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John S L McCombie
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John S L McCombie, Cambridge Centre for Economic and Public Policy, Department of Land Economy, University of Cambridge.

Marta Spreafico, Istituto di Politica Economica, Università Cattolica del Sacro Cuore, Milano

✉ jslm2@cam.ac.uk

✉ marta.spreafico@unicatt.it

Abstract

Despite the considerable interest in the concept of human development, there has been little research on the political determinants of its dimensions. This paper investigates the role played by the type of political systems on the non-income components of human development. In particular it tests the hypothesis that it is not only democratic countries that enhance spending on health and education, but this might be true of autocratic regimes. The hypothesis is tested for the former Soviet Republics. It is found that expenditure on the social provision of health and education increases with both the degree of democracy *and* autocracy.

Introduction

Human development is an all-encompassing concept. Sen (1999, p.xii) has defined it "as the removal of various types of un-freedoms that leave people with little choice and little opportunity of exercising their reasoned agency". A distinction is often made between individuals' functionings and their capabilities. The functionings are the aspirations of individuals while capabilities are the abilities to achieve these. According to Sen (1999, p.75) the "valued functionings may vary from elementary ones, such as being adequately nourished and being free from avoidable disease, to very complex activities or personal states, such as being able to take part in the life of the community and having self-respect". Hence, two individuals may have the same functionings, but very different capability sets. As an individual's capability basically reflects the various combinations of functionings that are *de facto* possible to be achieved, the capability set defines the ability of individual to choose.

This approach views development as a process of enlarging people's choices and enhancing human capabilities and freedoms. The degree to which this has been achieved is somewhat imperfectly measured by the United Nations Development Program's (UNDP) Human Development Index**.** A lengthy and healthy life, access to knowledge and an adequate standard of living are the three essential capabilities measured by the index. The rationale is that if these basic capabilities are not present, many choices are not available and opportunities remain completely inaccessible. Empirical studies on comparative development have made an extensive use of this index, which captures the idea that "development is about much more than income" (UNDP, Human Development Report 1990). The literature that considers what type of political institutions foster development has in general focused on democratic institutions and has widely studied their impact on the income dimension of human development (see, for example, Acemoglu*et al*., 2008; Rodrik*et al*., 2005; Rodrik, 2007; Easterly *et al*., 2006). There have been relatively fewer studies

of the role and the effect of different political systems on the non-income components of the index. Some studies have focused on the effects of the degree of democracy on just one such component (e.g., Franco, *et al*., 2004; Besley*et al*., 2006; Stasavage, 2005), while others have considered the impact of democracy on African and other developing countries (Stasavage, 2005; Tsai, 2006). Some have studied the role of the public spending on education and health care in the developing and transition countries (Gupta *et al*., 2002). More recently, Vollmer and Ziegler (2009) extended this strand of research and analyzed, in a large sample of countries, the impact of democracy on life expectancy and adult literacy. They found using cross-sectional time-series data that democracy has a positive effect on human development.

However, there has been relatively little emphasis on the proposition that it is not only democratic governments that may foster the two non-income components of human development, namely health and education. Under certain circumstances, repressive and autocratic political systems may also have the incentive to sustain health care and educational systems in an attempt to legitimize themselves and to minimize the risks of political dissent. Thus, it is possible that both democratic and autocratic political systems could enhance human development, although this would be variance with a central tenet of Sen's thesis.

The aim of the paper is as follows. We consider a set of countries with the same historical and cultural background, namely the former Soviet Union Republics[1]. An approach is adopted that examines the various channels that different political systems take to influence human development. We focus on two basic non-income components of development, namely, government expenditure on health and education. The proposition is tested that not only democracy, but also the degree of autocracy, have a positive effect

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[1] These consist of Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan.

on these[2]. It is shown that considering human development just in terms of these three dimensions (income, health and education)could be, to some extent, misleading.

Since they gained independence in 1991, the former Soviet Union countries have followed different growth paths and now constitute a fairly heterogeneous group of economies, both from an economic and a political point of view. Some have grown rapidly and appear similar to the advanced economies; some started a program of reforms without any great success; and some have made little or no attempt at modernization with a resulting backward economy. In particular, the Baltic Republics, helped by macroeconomic stabilization programs, implemented policies that led to economic and political development. Belarus, Russia and Ukraine experienced ineffective economic policies, while Armenia, Azerbaijan and Georgia were subject to military conflicts. The Central Asian States, which are generally subject to serious corruption and flawed elections, did not experience any significant economic improvement and remain as highly autocratic countries. (Lavigne, 1999; Polity IV Country Report, 2010)

Although since independence these countries have followed different development paths, they share the same set of historical preconditions. In particular, an important characteristic shared by the former Soviet Republics is the comprehensive provision of education and health care. Under the Soviet system, the role of education and health was emphasized because they both were seen not so much as a personal matter, but as part of the national wealth. To this end, the government provided a free and universal education to all its citizens and operated a vast network of learning institutions, including preschools, general secondary schools[3], specialized secondary schools, vocational-technical schools, trade schools and special

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[2] Democracy and Autocracy are defined below, but it should be noted that these two indices are constructed from different variables.

[3] Completion of the secondary school program became compulsory in 1970.

education schools, as well as universities and other institutions of higher learning. In particular, the education and training of specialists and skilled workers remained of central concern. Health was also considered as important, in order to have a labor force able to sustain and strengthen the nation's economy. The health care system, fully public and highly centralized, was driven by two underlying principles: provision by the government of readily available and free health care and the prevention of illness. As a result, under the Soviet Union regime, individuals were relatively well-educated and had equal access to basic health care.

Consequently, the former Soviet Republics were subsequently influenced by this tradition and they have continued to maintain this emphasis on health and education, notwithstanding the subsequent divergence of their development status and the nature of their political institutions. The governments of these countries, mostly constituted by the same political elites as under the Soviet system, have continued to prioritize the resources earmarked for the educational and health care systems. In this sense, the development of these countries has been path dependent. Nevertheless, these countries followed very different paths of democratization. Hence, they constitute heterogeneous sample with which to test the hypothesis that, under particular conditions (traditions), autocratic governments also have the incentive to follow a pattern of public expenditure substantially similar to that of democracies. As we noted above, this may be because they wish to appear philanthropic in order to legitimize their regime. This analysis, exploiting the peculiarities of these countries, allows a reconsideration of the approach used to understand the relationship between political institutions and human development and to suggest new research directions.

In the next section, we provide some descriptive statistics of the former Soviet Republics. The next section explains the model. It discusses the working hypotheses, the reasons underlying the specification and the econometric methodology implemented. This is

followed by a presentation of the results and this section discusses their theoretical implications. The last section concludes.

1. *The Political Institutions and the Former Soviet Republics*

In this section we consider some descriptive statistics. We use the average of the Polity2 index[4] for the period 1992-2010 to analyze the differences in the political institutions in the former Soviet Republics.

The index ranges from -10 denoting "full autocracy" to +10, "full democracy". It describes the type of government that spans from fully institutionalized autocracies (-10 to -6), through mixed, authority regimes, termed anocracies (-5 to +5), to fully institutionalized democracies (+6 to +10). The Scores are shown in Figure 1. It can be seen that since independence, the political paths of these countries have been very different. Some of them have moved towards a democratic government, most notably, the three Baltic republics. Some countries, such as Georgia and Moldova have begun a strong democratization process. Others (Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Russia, Tajikistan) are assessed as mixed authority regimes, and finally Turkmenistan and Uzbekistan are *de facto* dictatorships.

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[4] Source: Polity IV Project Database.

Figure 1 - *Nature of the political systems.*
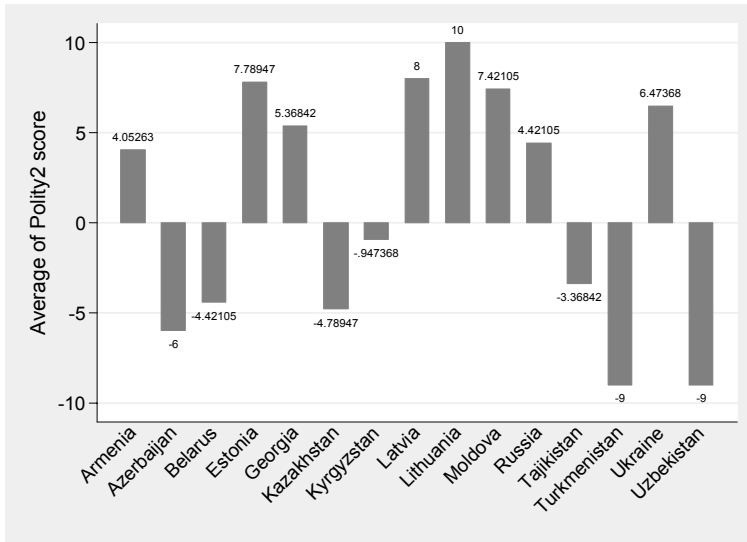
From the arguments presented above, there should be no systematic differences among these countries in terms of the provision of the public education and health care systems. To determine whether or not this is the case we perform a simple comparative exercise. We compute the average achievements in education and health, using adult literacy[5] and life expectancy[6] data over the 1992-2010 period for the fifteen former Soviet Republics.

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[5] Percentage of people aged 15 years and older who can, with understanding, both read and write a short simple statement on their everyday life. Data Source: UNDP.
[6] Number of years a newborn infant could expect to live if prevailing patterns of age-specific mortality rates at the time of birth were to stay the same throughout the infant's life. Data Source: UNDP.

Turning first to adult literacy, all the countries exhibit very high values for the years after independence. Moldova and Uzbekistan have the lowest performances, with an average percentage of 97.5 and 98.1, respectively. These values show that the countries must kept up their high provision of education, regardless of the exact nature of their political systems. Concerning life expectancy, the lowest life expectancies are found in Turkmenistan (63.83 years), Tajikistan (64.17), Kazakhstan (65.93), Russia (66.1); the others all exhibit an average life expectancy equal to or greater than 67 years.

Figure 2 - *Health and Education Achievements over 1992-2010 period.*
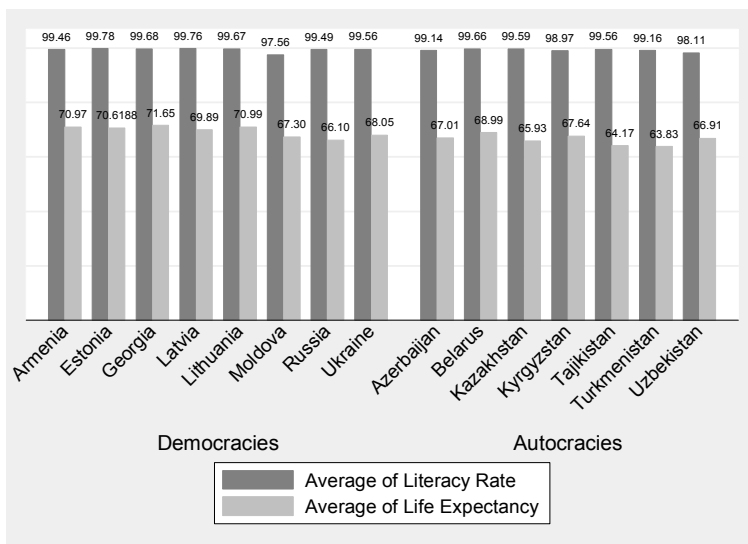
The former Soviet Republics present a worse achievement in terms of health, which depends not only on the quality of the health care system, but also on the dietary habits of people, and their alcohol and tobacco consumption. However, this poorer performance compared with education cannot be ascribed to the differing degree in terms of democratization (Figure 2).

This is particularly clear if we consider the nature of the political systems of the countries with an average life expectancy greater than 67 years. For instance, Azerbaijan, Belarus and Kyrgyzstan, authoritarian countries, have an average achievement consistent with that of Moldova, which is known to have started the democratic process. Consequently, notwithstanding the nature of their political institutions, the former Soviet Republics do not systematically exhibit differences in the non-income components of human development. This may be seen from the pie chart reported in Figure 3. The government commitment to finance the health and education systems is considerable also for autocratic countries, despite the development status of their economies. In fact, many of these autocracies are poor countries. For instance, Kyrgyzstan and Tajikistan are low income countries; Uzbekistan, a lower middle income one (The World Bank).

Table 1 shows that, on the one hand, the *within* standard deviation for the Polity2 score and health and education expenditure score is small, implying that each country, over the period considered, has not experienced a substantial variation in terms of political institutions and of government expenditure on health and education. On the other hand, the *between* standard deviation paints a different picture. The substantial disparity among these countries in the political dimension, as evidenced by the polity score, is not accompanied by a similar variation of the expenditure on the education and health care systems.

Figure 3 - *Ex Soviet Republics Health & Education Government Expenditure as a Percentage of GDP.*
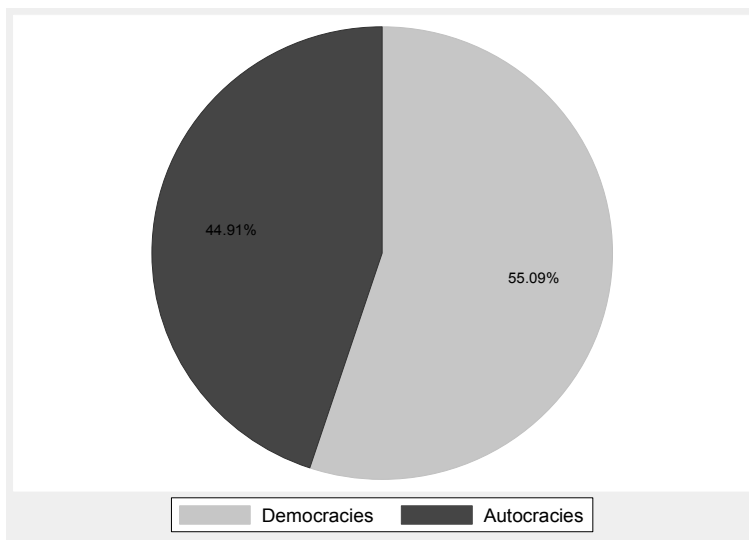
Table 1 - *Descriptive Statistics for the 1992-2010 period.*

	Overall mean	Within Standard Deviation	Between Standard Deviation
Polity2 score[a]	1.066	2.075	6.666
Health & Education public Expenditure[b]	7.884	1.824	2.647

Notes: [a] Data Source: Polity IV Project Database. [b] Data are expressed as a percentage of GDP. Data Source: European Bank for Reconstruction and Development.

2. *The theoretical framework*

To analyze the rationale underlying the health and education public spending, we explore the channels through which the governments of the former Soviet Republics affect human development.

A feature that has been relatively neglected in the literature is that if we look at these measures of human development (which do not take into account the quality of the education programs and health services), it could be argued, as we have noted, that autocratic regimes also have reasons to continue with expenditure on the non-income components of human development, namely education and health.

An authoritarian government may wish to provide broad access to basic education and medical care in order to legitimize itself and justify the repressive context under which its nationals live. In this regard, the former Soviet Republics constitute a useful sample as they seem to show that not only democratic political systems, but also those with more autocratic tendencies, may enhance human development. The descriptive statistics, discussed above, confirm that the emphasis placed by all these countries on education and health, which began about seventy years ago, has persisted[7], even though now their political paths have diverged.

The hypothesis to be tested is whether the different types of political institutions affect the level of expenditure on public educational and health care systems. The political systems are categorized in terms of (i) the state of democratic development and (ii) the structure of the political regime.

The first reflects the extent to which political rights and civil liberties are guaranteed to all citizens in their daily lives.

The stage of democratic development is likely to be a determinant of the degree of health and education public funding. Indeed, the

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[7] To some extent, this confirms also the North's theoretical result concerning the importance of history for a country's evolutionary pattern.

prediction of the median voter theorem is that the more democratic is the political system, the greater the level of redistribution. Following Keefer and Khemani (2005), we know that whenever the distribution of income is skewed to the right, towards the higher end of the income spectrum, the degree of redistribution should be larger. Therefore, if the income share held by the majority of the voting population is at the bottom of the income distribution, government spending should be larger in order to provide more extensive social services.

More generally, this theorem captures the idea that to some extent any government may be responsive to the needs of the majority, when considering distributional issues. Even in a dictatorship, policy decisions may be influenced by the redistribution that affects the majority of the population. However, the weight placed on the different issues could be completely different. In fact, in autocratic systems, where a single individual has an unrestricted authority, a substantial part of the population is *de facto* excluded from the decision-making process, due to political repression, constitutional manipulation, and the consequent absence of political rights. The elections are not frequent, often labeled by the international observers as "not free and fair", with many irregularities, and not characterized by political pluralism. Nevertheless, autocratic systems are still likely to implement redistributive policies simply because of the necessity to justify their power and to legitimize themselves. It is, for this reason, interesting to investigate whether these incentives can prevail when considering the operational concept of human development.

The regime type determines the power of the government over legislation, namely the ability to amend or veto policy proposals. The first aspect concerns the separation of these powers across different politicians and offices; the second, the maintenance of these powers; in particular, whether the executive needs sustained confidence by a majority in the legislative assembly.

Two types of regimes may be identified, namely, the presidential and the parliamentary. The former have typically separation of

powers between the president and the assembly and the executive can continue in power without the support of a majority in elected assembly. In parliamentary regimes, the government needs the support of the majority of elected body to enact legislation.

Political regimes are considered because, as Persson and Tabellini (2000, 2002) and Persson, Roland and Tabellini (2000)[8] show, they are seen to affect the expenditure behavior of the government. Presidential regimes with stronger separation of powers and not subject to a vote of no confidence by the assembly are found to have smaller governments and less spending on broad programs compared with parliamentary regimes. Moreover, this dichotomy into parliamentary and presidential regimes completes the analysis of the nature of a country's political institutions, because it demonstrates how the political power is held.

The kind of the governing authority, together with the regime type, depict the nature of the political systems and impact on the government attitude toward the non-income dimensions of human development. However, the role of political systems may be conditioned by other factors. Consequently, in addition to the stage of democratization and the structure of the political regimes, expenditure on education and health may also be affected by the level of per capita income, the degree of income inequality, endemic diseases and the extent of the social fragmentation. All of these factors should be taken into account in the regression analysis to examine the determinants of education and health expenditure.

To elaborate: first, both autocratic and democratic systems are expected to affect positively the health and education public spending for the reasons set out above. Secondly, knowing that countries with presidential regimes spend less on public services, the

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[8] The effect of electoral formulas is not considered because the focus is on the effect of the nature of different political systems on a particular subset of government expenditure and not on the general role of political institutions for the general public spending behavior.

structure of their political systems may influence also the government's attitude towards the non-income components of human development. Thirdly, the existence of a constitutional limit on the number of years the executive can work is likely to condition the government behavior. It is necessary to assess whether or not the existence of a finite term in office may affect a government's expenditure pattern, especially in the case of an autocratic governing authority. According to our theoretical analysis, this should not make any difference. Fourthly, the joint effects of the political institutions on public spending are necessarily affected by the level of economic development. Fifthly, the more unequal the distribution of income of a country, the worse is likely to be the impact on the provision of public services. The greater the degree of inequality, and the more right skewed the distribution of income, the less is likely to be the effect on government redistribution. Benabou (2000), Rodriguez (2004), Alesina and Perotti (1996), Lee and Roemer (1999) have shown how in unequal societies there exist mechanisms that weaken the median voter hypothesis. They demonstrate that redistributions command less political support in unequal societies than in a more equitable one. They found that that inequality is negatively associated with redistribution because of rent-seeking and political influence and that, with greater inequality, a given tax rate yields less revenue for the same tax base. This induces less public spending. Greater inequality may also translate into an increased share of public resources accruing to individuals who are in a position to influence policy makers and pursue their own interests. Sixthly, the larger the incidence of disease, the greater is likely to be the effect on health expenditure. Finally, the last dimension likely to affect the public funding of education and health care systems is the degree of social fragmentation. There is very little evidence about the impact of social fragmentation on "human development". On one hand, a greater fractionalization and a higher degree of ethnic disparity may lead to a higher public commitment to shape the national identity via the expenditure on the educational system, which is imperative for many of the former Soviet Republics (Luong, 2004). On the other

hand, it could hamper the provision of social and public services whenever it leads to interest-group polarization with related rent-seeking behavior (Alesina *et al*., 1999; Alesina *et al*., 2005).

3. *Panel Analysis and Results*

We used a data set of the fifteen former Soviet Republics for the period 1992-2010. To quantify the attention paid to the two basic non-income dimensions of human development, we use the EBRD data (European Bank for Reconstruction and Development) on health and education government expenditure[9] (expressed as a percentage of GDP). The type of government is assessed by the degree of democracy (Democ) and autocracy (Autoc) variables taken from the Polity IV Project Database.

These are separate measures used in the construction of the indices for Democ and Autoc. The Democ and Autoc indices both range from 0 to 10. Democ indicates at which stage of the democratic process the economy is at, and Autoc quantifies how deep is the authoritarian character of the political system. It should be noted that these indices are calculated from different variables and "many polities exhibit mixed qualities of both of these distinctive authority patterns" (Marshall *et al*., 2011, p.14). The Democracy variable is "conceived as three essential, interdependent elements. One is the presence of institutions and procedures through which citizens can express effective preferences about alternative policies and leaders. Second is the existence of institutionalized constraints on the exercise of power by the executive. Third is the guarantee of civil liberties to all citizens in their daily lives and in acts of political participation" (p. 14). Autocracy is defined "operationally in terms of the presence of a distinctive set of political characteristics. In mature

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[9] Separate data (from other database) on health and education expenditure are available for few years and give very incomplete series. This joint variable is used as in the case of EBRD data only few observations are not available.

form, autocracies sharply restrict or suppress competitive political participation" (p. 15).

Following the theoretical discussion, it is necessary to consider also the regime types. A dummy variable PRES (presidential) was constructed. A country is defined presidential in a given year (PRES = 1), either if "president can veto legislation and the parliament needs a supermajority to override the veto or if president can appoint and dismiss prime minister and dissolve parliament" (Keefer, 2012, p. 4). Otherwise, the country is designated parliamentary (PRES = 0)[10].

We also included a dummy variable, Finite-Term (FTerm), depending upon whether or there exists a constitutional limit on the number of years of the executive. It takes a value of 0 when a limit is not explicitly expressed and 1 otherwise[11].

To avoid endogeneity problems, the core political variables and the controls are specified at time *t-1*. Theoretically, this procedure estimates the impact that the political determinants at time *t-1* have on the government behavior at time *t*. Their estimated coefficients are controlled for the level of economic development (measured by GDP per capita PPP, constant 2005 international dollars). Furthermore, we control for income inequality (measured by the Gini coefficient), the spreading of two endemic diseases,[12] tuberculosis and HIV, and the degree of ethnic fragmentation.

Tuberculosis is still pervasive in these countries. HIV showed an increase in the infection rate over the period considered. For tuberculosis, the variable used is the *tuberculosis treatment success rate*.[13]The rationale is that it provides an indication of the

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[10] The classification criteria of the Database of Political Institutions (The World Bank) is followed.
[11] Data Source: Database of Political Institutions.
[12] Data source: World Development Indicators Database.
[13]Tuberculosis treatment success rate is the percentage of new, registered smear-positive (infectious) cases that were cured or in which a full course of treatment was completed.

effectiveness of national programs and the public commitment in finding and diagnosing people with TB. For HIV, we use the percentage of people ages 15-49 who are infected. The extent of the ethnic fragmentation is assessed by the ethnic fractionalization[14] variable from Alesina *et al*. (2003), which enters in our model as a time invariant covariate.

The model attempts to explain government spending behavior in terms of the measures of democracy and autocracy, and the regime dummy, controlling for economic development as their effects crucially depend on whether there is anything to redistribute. We then include progressively the other controls, while time dummies are added to all regressions to control further the estimation results. Time dummies eliminate the bias arising from unobserved variables that change over time, such as macroeconomic shocks and population dynamics.

Preliminary tests with this model, which indicate the presence of cross-sectional dependence, heteroskedasticity and within panel AR(1) autocorrelation, suggest the appropriate estimation technique is feasible generalized least squares.[15]

Table 2 reports the estimated impact of the kind of the governing authority. Each country has a different degree of democracy (Democ) and autocracy (Autoc). The indices are not mutually exclusive. Consequently, in every estimated regression is the impact of the

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[14] It measures the probability that two individuals selected at random from a population are members of different groups.

[15] As noted before (footnotes 8 and 13), in some cases data are not available for every year. To complete the dataset, we therefore use simple moving average between available observations or the latest available one. This procedure does not distort the series even that with the fewest observations. In fact, as we can see (Tables A.1 and A.2, Appendix A), the values of the between and within standard deviation for the "balanced" series are in line with those unbalanced.

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other factor controlled for. The hypothesis is that both democracy and autocracy affect positively the government expenditure.

It can be seen (Table 2) health and education expenditure is positively related to the level of democracy *and* the level of autocracy but is reduced by a presidential system.

All the other regressors are statistically significant and take the expected sign. On the whole, the results confirm that democracy *and* autocracy are a positive determinant of the government spending decisions on health and education and that a difference is made by the structure of the political regime. *A priori* we would expect that presidential regimes have smaller governments and less spending on broad programs than parliamentary ones.

Table 2 - *Democracies and Autocracies.*

			Health and Education Government Expenditure (% of GDP)				
	I	II	III	IV	V	VI	VII
$Democ_{t-1}$	.0329***	.0288***	.0279***	.0316***	.0284***	.0286***	.0369***
	(.0032)	(.0028)	(.0032)	(.0028)	(.0032)	(.00251)	(.0032)
$Autoc_{t-1}$	.0270***	.0316***	.0271***	.0329***	.0291***	.0332***	.0339***
	(.0036)	(.0026)	(.0032)	(.0022)	(.0033)	(.0024)	(.0027)
$Pres_{t-1}$	-.2732***	-.2122***	-.1659***	-.0927***	-.1874***	-.2171***	-.0693***
	(.0208)	(.0157)	(.0215)	(.0174)	(.0194)	(.0152)	(.0208)
$GDP\ p.\ h._{t-1}$		.1244***	.1440***	.1511***	.0896***	.1289***	.1231***
		(.0173)	(.0196)	(.0122)	(.0152)	(.0168)	(.0140)
$Gini_{t-1}$			-.0106**				-.0197***
			(.0055)				(.0052)
$EthnicFrac_{t-1}$				.0567***			.0553***
				(.0024)			(.0038)
HIV_{t-1}					.1517***		.0622***
					(.0147)		(.0220)
$TBCsuccrate_{t-1}$						-.0066***	-.0063***
						(.0024)	(.0019)
constant	yes	yes	yes	yes	yes	yes	yes
Time Dummies	yes	yes	yes	yes	yes	yes	yes
N	270	270	270	270	270	270	270
Wald test							
p-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Notes: Standard errors are reported in brackets. ***/**/* Significant at the 1, 5, 10 percent level.

The estimated coefficients of the controls are in line with the theoretical arguments: the stage of economic development affects positively the level of public spending, whereas income inequality carries a negative effect on redistribution. A higher degree of the ethnic disparity, the greater is the level of public expenditure.[16] This can be explained in terms of the political desire to homogenize the society and create a solid cultural identity via education. The HIV indicator has a positive and significant coefficient, meaning that the presence of infected cases has influenced the public expenditure to finance treatment and the supply of effective drug. The TBC treatment success rate displays a negative coefficient, confirming the effectiveness of the adopted program allows a reduction in health spending.

The degree of authoritarianism has a positive impact on the attention that these governments give to the non-income components of human development. Hence, what makes the difference, among these countries, is not the nature of the governing authority, but the regime type. This evidence leads to the conclusion that also authoritarianism may be a positive determinant of the health and education expenditure.

In the last table, Table 3, we proceed with the estimation of the same model as in Table 2 except the impact that the number of years the executive can serve is included.

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[16]The data do not allow the regressions to be run for health and education expenditure separately.

Table 3 - *Finite Term Autocracies.*

	Health and Education Government Expenditure (% of GDP)						
	I	II	III	IV	V	VI	VII
$FTerm_{t-1}$	.0077***	.0055***	.0072***	.0050***	.0074***	.0056***	.0071***
	(.0016)	(.0013)	(.0015)	(.0009)	(.0018)	(.0012)	(.0013)
$Autoc_{t-1}$	.0500***	.0513***	.0502***	.0468***	.0508***	.0541***	.0519***
	(.0065)	(.0062)	(.0060)	(.0052)	(.0061)	(.0061)	(.0055)
$Autoc*FTerm_{t-1}$	-.0199***	-.0179***	-.0168***	-.0146***	-.0172***	-.0197***	-.0161***
	(.0048)	(.0050)	(.0046)	(.0044)	(.0043)	(.0050)	(.0039)
$Democ_{t-1}$	.0410***	.0363***	.0398***	.0360***	.0358***	.0367***	.0418***
	(.0036)	(.0036)	(.0035)	(.0029)	(.0036)	(.0034)	(.0034)
$Pres_{t-1}$	-.2565***	-.2100***	-.1654***	-.0839***	-.1908***	-.2135***	-.0809***
	(.0191)	(.0158)	(.0180)	(.0162)	(.0199)	(.0165)	(.0210)
$GDP\ p.\ h._{t-1}$		.1109***	.1130***	.1484***	.0859***	.1115***	.1109***
		(.0169)	(.0177)	(.0113)	(.0147)	(.0167)	(.0147)
$Gini_{t-1}$			-.0280***				-.0195***
			(.0051)				(.0058)
$EthnicFrac_{t-1}$				.0568***			.0503***
				(.0027)			(.0039)
HIV_{t-1}					.1571***		.0811***
					(.0166)		(.0259)
$TBCsuccrate_{t-1}$						-.0054**	-.0087***
						(.0027)	(.0021)
constant	yes	yes	yes	yes	yes	yes	yes
Time Dummies	yes	yes	yes	yes	yes	yes	yes
N	270	270	270	270	270	270	270
Wald test p-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Notes: Standard errors are reported in brackets. ***/**/*Significant at the 1, 5, 10 percent level.

Since democracies have by their nature a constitutional limit on the number of years the executive can work, the existence of a finite term matters primarily when authoritarianisms are considered.

We test for slope differences. We interact the Autoc variable with the finite-term indicator variable (FTerm), controlling for economic development and then including the other controls.

The slopes of the finite term and without finite term profiles are not equal. As the estimation results reveal, autocratic governments with a finite term have a lower level of health and education public expenditure than ones that do not.

This evidence stresses the importance for authoritarianisms to sustain health and education. In fact, these autocratic governments are known to keep and maintain power through many formal irregularities, unfair elections, and by suppressing to different extents both political opposition and political pluralism. In other words, they do not strictly need to care about re-election. By financing these social services, they "only" aim to justify themselves. In this perspective, this finding confirms that also autocracies may apparently care about "human development" when considering this operational approach, and the reasons are to be found in their willingness to legitimize and justify the repressive and un-free context in which people are obliged to live. This sample of countries shows precisely this incentive, which has never been proved before.

Conclusions

It is generally considered that the expenditure on health and education are likely to be greater in the more democratic a country is, although the division between public and private provision may differ. Conversely, it may be thought that the more autocratic countries have less incentive to undertake such expenditure. This hypothesis was tested using panel data regression analysis for the former Soviet Union Republics. The advantage of this sample was that while all the countries shared a common culture and economic heritage, there political systems and economic policies have diverged markedly since their independence in 1991.

The regression results in this paper suggest that the more autocratic countries also have an incentive to increase government expenditure, although it should be remembered that the variables capturing the degree of democracy and autocracy are not mutually exclusive. Some democratic countries can be more autocratic than others. Consequently, there is evidence that even the more repressive regimes may actually spend more on education and health in order to legitimize them themselves and possibly reduce dissent. Thus, contrary to Sen, it is not democracy *per se* that leads to improved capabilities for the population as a whole. However, not withstanding this there is no doubt that the more autocratic countries also have greater "un-freedoms" and it is questionable whether or not the people achieve the functionings that they value.

Table A1 - *Descriptive Statistics. "Balanced" Series.*

Variable		Mean	Std. Dev.	Observations
Health &Education government expenditure	overall	7.86	3.12	N = 285
	between		2.66	n = 15
	within		1.76	T = 19
Autocracy	overall	3	3.39	N = 285
	between		3.33	n = 15
	within		1.07	T = 19
Democracy	overall	4.06	3.57	N = 285
	between		3.51	n = 15
	within		1.09	T = 19
Presidential Dummy	overall	.76	.42	N = 285
	between		.41	n = 15
	within		.13	T = 19
Finite Term Dummy	overall	.90	.28	N = 285
	between		.14	n = 15
	within		.25	T = 19
Gdp per head [a]	overall	8.33	.79	N = 285
	between		.74	n = 15
	within		.33	T = 19
Gini Index	overall	35.69	5.16	N = 285
	between		4.09	n = 15
	within		3.30	T = 19
Ethic Fractionalization	overall	.43	.15	N = 285
	between		.16	n = 15
	within		0	T = 19
Prevalence HIV	overall	.24	.29	N = 285
	between		.22	n = 15
	within		.18	T = 19
TBCtreatment success rate	overall	70.29	10.52	N = 285
	between		6.44	n = 15
	within		8.47	T = 19

Notes: [a]: Logarithmic Terms; N: total observations; n: countries; T: time periods.

Table A2 - *Descriptive Statistics. "Unbalanced" Series.*

Variable		Mean	Std. Dev.	Observations
Health &Education government expenditure	overall	7.88	3.13	N = 255
	between		2.64	n = 15
	within		1.82	T = 17
Autocracy	overall	3	3.39	N = 285
	between		3.33	n = 15
	within		1.07	T = 19
Democracy	overall	4.06	3.57	N = 285
	between		3.51	n = 15
	within		1.09	T = 19
Presidential Dummy	overall	.76	.42	N = 285
	between		.41	n = 15
	within		.13	T = 19
Finite Term Dummy	overall	.90	.28	N = 285
	between		.14	n = 15
	within		.25	T = 19
Gdp per head[a]	overall	8.33	.79	N = 285
	between		.74	n = 15
	within		.33	T = 19
Gini Index	overall	35.02	5.02	N = 129
	between		3.67	n = 15
	within		3.25	T = 8.6
Ethic Fractionalization	overall	.43	.15	N = 285
	between		.16	n = 15
	within		0	T = 19
Prevalence HIV	overall	.25	.28	N = 252
	between		.22	n = 14
	within		.19	T = 18
TBC treatment success rate	overall	71.45	9.95	N = 195
	between		6.09	n = 15
	within		8.09	T = 13

Notes: [a]: Logarithmic Terms; N: total observations; n: countries; T: time periods.

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