



Cronyism and education performance

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ABSTRACT

Recent research suggests that some countries may be unable to use productively their schooling output because of the scope of cronyism or corruption. We investigate further and demonstrate that, in a stylised model, cronyism in the labour market, (e.g. the ability to exert influence to gain high wage positions without merit), may impact heavily on the relationship between schooling inputs and cognitive skills, due to incentive effects. We then use a two-stage DEA approach to identify factors affecting inefficiency in education performance of OECD countries, as measured by PISA scores. Along with other well known factors, a proxy measure for cronyism from the World Value Survey, explains a substantial fraction of the inefficiency. This result suggests that, as in our model, in the presence of cronyism, incentives to cognitive skills acquisition are dampened. The best way to improve education performance may be to increase transparency in labour access.

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1. Introduction

A wide body of evidence shows that in many countries a large fraction of the population believes that social connections, activated mainly through family and therefore depending on one's background, are a prevailing influence on success. For example in the US a wide literature by now has documented the importance of networks to explain individuals' success in the labour market (for comprehensive surveys see Ioannides and Datcher Loury, 2004; Jackson and Zenou, forthcoming).¹ However this strand of the literature explains the differences in the performance of different groups with the existence of job information networks, where the privilege is only in terms of access to information. Some further evidence (see for example Bowles and Gintis, 2002; Bowles et al., 2008) instead suggests that what may be missing is a level playing field. One possibility is that networks restrict access to valuable positions mainly to influential members of society, irrespective of school performance or cognitive skills. The extent to which these phenomena are widespread, tolerated and perceived as normal in different societies may have profound effects on incentives to acquire education and, even more, to perform in education. The consequence is that the perception of the relevance of the cronyism factor must have an impact on the performance of different education systems, other things equal. In the end this must impact on human capital accumulation, productivity and finally growth.

The existing evidence suggests some stylised facts as a basis for further analysis of this hypothesis (see later in the literature review for details):

- the relationship between cognitive skills and growth has been established convincingly at different levels; there is also a sufficient amount of evidence suggesting that educational outcomes are a main factor determining growth potential of advanced countries (Hanushek and Woessman, 2010b);
- surprisingly there is a large and growing evidence that expenditure in education is not correlated with measures of cognitive skills across developed countries;
- corruption in developing countries may impact substantially on the relationship between schooling and expenditure on one side and growth. An influential paper suggests that corruption may impede the use of accumulated human capital in certain countries.

So far, to our knowledge, no theoretical or empirical contribution has explored the hypothesis that incentives to skill acquisition, due to cronyism, impact directly on the skill accumulation process. In this paper we present a stylised model of cognitive skill acquisition in which the incentive to put on effort to increase one's productivity, may be dampened if cronyism allows the allocation of high-salary labour positions to certain 'influential' individuals. We will assume that the influence one can exert is an exogenous feature of individuals stemming from their social position.² We show that more cronyism certainly leads to

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¹ A stylised fact that is the basis for every analysis is that surveys reveal unambiguously that a varying, but always large proportion of jobs have been found through social contacts (Calvo-Armengol and Jackson, 2007).

² Of course it is possible to model it as a rent seeking process, (as for example in Acemoglu, 1995; Aidt, 2003; Aidt and Hillman, 2008) without affecting substantially the results.

less effort in skills acquisition. Cronyism in particular reduces skill acquisition and productivity directly, because some individuals do not need to improve their skills to acquire high job positions. However and more importantly the rent created by cronyism needs to be financed out of the wage bill of non-influential people. This causes a reduction of the ratio of wages to individual productivity and therefore reduces incentives to skill acquisitions also for other workers.

We then test the hypothesis that cronyism decreases incentives to skill acquisition by the use of a proxy, an index of perceived relevance of hard work relative to connections in determining success in life taken from the World value Survey. We use the DEA measures of inefficiency estimated on the basis of PISA scores, to explore the factors that explain cross country differences. The analysis is performed by the double bootstrap approach, a technique pioneered by Simar and Wilson (2007), which allows obtaining unbiased coefficients. In this paper we use the same technique but change substantially the specification by using different measures of output and input, in order to answer our research question. In the second stage of the procedure we explain the 'inefficiency' variable by the use of supply and demand side factors, or, in other terms, the education industry and the general environmental factors. On the supply side we find some evidence of effects of the structure of the education sector, in particular in the number of class hours. On the demand side instead we find that the performance of the education system is heavily influenced by environmental factors, such as the share of immigrant parents and more generally the educational attainments of parents. But the most interesting result is that an appropriately chosen measure of cronyism (gathered from World Value Survey) is always significant in different specifications. We interpret this result as evidence that an important driver of the performance of the education system is the incentive system underlying. When positions are awarded on the basis of influence, the real return on education may be poor. This may not appear in traditional measures of private returns on education because a formal attainment may still be required for access to some positions, but this doesn't mean that they are awarded on the basis of real education performance.³

The contribution of this paper therefore is two-fold. First, we present a stylised model of education and labour with cronyism which demonstrates that the presence and extent of cronyism decrease incentives to acquire cognitive skills. Second we demonstrate empirically that corruption has a significant effect on the inefficiency of education systems.

The remainder of the paper is structured as follows: Section 3 presents the theoretical model, which provides testable implications for subsequent analysis. Section 4 discusses the empirical methodology. Section 5 describes the data. Section 6 discusses empirical evidence. Section 7 reports some robustness check. Section 8 reports policy implication and conclusions.

2. Literature review

One of the most significant and accepted results from economic theory establishes the role of human capital accumulation also through education as the main factor explaining growth, particularly in advanced economies (Lucas, 1988; Romer, 1990). A huge amount of work has been devoted to test the relationship between education and growth with some work focusing on cross-country evidence. Starting with the work of Hanushek and Kimko (2000) and Lee and Barro (2001) direct comparable measures of cognitive skills, measures of the quality of schooling achievement, have been used to proxy human capital and a stable and strong relationship between these measures and growth has emerged (Hanushek and Woessman, 2010a). This result establishes that education is productive only insofar as it produces increases in cognitive skills and therefore explains why education systems spending comparable sums of money and achieving comparable average years

of education may attain completely different results in terms of growth. In particular some work, focusing on the effects of changes of schooling attainment, surprisingly find a weak effect of schooling (Benhabib and Spiegel, 1994; Pritchett, 1996). One interesting explanation for the failure to achieve has been put forward in a paper by Rogers (2008), who finds that, when excluding from regression countries on the basis of a high level of a corruption index, a strong relationship between education expenditure and growth emerges. Rogers (2008) suggests that this may be due to the inability of some countries to exploit the product of their education systems, because of corruption. However the relationship between cognitive measures of human capital and growth suggests that the problem may run even deeper than that, as we will argue here.

Several papers, besides Rogers (2008), investigate a similar topic; the effect of corruption on education and health care provision (Bjorkman, 2006; Gupta et al., 2000, 2002; Reinikka and Svensson, 2005; Schutz et al., 2008; Suryadarma, 2012). Gupta et al. (2002) in particular examines the impact of corruption on some quantitative indicators of education provision and finds a strong effect. The result is interpreted on the basis of Shleifer and Vishney (1993). In this setting corruption increases the cost of education provision, and decreases its quality and volume for a given expenditure due to outright theft or illegal payments required by officials (bribes), and perverse systems of recruitment, rewards and promotions for teachers. While we do not rule out entirely these channels, they seem to be more appropriate to explain the phenomenon in developing or underdeveloped countries than OECD countries. For example Gupta et al. (2000) report evidence that access to universal education may in fact be rationed on the basis of bribes in some countries. This appears unlikely to happen in any advanced OECD country. While we do not rule out entirely this channel, the impact of cronyism on cognitive skills in OECD countries is much more likely to stem from reduced incentives to acquire those skills, than from corruption in education provision. To control for corruption in education however in the second stage of the analysis, we included also some variables of school accountability, that turn out to be insignificant.

To our knowledge no empirical or theoretical contribution has explored our idea in developed countries so far. An interesting theoretical model shows that nepotism may be widespread where delegation of recruitment decision to managers is necessary and in the presence of unverifiable information regarding the skill of job applicants depending also on the prevailing value system (Ponzo and Scoppa, 2011)⁴. An indirect signal that this element may be highly relevant can be found in general in the literature on meritocracy, family background and equality of opportunity (see for example Arrow et al., 2000; Bowles and Gintis, 2002; Bowles et al., 2008).⁵ More specifically Checchi et al. (2008) observe that lower educational attainment in individuals with lower education parents can be partly explained with lower real returns from education for these individuals and find that wages for similar graduates in Italy are positively correlated with the fathers' education. Following the results in Hanushek and Kimko (2000) and the wider availability of comparable cross-country measures of school performance at the OECD (PISA), many researchers explored the relationship between education expenditure and cognitive skills. Several papers tried to measure inefficiencies in education provision through the use of the DEA

⁴ "...nepotism is more widespread in jobs paying high wage rents; in organizations in which 'low powered' incentives are used for managers; when firm performance is slightly sensitive to abilities, when it is easy to make hidden payments and the intensity of family ties is strong; when the uncertainty of the connection process is low" (Ponzo and Scoppa, 2011). It is easy to observe that some of these factors are related to market discipline and firms organization, while others depend on the prevailing value system in different societies.

⁵ Bowles and Gintis (2002) provide another example on earnings inheritability. They observe that there is sufficient evidence that "the estimated direct (e.g. not going through education) effect of parental incomes on offspring earnings has turned out to be remarkably robust... These results just reaffirm that...more than two-fifths of the intergenerational transmission coefficient is unaccounted for".

³ It is generally possible in most countries to gain a degree without much effort from a poor reputation institutions.

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