# Educational poverty

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# INTRODUCTION

Since the work of Gary Becker (1964), a general consensus has emerged among economists stating that education is becoming increasingly important, both for individuals and for firms, national economies and societies as a whole. The evidence from economic research in the field of education clearly shows that competencies and qualifications acquired through the educational system turn into monetary (higher wages) and non-monetary benefits, such as improved health (Cutler et al., 2010), longer life (Lleras-Muney, 2005), lowered crime (Lochner and Moretti, 2004), higher life-satisfaction (Oeropoulos and Salvanes, 2011) and civic engagement (Milligan et al. 2004).

The role of education is particularly important, as it is a gradual, ongoing, long-term process: gained learning at one level affects the quality of education acquired subsequently at higher levels, or as the Nobel laureate James Heckman says, 'early learning begets later learning' (Heckman, 2000, p.5). Thus, failing to develop and acquire a specific skill or competence at a certain age may have detrimental long-term consequences.

Particularly affected by this are poorly educated people. The lack of basic skills and/or of a minimum standard of education significantly decreases the chances for an individual to succeed on the labor market, and, generally, in life. Moreover, the risk of being permanently excluded from the labor market is highest among poorly educated individuals (Solga, 2006). This phenomenon has been especially prevalent in the last decade when, following the recent developments on the labor markets and the expansion of educational systems in favor of better educated people, individuals with low or no formal qualifications incur greater difficulties in finding a job. The shrinkage of the industrial sector, followed by the expansion of knowledge- and research-intensive economic activities, as well as of the service sector has led to an increased demand for highly skilled individuals, while jobs for less qualified workers are increasingly scarce. If, in the past, the lack of education or professional qualifications did not hinder individuals from finding a job because the demand on the labor market was able to cover a broader spectrum of levels of education, today, in a knowledge-based society, access to the labor market is conditioned on having at least a minimum level of education or a professional qualification.

Thus, given the changes in the jobs structure, skills, professional qualifications and education in general become determinant factors of inequality between skilled and unskilled workers. Therefore, low-achievement in terms of lack of skills and certificates captures the basic characteristics and implications of poverty.

The report that follows proposes a theoretical route with stops at the several definitions for the concept of *poverty* and *education* from both economic and sociological perspectives in order to better grasp the meaning of the *educational poverty* concept.

# THE CONCEPT OF EDUCATIONAL POVERTY IN THE SOCIO-ECONOMIC LITERATURE

The concept of *educational poverty* is entrenched in the EU and OECD education policy. Since the Lisbon Summit in March 2000, education and training have represented key elements for achieving economic and social objectives. In the 'Education and Training 2010 Work Programme', which is an essential component of the Lisbon strategy, quantitative benchmarks were defined as 'reference levels of European average performance' in education and training (Commission of the European Communities, 2004) aimed at reducing educational poverty. The adopted objectives included: decreasing by at least 20 % the percentage of low-achieving 15-year-olds in reading literacy, and by reaching a level not higher than 10 % of the average share of early school leavers in the EU and an above 85 % share of the EU's 22-year-olds who have completed upper secondary education.

Even though educational poverty is thus not a new phenomenon, the integration of this concept into the scientific literature occurred first in the 1990s. The Italian economist, Daniele Checchi, and the German sociologist, Jutta Allmendinger, introduced the concept of povertà d'istruzione/Bildungsarmut (Checchi, 1998, Allmendinger 1999, Allmendinger and Leibfried, 2003). Both researchers addressed educational poverty as a multidimensional phenomenon.

By using the notion of educational poverty, the focus is on the precarious social situations in which seriously educationally deprived individuals face greater difficulties participating in different economic, social and cultural activities. Thus, apart from being used as a new terminology for lower education, the concept of *educational poverty* as defined by Allmendinger (1999) encompasses a multidimensional understanding of living conditions, which are important in meeting the basic needs of an individual ("Lebenslagen-Ansatz").

In order to operationalize the concept, Allmendinger (1999) and Allmendinger and Leibfried (2003) differentiate between two types of educational poverty: poverty in terms of certificates and poverty in terms of competences. The former refers to the lack of educational credentials/certificates that could certify the completion of a minimum level of education, while the latter refers to those (minimal) skills that would allow the individual to participate in economic and social activities. Allmendinger and Leibfried also distinguish between absolute and relative measures of educational poverty. Absolute educational poverty is defined as failure to achieve a minimum level of education. For example, in the PISA studies, students who score below a Level 2 (out of six) proficiency are considered to be poorly educated. Relative educational poverty refers to individuals in the lowest quintile or quartile in the educational distribution of educational levels.

In several German studies, poorly educated individuals are also identified by the term educational losers ("Bildungsverlierer") or "students at risk". They are those who are unable to convert their skills into education certificates, job-related positions or income

opportunities (Quenzel and Hurrelmann, 2010, p. 12) and thus face the risk of permanent exclusion from the labor market and social life.

Cecchi (1998) defines poorly educated persons as those "who do not acquire a minimum educational threshold needed to survive", the minimum being represented by the completion of compulsory schooling as it is stipulated by each school system. From Cecchi's point of view, *educational poverty* actually represents a double deprivation: one refers to a person's lack of "functional abilities", which would allow a person to participate in different social and economic activities. The other refers to the inability of a poorly educated individual to earn an income on the labor market. Especially affected are the younger generations.

Cecchi also distinguishes between absolute and relative terms, but prefers the first approach for the following reasons: A relative measurement of educational poverty would implicitly assume that the training process is homogeneous across an educational career, meaning that one year spent in primary school is similar to one year spent in tertiary education in terms of returns on the labor market. The second criticism to the relative measurement of educational poverty refers to the fact that, when educational poverty is defined relative to the entire workforce by taking into account all generations, those who are at the upper tail of the age distribution are at risk of being considered poorly educated because the minimum education level necessary for survival has risen in the last decades. Checchi (1998) argues that a relative measurement of educational poverty is only preferred when comparisons within generations are considered and not those across generations.

In line with Checchi and Allmendinger, Lohman and Ferger (2014) discuss the concept of educational poverty in the context of welfare state change. In their view, educational poverty is understood 'as a level of education which falls below a threshold', this threshold being defined as a minimum in a given society. In other words, educational poverty reflects an unacceptable state in a society, which requires social interventions. Regarding the measurement, Lohman and Ferger argue that in developed countries where high educational attainment is a standard, a relative educational poverty measure is more appropriate. In developing countries, where a relevant share of the population has not acquired any formal of education at all, an absolute educational poverty measure is preferable instead.

Despite the fact that the concept of educational poverty was defined in the context of general poverty research, the notion of educational poverty overlaps only partially with the conventional and dominant view on 'poverty' that is income-related poverty. To disentangle the meaning of educational poverty from a historical perspective, we discuss below the relationship between education acquisition and poverty from the insights of economic theory.

# HISTORICAL OVERVIEW OF EDUCATIONAL POVERTY IN ECONOMIC THEORY

## Human Capital Approach

In economic theory, the relationship between education acquisition and income is traditionally embedded within the human capital approach (Becker, 1964; Schultz, 1963; Mincer, 1958). According to this approach, education is regarded as an investment that increases 'the stock of skills and productive knowledge embodied in people' (Rosen, 1989).

The acquisition of education, synonymous with 'investment in human capital', increases the productivity of people, which converts into higher earnings. In turn, workers earn less because they are less productive, being deficient in human capital. Thus, following the logic of this model, being poor (in terms of income) and illiterate (poorly educated) are synonymous. But, as we shall see later, being poorly educated does not necessarily imply being poor in terms of income, and vice versa.

It is assumed, within this school of thought, that people will invest in education up to the point where the marginal cost is equal to the marginal benefit. The cost of acquiring education consists of direct costs related to schooling (tuition fees, school resources, transportation, meals etc.) and of indirect costs (also called 'opportunity costs') measured as foregone earnings while studying instead of having a job. The marginal benefit is represented by the prospect of higher wages rewarded on the labor market.

Despite the relative significance of education for an increase in earnings, individuals do not require the same amount of education. Besides innate ability, which can contribute to differentiating educational attainment, family income is another factor that may constrain family members from acquiring higher levels of education. Individuals from low-income families tend to invest less in education than those from high-income families, even if the marginal benefit of an additional year of schooling is higher than the corresponding marginal cost. Poor individuals face higher opportunity costs of staying in school than richer individuals, and they are unable to participate in the credit markets in order to borrow the amount they need to invest in education. Given the fact that the financial markets are imperfect, especially in the case of investment in education, this market failure leads to a persistence in poverty across generations, both in education and in income (Checchi, 2010). This aspect is magnified through the indivisibility of investment in human capital. To achieve an increase in earnings, one additional year of schooling may not be enough without obtaining a certain educational degree, which usually implies a higher investment in human capital.

Therefore, according to human capital theory, education represents a means of development, with the underinvestment in skills and knowledge strongly correlated to poverty in income.

## Signaling Theory

An extension of the human capital theory is represented by signaling theory (Spence, 1973), which offers a complementary explanation as to why better educated workers receive higher wages, and vice versa, why less educated workers receive lower wages. According to signaling theory, the achievement of education represents a signal that workers give to employers, in order to reveal their innate levels of productivity, which cannot be observed by firms. Because school levels or educational certificates can be observed without costs, employers use educational qualifications ("signals"), rather than testing the acquired skills, to predict the (potential) productivity of the individuals. The main underlying mechanism consists in the fact that the individuals with higher skills acquire more education knowing that this investment translates to a better signal for them. Similar to human capital theory, individuals are rational and they invest in education as long as the marginal benefit exceeds the marginal cost. While the marginal benefit is the same for each individual, regardless of their type of skill (high or low), in the case of signaling theory, the marginal cost is higher for low-skilled than for high-skilled individuals. Despite this difference, both models predict that high-skilled individuals will earn higher wages, and vice versa, low-skilled workers will earn less. Empirically it is very difficult to differentiate between the two theories. Nevertheless, recent studies that use modern econometric techniques (Tyler et al. 2000) find evidence in favor of the signaling theory.

## The Human Development Perspective

In the 1990s, both scholars and development planners recognized the limitations of the conventional definition of poverty in terms of income poverty. The meaning of (income related) poverty was extended to 'human poverty', which is 'more than income poverty - it is the denial of choices and opportunities for living a tolerable life' (UNDP, 1997, p.2). Within the human development approach, education is more than an instrument of development: it is development itself (Tilak, 2001).

Poverty is defined as a multidimensional concept: 'It also reflects poor health and education, deprivation in knowledge and communication, inability to exercise human and political rights and the absence of dignity, confidence and self-respect' (UNDP, 1997, p.3). The same framework has been used by the World Bank (1994, p. 9) to redefine poverty: 'poverty is not only a problem of low incomes; rather it is a multi-dimensional problem that includes low access to opportunities for developing human capital and to education'. Thus, lack of education and of capabilities is seen now as poverty itself, *poverty of education or education poverty* becoming thus conceptually defined as an integral part of human poverty (Tilak, 2001).

## Human Capabilities Approach

Amartya Sen (1999) extended the human development approach and developed the human capabilities approach, offering an alternative definition of poverty based on what individuals

can do and be in their lives. The 'capabilities', which characterize a person's well-being, are defined as a 'set of functionings', where the *functionings* represent the 'doing and beings' of an individual. The notion of *capabilities* reflects the freedom that a person has in terms of choices and opportunities 'to lead lives they have reason to value' (Sen, 1999).

Poverty is defined by Sen (1997) as 'capability deprivation', education representing a basic component of capabilities. The author makes a very clear distinction between income poverty and capability deprivation, the latter being characterized by a lack of 'elementary and crucially important functionings', such as a long and healthy life, being literate and avoiding homelessness.

In a nutshell, the human capabilities approach[1] stipulates three elements on poverty analysis: the low income plays only an instrumental role, the monetary resources representing only an input in the capability production function; apart from a low level of income, capability deprivation is also influenced by the complex interplay between personal and social or institutional *conversion factors* (i.e. 'the features, structures and processes, which allow a person to transform resources or services into the achievement of beings and doings' [Ziegler *et al.* 2015]); the instrumental relation between low income and capabilities deprivation differs across individuals, groups and communities.

Thus, compared to human capital theory, in the human development approach, the focus is on the intrinsic value of education, which confers on individuals the freedom to choose and to grasp opportunities. According to the human capital approach, education is instead valued in terms of increased earnings for individuals and in terms of economic growth. Giving more emphasis to the human component, the human development approach focuses more on people's capabilities and not on production or economic outcomes, arguing that the dimensions of education are more important than the rates of return, which are only indirectly affected through education (Kjeldsen and Bonvin, 2015; Kjeldsen and Ley, 2015). Despite these differences, both approaches consider education at the forefront of development and in the fight against poverty.

## The Modern Human Capital Theory

The early literature on human capital (Becker, 1964), as well as the signaling literature (Spence, 1974), focused mainly on cognitive skills (Heckman and Rubinstein, 2001). But recent research in the field of economics, due to an increased availability of reliable measurement, highlights the role of non-cognitive skills in shaping socio-economic outcomes of individuals. Apart from the role of cognitive skills, a substantial body of literature (for a review, see Borghans et al. 2008) offers evidence that school attendance, employment, earnings and productivity are also strongly affected by non-cognitive skills, such as

[1] For an application of the "capabilities approach" in policies for the support of disadvantaged young people in Europe see the EU FP7 project "Making Capabilities Work" (WorkAble): http://cordis.europa.eu/result/rcn/56350_en.html (Otto 2013)

motivation, self-esteem, self-regulation and time preference (Heckman, 2008). And these abilities account for a large portion of the variation in socio-economic outcomes between individuals.

According to this strand of literature, a poorly educated individual is not only poor in cognitive skills, but also, and to a greater extent, in non-cognitive skills. Those who lack motivation, willpower, and self-control are at higher risk of dropping out of school, being unemployed and being isolated in society. A large body of literature from psychology and other social sciences has established that the basic cognitive and non-cognitive skills are produced in the early years of childhood. Given the dynamic nature of the skill formation process (Carneiro, Cunha and Heckman, 2006), the ability gaps that open early in life may lead to educational poverty if skills deficits are not remediated during the preschool years.

Compared to the early literature on competence development, which considered education as the output of a production process, the current view of the economic literature emphasizes the dynamic nature of the skill formation process, which was formalized by Cunha, Heckman and Schennach (2010). They show that investments in children are complementary, in the sense that skills produced at one stage raise the productivity of investment at subsequent stages and that early investment has to be followed up by later investment in order for the early investment to be productive. They also emphasize the self-productivity of skills, which determines that the output of each stage after investment represents input for the next stage. Failing to invest in skills in certain periods might have irremediable long-term consequences, especially for children from low-income families, who face the higher risk of being affected by educational poverty.

In recent years, another term, *disconnectedness*, has been used in the economic literature to describe those who drop out of education, work or any other form of social integration (MaCurdy et al. 2006, Fernandez and Gabe, 2009, Pfeiffer and Seiberlich, 2011; Coneus et al. 2010). Those who experience 'disconnection' do not possess the 'skills necessary for establishment as independent adult' (MaCurdy et al., 2006). Findings from the literature (Blomeyer, 2007, Heckman, 2008) show that the phenomenon of disconnectedness is rooted in childhood, representing the actual consequences of adverse early life conditions and low (or lack of) mentoring from the side of the parents during a child's early years.

## POVERTY AND SOCIAL EXCLUSION

At the boundary of economic theory, the concept of *social exclusion* was defined as an instrument for policy makers. As stated by Berghman (1997), the term of *social exclusion* was actually entrenched in the EU agenda in 1988, when the European Community (EC) referred to 'social exclusion' in an official document for the first time. One year later, a resolution adopted by the EC Council of Ministers explicitly mentioned 'combating social exclusion'. But despite its prevalence in the EU reports, the terminology of social exclusion was first introduced in the literature only during the last decade (Levitas, 2006).

*Social exclusion* is seen as an extreme form of capability deprivation. Broadly speaking, a person is said to be socially excluded if they are unable 'to participate effectively in economic, social, political and cultural life' (Duffy, 1995). According to Sen (2000), the concept of *social exclusion* captures the notion of poverty (in the sense of poor living standard), including the multidimensional feature, but additionally emphasizes the relational aspects of deprivation that characterize social exclusion: failure to participate in social relations, in employment, etc., only with respect to the society to which he is considered to belong.

Sen (2000) describes social exclusion as also having an 'instrumental importance', in the sense that different forms of social exclusion may reinforce detrimental effects in other forms of deprivation. Consequently, the notion of social exclusion describes a process, rather than a static outcome. In other words, an individual suffers from social exclusion when their condition of deprivation is persistent over time. To better distinguish the concepts of poverty, deprivation and social exclusion in terms of their static/dynamic characteristics, Berghman (1997) proposed the following schema:

| Concepts | Static outcome | Dynamic process |
|---|---|---|
| **Income** | poverty | Impoverishment |
| **Multidimensional** | deprivation | Social exclusion |

*Source: Berghman (1997), p. 7.*

The meaning of social exclusion is strongly related to education. Usually, a low level of education is highly correlated with an increased risk of social exclusion, this phenomenon being more relevant during the transition from school to employment of an individual. To assess the risk of social exclusion, we should address two factors that influence the selection of individuals during their educational careers (Boudon, 1974): inequalities in the family background that determine the differences in the academic performance of children ("primary effects"); and differences between social classes in their level of school participation ("secondary effects" of social stratification). The latter describe how individuals from different socio-economic backgrounds choose their level of school participation by weighting the costs and benefits of higher educational paths.

According to the primary effects, lower class children perform, on average, worse in school because they have a poorer socio- and cultural background compared to their upper class schoolmates. However, in terms of their relevance in explaining educational inequalities, the secondary effects are more important, as they are exponential (Boudon, 1974). On the one hand, those from a lower socio-economic background perceive the costs of education as being higher because they need to have relatively stronger willpower and to invest more in education compared to higher class members. On the other hand, the expected benefits of education are assessed differently by lower and upper social classes. As stated by Boudon (1974, p. 30-31): "The higher the social status the higher the anticipated benefit associated with the choice of a prestigious curriculum." Consequently, the costs of dropping out from school are higher for upper class members than for those from lower socio-economic background.

While the above discussion has focused on explaining the educational inequalities from the perspective of factors influencing the *demand* for education, another strand of literature looks at different institutional factors that also influence the inequalities in the education systems. Among institutional characteristics, the selection criteria applied in the school systems are crucially important because they reflect certain educational standards which should be achieved by the students in order to have access to the successful educational pathways Failing to fulfil specific school criteria increases the risk of exclusion later in life, especially among disadvantaged individuals (Betts and Shkolnik, 2000; Gamoran, 1987).This is of particular importance, since the increasing requirements in a knowledge-based society may lead to the fact that even though those educational certificates which are often considered to reflect low standards, are at risk to be devalued in terms of their relevance on the labor market and in society (Ditton, 2010). This is reinforced by the employers' and societally prevalent perception that low-skilled workers are characterized by unstable personalities, lack of motivation and low willpower, which, in turn, may lead to further (self)-exclusion from social and economic life (Solga, 2006).

Despite its prevalence in the scientific literature, especially in sociology, one of the most salient criticisms is that the terminology of *social exclusion* is the least precisely-defined concept of deprivation (Davis and Sanchez-Martinez, 2014). It is also considered that the concept is most applicable to developed countries (for the development of 'social exclusion' in the United Kingdom, see Levitas, 2006; and for Germany, see Bude and Willisch, 2008).

## FINAL REMARKS

Our overall view is that each of the economic and sociological approaches mentioned above makes an important contribution to the understanding of the concept of *educational poverty*. Nevertheless, from the point of view of economic theory, we cannot display any evidence that there is a clear definition of the term of educational poverty. The concept still seems to be 'under construction' in relation to the ongoing social and economic changes generated by globalization and technological development. In this regard, our intention was to catch a current perspective of theories as building blocks of this construction.

However, as already stated above, to fully understand the nature and the causes of educational poverty is it necessary to deepen the analysis from both the economic and sociological perspectives.

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