**Quality of public administration and human capital**

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**Abstract**

This paper explores, both formally and empirically, the mechanisms that lie behind the varying levels of effective public administration taking place across nations and looks at how education affects the quality of bureaucracy. The first section develops theory in which good governance is a function of the extent to which educated citizens can hold officials accountable for their actions. The presence of democratic mechanisms of control and an increasingly informed electorate, measured through the level of education, may explain the governmental effectiveness in cross-countries regression. This second hypothesis tested also on a cross-national dataset of expert evaluations of bureaucratic structures, the impact of the recruitment of public servants on public administration quality. We looking at the quality of recruitment public servants — those officials who influence policy design and implementation.

The aim of this study is therefore to focus on the relationship between level of education and quality of government for 37 countries. We rely on cross-country data regressions. The empirical research confirm that the education is positively associated with the quality of government. We found that higher educational attainment among society and recruitment of civil servants based on meritocracy is associated with higher state governing capacity, resulting in better decisions and better development outcomes.

**Introduction**

The quality of the public administration is important for economic competitiveness and societal well-being. Recent literature on economic governance (Ahrens, 2002) consider that the quality of public administration and “good governance” or “state capacity”, is relevant factor for economic growth. Economists have started to view dysfunctional government institutions as the most serious obstacle to economic development across the globe (Rodrik, Subramanian, and Trebbi 2004). There are several reasons for why governments might fail. Besley (2002) argues that “government might fail because of ignorance, influence (corruption and rent seeking), and the quality of leaders”. Along the same line, Chong, La Porta, Lopez-de-Silanes, and Shleifer (2012) argue that there are is one reasons for bad government: political economy. The political economy arguments hold that governments in poor countries are less accountable because citizens have few opportunities to exercise their voice […..] An alternative view of bad government holds that low productivity of government services is explained by the same factors as that in the private sector. Part of the problem might be inferior inputs, including human and physical capital as well as technology”.

Only few studies exist that compare bureaucratic quality and administrative performance internationally at the aggregate level. Most research compares administrations within one system and focus on the performance of local administrations. Some recent publications had attention for overall public sector performance, and also focused on the performance of the public administration, for example the work: Public sector efficiency: an international comparison of Afonso and coauthors (2003). This paper aims to fill the gap.

A starting point for a discussion of administration is to suppose that citizens of any country prefer to be governed by an honest and competent official. We will argue that educational attainment is a good candidate as a proxy for quality of government. This paper explores if education of societies do matter for quality of administration, and through which mechanisms. Accordingly, to account for varying levels of effective governance across nations, this paper develops, in its first section, a principal agent model in which good governance is a function of the extent to which citizens can hold officials accountable for their actions. For instance, if education raises voter turnout or the awareness of the electorate in terms of economic and social issues, one could expect the quality of administration decision-making process to improve in the long run. We discuss background issues that motivate our test linking a country’s administration institutions and the educational attainment of society. We show that both the presence of democratic mechanisms of control and an increasingly educated electorate, explain considerably well the distribution of governmental effectiveness across a country sample. We begin by discussing why we might expect educational attainment to be a signal of competent administration. As level of education goes up, administration accountability rises, and the space for rent-seeking declines. Also this paper suggests that existence of mechanism of professional, merit-recruited, bureaucrats which require any assumptions on higher competence, higher morals is a mechanisms of control.

This article proceeds as follows. The first section develops a principal-agent model in which good governance is a function of the extent to which citizens can hold political officials accountable for their actions.

Also connection between education and quality of administration is presented. In the second section, the concept of quality of administration is outlined. In the next section, the data is introduced. The relationship and results from the regression analyses are presented in the fourth section

**A Theory of Political Accountability. Does education matter?**

Public accountability is an ambiguous topic. The basic elements of the discussion on public accountability have been in relation to the organization, the powers and the ethics of public authority. To develop a theory of the causes of good administration (good governance), we explore the institutional and informational conditions under which the public can induce bureaucrats to behave well. Principal-agent theory has been used extensively in public administration, implementation analysis to examine the problems associated with management and administration. The governance is a game in which a principal, the public, delegates on an agent, the policy-maker, a given set of instruments to execute certain goals. A critical management problem is delegation. Delegation occurs when a principal, who cannot easily perform the task, instead hires an agent to accomplish the task. Principals have difficulty knowing if they hired the right person and whether the task is being accomplished appropriately. This two problems are known as adverse selection and moral hazard. Moral hazards arise because the principal and agent often have conflicting goals and views of risk. Principal cannot assume the agent will act in the principal’s best interest. This conflict is exacerbated because monitoring the actions of an agent can be costly. Adverse selection problems leave principals in the position of not knowing if they have hired the right person for the job and if the agent represents the principal. This delegation process is not exempted, however, from considerable political tensions due to the existence of both heterogeneous interests and informational asymmetries between the principal and the agent. First, policymakers and voters may have interests at odds with each other: the former may be simply interested in enriching themselves while in office or, even if they are honest, their ideas about what enhances the welfare of the public may differ from what the public itself wants. Second, the principal and agents may differ in their corresponding levels of information about the state of the world, the policies to be pursued and their welfare consequences. If the public is less well informed than the policymaker, the latter can more easily impose her preferences or even exploit the public. In short, the delegation of decision-making and policy implementation responsibilities, a “must” in modern representative democracies, automatically opens up the possibility for significant inefficiencies among political practitioners (Waterman 1998). Our interest is in considering whether the problems identified through principal - agent theory can be easily mitigated in the context of quality of administration. We specifically focus on two aspects of the principal-agent model:

1. The methods available to principals for minimizing the effects of the principal - agent dilemma— contracting, monitoring.

2. Overcoming the adverse selection problem requires a large pool of potential agents from which to select, so the principal is in a position to reject all unqualified agents.

The solution to the delegation problem lies in the public setting up a control mechanism, such as regular elections, to discipline the policy-maker. If electors vote retrospectively, that is, if they look backwards to the results provided by the incumbent before casting their ballot, elections should make policymakers accountable to the public. Being dependent on electors’ support, politicians would strive to deliver good services and refrain from extracting rents. Yet that solution may be only partial. As we show formally below, the effectiveness of any control mechanism depends both on the instruments that the public has to collect information on the behavior of the government and on the ease with which the control device can be exercised.

The second control mechanism that discipline administration officers is management and recruitment of public sector employee. Improving recruitment strategies, education and flexibility, and fitting motivational structures account for the fact that public servants are the major resource of a service-oriented public sector. Motivated and competent employees are a key determinant of an excellent public administration with regard to business contacts and the general perception of the public sector among citizens (Demmke and Moilanen, 2010, p. 202). Rauch and Evans (2000) in study of 35 developing countries test the impact of the level of meritocratic recruitment, the existence of competitive salaries and the degree of internal promotion and career stability on bureaucratic performance. The level of meritocratic recruitment seemed to reduce the level of corruption in the pool of countries analyzed. Merit recruitment is the existence of competitive formal examinations and the possession of university degrees among the employees of core economic agencies.

In order to improve bureaucratic performance, one should select “better types”. This can be done through two related procedures. First option would be to “screen” the potential pool of candidates and select the most competent among them. Alternatively, one can ask candidates to “signal” their capabilities in a competitive formal examination or in a given educational degree – that is, the standard entry procedure to administration. These are thus two observable characteristics of this mechanism of “selecting better types” that do not need to go hand in hand. Enforcement of meritocratic recruitment requires veriﬁcation of whether entry into government service has been conditioned on passage of a civil service exam or attainment of a university degree. Implementation of internal promotion requires that higher-level agency positions be ﬁlled by current members of the civil service. The first observable recruitment feature would be according to merit as opposed to acquaintance or loyalty to their political superiors. The second mechanism would not deal with how to prevent adverse selection but how to reduce moral hazard. This mechanism would consist of “creating better types” through socialization. Those norms would be the joint effect of many characteristics by the existence of career stability and lifelong tenure, the prevalence of internal promotions over lateral entries to the public service, and the development of special laws covering the terms of employment for public sector employees instead of the general labor laws prevailing in the country. The high number of interactions among the public servants would create a sense of common norms which would for example discourage corrupt behaviors (Dahlstrom 2011).

Figure 1 displays the relationship between Quality of public administration and skills recruitment graphically using the WGI Index score for the year 2010 and merit recruitment. The scatter plot reveals the variation of the relationship among countries. Eastern European countries are clustered to the left, reflecting their lower levels of QoG. Western and Northern European countries are clustered in the upper right corner, reflecting both higher levels of QoG and higher levels of skill recruitment.

Figure 1. Quality of public administration and skills recruitment



Source: Own calculation (Torell dataset, WGI dataset)

The second view is connected with human capital theory which reflecting how education increases skills. In this context, Dee (2004) finds that educational attainment has a large and statistically significant effect on voter participation and support for the freedom of speech. He also finds that additional schooling increases the quality of civic awareness as measured by the frequency of reading newspapers. Milligan, Moretti and Oreopoulos (2004) looks at the effect of extra schooling induced by compulsory schooling laws on the likelihood of becoming politically involved in the U.S. and U.K. They find that, in both of the countries, educational attainment is positively related to several measures of political interest and involvement. Boix and Posner (1998) argue that good government depends on “the ability of citizens to hold elected representatives accountable for the quality of the governance they provide”. They suggest that education makes citizens sophisticated consumers of politics who monitor the government closely and are eager to punish underperforming governments for example in the ballot box or in protest. Therefore, in communities high in social capital political accountability will be greater, which leads to an improved government performance. The alternative view of education is a signaling theory where individuals become educated in order to demonstrate to prospective employers that they are able. This view would also lead us to expect more educated officials to be more competent so that education could serve as a signal for competence. It is also reasonable to posit a link between educational attainment and public spiritedness. There is empirical evidence that more educated individuals are more civic minded. A human capital interpretation of this finding would suggest that part of the skill-set learned in education is an appreciation of the needs of others. Moreover, education would have a central role in the production of social capital. Djakanov et al. (2003) suggest that each community faces a set of institutional opportunities determined by the human and social capital of its population which, in turn, affect the quality of government. Glaeser et al. (2004) produce empirical evidence in line with this view, and argue that, as postulated by Lipset (1960), human capital accumulation and growth cause institutional improvements. Botero, Ponce and Shleifer (2012) show that when the education level of the general population is high, citizens are more likely to effectively hold governments to account and thus instigate government discipline.

**Quality of public administration**

In order to test the theoretical arguments, we need data on quality of administration and the structure of the bureaucracy. But measuring these qualities directly is difficult especially as, in practice, they are multi-dimensional concepts. How do we determine whether performance has improved or whether the quality of a certain public administration is better? There is no market value for measuring government outputs. “The” quality or “the” performance of bureaucracy is hard to measure, as we are dealing with quite diverse and not clearly delimited concepts. The authors refer to the quality of the bureaucracy, they quite frequently use a broad range of concepts. When it comes to measuring performance, and comparing performance of different governments, scientist use specific indicators for example corruption as proxy for bureaucratic quality. Bai and Wei (2000) use “quality of bureaucracy” and in research on economic efficiency reduce quality to absence of corruption. Mauro uses an index of ethnic division of a country as proxy for institutional efficiency (Mauro, 1995).

To measure quality of administration, we employ data from different sources. First measure of government rely on widely used World Bank Indicators Government Effectiveness, combines perceptions of the quality of public services and bureaucracy. Government effectiveness (variable in model: WGI) is measuring the competence of the bureaucracy and the quality of public service delivery and scores range from -2.5 (lowest) to 2.5 (highest) (Kaufmann et al. 2009). Table 1 shows the scores for the 38 countries.

Figure 2. World Bank Governance Indicators

Sources The World Bank. World Governance Indicators Dataset

After fifteen years Finland, Denmark and Sweden emerge as the best performing bureaucracies. Ukraine, Moldova and Russia get the worst scores. Within the EU25, Italy and Greece are ranked the lowest, and they are clearly lower than the ones in 1996, the first year of measure. The government performance of the Post-Socialist Countries shows a mixed picture. A number of Central and Eastern European countries made significant progress since 1996. Government effectiveness scores increased for Croatia, Latvia, Lithuania, Estonia. Czech Republic is also among the countries were scores have increased. On average, countries in Central and Eastern Europe (CEE) and the Baltics significantly outperformed those of the Commonwealth of Independent States (CIS), in which output is lower.

We use also Index of Bureaucracy Quality (variable: ICRG) drawn from the International Country Risk Guide (ICRG)[[1]](#footnote-2). We measure the quality of government with index obtained from the International Country Risk Guide (ICRG) built up by jointly considering corruption and competency indicators. In particular, our quality of government index (QOG) is the simple average of the ICRG variables “Corruption, Law and Order and Bureaucracy Quality.”Note that, in line with our model which suggests that less competent politicians endogenously adopt more predatory behaviours, corruption and bureaucracy quality are highly correlated in the data. Higher values indicate higher quality of government. High points are given to countries where the bureaucracy has tends to be somewhat autonomous from political pressure and to have an established mechanism for recruitment and training.

 In this paper we also use indicator from “Quality of Government Survey” (from Quality of Government Institute Quality) based on a country-expert survey answered by public administration experts worldwide (Teorell 2008). The general purpose of the survey is to measure the structure and behavior of public administration across countries. The survey covers a variety of topics which are seen as relevant to the structure and functioning of the public administration such as meritocratic recruitment, internal promotion and career stability, salaries.

The dependent variable (skill\_adm) is the degree of meritocracy in recruitment, measured as the country average of the answer to a question where the respondents are asked to evaluate how often the following statement applies: When recruiting public sector employees, the skills and merits of the applicants decide who gets the job? The question thus captures the level of meritocracy in recruitment, regardless of the procedures used. Meritocracy in recruitment consists both of the absence of undue influence over the recruitment process, but also of the presence of mechanisms which find the best candidates.

**Model and variables**

To test the relationship between education level and the public sector and government performance, we will use an ordinary least squares (OLS) regression model. We will run regressions using government performance level (assessed using different indicators) as the independent variable, education level and quality as the dependent variable, and macro-economic indicators as control variables. The following equation shows the model:

Quality of Government = α + β1 Educ + β2 control + e

The variables employed are:

1. For our first variable of interest we rely on the Barro and Lee (2010) dataset on educational attainment. We measure education with the average number of years of education attained by the adult population (over age 25). According to Barro and Lee (2010), there are large differences in education attainment of the general population across countries. Those measures have been widely used throughout the economic literature. We have decided to measure quality of education through the level of PISA test scores.

The followings control variables is also introduced to test the robustness of our measures:

1. The log of per capita income to measure the impact of economic development. The data correspond to 2009. They come from the World Bank.
2. The size of government, measured as proportion of public revenues of the central government over GDP. The sign of the variable may go in either direction. On the one hand, larger governments may imply higher public wages and hence both lower incentives to accept bribes among civil servants and better public services. On the other hand, a bigger state may signal more opportunities for corruption and inefficiencies.
3. We also control for the size of population.

**Results**

In this section we will show the estimates of the regressions used to test the model and attempt to explain the existence or absence of relations. The results of the analysis are summarized in Table 1 and 2. In Table 1, we first present the regression results from a standard OLS regression estimation, where we can compare six estimation. The findings presented were obtained by including two variables connected with education and all statistically significant variables. First, it is clear that the model’s overall performance is very good. The variables in the model explain 63-87% of the variation in quality of administration. We observe that the level of quality of education significantly affects the quality of administration. As shown in tables 1 and 2 as well as in figure 1, there are positive relations between the education and three widely used measures of quality of bureaucracy variables. The stronger correlation is between skill indicators of administration and quality of education. Countries with higher levels of education may be more likely to adopt meritocratic recruitment procedures, and in such countries the population might be better able to monitor the government. Furthermore, the supply of adequate civil servants might be larger, which would most likely improve overall quality (Rauch, Evans, 1999). The control variables remain robust, with GDP per capita and population amount being negative determinants of a quality bureaucracy. The choice of control variables is partially inspired by Rauch and Evans (1999). In their publication they already posited that high income countries show a strong tendency to have higher bureaucracy ratings. Per capita income is correlated, with better performance . The impact of per capita income partly reflects the fact that richer nations have more resources.

Tab 2 The effects of education on quality of public administration

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| VARIABLES | ICRG  | WGI | ICRG | WGI | Skill adm | Skill admi |
| qual\_edu | 0.267\*\*\* | 1.174\*\*\* |  |  | 1.364\*\*\* |  |
|   | (0.0817) | (0.218) |  |  | (0.427) |  |
| year\_edu |  |  | 0.0195 | 0.0816 |  | 0.163 |
|  |  |  | (0.0208) | (0.0665) |  | (0.0965) |
| gdpcapita\_ppp | 1.14e-05\*\*\* | 3.28e-05\*\*\* | 1.65e-05\*\*\* | 5.42e-05\*\*\* | 4.14e-05\*\*\* | 6.36e-05\*\*\* |
|   | (1.88e-06) | (5.03e-06) | (1.79e-06) | (5.73e-06) | (9.85e-06) | (8.32e-06) |
| govexp | 0.00162 | -0.00285 | 0.00629\*\* | 0.0170\* | -0.0438\*\*\* | -0.0192 |
|   | (0.00258) | (0.00689) | (0.00273) | (0.00871) | (0.0135) | (0.0127) |
| popul | -6.18e-07\* | -2.98e-06\*\*\* | -6.81e-07 | -3.31e-06\*\* | -3.17e-06\* | -3.71e-06\* |
|   | (3.55e-07) | (9.48e-07) | (4.57e-07) | (1.46e-06) | (1.86e-06) | (2.12e-06) |
|  |  |  |  |  | -0.874 |  |
|  |  |  |  |  | (1.927) |  |
| constant | -0.737\* | -4.986\*\*\* | 0.0870 | -1.250 |   | 2.741\*\* |
|   | (0.369) | (0.985) | (0.248) | (0.791) | 33 | (1.149) |
|   |   |   |   |   | 0.738 |  |
| Observations | 33 | 33 | 37 | 37 |  | 37 |
| R-squared | 0.816 | 0.875 | 0.785 | 0.790 |  | 0.689 |

Robust standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Source: Own calculation

All regressions were checked for heterogeneity using the White test and the Breusch- Pagan test.

As shown in the top of table, the variable: years of schooling is statistically insignificantly related to quality of government. Average years of schooling is a particularly incomplete and potentially misleading measure of education for comparing the impacts of human capital on the economies of different countries. It implicitly assumes that a year of schooling delivers the same increase in knowledge and skills regardless of the education system (Hanushek 2010). It also highlights the potential role for using the international data on cognitive skills in model. The last control variable that is used is public expenditure. The amount of money a government has available to spend is very likely to influence its performance to a great degree, as it can simply spend more money on more projects and therefore will tend to perform better. But the results are mixed.

Conclusion

In this paper we have explored the impact of education on the variation in government performance in 37 countries. Our explanation of this connection is straightforward. How well any government functions simply hinges on how good citizens are at making their administration and politicians accountable for their actions. Control of public officials depends on two factors. First, elections allow citizens to discipline politicians to respond to the voters’ interest. Second, the recruitment of good public officers. This paper has addressed one important question in comparative politics: Has education of society impact on public administration? Since, the effective operation of government institutions depends on the ability of citizens to hold administration accountable for the quality of the governance they provide, education will produce good governance to the extent that it makes citizens consumers of government activity. Active participation help do this by providing opportunities for citizens to discuss civic affairs, increase their awareness of political issues and argue about whether the government is doing everything to improve welfare. Knowing that their government officials are monitoring, administration elites will work harder to govern effectively. In this paper we synthesize a relevant literatures based on principal theory and human capital explanations. We find positive correlation between quality of education and administration. In countries, when level of education is low, citizens’ demand for longterm investments in bureaucratic capacity is also low. They expect leaders to provide basic services more in line with the patron-client model.

Our empirical results and conclusion are similar those of Lipset (1960): a democracy, to perform properly, to develop QoG, needs as a “prerequisite” some level of economic development. To start with, income increases may foster QoG because countries can be expected to afford better institutions and many variables correlated with income, such as schooling levels or urbanization, may decrease the social tolerance of “bad governance”. An alternative view of bad government in countries holds that low productivity of government services is explained by recruitment process. In order to improve bureaucratic performance, one should select “better types”. This can be done through two related procedures. First option would be to select the most competent candidates. The second mechanism would autonomy from politics. Our analysis demonstrates that higher quality of education leads to a higher quality of the public administration even after controlling for various socioeconomic between countries.

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1. Downloaded from www.qog.pol.gu.se. [↑](#footnote-ref-2)