005	Czech Social Democratic Party	Centre-Left
Denmark	Viggo Kampmann	1960	Social Democrats	Centre-Left
Denmark	Jens Otto Krag	1962	Social Democrats	Centre-Left
Denmark	Hilmar Baunsgaard	1968	Danish Social Liberal Party	Centre-Left
Denmark	Anker Jorgensen	1973	Social Democrats	Centre-Left
Denmark	Poul Hartling	1974	Venstre, Liberal Party of Denmark	Centre-Right

Denmark	Poul Nyrup Rasmussen	1993	Social Democrats	Centre-Left
Denmark	Anders Fogh Rasmussen	2001	Venstre, Liberal Party of Denmark	Centre-Right
Dominican Republic	Joaquin Antonio Balaguer Ricardo	1960	Dominican Party	Centre-Right
Dominican Republic	Rafael Filiberto Bonnelly Fondeur	1962	Dominican Revolutionary Party	Centre-Right
Dominican Republic	Silvestre Antonio Guzman Fernan- dez	1978	Dominican Revolutionary Party	Centre-Right
Dominican Republic	Salvador Jorge Blanco	1982	Dominican Revolutionary Party	Centre-Right
Dominican Republic	Leonel Antonio Fernandez Reyna	1996	Dominican Liberation Party	Centre-Left
Dominican Republic	Rafael Hipolito Mejia Dominguez	2000	Dominican Revolutionary Party	Centre-Right
Ecuador	Carlos Julio Arosemena Monroy	1961	Radical Liberal Party	Centre
Ecuador	Jaime Roldos Aguilera	1979	Concentration of People's Forces	Centre-Left
Ecuador	Oswaldo Hurtado	1981	Popular Democracy	
Ecuador	Leon Febres Cordero	1984	Social Christian Party	Centre-Right
Ecuador	Rodrigo Borja	1988	Party of the Democratic Left	Centre-Left
Ecuador	Sixto Duran Ballen	1992	Republican Union Party	
Ecuador	Abdala Bucaram	1996	Ecuadorian Roldosist Party	
Ecuador	Jamil Mahuad	1998	Christian Democratic Union	Centre-Right
Ecuador	Gustavo Noboa	2000	Popular Democracy	
Ecuador	Lucio Gutierrez	2003	Patriotic Society Party	Centre-Left
Ecuador	Alfredo Palacio	2005	Independent	
El Salvador	Julio Adalberto Rivera Carballo	1962	National Coalition Party	Right
El Salvador	Fidel Sanchez Hernandez	1967	National Coalition Party	Right
El Salvador	Arturo Armando Molina	1972	National Coalition Party	Right
El Salvador	Carlos Humberto Romero	1977	National Coalition Party	Right
El Salvador	Jose Napoleon Duarte	1984	Christian Democratic Party	Centre
El Salvador	Alfredo Felix Cristiani Burkard	1989	Nationalist Republican Alliance	Right
El Salvador	Armando Calderon Sol	1994	Nationalist Republican Alliance	Right
El Salvador	Francisco Flores Perez	1999	Nationalist Republican Alliance	Right
El Salvador	Antonio Saca	2004	Nationalist Republican Alliance	Right
Eritrea	Isaias Afewerki	1993	People's Front for Democracy and Justice	Centre
Estonia	Edgar Savisaar	1991	Estonian Centre Party	Centre-Left
Estonia	Mart Laar	1992	Pro Patria and Res Publica Union	Centre-Right
Estonia	Andres Tarand	1994	Social Democratic Party	Centre-Left
Estonia	Siim Kallas	2002	Estonian Reform Party	Centre-Right
Estonia	Juhan Parts	2003	Res Publica Party	Centre-Right
Estonia	Andrus Ansip	2005	Estonian Reform Party	Centre-Right
Ethiopia	Mengistu Haile Mariam	1977	Workers Party of Ethiopia	Communist
Ethiopia	Meles Zenawi	1991	Ethiopian People's Revolutionary Democratic Front	Left
Egypt	Gamal Abdel Nasser	1960	Arab Socialist Union	Centre-Left
Egypt	Anwar Sadat	1970	National Democratic Party	Centre
Egypt	Muhammad Hosni El Sayed	1981	National Democratic Party	Centre
	Mubarak			
Finland	V. J. Sukselainen	1960	Centre Party	Centre
Finland	Martti Miettunen	1961	Centre Party	Centre
Finland	Ahti Karjalainen	1962	Centre Party	Centre
Finland	Johannes Virolainen	1964	Centre Party	Centre
Finland	Rafael Paasio	1966	Social Democratic Party	Centre-Left
Finland	Mauno Koivisto	1967	Social Democratic Party	Centre-Left
Finland	Ahti Karjalainen	1969	Centre Party	Centre
Finland	Teuvo Aura	1970	Liberal People's Party	
Finland	Kalevi Sorsa	1972	Social Democratic Party	Centre-Left
Finland	Martti Miettunen	1975	Centre Party	Centre
Finland	Kalevi Sorsa	1977	Social Democratic Party	Centre-Left
Finland	Harri Holkeri	1987	National Coalition Party	Right
Finland	Esko Aho	1991	Centre Party	Centre
Finland	Paavo Lipponen	1995	Social Democratic Party	Centre-Left
Finland	Matti Vanhanen	2003	Centre Party	Centre
France	Georges Pompidou	1969	Union for the New Republic	Right
France	Valery Giscard d'Estaing	1974	Independent Republicans	Centre-Right
France	Francois Mitterrand	1981	Socialist Party	Centre-Left
France	Jaques Chirac	1995	Rally for the Republic	Centre-Right
Gabon	Leon M'ba	1960	Gabonese Democratic Party	Centre-Right
Gabon	Omar Bongo	1968	Gabonese Democratic Party	Centre-Right
Gambia	Dawda Jawara	1965	People Progressive Party	Centre-Left
Gambia	Yahya Jammeh	1994	Alliance for Patriotic Reorientation and Construction	

Georgia	Eduard Shevardnadze	1993	Independent	
Georgia	Mikheil Saakashvili	2004	United National Movement	Centre-Right
Germany	Gerhard Schroder	1998	Social Democratic Party of Germany	Centre-Left
Germany	Angela Merkel	2005	Christian Democratic Union of Germany	Centre-Right
Ghana	Joseph Arthur Ankrah	1966	military	
Ghana	Kofi Abrefa Busia	1969	Progress Party	Centre-Left
Ghana	Ignatius Kutu Acheampong	1972	military	
Ghana	Frederick Fred William Kwasi Akuffo	1978	military	
Ghana	Hilla Limann	1979	People's National Party	Left
Ghana	Jerry John Rawlings	1982	military	
Ghana	John Agyekum Kufuor	2001	New Patriotic Party	Centre-Right
Greece	Stefanos Stefanopoulos	1965	Liberal Democratic Center	Centre-Right
Greece	Konstantinos Karamanlis	1974	New Democracy	Centre-Right
Greece	Georgios Rallis	1980	New Democracy	Centre-Right
Greece	Andreas Papandreou	1981	Panhellenic Socialist Movement	Centre-Left
Greece	Konstantinos Mitsotakis	1990	New Democracy	Centre-Right
Greece	Konstantinos Simitis	1996	Panhellenic Socialist Movement	Centre-Left
Greece	Kostas Karamanlis	2004	New Democracy	Centre-Right
Guatemala	Miguel Ydigoras Fuentes	1960	National Democratic Reconciliation Party	
Guatemala	Enrique Peralta Azurdia	1963	Institutional Democratic Party	Right
Guatemala	Julio Cesar Mendez Montenegro	1966	Revolutionary Party	Centre-Left
Guatemala	Carlos Manuel Arana Osorio	1970	Movimiento de Liberacion Nacional	Right
Guatemala	Fernando Romeo Lucas Garcia	1978	Institutional Democratic Party	Right
Guatemala	Vinicio Cerezo	1986	Guatemalan Christian Democracy	
Guatemala	Jorge Serrano Elias	1991	Movimiento de Accion Solidaria	
Guatemala	Ramiro de Leon Carpio	1993	Independent	
Guatemala	Alvaro Arzu	1996	National Advancement Party	Right
Guatemala	Alfonso Portillo	2000	Guatemalan Republican Front	Right
Guatemala	Oscar Berger	2004	National Solidarity Party	
Guinea	Lansana Conte	1985	Unity and Progress Party	
Guinea Bissau	Malam Bacai Sanha	1999	African Party for the Independence of Guinea and Cape Verde	Left
Guinea Bissau	Kumba Iala	2000	African Party for the Independence of Guinea and Cape Verde	Left
Guinea Bissau	Henrique Rosa	2003	Independent	
haiti	Jean-Claude Duvalier	1975	National Unity Party	
haiti	Rene Preval	1996	Hope Front	Left
Honduras	Ramon Villeda Morales	1960	Liberal Party of Honduras	Centre-Right
Honduras	Oswaldo Lopez Arellano	1964	National Party of Honduras	Centre-Right
Honduras	Roberto Suazo Cordova	1982	Liberal Party of Honduras	Centre-Right
Honduras	Jose Azcona del Hoyo	1986	Liberal Party of Honduras	Centre-Right
Honduras	Rafael Leonardo Callejas Romero	1990	National Party of Honduras	Centre-Right
Honduras	Carlos Roberto Reina	1994	Liberal Party of Honduras	Centre-Right
Honduras	Carlos Roberto Flores	1998	Liberal Party of Honduras	Centre-Right
Honduras	Ricardo Rodolfo Maduro Joest	2002	National Party of Honduras	Centre-Right
Hungary	Janos Kadar	1960	Hungarian Communist Party	Communist
Hungary	Karoly Grosz	1988	Hungarian Communist Party	Communist
Hungary	Miklos Nemeth	1989	Hungarian Socialist Party	Centre-Left
Hungary	Jozsef Antall	1990	Hungarian Democratic Forum	Centre-Right
Hungary	Peter Boross	1993	Hungarian Democratic Forum	Centre-Right
Hungary	Gyula Horn	1994	Hungarian Socialist Party	Centre-Left
Hungary	Viktor Orban	1998	Fidesz - Hungarian Civic Alliance	Centre-Right
Hungary	Peter Medgyessy	2002	Independent	
Hungary	Ferenc Gyurcsany	2004	Hungarian Socialist Party	Centre-Left
Iceland	Bjarni Benediktsson	1963	Independence Party	Centre-Right
Iceland	Johann Hafstein	1970	Independence Party	Centre-Right
Iceland	Olafur Johannesson	1971	Progressive Party	Centre-Right
Iceland	Geir Hallgrimsson	1974	Independence Party	Centre-Right
Iceland	Gunnar Thoroddsen	1980	Independence Party	Centre-Right
Iceland	Steingrimur Hermannsson	1983	Progressive Party	Centre-Right
Iceland	Porsteinn Palsson	1987	Independence Party	Centre-Right
Iceland	Davio Oddsson	1991	Independence Party	Centre-Right
Iceland	Halldor Asgrimsson	2004	Progressive Party	Centre-Right
India	Lal Bahadur Shastri	1964	Indian National Congress	Centre-Left

India	Indira Priyadarshini Gandhi	1966	Indian National Congress	Centre-Left
India	Morarji Ranchhodji Desai	1977	Janata Dal	
India	Charan Singh	1979	Janata Party	Centre
India	Rajiv Gandhi	1984	Indian National Congress	Centre-Left
India	Vishwanath Pratap Singh	1989	Jan Morcha	
India	Chandra Shekhar	1990	Samajwadi Janata Party	Centre-Left
India	Pamulaparathi Venkata Narasimha Rao	1991	Indian National Congress	Centre-Left
India	H.D. Deve Gowd	1996	Janata Dal	
India	Inder Kumar Gujral	1997	Janata Dal	
India	Manmohan Singh	2004	Indian National Congress	Centre-Left
Indonesia	Bung Sukarno	1960	Indonesian National Party	
Indonesia	Haji Mohammad Suharto	1966	Party of the Functional Onid Groups	
Indonesia	Bacharuddin Jusuf Habibie	1998	Party of the Functional Onid Groups	
Indonesia	Abdurrahman Wahid	1999	National Awakening Party	
Indonesia	Megawati Sukarnoputri	2001	Indonesian Democratic Party of Struggle	
Indonesia	Susilo Bambang Yudhoyono	2004	Democratic Party	
Iran	Abolhassan Banisadr	1980	Independent	
Iran	Ali Khamenei	1981	Islamic Republican Party	
Iran	Akbar Hashemi Rafsanjani	1989	Combatant Clergy Association	Right
Iran	Mohammad Khatami	1997	Association of Combatant Clerics	Left
Iran	Mahmoud Ahmadinejad	2005	Alliance of Builders	Right
Ireland	Sean Lemass	1960	The Republican Party	Centre-Right
Ireland	Jack Lynch	1966	The Republican Party	Centre-Right
Ireland	Liam Cosgrave	1973	Fine Gael	Centre-Right
Ireland	Charles Haughey	1979	The Republican Party	Centre-Right
Ireland	Garret FitzGerald	1981	Fine Gael	Centre-Right
Ireland	Albert Reynolds	1992	The Republican Party	Centre-Right
Ireland	John Bruton	1994	Fine Gael	Centre-Right
Ireland	Bertie Ahern	1997	The Republican Party	Centre-Right
Israel	Levi Eshkol	1963	Workers' Party of the Land of Israel	Centre-Left
Israel	Golda Meir	1969	Israeli Labor Party	Centre-Left
Israel	Yitzhak Rabin	1974	Alignment	Centre-Left
Israel	Menachem Begin	1977	Herut	Right
Israel	Yitzhak Shamir	1983	Likud	Centre-Right
Israel	Benjamin Netanyahu	1996	Likud	Centre-Right
Israel	Ehud Barak	1999	Labor Party	Centre-Left
Israel	Ariel Sharon	2001	Likud	Centre-Right
Italy	Aldo Moro	1963	Christian Democracy	Centre
Italy	Mariano Rumor	1968	Christian Democracy	Centre
Italy	Emilio Colombo	1970	Christian Democracy	Centre
Italy	Giulio Andreotti	1972	Christian Democracy	Centre
Italy	Francesco Cossiga	1979	Christian Democracy	Centre
Italy	Arnaldo Forlani	1980	Christian Democracy	Centre
Italy	Giovanni Spadolini	1981	Italian Republican Party	Left
Italy	Bettino Craxi	1983	Italian Socialist Party	Left
Italy	Giovanni Goria	1987	Christian Democracy	Centre
Italy	Ciriaco De Mita	1988	Christian Democracy	Centre
Italy	Giuliano Amato	1992	Italian Socialist Party	Left
Italy	Carlo Azeglio Ciampi	1993	Independent	
Italy	Silvio Berlusconi	1994	Forza Italia	Centre-Right
Italy	Romano Prodi	1996	The Olive Tree	Centre-Left
Italy	Massimo D'Alema	1998	Democratic Party of the Left	Left
Jamaica	Alexander Bustamante	1962	Jamaica Labour Party	Centre-Right
Jamaica	Hugh Lawson Shearer	1967	Jamaica Labour Party	Centre-Right
Jamaica	Michael Manley	1972	People's National Party	Centre-Left
Jamaica	Edward Seaga	1981	Jamaica Labour Party	Centre-Right
Jamaica	P. J. Patterson	1992	People's National Party	Centre-Left
Japan	Hayato Ikeda	1960	Liberal Democratic Party	Centre-Right
Japan	Eisaku Sato	1965	Liberal Democratic Party	Centre-Right
Japan	Kakuei Tanaka	1972	Liberal Democratic Party	Centre-Right
Japan	Takeo Miki	1974	Liberal Democratic Party	Centre-Right
Japan	Takeo Fukuda	1976	Liberal Democratic Party	Centre-Right
Japan	Masayoshi Ohira	1978	Liberal Democratic Party	Centre-Right
Japan	Zenko Suzuki	1980	Liberal Democratic Party	Centre-Right

Japan	Yasuhiro Nakasone	1982	Liberal Democratic Party	Centre-Right
Japan	Noboru Takeshita	1987	Liberal Democratic Party	Centre-Right
Japan	Toshiki Kaifu	1989	Liberal Democratic Party	Centre-Right
Japan	Kiichi Miyazawa	1991	Liberal Democratic Party	Centre-Right
Japan	Morihiro Hosokawa	1993	Democratic Party	Centre
Japan	Tomichi Murayama	1994	Social Democratic Party	Centre-Left
Japan	Ryutaro Hashimoto	1996	Liberal Democratic Party	Centre-Right
Japan	Keizo Obuchi	1998	Liberal Democratic Party	Centre-Right
Japan	Yoshiro Mori	2000	Liberal Democratic Party	Centre-Right
Japan	Junichiro Koizumi	2001	Liberal Democratic Party	Centre-Right
Kazakhstan	Nursultan Nazarbayev	1991	Independent	
Kenya	Jomo Kenyatta	1963	Kenya African National Union	Centre-Right
Kenya	Daniel Arap Moi	1978	Kenya African National Union	Centre-Right
Kenya	Mwai Kibaki	2002	Kenya African National Union	Centre-Right
Kyrgyzstan	Askar Akayev	1991	Independent	
Kyrgyzstan	Kurmanbek Bakiyev	2005	Ak Jol	
Laos	Souphanouvong	1975	Lao People's Revolutionary Party	Communist
Laos	Kaysone Phomvihane	1991	Lao People's Revolutionary Party	Communist
Laos	Nouhak Phoumsavanh	1992	Lao People's Revolutionary Party	Communist
Laos	Khamtai Siphandon	1998	Lao People's Revolutionary Party	Communist
Latvia	Ivars Godmanis	1991	Popular Front of Latvia	
Latvia	Valdis Birkavs	1994	Latvian Way	Centre-Right
Latvia	Maris Gailis	1995	Latvian Way	Centre-Right
Latvia	Andris Skele	1996	People's Party	Centre-Right
Latvia	Guntars Krasts	1997	For Fatherland and Freedom	Right
Latvia	Vilis Kristopans	1998	Latvian Way	Centre-Right
Latvia	Einars Repse	2002	New Era Party	Centre-Right
Latvia	Aigars Kalvitis	2004	People's Party	Centre-Right
Lebanon	Fuad Chehab	1960	Independent	
Lebanon	Charles Helou	1964	Kataeb Party	Right
Lebanon	Suleiman Frangieh	1970	Kataeb Party	Right
Lebanon	Amine Gemayel	1982	Kataeb Party	Right
Lebanon	Elias Hrawi	1989	Independent	
Lebanon	Rafic Hariri	1992	Future Movement	Centre-Right
Lebanon	Fouad Siniora	2005	Future Movement	Centre-Right
Lesotho	Ntsu Mokhehle	1995	Basutoland Congress Party	
Lesotho	Pakalitha Mosisili	1998	Lesotho Congress for Democracy	
Liberia	Charles Taylor	1997	National Patriotic Party	
Liberia	Gyude Bryant	2003	Liberian Action Party	
Lithuania	Rolandas Paksas	2000	Liberal Union of Lithuania	
Lithuania	Algirdas Brazauskas	2001	Social Democratic Party of Lithuania	Centre-Left
Luxembourg	Pierre Werner	1960	Christian Social People's Party	Centre-Right
Luxembourg	Gaston Thorn	1974	Democratic Party	Centre-Right
Luxembourg	Jacques Santer	1984	Christian Social People's Party	Centre-Right
Luxembourg	Jean-Claude Juncker	1995	Christian Social People's Party	Centre-Right
Macedonia	Branko Crvenkovski	1995	Social Democratic Union of Macedonia	Centre-Left
Macedonia	Ljubco Georgievski	1998	Internal Macedonian Revolutionary Organization - Democratic Party for Macedonian National Unity	Centre-Right
Macedonia	Vlado Buckovski	2004	Social Democratic Union of Macedonia	Centre-Left
Madagascar	Philibert Tsiranana	1960	Social Democratic Party	Centre-Left
Madagascar	Didier Ratsiraka	1975	Vanguard of the Malagasy Revolution	
Madagascar	Albert Zafy	1994	National Union for Democracy and Development	
Madagascar	Marc Ravalomanana	2002	I Love Madagascar	
Malawi	Hastings Banda	1966	Malawi Congress Party	Centre-Right
Malawi	Bakili Muluzi	1994	Malawi Congress Party	Centre-Right
Malawi	Bingu wa Mutharika	2004	Democratic Progressive Party	Centre
Malaysia	Abdul Razak Hussein	1970	United Malays National Organisation	Right
Malaysia	Hussein Onn	1976	Independent	
Malaysia	Mahathir Mohamad	1981	United Malays National Organisation	Right
Malaysia	Abdullah Ahmad Badawi	2003	United Malays National Organisation	Right
Mali	Modibo Keita	1960	Sudanese Union-African Democratic Rally	
Mali	Moussa Traore	1968	Democratic Union of the Malian People	
Mali	Younoussi Toure	1992	Union for the Republic and Democracy	
Mali	Abdoulaye Sekou Sow	1993	Alliance for Democracy in Mali	Centre-Left
Mali	Ibrahim Boubacar Keita	1994	Alliance for Democracy in Mali	Centre-Left

Mauritania	Moktar Ould Daddah	1960	Mauritanian People's Party	
Mauritania	Maaouya Ould Sid'Ahmed Taya	1984	Democratic and Social Republican Party	
Mexico	Adolfo Lopez Mateos	1960	Institutional Revolutionary Party	Centre
Mexico	Gustavo Diaz Ordaz	1964	Institutional Revolutionary Party	Centre
Mexico	Luis Echeverria	1970	Institutional Revolutionary Party	Centre
Mexico	Jose Lopez Portillo	1976	Institutional Revolutionary Party	Centre
Mexico	Miguel de la Madrid	1982	Institutional Revolutionary Party	Centre
Mexico	Carlos Salinas de Gortari	1988	Institutional Revolutionary Party	Centre
Mexico	Ernesto Zedillo	1994	Institutional Revolutionary Party	Centre
Mexico	Vicente Fox	2000	National Action Party	Right
Moldova	Dumitru Braghis	1999	Social Democratic Party	Centre-Left
Moldova	Vasile Tarlev	2001	Party of Communists of the Republic of Moldova	Communist
Mongolia	Jamsrangiin Sambuu	1960	Mongolian People's Party	Communist
Mongolia	Yumjaagiin Tsedenbal	1974	Mongolian People's Party	Communist
Mongolia	Jambyn Batmonkh	1984	Mongolian People's Party	Communist
Mongolia	Punsalmaagiin Ochirbat	1990	Mongolian People's Party	Communist
Mongolia	Natsagiin Bagabandi	1997	Mongolian People's Party	Communist
Mongolia	Nambaryn Enkhbayar	2005	Mongolian People's Revolutionary Party	Centre-Left
Mozambique	Samora Moises Machel	1975	Mozambique Liberation Front	Centre-Left
Mozambique	Joaquim Chissano	1986	Mozambique Liberation Front	Centre-Left
Mozambique	Armando Guebuza	2005	Mozambique Liberation Front	Centre-Left
Myanmar	Win Maung	1960	Anti-Fascist People's Freedom League	Left
Myanmar	Ne Win	1962	Burma Socialist Programme Party	Left
Myanmar	San Yu	1981	Burma Socialist Programme Party	Left
Myanmar	Saw Maung	1988	State Peace and Development Council	
Myanmar	Than Shwe	1992	Burma Socialist Programme Party	Left
Namibia	Sam Nujoma	1990	SWAPO	Centre-Left
Namibia	Hifikepunye Pohamba	2005	SWAPO	Centre-Left
Netherlands	Jan de Quay	1960	Catholic People's Party	
Netherlands	Victor Marijnen	1963	Catholic People's Party	
Netherlands	Jo Cals	1965	Catholic People's Party	
Netherlands	Jelle Zijlstra	1966	Anti-Revolutionary Party	Centre-Right
Netherlands	Piet de Jong	1967	Catholic People's Party	
Netherlands	Barend Biesheuvel	1971	Anti-Revolutionary Party	Centre-Right
Netherlands	Joop den Uyl	1973	Labour Party	Centre-Left
Netherlands	Dries van Agt	1977	Catholic People's Party	
Netherlands	Ruud Lubbers	1982	Christian Democratic Appeal	Centre-Right
Netherlands	Wim Kok	1994	Labour Party	Centre-Left
Netherlands	Jan Peter Balkenende	2002	Christian Democratic Appeal	Centre-Right
New Zealand	Norman Kirk	1972	New Zealand Labour Party	Centre-Left
New Zealand	Wallace Edward Rowling	1974	New Zealand Labour Party	Centre-Left
New Zealand	Robert Muldoon	1975	New Zealand National Party	Centre-Right
New Zealand	David Lange	1984	New Zealand Labour Party	Centre-Left
New Zealand	Geoffrey Winston Russell Palmer	1989	New Zealand Labour Party	Centre-Left
New Zealand	James Brendan Bolger	1990	New Zealand National Party	Centre-Right
New Zealand	Jenny Shipley	1997	New Zealand National Party	Centre-Right
New Zealand	Helen Elizabeth Clark	1999	New Zealand Labour Party	Centre-Left
Nicaragua	Luis Somoza Debayle	1960	Nationalist Liberal Party	Right
Nicaragua	Rene Schick	1963	Nationalist Liberal Party	Right
Nicaragua	Lorenzo Guerrero	1966	Nationalist Liberal Party	Right
Nicaragua	Anastasio Somoza Debayle	1967	Nationalist Liberal Party	Right
Nicaragua	Daniel Ortega	1979	Sandinista National Liberation Front	Left
Nicaragua	Violeta Chamorro	1990	Democratic Union of Liberation	
Nicaragua	Arnoldo Aleman	1997	Constitutionalist Liberal Party	Right
Nicaragua	Enrique Bolanos	2002	Alliance for the Republic	
Niger	Hamani Diori	1960	Nigerien Progressive Party - African Democratic Rally	
Niger	Hamani Diori	1965	Nigerien Progressive Party - African Democratic Rally	
Niger	Hamani Diori	1971	Nigerien Progressive Party - African Democratic Rally	
Niger	Ali Saibou	1987	National Movement for the Development of Society	Centre-Right
Niger	Ali Saibou	1990	National Movement for the Development of Society	Centre-Right
Niger	Mahamane Ousmane	1993	Democratic and Social Convention-Rahama	

Niger	Ibrahim Bare Mainassara	1997	National Union of Independents for Democratic Re- newal	
Niger	Mamadou Tandja	2000	National Movement for the Development of Society	Centre-Right
Niger	Mamadou Tandja	2005	National Movement for the Development of Society	Centre-Right
Nigeria	Abubakar Tafawa Balewa	1960	Northern People's Congress	
Nigeria	Olusegun Obasanjo	1976	People's Democratic Party	Centre
Nigeria	Shehu Shagari	1979	National Party of Nigeria	
Nigeria	Muhammadu Buhari	1984	All Progressives Congress	Centre
Nigeria	Ibrahim Babangida	1985	People's Democratic Party	Centre
Norway	Per Borten	1965	Centre Party	Centre
Norway	Trygve Bratteli	1971	Labour Party	Centre-Left
Norway	Lars Korvald	1972	Christian Democratic Party	Centre
Norway	Odvar Nordli	1976	Labour Party	Centre-Left
Norway	Kare Willoch	1981	Conservative Party	Centre-Right
Norway	Jan P. Syse	1989	Conservative Party	Centre-Right
Norway	Thorbjorn Jagland	1996	Labour Party	Centre-Left
Norway	Kjell Magne Bondevik	1997	Christian Democratic Party	Centre
Norway	Jens Stoltenberg	2000	Labour Party	Centre-Left
Pakistan	Ayub Khan	1960	Pakistan Muslim League	Centre-Right
Pakistan	Zulfikar Ali Bhutto	1971	Pakistan Peoples Party	Centre-Left
Pakistan	Fazal Ilahi Chaudhry	1973	Pakistan Peoples Party	Centre-Left
Pakistan	Ghulam Ishaq Khan	1988	Independent	
Pakistan	Farooq Leghari	1993	Pakistan Peoples Party	Centre-Left
Pakistan	Muhammad Rafiq Tarar	1998	Pakistan Muslim League	Centre-Right
Pakistan	Pervez Musharraf	2001	Pakistan Muslim League	Centre-Right
Panama	Roberto Francisco Chiari Remon	1960	National Liberal Party	Centre
Panama	Nicolas Ardito Barletta Vallarino	1984	Democratic Revolutionary Party	Centre-Left
Panama	Eric Arturo Delvalle	1985	Republican Party	
Panama	Manuel Solis Palma	1988	Democratic Revolutionary Party	Centre-Left
Panama	Guillermo Endara	1989	Panamenista Party	
Panama	Ernesto Perez Balladares	1994	Democratic Revolutionary Party	Centre-Left
Panama	Mireya Moscoso	1999	Panamenista Party	
Panama	Martin Torrijos	2004	Democratic Revolutionary Party	Centre-Left
Papua New Guinea	Michael Somare	1976	National Alliance Party	
Papua New Guinea	Sir Julius Chan	1980	People's Progress Party	
Papua New Guinea	Sir Rabbie Namaliu	1988	Pangu Party	
Papua New Guinea	Sir Julius Chan	1994	People's Progress Party	
Papua New Guinea	Bill Skate	1997	People's National Congress Party	
Papua New Guinea	Sir Mekere Morauta	1999	Papua New Guinea Party	
Paraguay	Juan Carlos Wasmosy Monti	1994	Colorado Party	Right
Paraguay	Luis Angel Gonzalez Macchi	1999	Colorado Party	Right
Paraguay	Oscar Nicanor Duarte Frutos	2004	Colorado Party	Right
Peru	Fernando Belaunde Terry	1963	Popular Action	Centre-Right
Peru	Alan Garcia	1986	American Popular Revolutionary Alliance	Centre-Left
Peru	Alber Fujimori	1991	Cambio 90	Centre-Right
Peru	Valentin Paniagua	2001	Popular Action	Centre-Right
Peru	Alejandro Toledo	2002	Possible Peru	Centre
Philippines	Carlos P. Garcia	1960	Nacionalista Party	Right
Philippines	Diosdado Macapagal	1962	Liberal Party	Centre
Philippines	Ferdinand Marcos	1966	Kilusang Bagong Lipunan	Right
Philippines	Corazon Aquino	1986	United Nationalist Democratic Organization	
Philippines	Fidel V Ramos	1992	Lakas-Christian Muslim Democrats	Centre-Right
Philippines	Joseph Estrada	1998	Force of the Filipino Masses	Centre-Left
Philippines	Gloria Macapagal Arroyo	2001	Partner of the Free Filipino	Centre-Right
Poland	Jozef Cyrankiewicz	1960	Polish Socialist Party	Left
Poland	Piotr Jaroszewicz	1970	Polish United Workers' Party	Communist
Poland	Jozef Pinkowski	1980	Polish United Workers' Party	Communist
Poland	Wojciech Jaruzelski	1981	Polish United Workers' Party	Communist
Poland	Zbigniew Messner	1985	Polish United Workers' Party	Communist
Poland	Mieczyslaw Rakowski	1988	Polish United Workers' Party	Communist
Poland	Tadeusz Mazowiecki	1989	Solidarity Citizens' Committee	Centre
Poland	Jan Olszewski	1991	Centre Agreement	Centre-Right
Poland	Hanna Suchocka	1992	Democratic Union	Centre
Poland	Jozef Oleksy	1995	Social Democracy of the Republic of Poland	Centre-Left
Poland	Wlodzimierz Cimoszewicz	1996	Social Democracy of the Republic of Poland	Centre-Left



Poland	Jerzy Buzek	1997	Solidarity Electoral Action	Centre-Right
Poland	Leszek Miller	2001	Democratic Left Alliance	Centre-Left
Poland	Marek Belka	2004	Democratic Left Alliance	Centre-Left
Poland	Kazimierz Marcinkiewicz	2005	Law and Justice	Right
Portugal	Marcello Caetano	1968	National Union	Right
Portugal	Vasco Goncalves	1974	Independent	
Portugal	Jose Baptista Pinheiro de Azevedo	1975	Independent	
Portugal	Mario Soares	1976	Socialist Party	Centre-Left
Portugal	Carlos Alberto da Mota Pinto	1978	Social Democratic Party	Centre-Right
Portugal	Maria de Lourdes Pintasilgo	1979	Independent	
Portugal	Diogo Pinto de Freitas do Amaral	1980	Independent	
Portugal	Francisco Pinto Balsemao	1981	Social Democratic Party	Centre-Right
Portugal	Mario Soares	1983	Socialist Party	Centre-Left
Portugal	Anibal Antonio Cavaco Silva	1985	Social Democratic Party	Centre-Right
Portugal	Antonio Manuel de Oliveira Guterres	1995	Socialist Party	Centre-Left
Portugal	Jose Manuel Durao Barroso	2002	Social Democratic Party	Centre-Right
Portugal	Pedro Miguel de Santana Lopes	2004	Social Democratic Party	Centre-Right
Portugal	Jose Socrates Carvalho Pinto de Sousa	2005	Socialist Party	Centre-Left
Romania	Gheorghe Gheorghiu-Dej	1960	Romanian Communist Party	Communist
Romania	Nicolae Ceausescu	1966	Romanian Communist Party	Communist
Romania	Theodor Stolojan	1991	National Liberal Party	Centre-Right
Romania	Nicolae Vacaroiu	1992	Social Democratic Party	Communist
Romania	Victor Ciorbea	1996	Christian Democratic National Peasants' Party	Centre
Romania	Radu Vasile	1998	Christian Democratic National Peasants' Party	Centre
Romania	Mugur Isarescu	1999	Independent	
Romania	Adrian Nastase	2000	Social Democratic Party	Communist
Romania	Calin Popescu-Tariceanu	2004	National Liberal Party	Centre-Right
Russia	Nikita Khrushchev	1960	Communist Party of the Soviet Union	Communist
Russia	Leonid Brezhnev	1964	Communist Party of the Soviet Union	Communist
Russia	Yuri Andropov	1982	Communist Party of the Soviet Union	Communist
Russia	Konstantin Chernenko	1984	Communist Party of the Soviet Union	Communist
Russia	Mikhail Gorbachev	1985	Communist Party of the Soviet Union	Communist
Russia	Boris Yeltsin	1991	Independent	
Russia	Vladimir Putin	2000	Unity	Centre-Right
Rwanda	Gregoire Kayibanda	1970	Party of the Hutu Emancipation Movement	
Rwanda	Juvenal Habyarimana	1973	National Republican Movement for Democracy and Development	Right
Rwanda	Pasteur Bizimungu	1994	Rwandan Patriotic Front	Centre-Left
Rwanda	Paul Kagame	2000	Rwandan Patriotic Front	Centre-Left
Senegal	Mamadou Dia	1961	Senegalese Democratic Bloc	
Senegal	Leopold Sedar Senghor	1963	Socialist Party of Senegal	Centre-Left
Senegal	Leopold Sedar Senghor	1973	Socialist Party of Senegal	Centre-Left
Senegal	Abdou Diouf	1981	Socialist Party of Senegal	Centre-Left
Senegal	Abdoulaye Wade	2000	Senegalese Democratic Party	Centre-Left
Sierra Leone	Banja Tejan-Sie	1968	Sierra Leone People's Party	Centre-Left
Sierra Leone	Siaka Stevens	1971	All People's Congress	Centre-Left
Sierra Leone	Joseph Saidu Momoh	1985	All People's Congress	Centre-Left
Sierra Leone	Valentine Strasser	1992	Military Junta	
Sierra Leone	Ahmad Tejan Kabbah	1996	Sierra Leone People's Party	Centre-Left
Sierra Leone	Johnny Paul Koroma	1997	Military Junta	
Singapore	LEE Kuan Yew	1960	People's Action Party	Centre-Right
Singapore	GOH Chok Tong	1991	People's Action Party	Centre-Right
Singapore	LEE Hsien Loong	2005	People's Action Party	Centre-Right
Slovakia	Vladimir Meciar	1992	People's Party - Movement for a Democratic Slovakia	Centre
Slovakia	Mikulas Dzurinda	1999	Slovak Democratic Coalition	
Slovenia	Lojze Peterle	1990	Slovene Christian Democrats	
Slovenia	Janez Drnovsek	1992	Liberal Democracy of Slovenia	
Slovenia	Andrej Bajuk	2000	New Slovenia	Centre-Right
Slovenia	Anton Rop	2003	Liberal Democracy of Slovenia	Centre-Left
Slovenia	Janez Jansa	2005	Slovenian Democratic Party	Centre-Right
South Africa	Hendrik Frensch Verwoerd	1960	National Party	Right
South Africa	Balthazar Johannes Vorster	1966	National Party	Right
South Africa	Pieter Willem Botha	1978	National Party	Right

South Africa	Frederik Willem de Klerk	1989	National Party	Right
South Africa	Nelson Mandela	1994	African National Congress	Centre-Left
South Africa	Thabo Mbeki	1999	African National Congress	Centre-Left
South Korea	Yun Bo-seon	1960	Democratic Party	
South Korea	Choi Kyu-hah	1979	Independent	
South Korea	Chun Doo-hwan	1980	Democratic Justice Party	Right
South Korea	Roh Tae-woo	1988	Independent	
South Korea	Kim Young-sam	1993	New Korea Party	Centre-Right
South Korea	Kim Dae-jung	1998	National Congress for New Politics	
South Korea	Roh Moo-hyun	2003	Uri Party	Centre-Left
Spain	Francisco Franco	1960	Falange Espanola Tradicionalista y de las JONS	Right
Spain	Adolfo Suarez Gonzalez	1976	Democratic and Social Centre	Centre-Left
Spain	Leopoldo Calvo-Sotelo	1981	Union of the Democratic	Centre-Right
Spain	Felipe Gonzalez Mórquez	1982	Spanish Socialist Workers' Party	Centre-Left
Spain	Jose Maria Aznar	1996	People's Party	Centre-Right
Spain	Jose Luis Rodriguez Zapatero	2004	Spanish Socialist Workers' Party	Centre-Left
Sri Lanka	Sirimavo Bandaranaike	1961	Sri Lanka Freedom Party	Centre-Left
Sri Lanka	Junius Richard Jayewardene	1978	United National Party	Centre-Right
Sri Lanka	Ranasinghe Premadasa	1989	United National Party	Centre-Right
Sri Lanka	Dingiri Banda Wijetunga	1993	United National Party	Centre-Right
Sri Lanka	Chandrika Kumaratunga	1995	Sri Lanka Freedom Party	Centre-Left
Sweden	Olof Palme	1970	Swedish Social Democratic Party	Centre-Left
Sweden	Thorbjorn Falldin	1977	Centre Party	Centre-Right
Sweden	Ola Ullsten	1979	Liberals	Centre-Right
Sweden	Ingvar Carlsson	1986	Swedish Social Democratic Party	Centre-Left
Sweden	Carl Bildt	1992	Moderate Party	Centre-Right
Sweden	Goran Persson	1997	Swedish Social Democratic Party	Centre-Left
Syria	Gamal Abdel Nasser	1960	Arab Socialist Union	
Syria	Nazim al-Kudsi	1961	National Bloc	Centre
Syria	Amin al-Hafiz	1963	Arab Socialist Ba'ath Party - Syria Region	
Syria	Nureddin al-Atassi	1966	Ba'ath Party	
Syria	Hafez al-Assad	1971	Ba'ath Party	
Syria	Bashar al-Assad	2000	Arab Socialist Ba'ath Party - Syria Region	
Taiwan (China)	Yen Chia-kan	1975	Kuomintang	Centre-Right
Taiwan (China)	Chiang Ching-kuo	1978	Kuomintang	Centre-Right
Taiwan (China)	Lee Teng-hui	1988	Kuomintang	Centre-Right
Taiwan (China)	Chen Shui-bian	2000	Democratic Progressive	Centre-Left
Tajikistan	Qahhor Mahkamov	1990	Communist Party of Tajikistan	Communist
Tajikistan	Rahmon Nabiyev	1991	Communist Party of Tajikistan	Communist
Tanzania	Julius Nyerere	1964	Tanganyika African National Union	Centre-Left
Tanzania	Julius Nyerere	1970	Tanganyika African National Union	Centre-Left
Tanzania	Ali Hassan Mwinyi	1985	Party of the Revolution	Centre-Left
Tanzania	Benjamin Mkapa	1995	Party of the Revolution	Centre-Left
Tanzania	Jakaya Kikwete	2005	Party of the Revolution	Centre-Left
Thailand	Kukrit Pramoj	1975	Social Action Party	Centre-Left
Thailand	Chatichai Choonhavan	1988	Thai Nation Party	Right
Thailand	Chuan Leekpai	1992	Democrat Party	Centre-Right
Thailand	Banharn Silpa-archa	1995	Thai Nation Party	Right
Thailand	Chavalit Yongchaiyudh	1996	New Aspiration Party	
Thailand	Thaksin Shinawatra	2001	Thai Rak Thai Party	
Togo	Sylvanus Olympio	1960	Party of Togolese Unity	
Togo	Nicolas Grunitzky	1963	Togolese Party of Progress	
Togo	Gnassingbe Eyadema	1967	Rally of the Togolese People	
Togo	Faure Gnassingbe	2005	Rally of the Togolese People	
Trinidad and Tobago	George Chambers	1981	People's National Movement	Centre-Left
Trinidad and Tobago	Patrick Manning	1991	People's National Movement	Centre-Left
Trinidad and Tobago	Basdeo Panday	1995	United National Congress	Centre-Left
Tunisia	Zine El Abidine Ben Ali	1987	Destourian	
Turkey	Cemal Gursel	1960	Independent	
Turkey	Suleyman Demirel	1965	Justice Party	Centre-Right
Turkey	Nihat Erim	1971	Republican People's Party	Centre-Left
Turkey	Ferit Melen	1972	Republican Reliance Party	Centre-Left
Turkey	Bulent Ecevit	1974	Republican People's Party	Centre-Left
Turkey	Turgut Ozal	1983	Motherland Party	Right
Turkey	Yildirim Akbulut	1989	Motherland Party	Right

Turkey	Tansu Ciller	1993	Democratic Party	Centre-Right
Turkey	Necmettin Erbakan	1996	Welfare Party	Right
Turkey	Abdullah Gul	2002	Justice and Development Party	Centre-Right
Turkey	Recep Tayyip Erdogan	2003	Justice and Development Party	Centre-Right
Turkmenistan	Saparmurat Niyazov	1992	Democratic Party of Turkmenistan	
Uganda	Milton Obote	1962	Uganda People's Congress	Left
Uganda	Godfrey Lukongwa Binaisa	1979	Uganda Patriotic Movement	
Uganda	Yoweri Museveni	1986	National Resistance Movement	Right
United Kingdom	Alec Douglas-Home	1963	Conservative Party	Centre-Right
United Kingdom	Harold Wilson	1964	Labour Party	Centre-Left
United Kingdom	Edward Heath	1970	Conservative Party	Centre-Right
United Kingdom	James Callaghan	1976	Labour Party	Centre-Left
United Kingdom	Margaret Thatcher	1979	Conservative Party	Centre-Right
United Kingdom	John Major	1990	Conservative Party	Centre-Right
United Kingdom	Tony Blair	1997	Labour Party	Centre-Left
United States	John F. Kennedy	1961	Democratic	Centre-Left
United States	Lyndon B. Johnson	1963	Democratic	Centre-Left
United States	Richard Nixon	1969	Republican	Centre-Right
United States	Gerald Ford	1974	Republican	Centre-Right
United States	Jimmy Carter	1977	Democratic	Centre-Left
United States	Ronald Reagan	1981	Republican	Centre-Right
United States	George H. W. Bush	1989	Republican	Centre-Right
United States	Bill Clinton	1993	Democratic	Centre-Left
United States	George W. Bush	2001	Republican	Centre-Right
Uruguay	Washington Beltran	1965	Independent National Party	
Uruguay	Alberto Heber Usher	1966	National Party	Right
Uruguay	Oscar Diego Gestido	1967	Colorado Party	Centre-Right
Uruguay	Jorge Pacheco Areco	1968	Colorado Party	Centre-Right
Uruguay	Juan Maria Bordaberry	1972	Colorado Party	Centre-Right
Uruguay	Aparicio Mendez	1976	National Party	Right
Uruguay	Gregorio Conrado Alvarez	1982	Independent	
Uruguay	Julio Maria Sanguinetti	1985	Colorado Party	Centre-Right
Uruguay	Luis Alberto Lacalle	1990	National Party	Right
Uruguay	Jorge Batlle	2000	Colorado Party	Centre-Right
Uruguay	Tabare Vazquez	2005	Socialist Party	Centre-Left
Uzbekistan	Islam Karimov	1990	Communist Party of Uzbekistan	Communist
Venezuela	Raul Leoni Otero	1964	Democratic Action	Centre-Left
Venezuela	Rafael Caldera	1969	Social Christian Party	Centre-Right
Venezuela	Carlos Andres Perez Rodriguez	1974	Democratic Action	Centre-Left
Venezuela	Luis Herrera Campins	1979	Social Christian Party	Centre-Right
Venezuela	Jaime Lusinchi	1984	Democratic Action	Centre-Left
Venezuela	Hugo Rafael Chavez Frias	1999	Fifth Republic Movement	Left
Vietnam	Le Duan	1969	Communist Party of Vietnam	Communist
Vietnam	Nguyen Van Linh	1987	Communist Party of Vietnam	Communist
Vietnam	Do Muoi	1991	Communist Party of Vietnam	Communist
Vietnam	Le Kha Phieu	1998	Communist Party of Vietnam	Communist
Vietnam	Nong Duc Manh	2001	Communist Party of Vietnam	Communist
Yemen	Ali Abdullah Saleh	1996	General People's Congress	Centre-Right
Zaire	Laurent-Desire Kabila	1997	Independent	
Zaire	Joseph Kabila	2002	People's Party for Reconstruction and Democracy	Centre-Left
Zambia	Kenneth Kaunda	1964	United National Independence Party	Centre-Left
Zambia	Frederick Chiluba	1991	Movement for Multi-Party Democracy	Centre-Left
Zambia	Levy Mwanawasa	2002	Movement for Multi-Party Democracy	Centre-Left
Zimbabwe	Robert Mugabe	1980	Zimbabwe African National Union	Centre-Left