© *The Pakistan Development Review*
58:3 (2019) pp. 239–264
DOI: 10.30541/v58i3pp.239-264

Dictatorships, Patronage and Public Good Provision: Some Empirics

KARIM KHAN and ANWAR SHAH

Dictatorship has been one of the most persistent regimes types in history. Different dictators have applied different strategies for maintaining political support across different societies. We discuss and empirically estimate the hypothesis that states that dictators rely more on patronage as compared to the general provision of public goods for political support. Our results, based on the data from cross-section of the countries from all continents, confirm this hypothesis. We use military spending as an indicator of the patronage to military and the secondary school enrolment as an indicator of the provision of public goods. In the separate sets of regressions, we conclude that dictatorship has a significant negative effect on the secondary school enrolment rate and a significant positive effect on military expenditure as percentage of GDP. These effects, in turn, might have caused the persistent of dictatorships in many societies. In order to generalise these findings, we also check robustness of the findings with respect to other variables like infant mortality rate, average life expectancy, Human Development Index (HDI), corruption, rule of law, ease of doing business and competitiveness. The robustness analysis confirms our findings.

JEL Classification: P16, H11, H41, H42
Keywords: Dictatorship, Patronage, Public Goods Provision, Military Spending, Secondary School Enrolment Rate, Robustness Analysis

1. INTRODUCTION

Dictatorships and their behaviours towards patronage and public goods provision are the topics of debate in various fields like political science, economics, and public choice. In general, dictatorship is defined as "a form of government in which one person or a small group possesses absolute power without effective constitutional limitations". Historically, it has taken various shapes, and is experienced by almost all of the existent civilisations.[1] However, in all of its instances, it is characterised by the concentration of power in few hands and hence, the existence of a dominant coalition [Magalhaes (1995); Gregor (2001); Olson (1993); North, *et al.* (2009) and Acemoglu and Robinson (2012)].[2]

Karim Khan <karim.khan@pide.org.pk> is Associate Professor, Pakistan Institute of Development Economics, Islamabad. Anwar Shah <anwar@qau.edu.pk> is Assistant Professor, Quaid-i-Azam University, Islamabad.

[1] For instance, absolute monarchies in the Medieval Europe; the early Muslim identities; communist regimes in Soviet Union, China and North Korea; the present-day monarchies in most of the Arab countries; and the military rulers in the third world countries are the major forms that it has taken in various societies and at various times.

[2] For instance, North's, *et al.* (2009) characterisation of natural state from Fragile Natural State to Basic Natural State, and from Basic Natural State to Mature Natural State is simply the expansion of a dominant coalition; or in other words, the fraction of people with power in hand increases as natural state develop from fragility to maturity. Similarly, to Acemoglu and Robinson (2012), dictatorship is a set of absolutist and exclusive political institutions from which exclusive economic institutions like limited protection to property rights, limited rule of law, and limited contract enforce mechanism emanate. Thus, the exclusive group dominates in the political, economic and social aspects of life.

The politically dominant coalition also has a privileged position in the economic sphere as the political system is often used to regulate economic competition and create rents. Thus, instead of open access to the wide cross-section of society, dictatorship is associated with limited access order where a dominant coalition dominates the rest of population. The limited access order, in turn, makes dictatorship as an undesirable form of political regimes as compared to constitutional democracy as far as economic development is concerned [Lipset (1959); Drèza and Sen (1989); Olson (1993); Przeworski, *et al.* (2000)].[3]

However, despite the universal agreement on its undesirability, dictatorship has been persistent throughout the history, and still exists in large parts of the world.[4] For instance, Deacon (2009) notes that 68 percent of the world's countries are governed by nondemocratic regimes during the last half of the 20th century, and over one-third remained nondemocratic as of 2000. Similarly, with regard to the persistence of military rule, Mulligan, *et al.* (2004) claim that three-fourth of the countries in the world have experienced direct military rule since 1945.[5] Additionally, the historical analysis illustrates that military has been an important component in the persistence of non-democratic regimes. This reflects that dictatorship encompasses the use of violence in sustaining its political power or the associated economic rents.

In this paper, we concentrate on the undesired effects of dictatorships. In particular, we want to examine whether dictatorships provide patronage to few relative to the provision of public goods to general masses. Patronage is an institution whereby rulers allocate material benefits to a selected group of citizens or agents of the state in return for political support. Though patronage is not specific to a particular regime type; it can exist in any type of regime, depending upon the objectives of the rulers. In the same way, the patronage strategies that the rulers adopt, and the beneficiaries of the resulting patronage strictly depend on the objectives of the ruler. However, in all cases, it has severe implications for the provision of public services. The reason is that dictators rely largely on the provision of excludable goods like patronage or targeted transfers. Hence, the provision of public goods should be significantly poor under dictatorships. We are of the view that patronage, in all cases, has severe implications regarding the quantity and quality of public services for general masses. Qualitative evidence suggests that the quality of public services declines when dictatorship is imposed and improves when dictatorship is replaced [Deacon and Saha (2005)].[6] For instance, according to Deacon (2009), countries that either lack a legislature or have only a

[3]According to Olson (1993), the main obstacle to long-run progress in autocracies is that individual rights to property and contracts can never be secure, at least over the long run.

[4]According to North, *et al.* (2009), the rents associated with dictatorship order social relations, control violence, and establish social cooperation within the dominant coalition. These incentives, in turn, make dictatorship advantageous to the members of dominant coalition as compared with other alternatives. Thus, the dominant coalition uses its power to sustain with the status quo in order to maintain its privileges.

[5]Mulligan, *et al.* (2004) further argue that the total number of dictatorships constituted a majority of the world's governments between 1950 and 1991 and comprised over 40 percent at the start of 21st century.

[6]The authors provide various examples. For instance, the authors note that when Nigeria came to under military rule in 1983, the proportion of children staying in school to the fourth grade fell from 81 percent to 72 percent and childhood disease immunisation rates fell by more than one-half. In Argentina, the rural population's access to safe water increased after civilian rule was established in 1973 from 12 percent in 1970 to 26 percent in 1973, but then dropped markedly after the military coup in 1976 to 17 percent in 1984. Greece's infant mortality rate dropped by one-fourth as the country made the transition to democracy during the 1970s.

rubber stamp body enroll only 20 percent of their school age populations in secondary school; countries with effective legislatures enroll 81 percent.

This paper analyses the interaction between the authoritarian regimes, patronage, and the provision of public goods for masses. We particularly, contribute to the literature by combining both the patronage and public goods in the same empirical setting. We want to show that dictators allocate more patronage or targeted transfers relative to democratic rulers. However, they provide a meager amount of public goods, again, relative to democracies. Our measure of patronage is military spending which, if our hypothesis is true, should be higher in dictatorships than in democracies. Second, our measure of public good provision is secondary school enrollment rate which, given our hypothesis, should be significantly and negatively affected by the persistence of dictatorships. Finally, in order to generalise these findings, we do robustness analysis with respect to other variables like infant mortality rate, average life expectancy, Human Development Index (HDI), corruption, rule of law, ease of doing business and competitiveness. The robustness analysis is aimed at providing additional support to our hypothesis. The remaining paper is organised in three sections. Section 2 surveys some of the literature that clarifies the issue discussed in the paper and lays the foundation for the theoretical framework of our analysis. After setting out the theoretical framework, we provide, in Section 3, a detailed analysis of data, empirical results, and discussions in light of the available literature and our empirical results. Section 4 concludes the paper.

2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Dictatorship has adverse consequences for a variety of political and economic aspects. In terms of political development, the structure of dictatorship is not consistent with the theoretical aspects of democratic norms; and thus, it has severe implications for the institutionalisation and stabilisation of democratic culture [Ikpe (2000)]. Second, it encourages patronage politics and thereby, enhances the development of clientalist networks [Wintrobe (2000)]. Similarly, in terms of economic development, dictatorship and its associated absolutist economic institutions discourage Schumpeterian creative destruction [North (1990); Wintrobe (2000); Acemoglu, *et al.* (2010); Acemoglu and Robinson (2012)]. The fear of predation by dictators make the innovators and the new entrants shy in investing in research and development and making long term investments, respectively.[7] In this section, we discuss the literature into two sub-sections that is related mainly to the theme of the paper.

2.1. Dictatorships and Patronage

Patronage and Clientalism are the defining characteristics of Max Weber's broad definition of Patrimonialism.[8] Patrimonialism is not specific to any particular regime type; however, it is mostly found in dictatorships. Dictators rely on propaganda,

[7]The literature on the economic effects of regime type initiated with the theoretical hypothesis in the seminal work of Lipset (1959). Onwards research analysed various aspects. For instance, Przeworski, *et al*. (2000), based on the data from 35 countries, conclude that per capita income is associated with the types of political regimes. In particular, they conclude that poorest countries are dictatorships. Similarly, Drèza and Sen (1989) argue that all famines have happened under autocratic rule.

[8] Patrimonialism is a system of personal rule in which the ruler dispenses offices and benefits to subordinates in return for loyalty, support and services. Clientalism is a subset of Patrimonialism that displays patron-client relationships in the exercise of public authority and distribution of benefits.

repression, controlled information, and restricted freedom of speech for their political power. In order to strengthen these instruments, dictators can either resort to the distribution of largesse or to violence. However, in the latter case, they need a specialised force to conduct violence which is often available in the form of military [Magalhaes (1995); Wintrobe (2001, 2012); Acemoglu, *et al.* (2010)]. Thus, in autocratic regimes, the military protect the rule; while, in return, it is endowed with a privileged position in the patronage and rent-seeking activities of political elites [Huntington (1968); O'Donnell (1973); Finer (1976); Levi (1988); McGuire and Olson (1996); Acemoglu, *et al.* (2010)].[9]

The self-interest of military has been extensively discussed in the literature on dictatorships. For instance, according to Nordlinger (1977), the majority of coups are partly or entirely motivated by the defense or enactment of the corporate interests of military. Relatedly, Tullock (1987) argues that dictatorships are usually overthrown by the high-ranking officials within the incumbent government. Regarding the violence capabilities of military, Acemoglu, *et al.* (2010) argue that all non-democratic regimes rely on some degree of repression against the competing groups, and this repression is often exercised by the military. Similarly, Wintrobe (2001) asserts that a rent-seeking military is the cheapest way to solve the 'Dictator's Dilemma'.[10] Thus, in autocracies, control of the armed forces is crucial for capturing and maintaining the apparatus of the government. However, controlling military is costly and the resources spent on it are not available for other purposes.

In the first instance of dictatorships, the military rules directly where it decides about the patronage to itself, and the provision of non-excludable public goods to citizens. Obviously, the special interests of other privileged groups are protected even under the military dictatorships. In case of civilian dictatorships, military serves as an agent of the elite.[11] In such arrangements, the civilian dictators determine the size of patronage to the military, the provision of private benefits to the special interest groups, and the provision of non-excludable and non-rival public goods to the citizens. Nevertheless, this allocation crucially depends on the bargaining power of each interest group, and the degree of the rulers' reliance on each of them for political power.[12] In both of these forms, the military provides the

[9] For instance, in the Medieval European monarchies, royal families had specialised military forces that served their interests. Similarly, in modern dictatorships, the interests of the political elites and the military are generally allied. The logic is simple and is provided with details in Kimenyi (1987) and Mbaku (1991). In democracies, where the legislative bodies generally allocate and oversee the resources assigned to the military, the rent-seeking of military is generally confined to political lobbying. However, in dictatorial regimes, the military face different constraints. Rents are created and allocate by the dictator to groups supporting the ruler [Kimenyi (1987); Mbaku (1991)].

[10] Wintrobe (2001) defines Dictator's Dilemma as "the inability of dictator to know that how much support he has among the general population as well as among smaller groups with the power to depose him. The author further argues that there is always a class of people who are repressed under a dictatorship; and there is also, in any successful dictatorship, another class- the *overpaid*. See also, Wintrobe (2012) for the details.

[11] Examples of the military dictatorships include General Ayub Khan, General Muhammad Ziaul-Haq, and General Pervez Musharraf, all the three in Pakistan; the regimes established in Turkey after the coups in 1960, 1971, and 1980; the regime in Guatemala after the coup of 1954 under the leadership Carlos Catrillo Armas; the regime in El Salvador in 1956 with the government of Oscar Osoriothe; the regime in Brazil after the overthrow of President Joao Goulart's government in 1964; and the regime in Greece after the military coup of 1967. Similarly, the examples of civilian dictatorship supported by military include Getulio Vargas established in Brazil in 1937, Ferdinand Marcos's long-lasting regime in the Philippines and President Alberto Fujimori's regime's in Peru.

[12] Mbaku (1991) argues that in authoritarian systems, political success tends to be highly dependent on the use of force and therefore, the groups with comparative advantage in violence dominate in competition for rents. See also Acemoglu, *et al.* (2010).

coercive force needed to maintain the regime security. In particular, the military leaders assure that the competitive interest groups do not develop the modes of behaviour that are detrimental to the state's security. Activities of such competing groups are carefully monitored by the military elites. In return, the military receives rents via a share of government expenditure [Hewitt (1992); Sandler and Harley (1995); Goldsmith (2003)]. Thus, in a sense, this is an exchange relationship. However, to the extent that resources provided to the military are in exchange for some favour to the regime and not for some productive activity, such allocation is a rent or a transfer of income to the military.

2.2. Dictatorships and Public Good Provision

Although, the literature has not fully identified the complete set of priorities of different types of regimes; however, it has consensus on the differences between dictatorships and democracies regarding the provisions of public services [McGuire and Olson (1996); Niskanen (1997); Lake and Baum (2001); Bueno de Mesquita, *et al.* (2003); Deacon (2009)]. For instance, according to McGuire and Olson (1996), dictators maximise and expropriate the budgetary surplus while redistributive democracies maximise the welfare of the elite section of society. Thus, dictators will both charge higher taxes and under-provide public goods. In contrast, democratic rulers have more encompassing interests in the provision of public services. This implies that institutional changes that result in increasing the size of the winning coalition would increase the provision of public goods and decrease the share of government revenue spent on transfers to the politically powerful.[13] Similarly, Niskanen (1997) quote that democratic rulers maximise the welfare of the median citizen and thereby, provide more public goods than dictators do.[14]

According to Lake and Baum (2001), it is the degree of contestability in the political market that matters for the differences in the behaviours of dictators and democratic rulers with regard to policy choices. In democracy, the leader's position is highly contestable relative to dictatorship.[15] The higher degree of competition associated with democracies result in relatively greater levels of public goods and smaller amount of rents to politicians than would

[13] This idea is equivalent to the expansion in North, *et al.* (2009) dominant coalition and an increased inclusiveness in Acemoglu and Robinson (2012).

[14] The only notable difference between McGuire and Olson (1996) and Niskanen (1997) is that in the former, the democratic rulers maximise the welfare of elite faction while in the later; the democratic rules maximise the welfare of the median citizens, defined in terms of incomes. However, the predictions of both the models are similar. For instance, in both tax rates are lower and public spending higher under democracy than under autocracy. Thus, in both of these models, differences in the policy choices under alternative political systems are driven by differences in the degree to which government represents the interests of broad versus narrow segments of society.

[15] This is because the entry and exit costs to the monopoly position are relatively low in democracies. In contrast, the dictatorship is characterised by high entry and exit costs. For instance, entry might require deposing an all-powerful ruler by force with the possibility of failure. In case of failure, the contender might face exile or even death. Exit by a deposed dictator can be equally costly. We have example of Saddam Hussain in Iraq where the cost for him was death. Similar was the case of Qadafi in Libya. In case of Pakistan, Pervez Musharraf survived but he is ousted from the country. Hosni Mubarak is in prison after the separation from the monopoly position. In addition to the costs to non-democratic rulers, entry and exit may also involve costs to the citizens if the entry or exit takes the form of revolution or civil war etc. The recent revolutions in Egypt, Libya or Syria are living examples of the costs to the citizens. For instance, the strikers in Al-Tahrir square in Egypt not only faced the opportunity costs in terms of foregone earnings; but they also faced several casualties. Similarly, in cases of Libya and Syria, it has taken the form of civil war, involving significant costs to both the supporters of ruling class and the opponents.

be observed under the less competitive dictatorial regimes. In the same way, Bueno de Mesquita, *et al*. (2003) points out that the performance of governments with regard to public good provision, patronage and corruption, the leader's longevity in office, and other matters largely depend on the size of the selectorate and the size of the winning coalition.[16] Second, education and health care systems can be characterised as relatively broadly-based public goods. Thus, investing in the provision of public services such as education and health are the relatively cheap ways of gathering political support for leaders with large winning coalitions, and relatively expensive for leaders with small winning coalitions. Since in democracy, the size of winning coalition is generally larger than that of the dictatorships, so democracies are more prone to the provision of public goods. In contrast, in dictatorship, the size of the winning coalition is small, so targeted transfers and patronage policies are less costly and more effective for political survival.

In all of the three lines of research discussed above, the differences in regime types reflect the size of the privileged group relative to the total population, termed as the system's inclusiveness. In an ideal democracy, the privileged group is the majority of the entire population, while in dictatorship the elite class includes the dictator and his close associates. In a sense, the system's inclusiveness serves the same role as an 'encompassing interest' of the McGuire and Olson (1996), the 'contestability' of Lake and Baum (2001), and the 'winning coalition' of Bueno de Mesquita, *et al.* (2003). This is because all of them argue that since dictators need lesser support relative to representative democrats from the public; therefore, they provide lesser public goods compared to democratic rulers. Our objective in this paper is to provide some empirical evidence to the above debate. First, we examine the nature of relationship between dictatorship and the provision of public goods by using a large set of data. Onwards, we test the patronage hypothesis by using the same data. To our knowledge, this is the first kind of work which combines the two hypotheses by using a larger data set from all continents of the world. In the end, we provide additional support to our hypothesis by checking the robustness of our results through some additional variables of public goods and patronage.

3. DATA, EMPIRICAL RESULTS AND DISCUSSION

In this section, we provide the findings of our analysis. Our major emphasis is on the explanatory power of dictatorship while controlling for a bunch of other possible explanatory variables. In this section, first, we describe the summary sketch of our data. Second, we provide the estimation results and discuss those in case of secondary school enrollment rate. Third, we illustrate the results and discussion of military spending. Finally, we report the results of robustness analysis.

3.1. Data and Summary Statistics

Given the data limitations, we rely on cross-sectional regressions which are based on both annual and averaged data. However, the data is highly variable-specific, depending on

[16] The selectorate includes all individuals who can potentially affect the selection of the government and therefore its policies. The selectorate roughly equates to the electorate in a modern democracy, to Communist party membership in a Soviet style communist state, and to the ruling family in a hereditary monarchy. The winning coalition, a subset of the selectorate, is the set of individuals whose support is necessary for the government to stay in power. In a democracy, a winning coalition must include at least 50 percent of the selectorate, while in a military dictatorship it could be a small cadre of officers.

the availability of data. The use of cross-sectional data is justified by three factors. First, the panel is not balanced, i.e. in some countries; the variables are the averages over long periods but in other cases, they are the averages over small periods. For instance, if a country is either established later or if the data is not available over long period for it; then we use the data for the available smaller periods. Second, the institutional variables are highly persistent. For instance, democracy in developed countries and monarchy in Arab countries are persistent over the whole period covered. Third, Gross Domestic Product (GDP) is endogenous; especially in case of secondary school enrolment rate if we take into account the implications of human capital for economic growth. So, unbalanced panel combined with persistent measure of polity and endogenous GDP would not add much to the analysis as far as the main variable of interest is concerned. The selection of countries is highly random and our sample includes all those for which the variables of our interest are available. The list of countries along with data on their major indicators is given in Table A2 in the Appendix. The data is taken from various sources and considerable care is taken in the construction of variables. Additionally, in Table A4, we provide the details of the definitions of variables and their sources.

For our analysis, we employ two alternative indices of country's regime type. The first one, denoted by dictatorship1, is based on the nation's polity score which is formed by subtracting its autocracy score from its democracy score. It is taken from the Polity *IV* database [Marshall and Jaggers (2000)] which rates countries based on the degree of political competition, the openness and competitiveness of executive recruitment, and the extent of legislative and judicial constraints on the chief executive. The second measure, denoted by dictatorship2, is based on Golder (2005) which measure regime type by a dummy variable where democracy takes a value 0 while dictatorship takes a value of 1. Both of these measures are averaged from 1960 onwards and constructed in such a way that ranges from 0(ideal democracy) to 1(extreme dictatorship). Our dependent variables on public good provision and patronage are secondary school enrolment rate and the military expenditure respectively.

The summary statistics, given in Table 1, show that the average scores on our measures of dictatorships are 0.44 and 0.59 for dictatorship1 and dictatorship2, respectively. This indicates that on average; more than 40 percent of countries in our sample have experienced dictatorship since 1960.[17] The continental-wise division reflects that sub-Saharan Africa leads the world with more than 62 percent of its countries persisted with dictatorship. Sub-Saharan Africa is followed by Asia and then the rest of the countries.[18] Similarly, the countries in Neo-Europe which includes Australia, Canada, New Zealand, and the United States have persisted with ideal democracy. Neo-Europe is followed by main Europe which has very low scores on both measures of dictatorships, reflecting the higher degrees of democracies in most of the European countries.[19]

[17] The differences are due to the fact that the second measure is based on just the dummy variable for years in which the countries have experienced dictatorship while the first measure is not based on the years the countries have experienced dictatorship in; instead, it depends upon the characteristics of the selection of chief executives, check and balances on the chief executives and the degree of political competition. However, the correlation between our two measures is 83 percent.

[18] In Asia, we have seen a variety of dictatorships ranging from military dictatorships in countries like Pakistan, Thailand etc. to Arab monarchies and communist dictatorship in China. The rest of the countries mainly include Latin and South American countries.

[19] See for the detailed regional divide of countries Table A3 in the Appendix.

Table 1

Summary Statistics of Variables

Variable	World	Europe	Asia	Sub-Saharan Africa	Neo-Europe	Others
Secondary School Enrolment	55.78	97.7	59.36	21.60	108.80	50.92
	(32.94)	(9.85)	(20.97)	(16.49)	(26.54)	(19.88)
Military Expenditure	2.55	1.97	5.15	2.07	2.21	1.66
	(2.45)	(0.76)	(4.23)	(1.19)	(1.28)	(1.02)
Dictatorship1	0.44	0.10	0.58	0.62	0	0.44
	(0.32)	(0.18)	(0.36)	(0.17)	(0)	(0.26)
Dictatorship2	0.59	0.16	0.71	0.93	0	0.57
	(0.42)	(0.29)	(0.40)	(0.10)	(0)	(0.37)
GDP Per Capita	3973	7651	6695	850	11592	1733
	(6925)	(4370)	(12939)	(2060)	(4558)	(1624)
Primary School Enrolment	93.5	102.74	96.15	77.88	101.88	98.59
	(21.4)	(5.53)	(14.37)	(27.89)	(3.55)	(19.52)
Public Spending on Education	4.14	5.3	3.78	3.55	5.58	3.98
	(1.44)	(1.2)	(1.52)	(1.17)	(0.56)	(1.35)
Population (in million)	26.7	20.11	81.53	7.3	52.8	9.25
	(82.5)	(21.39)	(172.56)	(9.4)	(85.5)	(14.71)
Openness	54	72	56.99	43.84	36.15	52.14
	(40.4)	(76.5)	(31.44)	(16.22)	(16.22)	(26.82)
Area (in thousands square	1050.9	229	1165.5	691.21	6955.1	995.9
Kilometers)	(2024.8)	(184.6)	(2234.2)	(538.17)	(4574)	(1638.2)
Aid Per Capita	14.73	3.9	11.92	20.97	0	19.56
	(19.01)	(11.4)	(26.61)	(11.25)	(0)	(20.11)
Civil Conflict	0.79	0.17	0.89	1.19	0.25	0.83
	(0.74)	(0.38)	(0.74)	(0.75)	(0.5)	(0.65)
External Conflict	0.36	0.17	0.58	0.31	0.5	0.37
	(0.48)	(0.38)	(0.51)	(0.47)	(0.58)	(0.49)
Global Effect	2.39	2.38	2.29	2.40	2.63	2.42
	(0.25)	(0.21)	(0.21)	(0.17)	(0.36)	(0.31)
Natural Resources Rents	16.13	9.7	19.70	15.68	10.25	18.66
	(13.29)	(9.8)	(17.73)	(11.03)	(6.29)	(13.26)
Ethno-Linguistic Fractionalisation	0.29	0.22	0.29	0.30	0.56	0.28
	(0.29)	(0.28)	(0.33)	(0.24)	(0.43)	(0.26)
English Common Law	0.31	0.11	0.42	0.42	1	0.17
	(0.46)	(0.32)	(0.51)	(0.50)	(0)	(0.38)
Muslim	25.80	1.11	56.45	28.38	0.4	22.36
	(37.74)	(2.5)	(43.70)	(31.05)	(0.37)	(39.93)
Urbanisation	48.6	68.34	49.92	27.07	80.3	50.32
	(23.22)	(12.40)	(25.12)	(11.76)	(5.03)	(19.52)
Infant Mortality Rate	45.50	37.48	34.19	57.70	27.90	50.24
	(37.09)	(30.95)	(31.26)	(41.24)	(43.76)	(37.95)
Average Life Expectancy	66.28	77.52	71.62	50.18	78.44	68.49
	(11.54)	(2.05)	(5.12)	(5.31)	(1.23)	(6.54)
Human Development Index	0.64	0.84	0.68	0.43	0.89	0.65
	(0.17)	(0.04)	(0.12)	(0.10)	(0.01)	(0.09)
Competitiveness	0.54	0.73	0.63	0.39	0.78	0.48
	(0.23)	(0.08)	(0.17)	(0.22)	(0.04)	(0.22)
Ease of Doing Business	0.50	0.86	0.56	0.25	0.95	0.41
	(0.30)	(0.09)	(0.25)	(0.16)	(0.04)	(0.22)
Corruption	0.51	0.27	0.58	0.67	0.17	0.53
	(0.22)	(0.21)	(0.13)	(0.16)	(0.14)	(0.17)
Law and Order	0.63	0.89	0.70	0.48	1.00	0.52
	(0.26)	(0.16)	(0.19)	(0.22)	(0.00)	(0.22)

Note: Each entry is the Average of the variable with Standard Deviation in the Parenthesis. In some cases, the school enrolment goes above 100. However, this is due to the fact this is the proportion of students actually enrolled to a particular age group defined for that education. So this implies, in some cases either over-aged or under-aged students have been enrolled. For the detailed definition of variables see Table A4 in the appendix. See Table A3 in the appendix for the regional divide of countries.

Our indicators of public good provision and patronage show divergent patterns. For instance, the average secondary school enrolment rate is around 21.6 percent in sub-Saharan Africa which is the lowest among all the continents. However, patronage, indicated by higher military expenditure as percentage of GDP, is higher in Asia. Asian countries, on average, spend 5.15 percent of their GDP on military, followed by Neo-Europe with 2.21 percent and sub-Saharan Africa with 2.07 percent. Similarly, the detailed summary statistics of the other control variables are shown in Table 1. Again, we are interested in analysing the behaviour of dictators towards the provision of public goods and patronage allocation. So, we expect the coefficient on our measures of regime type to be negatively significant in case of public goods, and positively significant in case of patronage. Alternatively, dictators are more inclined towards patronage allocation than they are to the provision of public goods. The control variables in both cases are different, depending upon the theoretical predictions in the available literature.

3.2. Secondary School Enrolment Rate

Secondary school enrolment rate is the most widely used measure of public good provision [Lake and Baum (2001); Keefer (2007); Deaton (2009)].[20] The primary control variables used in all the specifications of the secondary school enrolment rate are real GDP per capita, primary school enrolment rate, and public spending on education. In order to control for the endogeneity of GDP per capita, we use GDP per capita of the initial available year for each country. In addition, we control for Sub-Saharan Africa in some specifications to ensure that the results are not driven by some special characteristics of these countries. Three different measures, i.e. population, total area and the degree of the openness of a country, are used to control for the scale of the economy. In addition to these, foreign aid per capita is also controlled for in some specifications to see if it has any impact on education as most of the donor agencies claim with regard to education. To control for targeted transfers based on ethnic politics, we also control for ethno-linguistic fractionalisation because ethno-linguistic fractionalisation is strongly correlated with civil conflicts, arising mainly from issues related to distribution.[21]

Table 2 shows the results of our regressions for secondary school enrolment rate, each column including a subset of these control variables. Columns I and II represent baseline regressions for our two measures of dictatorship respectively. As is evident from the table, both of these measures have a significant negative impact on secondary school enrolment rate. Column I shows that a 1 percent transition from dictatorship to democracy results in an approximately 0.38 percent increase in the secondary school enrolment rate. Alternatively, a 1 percent increase in secondary school enrolment rate could be achieved through an approximately 2.5 percent transition from dictatorship to democracy. This translates to the fact that countries that are successful in comprehensive transition from extreme dictatorship to ideal democracy have 37.7 percent greater secondary school enrolment rate relative to those countries that persisted with extreme dictatorships. Similarly, Column II, using the second measure of dictatorship, shows that the difference between extreme dictatorship and ideal democracy in terms of secondary

[20] The selection of our possible control variables is mainly based on this literature.

[21] Montalvo and Reynal-Querol (2005) has shown that ethnic diversity affects the incidence of civil wars arising mainly from issues related to the distribution of common pool in ethnically diverse societies.

Table 2

OLS Regressions for Secondary School Enrollment Rate

Dependent Variable: Secondary School Enrollment Rate

Explanatory Variables	I	II	III	IV	V	VI	VII	VIII	IX	X
constant	–10.33	–11.85	5.23	–2.48	0.56	5.19	5.31	5.16	6.70	14.75
	(9.26)	(10.48)	(9.26)	(11.26)	(8.58)	(9.30)	(9.32)	(9.23)	(9.12)	(11.80)
Dictatorship1	–37.73***		–32.33***		–27.65***	–32.33***	–32.33***	–32.40***	–30.54***	–31.79***
	(6.68)		(5.83)		(5.44)	(5.86)	(5.86)	(5.76)	(5.57)	(6.90)
Dictatorship2		–29.07***		–22.93***						
		(5.30)		(5.06)						
GDP Per Capita	0.001***	0.001***	0.001***	0.001***	0.0006**	0.001***	0.001***	0.001***	0.001***	0.001***
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0002)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0005)
Primary School Enrollment	0.54***	0.55***	0.42***	0.46***	0.26***	0.42***	0.42***	0.41***	0.41***	0.42***
	(0.086)	(0.099)	(0.081)	(0.098)	(0.07)	(0.083)	(0.082)	(0.082)	(0.08)	(0.098)
Public Spending on Education	(6.45)***	6.94***	6.04***	6.77***	5.05***	6.05***	6.07***	6.05***	6.60***	3.99**
	(1.38)	(1.23)	(1.24)	(1.17)	(1.15)	(1.26)	(1.26)	(1.23)	(1.17)	(1.55)
Sub-Saharan Africa			–19.44***	–15.97***	–13.56***	–19.41***	–19.46***	–19.13***	–18.24***	–19.77***
			(4.19)	(4.38)	(3.98)	(4.27)	(4.19)	(4.24)	(4.13)	(5.40)
Urbanisation					0.48***					
					(0.13)					
Population						1.02e-09				
						(2.17e-08)				
Openness							-0.004			
							(0.045			
Area								8.60e-07		
								(1.11e-06)		
Per Capita Foreign Aid									-0.20	
									(0.19)	
Ethno-Linguistic Fractionalisation										-6.54
										(7.14)
R^2	0.72	0.73	0.77	0.76	0.82	0.77	0.77	0.78	0.79	0.78
F-Statistic	98.12***	113.33***	87.11***	89.10***	90.35***	72.35***	71.66***	80.70***	80.85***	57.54***
N	96	96	96	96	96	96	96	96	96	73

Note: * Significant at 10 percent; ** Significant at 5 percent; *** Significant at 1 percent. Robust Standard Errors in the Parenthesis. There are no significant differences between estimation with dictatorship1 and dictatorship2; therefore we use dictatorship1 in all the sensitivity specifications.

school rate is around 29 percent. Columns III and IV add the dummy for sub-Saharan Countries to Columns I and II respectively to show the effects of the characteristics of these countries. In both cases, the measures of dictatorships are still significant. Dictatorships have 32 percent and 23 percent lesser secondary school enrolment rates than democracies in the two cases respectively.

To do the sensitivity analysis, from Column IV onwards, we control for additional factors like the degree of urbanisation, population, the degree of openness of a country, the total area of a country, per capita aid received by a country, and the ethno-linguistic fractionalisation in a country. Additionally, since there is no significant difference between the results of our two measures of dictatorship, therefore we report all the remaining specifications with our first measure of dictatorship. As is evident from the table, all of the scale variables like population, area and openness are insignificant, implying that the scale of economies does not change the magnitude and significance of our main results. Urbanisation is significant but still the difference between extreme dictatorship and ideal democracy remains at around 28 percent in terms of secondary school enrollment rate. Finally, ethno-linguistic fragmentation also does not have any significant effect on our results like the scale variables. Thus, our sensitivity analysis indicates that the significance of our main variable of concern, i.e. dictatorship is robust.

After the initial results, it is always essential to see that the results are robust to the problems of reverse causality and endogeneity. For instance it is possible that higher education levels caused by increases in secondary school enrollment rate subsequently results in institutional improvements, i.e. it cause transition from authoritarianism to democracy. To explore this, we adopt the approach of instrumental variables. We use legal origins and Muslim denomination as instruments for our measures of dictatorships. Legal origins are regarded as colonial legacy, and are the most commonly used instruments for institutional quality [Hall and Jones (1999); Acemoglu and Johnson (2005); Keefer (2007); Kerekes and Williamson (2008)]. To our knowledge, we are the first to use the Muslim beliefs as instrument for dictatorship. Since the spread of Islam, Muslim rulers have attracted that the earth belongs to the God and they rule as God's deputy or lieutenant on this earth [Crone (2003)]. Thus, Muslim beliefs have an associated legitimacy for the persistence of dictatorships. This is evidenced by the fact that majority of the countries where the percentage of Muslim population is higher have experienced dictatorships. Among them are Pakistan, Nigeria, Saudi Arabia, Iraq, Iran, and other Arab countries where majority of the population are Muslims. Second, we believe that Muslim beliefs might not have a direct effect on current policy choices with respect to secondary school enrollment rate.[22] For instance, Islam does not have any distinctive view regarding the spread of education as compared with other religions.

Similarly, colonial history reflects the institutional origins of a country. The idea that many countries have distinct legal origins is identified by La Porta, *et al.* (1999) and Glaeser and Shleifer (2002). Legal origin is shown to shape institutions because different legal traditions, imposed during colonisation, affect current legal systems [Djankov, *et al.* (2003)]. They are classified as common law and civil law systems. Common law, imposed during British colonisation, is referred to as English legal origin. The French imposed civil law systems. Thus, the British Common Law and the French Civil Law would be good

[22] The Muslim Denomination is measured as the percentage of Muslims into total population.

instruments for the development of subsequent political institutions in the colonised countries. We use British common law as one of our instruments to control for the impact of legal origins on current institutions. This approach circumvents the problem of endogeneity, i.e., the Muslim denomination and legal origins determine current political institutions, but not current policy choices or outcomes. Similarly, current policy outcomes such as secondary school enrolment cannot determine legal origins 150 to 200 years ago or Muslim denomination.

The instruments need to be valid, i.e. only affect the dependent variable indirectly through their effects on the endogenous variables. To ensure the validity of instruments, we use Sargan's test for the over-identifying restrictions and Hausman's test for the comparison of OLS coefficients with 2SLS coefficients. The detailed results of these tests, summarised in Table A1 in the appendix, show that in all our regressions, the instruments are valid.[23] Thus, all of the instruments influence the institutional development of countries, but neither is plausibly related to policy choices regarding secondary school enrolment rate in the 1960s onwards. The results of our 2SLS analysis are given in Table 3. The results indicate that our original results did not suffer from the significant problems of reverse causality or endogeneity. The signs and significance of

Table 3

2SLS *Regressions for Secondary School Enrollment*

Dependent Variable: Secondary School Enrollment Rate

Explanatory Variables	I	II	III	IV	V
constant	–28.62**	–23.73	2.33	–0.79	3.73
	(13.28)	(14.40)	(12.69)	(13.64)	(10.20)
Dictatorship1	–27.44**		–29.10***		–31.18***
	(9.60)		(8.89)		(7.58)
Dictatorship2		–20.07**		–24.74***	
		(8.30)		(7.97)	
GDP Per Capita	0.002***	0.001***	0.001***	0.001***	0.0006***
	(0.0004)	(0.0003)	(0.0003)	(0.0003)	(0.0002)
Primary School Enrollment	0.59***	0.58***	0.43***	0.46***	0.26***
	(0.10)	(0.11)	(0.09)	(0.10)	(0.074)
Public Spending on Education	(7.77)***	7.68***	6.26***	6.65***	4.84***
	(1.47)	(1.36)	(1.22)	(1.16)	(1.15)
Sub-Saharan Africa			–19.92***	–15.32***	–13.22***
			(4.08)	(4.55)	(3.88)
Urbanisation					0.46***
					(0.13)
Adjusted-R^2	0.69	0.71	0.76	0.75	0.80
F-Statistic	86.47***	99.26***	85.21***	89.35***	91.01***
No. of Observation	96	96	96	96	96

Note: * Significant at 10 percent; ** Significant at 5 percent; *** Significant at 1 percent. Robust Standard Errors in the Parenthesis. In 2SLS, the R^2 has no statistical meaning and therefore is omitted from the table. For 2SLS, the appropriate test for the validity of the instrument is the Sargan test statistic which has the null hypothesis that instrument are not correlated with the error term of the second stage and therefore that the excluded instrument are correctly excluded from the regression. Failure to reject the null implies that the instruments are valid. For all of our specifications: For the Sargan test statistic P-Value >0.05, which implies the validity of instruments. Similar comparing the OLS coefficients with those of 2SLS: For Hausman t-statistic, P-Value>0.05, which implies no significance difference between OLS and 2SLS estimates. For the details of the tests values, see Table A1 in the appendix. We report 2SLS results only for those specification in which all the coefficients in case of OLS are significant.

[23]See the note of Table 3 for the details of tests regarding the instruments. The detailed results of these tests are given in Table A1 in the Appendix.

the main variables like the degree of authoritarianism and all the other relevant controls remain unchanged. The only notable difference is that the coefficients on the dictatorship became a little bit different as they are expected in case of 2SLS. However, for all the specifications, the Hausman's P-values are larger than 0.05. So, we conclude that there are no large differences between the OLS estimates and the 2SLS estimates, and consequently, the OLS coefficients are consistent. However, we report the results of 2SLS for completeness.

3.3. Military Spending as Percentage of GDP

Many proxies have been used to measure patronage in economies. The most notable of these are the size of public sector measured as public expenditure as percentage of GDP, the government wage bill, or the size of public investment etc.[24] However, these measures are subject to some criticism. First, the size of the public sector includes both spending on public services and special-interest spending, so we cannot separate the impact of regime type on patronage. The same is true with the government wage bill. Second, most of these proxies are useful when used for estimating the effects of various types of democracies or the quality of democracies on public budgets.[25] Since, in this study, our purpose is to see the impact of dictatorship on patronage and public good provision, we believe that the military spending is preferable to other proxies of patronage or targeted transfers. Our belief is legitimised by two different but related justifications. First, dictators are not interested in voting or re-election; instead, they are interested in enhancing or maintaining their political power because most of their rents are associated with that power.[26] Second, they need a specialised force to control their potential opponents or to dodge the threats to their regimes. The military is endowed with two capabilities in dictatorial regimes: first, they can overthrow the dictator; second, they can control his opponents by using their specialisation in violence. Due to these proficiencies, dictators are highly dependent on military, and therefore are more inclined to offer the military more than their best available alternatives.

With regard to the military spending, the existing literature has not fully identified a congruent theory which is also supported by empirics [Rosh (1988); Collier and Hoeffler (2007); Albalate, *et al.* (2012)]. The main difficulty is that many factors need to be taken into consideration while analysing military spending. In this study, by avoiding parsimony, we test for a bunch of control variables along with our main variable of concern, i.e. regime type. In political science, it has been often argued that rulers use military spending to keep their militaries from overthrowing them [Nordlinger (1977); Leon (2010)]. In this study we test this hypothesis empirically in case of dictatorship. Alternatively, we want to comprehend how much the dictators incentivise the military to persist with their power or sustain their rule. This issue is important in the sense that higher rents to the military reduce the resources available for the provision of other public

[24] Keefer (2007) used both the government wage bill and public investment.

[25] For instance, it is useful when we compare the spending patterns of presidential and parliamentary democracies.

[26] In democracies, the rulers are interested in maximising their votes, and therefore they focus more on private interest groups, rather than public interest groups like bureaucracy, judiciary, or the military.

goods [Sprout and Sprout (1968)]. This section is completely devoted to the empirical analysis of military spending with special emphasis on dictatorships. The dependent variable throughout is the military spending as percentage of GDP.

The results of ordinary least squares estimation is summarised in Table 4. In the first two columns, we just regress military spending on per capita GDP and our two measures of dictatorships respectively. Both of our proxies for dictatorships have a significant positive effect on military spending as is expected. For instance, in case of dictatorship1, extreme dictatorial regimes spend 0.88 percent of GDP more on military than ideal democracies do. In other words, transition from extreme form of dictatorship to ideal democracy reduces military spending by 0.88 percent of GDP. In the same way, our second measure, i.e. dictatorship2, indicates that military spending is higher in absolute dictatorships by 0.51 percent of GDP relative to ideal democracies. In addition, both of these columns have significant and positive coefficients on per capita GDP along with significant F-statistics for the overall regressions.

In Columns III and IV we control for civil conflicts, external conflicts, and the size of population for our two measures of dictatorships respectively. In both of these specifications, the civil conflicts and population affect military spending positively, but both are insignificant. Similarly, external conflict has positive coefficients but is insignificant in specification in which we use our first measure of dictatorship (Column III); however, it is significant at 10 percent in column IV which use our second measure of dictatorship. In both of these specifications, the significance of our main variables of concern, i.e. dictatorships, remains intact. Again, since there is no significance difference between our two measures of dictatorships as far as estimation is concerned; so, in all of our sensitivity analysis, we report only specifications with our first measure of dictatorship which is based on data from polity IV.

In Columns V and VI, we control for two additional scale variables, i.e. the total area and the degree of openness respectively. In both cases, we have no significant effect of these variables on the inclination to spend on military. Column VII is aimed at controlling for demonstration effect or global effect. In a sense, this is a proxy for arms race. However, it has no significant effect on military spending. Columns VIII and IX control for the windfall rents variables, i.e. foreign aid and natural resources wealth, respectively. The results show that both of the windfall variables have no significant effects on military spending. Additionally, Columns X, XI, XII control for Africa, Europe, and Asia respectively. The only significant continent is Asia where there are majority of dictatorships in our sample. Also, this is consistent with the fact that on average, Asian countries spend more on military as compared with other countries.[27] Overall, in these results, three points are very important to be noted. First, in all of these specifications, ranging from III to XII, dictatorships and per capita GDP have a significant positive effect on military spending. Second, almost in all specifications, civil as well as external conflicts are insignificant. Also, the geographical variable like area, or social variable like population has no significant effect in the decisions to spend on military. These three points together indicate that the demand factors have no motives for higher military spending; instead the income and patronage effects are stronger.

[27] See, for instance, the summary statistics.

Table 4

OLS Regressions for Military Expenditure

Dependent Variable: Log (Military Expenditure as % of GDP)

Explanatory Variables	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
constant	–0.68	–0.53	–1.27	–0.83	–1.36	–3.16*	–1.07	–1.82	–2.01	–0.97	–1.08	–0.71
	(0.51)	(0.59)	(1.14)	(1.18)	(1.07)	(1.75)	(1.36)	(1.28)	(1.75)	(1.20)	(1.17)	(1.11)
Dictatorship1	0.88***		0.80**		0.68**	0.90***	0.81***	0.84***	0.77**	0.84**	0.85**	0.58**
	(0.30)		(0.35)		(0.32)	(0.35)	(0.36)	(0.32)	(0.38)	(0.37)	(0.37)	(0.29)
Dictatorship2		0.51**		0.48**								
		(0.18)		(0.16)								
Log (GDP Per Capita)	0.13**	0.12**	0.17***	0.16**	0.16***	0.18***	0.17***	0.19***	0.17***	0.15**	0.15**	0.16***
	(0.06)	(0.05)	(0.06)	(0.07)	(0.06)	(0.06)	(0.06)	(0.07)	(0.06)	(0.07)	(0.07)	(0.06)
Civil Conflict			0.14	0.15	0.11	0.19*	0.14	0.13	0.15	0.17	0.15	0.15
			(0.11)	(0.11)	(0.12)	(0.12)	(0.11)	(0.10)	(0.12)	(0.13)	(0.11)	(0.10)
External Conflict			0.25	0.31*	0.26	0.22	0.26	0.25	0.21	0.23	0.27	0.13
			(0.17)	(0.16)	(0.18)	(0.17)	(0.16)	(0.17)	(0.17)	(0.19)	(0.17)	(0.15)
Log (Population)			0.01	0.01	–0.04	0.06	0.01	0.03	0.04	0.001	0.001	–0.02
			(0.05)	(0.05)	(0.07)	(0.06)	(0.05)	(0.05)	(0.08)	(0.05)	(0.05)	(0.05)
Log (Area)					0.08							
					(0.08)							
Log (Openness)						0.27						
						(0.21)						
Log Global Effect							–0.30					
							(0.88)					
Aid Per Capita								0.004				
								(0.004)				
Log (Natural Resources Rents)									0.10			
									(.17)			
Africa										–0.18		
										(0.24)		
Europe											0.18	
											(0.17)	
Asia												0.66***
												(0.20)
R^2	0.12	0.10	0.17	0.13	0.19	0.19	0.18	0.20	0.18	0.18	0.18	0.27
F-Statistic	4.30**	4.06**	3.28***	3.26***	3.24***	3.32***	3.30***	3.17***	3.26***	3.04***	3.06***	4.84***
N	95	95	95	95	95	94	95	95	94	95	95	95

Note: * Significant at 10 percent; ** Significant at 5 percent; *** Significant at 1 percent. Robust Standard Errors in the Parenthesis. There are no significant differences between estimation with dictatorship1 and dictatorship2; therefore we use dictatorship1 in all the sensitivity specifications.

Again, in this case also, we need to check the robustness to the problems of reverse causality and endogeneity. For instance, the persistence of modern military dictatorships in the third world countries might have caused by the excessive military spending in the past.[28] Even in case of civilian dictatorships, it might be the case that the excessive spending on military might cause the persistence of dictatorships, provided that these spending are higher in dictatorships relative to democracy. To take into account such possibilities, we provide Two Stages Least Squares (2SLS) estimates in Table 5. Again, the instruments that we use for our measures of dictatorships include legal origin of English Common Law and the religious belief of Muslim denomination. As mentioned earlier, the English Common law is the most frequently used instrument for political institutions.[29] Also, in this case, we add an additional instrument in the form of Muslim religious denomination as the percentage of Muslim population in countries is highly correlated with our both measures of dictatorships. Our instruments satisfy the Sargan test for over-identifying restrictions, implying the validity of our instruments. Similarly, the Hausman test regarding the differences between OLS and 2SLS estimators suggests no significant differences between the two set of estimators in all the specifications that we provide in Table 5. The estimates and their standard errors are larger as are expected in case of the 2SLS, but our results do not suffer from the severe problems of reverse causality or endogeneity. Again, for completeness, we report 2SLS estimates.

Table 5

2SLS Regressions for Military Expenditure

Dependent Variable: Log (Military Expenditure as % of GDP)					
Explanatory Variables	I	II	III	IV	V
constant	–1.44**	–2.26**	–2.62*	–3.97**	–1.28
	(0.67)	(0.90)	(1.53)	(1.90)	(1.45)
Dictatorship1	1.55***		1.43***		0.84**
	(0.52)		(0.55)		(0.41)
Dictatorship2		1.55***		1.49**	
		(0.56)		(0.67)	
Log (GDP Per Capita)	0.20***	0.28***	0.22***	0.30***	0.18***
	(0.07)	(0.09)	(0.08)	(0.09)	(0.07)
Civil Conflict			0.09	0.04	0.13
			(0.13)	(0.15)	(0.11)
External Conflict			0.17	0.20	0.11
			(0.18)	(0.20)	(0.15)
Log (Population)			0.06	0.10	0.001
			(0.06)	(0.08)	(0.06)
Asia					0.62***
					(0.20)
Adjusted-R^2	0.10	0.06	0.11	0.12	0.21
F-Statistic	6.55***	5.96***	3.48***	3.39***	4.40***
N	95	95	95	95	95

Note: * Significant at 10 percent; ** Significant at 5 percent; *** Significant at 1 percent. Robust Standard Errors in the Parenthesis. In 2SLS, the R^2 has no statistical meaning and therefore is omitted from the table. For all of our specifications: For the Sargan test statistic P-Value >0.05, which implies the validity of instruments. Similar comparing the OLS coefficients with those of 2SLS: For Hausman t-statistic, P-Value>0.05 for all cases, which implies no significance difference between OLS and 2SLS estimates in these cases. For the details of the tests values, see table A1 in the appendix. We report 2SLS results only for those specification in which some of the coefficients are significant in case of OLS along with baseline regressions.

[28]In countries like Pakistan and Nigeria, the excessive spending on military, legitimised by the conflicts with India and ethnic conflicts respectively, has made the military's incentives larger to remain in the government.

[29]See for instance Hall and Jones (1999), Acemoglu, *et al.* (2005) and Keefer (2007).

3.4. Generalisation of the Results

As stated earlier, our objective in this study is to combine the relationships of dictatorship with public goods and patronage and give some generalised results in this regard. In order to substantiate the results in the previous sections, we check the robustness with regard to other measures of public goods and patronage. We take three other measures of public goods, i.e. infant mortality rates, average life expectancy and Human Development Index (HDI).[30] All of the three reflect the public sector provision of the social services or public goods. Likewise, we use four other measures which can reflect both the provision of public goods and patronage-related activities. These measures include law and order, corruption, ease of doing business and competitiveness.[31] For instance, if the state is based on Weberian principles, then there would be transparent law and order, less occurrence of corruption and the private sector would enjoy the ease of doing business and competitiveness. However, if the government resorts to patronage for political support, then we would have poor law and order, more corruption, and more barriers to businesses and competition. Alternatively, when political leaders engage in nepotism (hiring close associates) and cronyism (awarding non-competitive government contracts to friends and relatives), they would violate rule of law. Likewise, when government rewards groups, families, ethnicities through licensing, monopoly rights or government contracts, it results in corruption, rent-seeking and kick-backs. Thus, all of the patronage type activities restrict entry to businesses and discourage competition. In order to draw some proposition regarding these claims, we do the robustness analysis with regard to these variables. The corresponding results are shown in Table 6.

As is visible from Table 6, infant mortality rates decline by around 25 infants per 1000 infants with the complete transition from extreme dictatorship to ideal democracy. Likewise, average life expectancy in extreme dictatorship is around 10 years lower as compared to the ideal democracy. Similar is the case with HDI, i.e. HDI increases by 16 percent with the complete transition from dictatorship to democracy. The results with respect to the law and order show that the strength and impartiality of the legal system or observance of the rule of law is lower in dictatorships by around 29 percent as compared to democracies. Likewise, dictatorships are around 6 percent more corrupt as compared to the ideal democracies. Alternatively, corruption in the form of excessive patronage, nepotism, job reservations, 'favour-for-favours', secret party funding, and suspiciously close ties between politics and business is highly prevalent in dictatorships. The index of ease of doing business shows the relative easiness in indicators like construction permits, registration, getting credit, tax payment mechanism etc. Our results show that these indicators are relatively easier in democracies by around 32 percent. Finally, the Global Competitiveness Index (GCI) integrates the microeconomic and the macroeconomic aspects of competitiveness into a single index. It assess the factors, policies and institutions, based on 12 pillars of competitiveness, which are essential for long-term growth and prosperity. Our results with respect to the competitiveness indicate that transition from extreme dictatorship to ideal democracy enhances the average competitiveness of countries by 42 percent.

[30] See Table A4 in the appendix for the precise definition of these variables.

[31] Again, see Table A4 for the definition of these variables.

Table 6

Robustness with Other Measures of Public Goods and Patronage

Dependent Variable: Secondary School Enrolment Rate

Explanatory Variables	Infant Mortality	Life Expectancy	HDI	Law and Order	Corruption	Ease of Doing Business	Competitiveness
constant	31.89**	56.98***	0.58***	0.65***	0.058***	0.68***	0.65***
	(13.26)	(4.44)	(0.06)	(0.14	(0.13)	(0.15	(0.18)
Dictatorship1	24.83**	–9.80**	–0.16**	–0.29**	0.064**	–0.32**	–0.42**
	(11.72)	(4.61)	(0.077)	(0.14)	(0.023)	(0.14)	(0.19)
GDP Per	–0.00067***	0.0004***	0.00006***	0.00001**	–0.00001**	0.0007*	0.00026*
Capita	(0.0002)	(0.0001)	(0.00002)	(0.000004)	(0.000004)	(0.00037)	(0.00014)
Public Spending on	–2.22**	0.80**					
Health	(1.13)	(0.36)					
Sub-Saharan	2.33**	–16.82***	–0.12***	0.02***	0.09**	–0.09**	–0.04***
Africa	(1.11)	(2.16)	(0.027)	(0.005)	(0.03)	(0.04)	(0.005)
Urbanisation	0.30*	0.13***	0.003***	0.007***	–0.001**	0.68***	0.001**
	(0.16)	(0.04)	(0.0005)	(0.0003)	(0.0004)	(0.16)	(0.00055)
Adjusted-R^2	0.60	0.74	0.78	0.67	0.66	0.52	0.55
F-Statistic	73.23***	77.99***	96.47***	63.67***	63.22***	54.95***	49.35***
No. of Observation	96	96	96	96	96	96	96

Note: * Significant at 10 percent; ** Significant at 5 percent; *** Significant at 1 percent. Robust Standard Errors in the Parenthesis. In 2SLS, the R^2 has no statistical meaning and therefore is omitted from the table. For 2SLS, the appropriate test for the validity of the instrument is the Sargan test statistic which has the null hypothesis that instrument are not correlated with the error term of the second stage and therefore that the excluded instrument are correctly excluded from the regression. Failure to reject the null implies that the instruments are valid. For all of our specifications: For the Sargan test statistic P-Value >0.05, which implies the validity of instruments. Similar comparing the OLS coefficients with those of 2SLS: For Hausman t-statistic, P-Value>0.05, which implies no significance difference between OLS and 2SLS estimates. For the details of the tests values, see table A1 in the appendix. We report 2SLS results only for those specification in which all the coefficients in case of OLS are significant.

4. CONCLUSION

This study is motivated by the recent literature that emphasises the importance of institutions for economic development. The literature has, so far, arrived at the conclusion that absolutist political institutions create absolutist economic institutions which, in turn, are associated with limited access order. In such a limited access order, the wide-cross section of society is deprived of the access to general services like education or health on the one hand and on the other hand, lessor or no protection is provided to their property rights. Consequently, the countries which have persisted with absolutist political institutions are facing the problem of under-development. Given this premise, there is a growing theoretical debate about the inclination of dictators to spend more on military to sustain and prolong their regimes; and to spend less on the provision of public services in its place. In this study, we have endeavoured to draw some conclusions empirically about this debate by testing this hypothesis empirically.

We have carried out three separate estimations in this regard. First, we estimate the secondary school enrolment rate as an indicator of public services provision. Second, we analyse military spending as an indicator of patronage. Third, in order to substantiate our results, we use other measures of public good provision and patronage. In all of the cases, the emphasis is on the type of regime in the list of all possible explanatory variables. The results, based on data from the cross-section of the countries, confirm the hypothesis, i.e. dictatorship has a significant negative effect on public good provision and

a significant positive effect on the patronage. Hence, we conclude that dictators tend to rely more on patronage to the targeted groups for political support instead of relying on the wide cross-section of the society.

Although, the study clearly demonstrates the behaviour of dictators towards the provision of public goods, and the patronage, we believe that more future research is needed to draw some general propositions for policy recommendations regarding institutional reforms in the third world countries. For instance, we have taken a very narrow approach by indexing the dictators' behaviour towards patronage with military expenditure. Future work may develop an index for patronage that can capture the effects of targeted transfers both to the private interest groups as well as to the state's privileged groups like military, bureaucracy, and the judiciary. In addition, more econometric analysis is clearly needed in order to understand the exact channels of causation. Likewise, one must be careful before generalising the findings of the paper. The reason is that once dictators become stronger; they could start investing on public goods for winning general support. In addition, it is quite possible that continuous spending on military prevails in order to thwart any unexpected revolt from the people.

APPENDIX

Table A1

Results of the Sargan Test for Over-identifying Restrictions and Hausman Specification Test

Secondary School Enrolment Rate

	Sargan Results		Hausman Results	
Specification	Sargan Chi-Square Values	P-values	Hausman t-Values	P-values
I	2.88	0.578	1.49244	0.139
II	2.208	0.698	1.409005	0.162
III	1.536	0.909	0.481269	0.631
IV	1.056	0.958	–0.29394	0.769
V	0.0192	0.999	–0.66875	0.505

Military Expenditure

	Sargan Results		Hausman Results	
Specification	Sargan Chi-Square Values	P-values	Hausman t-values	P-values
I	3.686	0.158	1.577453	0.118
II	2.375	0.305	1.961217	0.053
III	4.218	0.518	1.484924	0.141
IV	3.23	0.666	1.552377	0.124
V	1.5675	0.955	0.897085	0.372

Robustness Analysis

	Sargan Results		Hausman Results	
Specification	Sargan Chi-Square Values	P-values	Hausman t-values	P-values
Infant Mortality Rate	2.536	0.122	1.639467	0.105
Life Expectancy	3.750	0.130	1.261285	0.210
HDI	3.144	0.618	1.384076	0.170
Corruption	4.133	0.456	1.442365	0.153
Law and Order	3.735	0.895	0.953358	0.343
Ease of Doing Business	1.743	0.784	1.537021	0.128
Competitivness	3.875	0.352	1.367232	0.175

Table A2

List of the Countries with Main Variables

Country	SSE	ME	DIC1	DIC2	Country	SSE	ME	DIC1	DIC2
Algeria	47.46	2.90	0.79	1.00	Libya	65.54	2.55	0.85	1.00
Angola	12.68	6.00	0.75	1.00	Madagascar	20.62	1.18	0.49	0.80
Argentina	69.05	1.15	0.40	0.33	Malaysia	55.09	2.35	0.27	1.00
Australia	148.46	1.99	0.00	0.00	Mali	12.37	2.18	0.59	0.78
Austria	98.56	1.03	0.00	0.00	Mauritania	16.76	3.36	0.81	1.00
Bangladesh	29.00	1.26	0.48	0.67	Mexico	57.36	0.53	0.52	0.98
Belgium	108.30	1.55	0.01	0.00	Morocco	32.34	3.76	0.87	1.00
Bolivia	64.06	2.10	0.37	0.64	Mozambique	8.06	1.75	0.59	1.00
Botswana	41.20	3.40	0.16	1.00	Oman	36.81	12.99	0.97	1.00
Brazil	69.75	1.60	0.41	0.27	Netherlands	110.20	1.86	0.00	0.00
Bulgaria	93.16	2.81	0.53	0.80	New Zealand	97.09	1.32	0.00	0.00
Cameroon	21.66	1.37	0.81	1.00	Nicaragua	40.41	1.59	0.51	0.69
Canada	97.41	1.45	0.00	0.00	Niger	5.67	1.03	0.65	0.93
Central African Republic	10.96	1.34	0.68	0.80	Nigeria	21.32	0.79	0.56	0.71
Sri Lanka	64.91	3.60	0.20	0.23	Norway	103.02	2.16	0.00	0.00
Chad	9.55	2.61	0.78	1.00	Pakistan	21.16	5.14	0.47	0.48
Chile	73.48	3.64	0.35	0.31	Panama	61.65	1.34	0.42	0.45
China	52.89	2.05	0.87	1.00	Papua New Guinea	11.01	0.96	0.30	0.00
Colombia	55.84	2.98	0.12	0.16	Paraguay	38.92	1.09	0.59	1.00
Congo, Democratic Republic	21.76	1.52	0.86	1.00	Peru	65.81	1.40	0.36	0.58
Costa Rica	51.96		0.00	0.02	Poland	89.03	2.09	0.51	0.78
Denmark	113.02	1.65	0.00	0.00	Portugal	77.98	2.12	0.27	0.55
Dominican Republic	47.99	0.61	0.29	1.00	Qatar	76.30	3.07	1.00	1.00
Ecuador	52.40	2.19	0.29	0.33	Saudi Arabia	80.60	10.80	1.00	1.00
El Salvador	43.59	1.13	0.33	0.69	Senegal	15.51	1.64	0.55	1.00
Ethiopia	15.80	3.75	0.75	1.00	Sierra Leone	15.06	2.28	0.60	0.73
Finland	109.93	1.48	0.00	0.00	Vietnam	50.35	3.53	0.85	1.00
France	97.12	2.85	0.10	0.00	South Africa	85.40	2.18	0.21	0.87
Gabon	36.11	1.58	0.83	1.00	Zimbabwe	28.05	4.12	0.57	1.00
Gambia	19.37	0.80	0.35	1.00	Spain	97.98	1.36	0.26	0.56
Germany	101.28	1.68	0.00	0.00	Sudan	20.23	2.77	0.72	0.80
Ghana	40.67	0.61	0.59	0.91	Sweden	104.02	1.97	0.00	0.00
Greece	87.71	3.87	0.18	0.13	Switzerland	95.77	1.23	0.00	0.00
Guatemala	26.73	0.86	0.42	0.20	Syria	50.10	6.01	0.90	1.00
Guinea	18.82	1.93	0.80	1.00	Togo	24.32	2.55	0.76	1.00
Guyana	84.69	1.05	0.46	0.74	Trinidad and Tobago	73.53	0.43	0.06	0.00
Haiti	15.72	0.09	0.74	0.87	United Arab Emirates	63.29	7.81	0.90	1.00
Honduras	29.85	0.63	0.33	0.53	Tunisia	49.92	1.78	0.82	1.00
India	39.73	2.86	0.07	0.00	Turkey	50.36	3.38	0.16	0.33
Indonesia	44.57	1.37	0.68	0.96	Uganda	11.85	2.54	0.66	0.87
Iran	61.76	2.58	0.81	1.00	Egypt	56.27		0.80	1.00
Ireland	99.77	0.86	0.00	0.00	United Kingdom	90.32	2.91	0.00	0.00
Israel	87.23	9.54	0.03	0.00	Tanzania	6.36	1.43	0.72	1.00
Italy	81.39	1.94	0.00	0.00	United States	92.25	4.08	0.00	0.00
Jamaica	69.14	0.60	0.02	0.00	Burkina Faso	6.79	1.39	0.71	1.00
Japan	96.27	0.96	0.00	0.00	Uruguay	78.78	1.86	0.25	0.22
Kenya	34.52	1.81	0.63	1.00	Venezuela	57.21	1.51	0.12	0.20
Korea, South	84.96	3.03	0.43	0.74	Zambia	17.00	2.09	0.59	0.73
Kuwait	82.38	15.56	0.91	1.00					

Note: SSE is the School Enrollment Rate, ME is the Military Expenditure as % of GDP, DIC1 is our first measure of dictatorship, denoted by Dictatorship1, and DIC2 is the Dictatorship2 used in study. For the detailed of the definitions of variables See Table A4 in the appendix.

Table A3

Regional Divide of Countries

Regions	No. of Countries	List of Countries
Europe	18	Austria, Belgium, Bulgaria, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland, United Kingdom
Asia	19	Bangladesh, Sri Lanka, China, India, Indonesia, Iran, Israel, Japan, Kuwait, Malaysia, Oman, Pakistan, Qatar, Saudi Arabia, Vietnam, Syria, Turkey, South Korea, UAE
Sub-Saharan Africa	26	Angola, Botswana, Cameroon, Central African Republic, Chad, Congo Democratic Republic, Ethiopia, Gabon, Gambia, Ghana, Guinea, Kenya, Madagascar, Mozambique, Niger, Nigeria, Senegal, Sierra Leone, South Africa, Zimbabwe, Togo, Uganda, Tanzania, Burkina Faso, Zambia, Mali
Neo-Europe	4	Australia, Canada, New Zealand, United States of America
Others	30	Algeria, Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Eucador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Libya, Mauritania, Mexico, Morocco, Nicaragua, Panama, Papua New Guinea, Paraguay, Peru, Sudan, Trinidad and Tobago, Uruguay, Venezuela, Tunisia, Egypt

Table A4

Summary of the Definitions and Sources of Variables (Part I)

Variable	Definition	Source
Secondary School Enrollmet	Gross Secondary School Enrollment Rate. It is the proportion, regardless of age, to the population of the age group that officially corresponds to the level of education shown, averaged from 1960 to 2010.	World Development Indicators, World Bank
Military Expenditure	Military Expenditure are taken as Percentage of GDP, averaged from 1960 to 2009.	World Development Indicators, World Bank
Dictatorship1	Polity IV project data on Polity=democracy-autocracy. It is constructed such that it ranges from 1(Extreme Dictatorship) to 0(Ideal democracy), averaged from 1964-2009, depending upon availability.	Polity IV, (Marshall and Jaggers, 2000)
Dictatorship2	This indicator is based on regime type by a dummy variable where democracy takes a value 0 while dictatorship takes a value of 1 in a Particular year. It is averaged from 1960 to 2000, so that it becomes an index ranging from 1(Extreme Dictatorship) to 0(Ideal Democracy)	The data on Yearly regime type is taken from Golder (2005)
GDP Per Capita	This is taken as the GDP per capita of the initial available year for a country and is taken in terms of constant 2000 $.	World Development Indicators, World Bank
Primary School Enrollment	Gross Primary School Enrollment Rate. It is the proportion, regardless of age, to the population of the age group that officially corresponds to the level of education shown, averaged from 1960 to 2010	World Development Indicators, World Bank
Public Spending on Education	Total Public spending on education, as Percentage of GDP, averaged from 1960 to 2010.	World Development Indicators, World Bank

Continued—

Table A4—(*Continued*)

Population	This is taken as the total population of the initial available year for a country from 1960 onwards.	World Development Indicators, World Bank
Openness	It is measured as the sum of imports and exports of goods and services as percentage of GDP. It is averaged from 1960 to 2010.	World Development Indicators, World Bank
Area	Total Area in Square Kilometers	World Development Indicators, World Bank
Aid Per Capita	Total aid Received by a Country. It represents Official Development Assistance (ODA) and other official aid received in constant US dollars, taken as average from 1960 to 2010	World Development Indicators, World Bank
Civil Conflict	This is the sum of Two Dummies. One dummy takes the value of 1, if at least one internal conflict has taken place and it is not intervened by other countries since in 1960 and 0 otherwise. The other takes the value of 1, if at least one internal conflict has taken place and it is intervened by the government of other states. So our measure takes three values, *i.e.* 0, 1 or 2.	PRIO (Peace Research Institute of Oslo http://www.prio.no r/)
External Conflict	This denotes the conflict between two or more countries. It takes the value 1 if at least one conflict has taken place since 1960, 0 otherwise.	PRIO (Peace Research Institute of Oslo http://www.prio.no r/)
Global Effect	For a given country, this is the average of the military expenditure as Percentage of GDP of the rest of the World. This is calculated from the data used in this study.	Calculated From Data on Military Expenditure
Asia, Europe and Africa	Dummies, takes the value of 1 if a country belongs to a particular Continent, 0 otherwise.	Self-Calculated
Natural Resources Rents	It is measured as the per cent share of natural resources exports (including agricultural and raw material exports, fuel exports, food exports, and ores and metals exports) in GDP, averaged from 1960 to 2000.	World Development Indicators, World Bank
Ethno-Linguistic Fractionali-sation	. It is the probability that the two randomly selected individuals from a given country will not belong to the same ethno-linguistic group. The greater probability implies more ethno-linguistically diverse society.	Easterly and Levine (1997)
English Common Law	It takes a value of 1 if the country's legal origin is based on British common law and 0 otherwise.	La Porta et al. (1999).
Muslim	The percentage of population in a country belonging to Islam in 1999. La Porta, *et al.* calculated these values for 1999.	La Porta et al. (1999).
Urbanisation	Average of urban population as percentage of total population from 1960 to 2010.	World Development Indicators, World Bank

Note: GDP per capita is taken for the initial available year in order to take into account the implications of human capital for economic growth and thereby, avoid the endogeneity of GDP. Similarly, in most of the applied microeconomic studies, it is shown that more educated people raise fewer children. Therefore, to avoid the endogeneity of population, we take the population of the initial year for each country.

Table A4

Summary of the Definitions and Sources of Variables (Part II)

Variable	Definition	Source
Infant Mortality Rates	It measures the number of infants dying before reaching one year of age, per 1000 live births in a given year	World Development Indicators (WDI), World Bank
Average Life Expectancy	Life expectancy at birth indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life.	World Development Indicators (WDI), World Bank
Human Development Index (HDI)	It is the geometric mean of three indexes, i.e. the Life Expectancy Index, the Education Index and the Income Index. These component indexes are based on life expectancy at birth, mean years of schooling, expected years of schooling, and gross national income per capita. Life Expectancy Index (LEI)=$\frac{LE-20}{85-20}$ Education Index (EI)= $\frac{MYSI-EYSI}{2}$ Mean Years of Schooling Index (MYSI)= $\frac{MYS}{15}$ Expected Years of Schooling Index (EYSI)= $\frac{EYS}{15}$ Income Index (II)= $\frac{Ln\,(GNIPC)-Ln(100)}{Ln(75{,}000)-Ln(100)}$ Human Development Index (HDI)=$\sqrt[3]{LEI * EI * II}$	Human Development Report published by UNDP
Law and Order	Law and order show the strength and impartiality of the legal system. It also shows an assessment of popular observance of the law.	The International Country Risk Guide (ICRG), the PRS group.
Corruption	It shows corruption in the form of excessive patronage, nepotism, job reservations, 'favor-for-favors', secret party funding, and suspiciously close ties between politics and business.	The International Country Risk Guide (ICRG), the PRS group.
Ease of Doing Business	The Ease of doing business is an index shows different parameters which define the ease of doing business in a country. It includes indicators like construction permits, registration, getting credit, tax payment mechanism etc.	The World Bank
Competitiveness	The Global Competitiveness Index (GCI) integrates the microeconomic and the macroeconomic aspects of competitiveness into a single index.	The World Economic Forum (WEF)

REFERENCES

Acemoglu, D. and J. Robinson (2012) *Why Nations Fail: The Origins of Power, Prosperity and Poverty*. New York: Crown Business.

Acemoglu, D. and J. Robinson (2000) Why Did the West Extend the Franchise? Democracy, Inequality, and Growth in Historical Perspective. *The Quarterly Journal of Economics* 115:4, 1167–1199.

Acemoglu, D., T. Davide, and A. Vindigni (2010) A Theory of Military Dictatorships. *American Economic Journal: Macroeconomics* 2:1, 1–42.

Albalate, D., G. Bel, and F. Elias (2012) Institutional Determinants of Military Spending. *Journal of Comparative Economics* 40:2, 279–290.

Bueno de Mesquita, B., J. D. Morrow, R. M. Siverson, and A. Smith (2003) *The Logic of Political Survival*. Cambridge: The MIT Press.

Collier, P. and A. Hoeffler (2007) Unintended Consequences: Does Aid Promote Arms Races? *Oxford Bulletin of Economics and Statistics* 69:1, 1–27.

Crone, P. (2003) *God's Caliph: Religious Authority in the First Centuries of Islam*. Cambridge: Cambridge University Press.

Deacon, R. T. (2009) Public Good Provision under Dictatorship and Democracy. *Public Choice* 139:2, 241–262.

Deacon, R. T. and S. Saha (2005) Public Good Provision by Dictatorship: A Survey. University of California. (Santa Barbara Working Paper).

Djankov, S., R. La Porta, F. Lopez-de-Silanes, and A. Shleifer (2003) Courts. *Quarterly Journal of Economics* 118:2, 453–517.

Drèze, J. and A. Sen (1989) *Hunger and Public Action*. Oxford: Oxford University Press.

Easterly, W. and R. Levine (1997) Africa's Growth Strategy: Policies and Ethnic Divisions. *Quarterly Journal of Economics* 112:4, 1230–1250.

Finer, S. E. (1976) *The Man on Horseback: The Role of the Military in Politics*. Piscataway, NJ: Transaction Publishers.

Glaeser, E. and A. Shleifer (2002) Legal Origins. *Quarterly Journal of Economics* 117:4, 1193–1229.

Golder, M. (2005) Democratic Electoral Systems around the World. *Electoral Studies* 24, 103–121.

Goldsmith, B. E. (2003) Bearing the Defense Burden, 1886-1989: Why Spend More? *Journal of Conflict Resolution* 47:5, 551–573.

Gregor, A. J. (2001) Dictatorship: Abstract. In Neil J. Smelser and Paul B. Baltes (eds.) *International Encyclopedia of the Social and Behavioral Sciences*. Oxford: Elsevier Science.

Hall, R. E. and C. I. Jones (1999) Why do Some Countries Produce so Much More Output per Worker than Others? *The Quarterly Journal of Economics* 114:1, 83–116.

Hewitt, D. (1992) Military Expenditure Worldwide: Determinants and Trends, 1972-1988. *Journal of Public Policy* 12:1, 105–152.

Huntington, S. (1968) *Political Order in Changing Societies*. New Haven: Yale University Press.

Ikpe, U. B. (2000) Partimonialism and Military Regimes in Nigeria. *African Journal of Political Science* 5:1, 146–162.

Jones, B. D., R. B. Frank, C. Breunig, C. Wlezien, S. Soroka, M. Foucault, A. Francois, G. Pedersen, C. Koski, P. John, P. B. Mortensen, F. Varone, and W. Stefaan (2009) A General Empirical Law of Public Budgets: A Comparative Analysis. *American Journal of Political Science* 53:4, 855–873.

Keefer, P. (2007) Clientalism, Credibility and the Policy Choices of Young Democracies. *American Journal of Political Science* 51:4, 804–821.

Kerekes, C. B. and C. R. Williamson (2008) Unveiling De Soto's Mystery: Property Rights, Capital Formation and Development. *Journal of Institutional Economics* 4:3, 299–325.

Kimenyi, M. S. (1987) Bureaucratic Rents and Political Institutions. *Journal of Public Finance and Public Choice* 3:1, 189–199.

Kimenyi, M. S. and J. M. Mbaku (1995) Rents, Military Elites and Political Democracy. *European Journal of Political Economy* 11:3, 699–708.

La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. Vishny (1999) The Quality of Government. *Journal of Law, Economics and Organisation* 15:1, 222–279.

Lake, D. A. and M. A. Baum (2001) The Invisible Hand of Democracy: Political Control and the Provision of Public Services. *Comparative Political Studies* 34:6, 587–621.

Leon, G. (2010) *The Economic Causes of Coups*. Cambridge University. (Mimeographed).

Levi, M. (1988) *Of Rule and Revenue*. Berkeley: University of California Press.

Lipset, S. M. (1959) Some Social Requisites of Democracy: Economic Development and Political Legitimacy. *American Political Science Review* 53:1, 69–105.

Magalhaes III, E. (1995) Dictatorships. In *Survey of Social Science: Government and Politics Series.* Volume 2, Salem Press.

Marshall, M. G. and K. Jaggers (2000) *Polity IV Project: Political Regime Characteristics and Transitions, 1800–1999*. College Park: Center for International Development and Conflict Management, University of Maryland.

Mbaku, J. M. (1991) Military Expenditure and Bureaucratic Competition for Rents. *Public Choice* 71:1, 19–31.

McGuire, M. C. and M. Olson (1996) The Economics of Autocracy and Majority Rule: The Invisible Hand and the Use of Force. *Journal of Economic Literature* 34:1, 72–96.

Montalvo, J. G. and R. Reynal-Querol (2005) Ethnic Polarisation, Potential Conflict, and Civil Wars. *American Economic Review* 95:3, 796–816.

Mulligan, C. B., R. Gil, and X. Sala-I-Martin (2004) Do Democracies have Different Public Policies than Non-democracies? *Journal of Economic Perspectives* 18:1, 51–74.

Niskanen, W. A. (1997) Autocratic, Democratic and Optimal Government. *Economic Inquiry* 35, 464–479.

Nordlinger, E. A. (1977) *Soldiers in Politics: Military Coups and Governments*. NJ: Prentice-Hall Englewood Cliffs.

North, D. C. (1990) *Institutions, Institutional Change and Economic Performance.* Cambridge: Cambridge University Press.

North, D. C., J. J. Wallis, and B. R. Weingast (2009) *Violence and Social Orders: A Conceptual Framework for Recorded Human History*. Cambridge: Cambridge University Press.

O'Donnell, G. (1973) *Modernisation and Bureaucratic-Authoritarianism: Studies in South American Politics.* Berkeley, CA: Institute of International Studies.

Olson, M. (1993) Dictatorship, Democracy, and Development. *The American Political Science Review* 87:3, 567–576.

Olson, M. (1965) *The Logic of Collective Action: Public Goods and the Theory of Groups.* Cambridge: Harvard University Press.

Przeworski, A., M. E. Alvarez, J. A. Cheibub, and F. Limongi (2000) *Democracy and Development: Political Institutions and Well-being in the World, 1950-1990*. New York: Cambridge University Press.

Robinson, J. (2000) When is a State Predatory*?* Unpublished Manuscript, University of California, Berkeley.

Rosh, R. M. (1988) Third World Militarisation. Security Webs and the States they Ensnare. *Journal of Conflict Resolution* 32:4, 671–698.

Sandler, T. and K. Hartley (1995) *The Economics of Defence*. New York: Cambridge University Press.

Sprout, H. and M. Sprout (1968) The Dilemma of Rising Demands and Insufficient Resources. *World Politics* 20:4, 660–693.

Tullock G. (1987) *Autocracy*. Boston, M.A: Kluwer Academic Publishers.

Wintrobe, R. (2000) *The Political Economy of Dictatorship*. Cambridge: Cambridge University Press.

Wintrobe, R. (2001) How to Understand, and Deal with Dictatorship: An Economist's View. *Economics of Governance* 2:1, 35–58.

Wintrobe, R. (2012) Autocracy and Coups D'état. *Public Choice* 152:1, 115–130.