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Introduction

1.1 THE QUESTION

Why do some governments pursue more ambitious programs in order to expand education to the masses than others? Why are there still nations in which a significant proportion of their population does not have access to secondary (or even primary) education? Under what conditions is access to formal pre-university schooling secured for broad social sectors of the population? What political and economic factors explain the existing national differences in human capital accumulation? These are the questions that I attempt to answer in this book. The intellectual motivation underlying these questions comes from an intriguing puzzle: while there seem to be powerful economic reasons for the adoption of human capital enhancing policies, we observe a great deal of variation in educational outcomes across countries and over time.

Human capital has long been considered one of the main sources of economic growth (Lucas 1988; Barro 2001; Goldin and Katz 2008; Acemoglu and Autor 2012). Different theoretical approaches to economic growth treat human capital either as an additional input to the production process or as a factor intensifying the rate of innovation.¹ Economists have also emphasized the presence of externalities resulting from investment in human capital. Besides its private returns, it is argued that the human capital of agents generates certain social benefits that are not received directly by the investors themselves. Skilled workers may raise the productivity of their lower-skilled co-workers through

¹ For an overview of the theoretical and empirical literature investigating the importance of human capital as an engine of economic growth, see Sianesi and Van Reenen (2003).

their interactions in the production process. Increasing the proportion of qualified people in the workforce may also enhance the adoption of new technology. Individuals do not typically consider these spillover benefits when making their investment decisions. This type of market failure may lead agents to under-invest in human capital so that its aggregate level may be lower than the socially efficient level. This argument has been one of the central economic justifications for government intervention in the provision of education (Poterba 1994; Sianesi and Van Reenen 2003).

The acquisition of skills or human capital can be secured not only through formal education but also via on-the-job training. This book concentrates on education for various reasons. One is that it is much easier to measure and collect data on the amount of human capital accumulated through education at the national level than to aggregate all the skills attained by individuals at work. More importantly, as I am interested in understanding the political economy of human capital accumulation, I pay special attention to government policies. The human capital individuals acquire on the job is hardly affected by state actions since it depends mainly on learning by doing, though the state may certainly provide incentives that encourage firms to offer their workforce on-the-job training. However, the educational level of the population is directly and strongly related to government policy. Indeed, in most countries where education has been expanded to the masses, state intervention has played a central role in this process by providing formal schooling, financing private schools and, more generally, enhancing the economic conditions of relatively poorer households.

In addition to the presence of externalities that result from educational investment, another important economic reason to support a publicly funded education system concerns credit market imperfections (Poterba 1994). When capital markets are imperfect and individuals thus face borrowing constraints in their educational choices, schooling is only available to those with sufficient wealth. Even if individuals do incorporate in their decisions both the private and social gains of their education, they might not realize their investments because they lack resources. Thus the fact that lower-income groups do not have free access to credit against future earnings calls for political intervention to reap the economy-wide benefits and the potential for economic growth of increased human capital accumulation.

The importance of such market limitations obviously hinges on the existence of certain costs related to the acquisition of education. Although one may think that the direct costs of pre-university education

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are relatively small since primary and secondary schooling is often free or greatly subsidized, the opportunity costs (foregone income) are much more significant, especially at secondary level. It is then reasonable to claim that schooling decisions are partly affected by the economic burden entailed in the educational attainment process.

These lines of economic reasoning have been forcefully echoed by several international development organizations, which stress the beneficial role of education for high growth. The World Bank, the Inter-American Development Bank and Unesco, among others, have backed the conventional wisdom that expanding basic schooling is a prerequisite for prosperity and will foster economic development (Easterly 2002: 72). In a similar vein, the policy reform package advocated by the so-called Washington Consensus includes prioritizing education expenditure over other types of public spending more oriented to consumption when governments need to reduce fiscal deficits (Williamson 1990).

However, despite all these international institutions' claims and the economic rationale for expanding the provision of education, the educational performance of countries varies considerably. As an illustration of the large cross-sectional variation, in 1990, the global distribution of secondary enrollment rates² had an average value of 55% with a standard deviation of 32.8 percentage points. And the actual range of national performance was fairly wide, going from 5 (Tanzania) to 115.6 (Netherlands). If human capital accumulation is so good for growth, why is it the case that countries have not converged toward high levels of education results?

One obvious factor driving these educational disparities is the wealth of the economy. The simplest explanation is that, as long as investing in education involves certain economic costs, the amount of resources available in society will determine how many people can acquire formal schooling. Alternatively, if we look at state interventions, it is reasonable to conclude that economic development shapes the public supply of education since it delimits the economic constraints that restrict governments in their attempts to expand education. We can also argue in more basic terms that economic development influences public educational intervention through its impact on state capacity. To make any government program effective, it is necessary to have a state bureaucracy or a public administration that is able to directly manage the public provision of

² These data are taken from the *World Development Indicators 2013* (World Bank 2013). For a more precise definition of this variable (ENROLSEC), see Appendix A of the book.

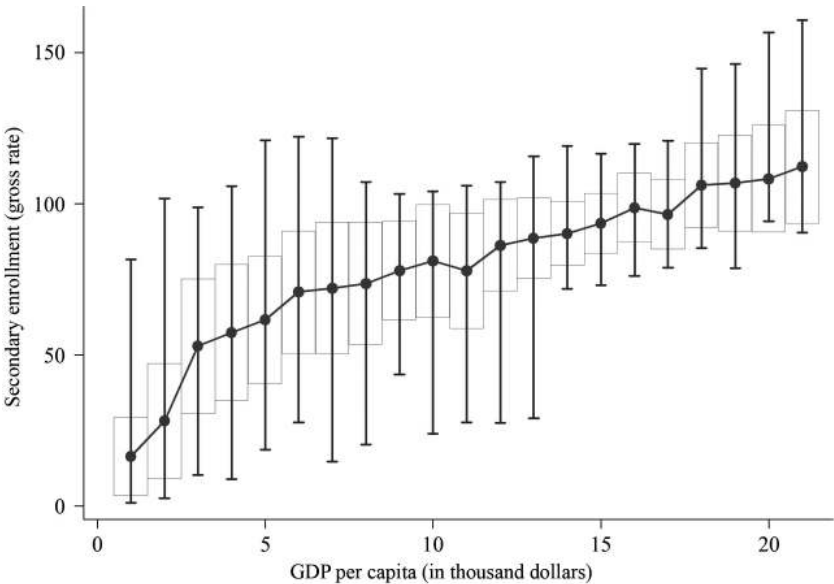


FIGURE 1.1 Variance of secondary enrollment by per capita income³

education or to control the education services administered by private institutions, in the case of an indirect education policy based on subsidizing private schooling. One can also think in terms of demand-side mechanisms. The increasing degree of industrialization and services sector growth entailed in the process of economic development have changed individual preferences concerning the acquisition of education. This process initiated a set of changes in the labor market that has resulted in a stronger link between education and job opportunities. Thus individuals are more likely to invest in human capital so that they can improve their positions in the labor market (Shavit and Blossfeld 1993).

Yet, even after taking per capita income into consideration, there are still substantial differences that need to be accounted for. Figure 1.1 presents the magnitude of variation among country-year observations from

³ The figure is a box plot where the dots refer to the mean values at each income interval. For each 1,000 dollar interval of GDP per capita, the box extends plus to minus one standard deviation from the mean, and the vertical lines expand to the maximum and minimum values. The last box includes the cases with per capita income greater than 20,000 dollars. Six Middle Eastern oil countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates) are excluded – their inclusion would drop the enrollment mean in the highest income interval. See Appendix A for a definition of the variable GDP per capita (INCOME).

1960 to 2005 with similar levels of GDP per capita. As the figure shows, the rate of secondary enrollment seems to be positively associated with average income: the higher the value of the latter, the greater the average percentage of young people enrolled in secondary school. However, the story does not end here. For a given level of income per capita, we usually observe a relatively sizeable degree of dispersion around its corresponding educational mean. For instance, when average income is between 5,000 and 6,000 dollars, the mean of enrollment is equal to 70% and its standard deviation 20%. What are the causal forces behind these remaining differences in human capital accumulation? This book aims to answer this question by analyzing the politics of education and, in particular, those factors inducing governments to undertake education-enhancing policies.

1.2 THE DEPENDENT VARIABLE

The general goal of the book is to explain the worldwide expansion of education to the masses during the post-war period. I analyze, more concretely, the educational participation of the population in pre-university schooling, as access to higher education is fairly restricted even among developed countries. Since World War II, an increasing number of people have access to school in most countries of the world. It has been a period marked by unprecedented rates of education growth across the globe. In some industrialized countries, like the United States and Germany, the educational system was already providing universal primary and, to a lesser extent, secondary schooling by the mid-twentieth century. Despite the international trend of increasing numbers of educated people in the population, the timing of the expansion process has varied across countries and, as shown in Figure 1.1, we still observe significant differences between nations even in recent times. This book examines the explanatory factors behind these events and, in particular, studies the political economic forces driving some countries to expand education to the masses.

The process of expanding education to broad sectors of society has been studied using alternative measures related to policy or educational outcomes. The policy indicators used typically refer to education spending calculated in different forms: public expenditure on total education as a percentage of the national wealth, public expenditure on primary education as a percentage of GDP or as a proportion of the whole education budget, etc. (Brown and Hunter 2004; Lindert 2004; Stasavage

2005; Ansell 2010). The educational outcomes that are examined in studies about the spread of mass schooling are usually the educational attainment of the population above a certain age (e.g. average years of schooling of the population); graduation or enrollment rates; and, especially in historical analyses, the percentage of literate people in the population (Brown 1999; Lindert 2004; Goldin and Katz 2008; Engerman, Mariscal and Sokoloff 2009; Gallego 2010). This book concentrates on outcomes since they are the most direct and proper indicators of educational expansion. In evaluating the extent to which the population in a society has access to primary and secondary schooling, education results constitute an unambiguous way to measure this phenomenon. Public expenditure on education, on the contrary, may introduce some noise into the evaluation since there is not necessarily a direct correlation between expenditure and performance, and it is not the only resource governments have at their disposal to affect mass schooling. Expenditure figures are distorted by patterns of corruption (Baum and Lake 2003) and undervalue institutions that are more efficient in the provision of public education. Those countries able to devote a smaller amount of funds in order to reach a certain level of schooling attendance would be deemed as less committed to human capital accumulation when in fact they are using resources more efficiently.

In addition, a government can increase the proportion of society that acquires education by means of policies other than augmenting the state budget devoted to schooling. Alternative policies could be a standard program of income redistribution that enhances the living conditions of relatively poorer individuals or, more generally, a policy that reduces the degree of inequality in the initial distribution of market income. These political interventions would lessen the liquidity constraints faced by the poor, thus improving their capacity to meet the direct and opportunity costs associated with human capital investment. In fact, there is empirical evidence in the sociological literature about inequality of educational opportunities that indicates that the relative improvement in the socio-economic wellbeing and employment stability of the less advantaged groups of society constitutes one of the principal mechanisms through which these groups have raised their schooling levels and narrowed their educational distance with respect to the more privileged social classes (see Erikson and Jonsson 1996 for the Swedish case). From the economics of education, we also find evidence in developing countries corroborating the existence of a positive link at the household level between being a recipient family of an income transfer, like a pension, and the

school enrollment of children living in these households (see Glewwe and Lambert 2010 for a review of this literature). In sum, looking only at public expenditure on education to assess the expansion of education to the masses (as, for instance, in Ansell 2010) is quite misleading because, first, the same level of expenditure is likely to produce different results depending on how efficient domestic institutions are in translating resources into outcomes and, second, governments can employ other policies to promote school attendance among the worse-off groups in society.

By concentrating on outcomes, we can avoid these difficulties but we have to be more careful in isolating the political economy determinants of educational expansion. Schooling outcomes depend not only on government policies but also on certain conditions that affect the demand for education which cannot be altered politically. We can see this more clearly by examining individual decisions on education;⁴ note that the educational outcomes of countries are equal to the aggregation of all individual decisions. Suppose that educational choice is a dichotomized one: each agent has to decide whether to acquire a fixed level of education and pay a cost, e , or remain unskilled. Individuals make their human capital investment in period one, when young, and work in period two. An agent will get educated if, first, the investment is profitable and, second, she can pay the cost of education. The profitable condition requires that

$$\frac{y_{t+1}^s - y_{t+1}^u}{1+r} > e \quad (1.1)$$

where y_{t+1}^s and y_{t+1}^u are income earned in period two as a skilled or unskilled worker respectively, and r is the discount rate. This condition tells us that an individual is willing to attend school if the present value of the gain from the investment is higher than the cost of education.⁵ When this condition is met, an individual will eventually get educated if her parents have enough wealth to pay for it under the assumption that capital markets are imperfect and, therefore, that people cannot borrow to finance their education. How many people will obtain education? To illustrate how individual decisions aggregate into schooling outcomes at the national level, suppose that parents have only one child and their

⁴ See Checchi (2006) for a review of the standard modeling strategies of this decision in the economics of education.

⁵ To simplify the decision, it is assumed that individuals cannot work in the period one so there is no opportunity cost. Including this cost – i.e. adding the first-period income earned as an unskilled worker in the right-hand side of the equation (1.1) – does not make any change to the substantive conclusions of the argument.

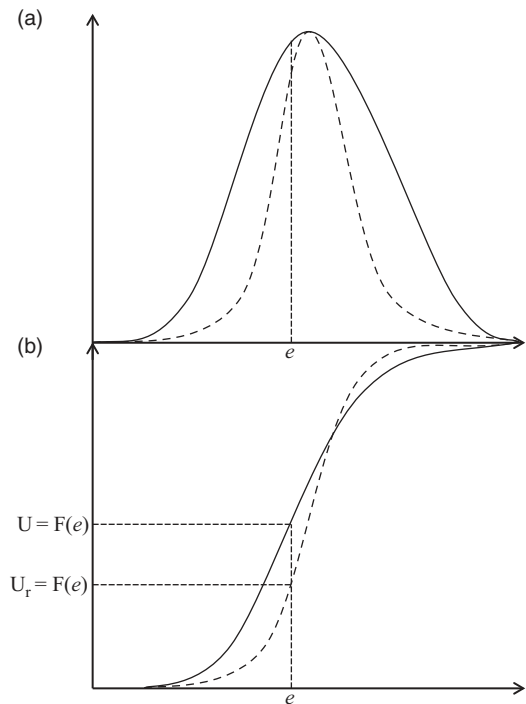


FIGURE 1.2 The effect of income redistribution on aggregate educational outcomes⁶

pre-tax incomes are lognormally distributed – that is, $\log(\text{income}) = y \sim N(\bar{y}, \sigma_y^2)$. This distribution is represented in Figure 1.2 with solid lines. As can be seen in Figure 1.2(a), all children from families with an income lower than e do not have access to schooling. Looking at the cumulative distribution, this number represents a proportion U in the total young population. If we denote the cumulative distribution function as $F(y)$, then the proportion of the younger generation that get education is equal to $1 - F(e)$.

The state can increase the proportion of educated children in this setting by either improving the income of the liquidity-constrained households or reducing the price of education. To enhance the economic position of low-income families, policymakers can undertake a set of different actions, such as broad reforms of economic development,

⁶ Figure 1.2(a) shows the density of the income distribution; Figure 1.2(b) its corresponding cumulative distribution. The solid lines represent pre-tax distribution and the dashed lines post-tax distribution.

market regulations in favor of the pre-tax earnings of the poor sectors, etc. Yet the most immediate and direct way to make the poor better off is to carry out a pure income redistribution program. This will compress the pre-tax income distribution reducing the number of families with incomes below the price of education (U_r) and ultimately expanding the proportion of young individuals who invest in human capital. The new (post-tax) income distribution is represented in Figure 1.2 with dashed lines. An alternative way to achieve this goal is to drop the cost of education for individuals. Such a policy entails an increase of public educational expenditure, which is typically used to expand the public provision of schooling and/or to stimulate further state funding of private institutions.⁷ These different policies are not inherently exclusive measures and it is quite reasonable to think that governments choose different combinations of them. The principal idea is that all these public interventions that enhance human capital are likely to yield distributional effects.

We can think of all these policies that affect the educational outcomes of countries as explanatory factors on the supply-side of human capital accumulation. However, as the profitability condition in equation (1.1) shows, there are other factors operating through the demand for education, which are only marginally within the control of the state but have to be controlled for in the analysis. The most important ones at the aggregate level are the economic conditions shaping the skill premium (i.e. the difference between $y_{t+1}^s - y_{t+1}^u$). For instance, better employment opportunities for the qualified workforce due to an expansion of the skill-intensive sectors would raise the skill premium (y_{t+1}^s will rise relative to y_{t+1}^u). As the incentives for individuals to invest in human capital will be greater when the expected income of skilled workers y_{t+1}^s grows and/or that of the unskilled diminishes, such a rise in the skill premium would boost the demand for education and, accordingly, the proportion of educated people in the population.⁸ To isolate the variance in country-level educational outcomes that could potentially be explained by government actions, I incorporate a set of standard variables proxying for schooling demand in the statistical models of educational expansion.

⁷ In any case, we can view government expenditure as a conditional transfer to people who actually decide to go to school.

⁸ If the discount rate varies across individuals and as a result they form a different evaluation of current costs in exchange for future gains, then all factors determining the skill premium will exert a monotonic impact on aggregate educational results.

1.3 THE ARGUMENT

My argument in this book focuses mainly on the supply-side of human capital and contends that education-enhancing policies, notwithstanding their efficiency consequences, need to be politically sustainable. They must be in the interests of the politically dominant groups in the society. I recognize that any government intervention that aims to increase human capital may have redistributive implications. It may benefit certain social groups at the expense of others. Even though increasing the educated proportion of the population may generate positive externalities and thereby may benefit all agents in society, the allocation of the financial burden associated with these policies may create net “losers” and “winners.” Thus a potential conflict of interest may arise between societal actors and as a result they are likely to sustain divergent views about the policy. If potential “losers” of that intervention possess power to determine public decisions, we should not expect that an efficient educational policy, although desirable for the economy as a whole, will be adopted. In a nutshell, insofar as government interventions that aim to increase access to schooling have distributional effects, for such public actions to take place they must be in the interests of the politically dominant groups in society.

There are two questions we ought to answer in order to know when an education-promoting program is likely to be carried out. The first one concerns the preferences over policies held by the relevant political groups. To answer this question, this book follows the approach of the most important political economy analyses of education (Saint-Paul and Verdier 1993; Perotti 1993; Fernandez and Rogerson 1995). The costs and gains derived from those public actions affecting schooling outcomes are assumed to be economic.⁹ Policy preferences depend on the economic positions of individuals and thus the relevant groups that are potentially in confrontation are defined by their income. The favorite policies of a

⁹ There are sociological and political theories that view mass education as pursuing other non-economic collective goals (Meyer, Ramirez and Soysal 1992). The classical functionalist arguments explain educational expansion as a requirement for maintaining social order in the increasingly complex societies of industrialized nations or, alternatively, as a mechanism of social control to maintain the legitimacy and power of dominant classes. In contrast to these theories, Meyer, Ramirez and Soysal (1992) propose that mass schooling is a central aspect in the building of nation-state projects to create the “symbolic links between individuals and nation-state” (p. 131). John Lott (1999), from a political economy perspective, understands public education as a policy tool that rulers use to “indocctrinate” their citizens (i.e. to control the information that they receive) in order to lessen their opposition.