Territorial and individual educational inequality: A Capability Approach analysis for Italy.

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ABSTRACT

This paper aims to investigate territorial and individual inequality in education according to Sen's Capability Approach that focuses on how public and private resources may be "converted" into educational attainments. We analysed the Italian case by constructing a new longitudinal dataset from 1993 to 2012 using repeated cross-sections of the main social survey by the Italian Statistical Institute. We examined the educational divide between the Centre-North and the South using the Oaxaca-Blinder decomposition and we estimated the Educational Kuznets Curve through a dynamic panel model. According to the results, the Southern educational gap is mainly influenced by the relative ineffectiveness of public expenditure in Southern Italy, where private economic wealth has a stronger educational impact. We verified Kuznets's hypothesis concerning the inverted U-shaped relationship between educational inequality and attainments. Moreover, individual educational inequality appears to be path dependent, positively linked to economic inequality and negatively influenced by educational public expenditure.

1. Introduction

Education is a central factor for social and economic progress and many studies have highlighted various aspects that make education a bridge between economic system and society (Vladimirova and Le Blanc, 2015; Rambla and Langthaler, 2016; UNESCO, 2017). In theoretical and empirical economic growth literature, education is mainly conceived as human capital (Lucas, 1988) and human skills, i.e. entrepreneurial, managerial and technical skills (Dosi et al., 1988; Lall, 2001), which, interacting positively with the inputs of production process, drive economic development (Guarini et al., 2006; Guarini, 2009; Jalil and Idress, 2013). In microeconomic literature, two main lines of research have been developed: firstly, a human capital investment function has been studied to capture economic returns (Becker, 1993; Mincer, 1974; Fuklumura,

2017); secondly, an educational production function has been estimated in order to examine how one's schooling and socio-economic context influence the qualitative outcome of a student (Hanushek, 1997, 2002; Lien, 2006; Laureti et al., 2014). From a political point of view, education assumes a central role. European Union policies focused on education as being an instrument of social inclusion as well as an engine of economic competitiveness. The previous Lisbon Strategy and the current Europe 2020 Strategy for the 2014–2020 period show the efforts the European Union has made to promote educational development, relaunch economy and accelerate the process of "smart", "sustainable" and "inclusive" growth. In order to develop this strategy, the European Union has fixed two specific targets concerning the percentage of early school leavers and of tertiary students in the population. In this direction, we took simultaneously into account these two educational targets by focusing on

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differences in the number of years of education, which are examined using Amartya Sen's Capability Approach. More specifically, we investigated inequality in education between Italy's two main geographical areas, and among Italian citizens by using the data obtained from the "Aspect of Daily Life" (ADL) survey, for the first time. This survey has been carried out annually by the Italian Statistical Institute (ISTAT) since 1993. The Italian case is interesting because the social and economic disparity between the Centre-North and disadvantaged South and Islands (henceforth South) implies that Italian regions attain the highest (such as Lombardia) and the lowest positions (such as Calabria) in the European regional rankings of economic and social development. After carrying out a review of the literature concerning educational inequality, we conducted empirical analysis: firstly, we investigated the factors influencing the educational gap at regional level using the Oaxaca-Blinder decomposition; secondly, we estimated a dynamic panel model using the GMM approach in order to identify which variables affect individual educational inequality by estimating the Educational Kuznets Curve model with public and private resource variables. The results show that there is a significant Southern educational gap in terms of years of education. Private economic wealth affects education more in the South than in the Centre-North. As regards the allocation of public resources in education, public investments in Central and Northern Italy appear to be more effective, even if more funds are allocated in Southern Italy. We also found significant evidence of an Educational Kuznets Curve describing an inverted U-shaped relationship between levels of education and educational inequality. Moreover, inequality in private economic wealth strongly influences educational inequality, while public expenditure seems to be a valid instrument for achieving educational equity.

The original use of a longitudinal database and the territorial perspective of the Capability Approach analysis are the main strengths of the paper. Indeed, most of the studies on this topic use cross-sectional data to analyse a phenomenon that is essentially longitudinal, therefore panel or longitudinal survey data are required in order to analyse the relationship between the territorial/individual educational levels and the resources used in education while controlling for individual heterogeneity. In addition, cross-sectional data are not suitable for testing Educational Kuznets Curve (Deininger and Squire, 1998; Meschi and Scervini, 2014). However, due to the high costs and methodological issues that reduce the information obtained from panel samples, this type of statistical data is seldom available. On the other hand, cross-sectional social surveys are widely carried out on a regular basis thus generating a large amount of available independent cross-sectional data. In this paper, we created a unique dataset by combining micro-data for the 1993–2012 period, obtained from 19 waves of the ISTAT ADL survey. These data enable us to compute educational attainment and inequality measures by taking into account different territorial levels of aggregation.

The remaining sections of the paper are structured as follows. Section 2 reviews the theoretical and empirical contributions in order to gain a better understanding of the research question; Section 3 illustrates the research goals and specifies the econometric models; Section 4 describes the data and reports descriptive statistics; Section 5 reports the results, comments and robustness checks; finally, some conclusions and policy implications are drawn in Section 6.

2. Background literature

2.1. The Capability Approach in educational inequality literature

According to the Capability Approach, human life is a set of beings and doings. Well-being is conceived as the beings and doings that individuals "value and have reason to value" (Sen, 1999 p.18), e.g. being educated, being healthy, resting, working and it is the output of a process

starting from resources. Individuals can convert resources (goods and/or services, public and/or private) in capabilities, which are those resources that enable agents to do and to be. People can decide to realise these opportunities by transforming them in achieved functionings. Thus, well-being is a set of capabilities and from this perspective "development is freedom" (Sen, 1999). Conversion factors are everything that fosters the conversion of resources in capabilities and are personal (e.g. metabolism, physical condition, gender, reading skills, intelligence), social (e.g. public policies, social norms, discriminating practises, gender roles, societal hierarchies, power relations) and environmental factors (e.g. climate, geographical location) (Robeyns, 2005, p.99).

In a well-being process, education has both intrinsic and instrumental value. Education is *per se* a human capability, "the ability of human beings to lead lives they have reason to value and to enhance the substantive choices they have" (Sen, 1997 p.1959), or is intended as "being able to be educated and to use and produce knowledge" (Robeyns, 2003). Thus, education is one of the basic capabilities. Indeed, at macro level, education is one of the dimensions of the Human Development Index together with Income and Health (UNDP, 2017).

As a tool, education can enhance human capabilities by assuming two kinds of roles: an instrumental social role, by enabling people to participate in public debate and by empowering social categories that are disadvantaged, and an instrumental process role by facilitating people in decision-making both at micro or macro level (Sen, 1992). In line with this view, in happiness studies, it has been empirically verified that educational achievements reduce happiness inequality and social tensions (Becchetti et al., 2014). Moreover, in the labour market, skills and competences can act as resources for the capability "to be able to work or to undertake projects" (Robeyns, 2003). In other words, interactions across capabilities are frequent and relevant and depend on the type of capability that can act as resource or conversion factor for another capability. For instance, empirical studies have highlighted that education can be an important conversion factor of the capability "to have good health, including reproductive health" (Nussbaum, 2003). Finally, Sen, in accordance with literature, recognizes the importance of education as human capital and human skills which boosts economic growth. This is not the focus of Sen's work, even if it considers the two perspectives to be complementary, due to the multivalent nature of education in economic and social development (Sen, 1997).

Inequality is a main topic of the Capability Approach, according to which individuals and groups diverge in the well-being process for their abilities to convert resources into capabilities. Educational inequality is one of the most analysed forms of inequality because education is a relevant capability for inclusion in a social and economic system (Robeyns, 2006; Terzi, 2008). Equality in education has intrinsic values of equity and social justice and is a fundamental capability due to the fact that its moral dimension is universally recognised (Norheim and Asada, 2009). The two main forms of inequality analysed are: vertical inequality across people and horizontal inequality across social groups (Stewart, 2005). Overall, inequality in education has a negative effect on educational levels (Haveman and Smeeding, 2006) and many studies show that educational inequality increases economic inequality (Reheme, 2007) at both national (Checchi and Peragine, 2010) and regional level (Rodriguez-Posè and Tselios, 2009) and also curbs the economic growth (García-Penalosa, 1994; Aghion et al., 1999; Sauer and Zagler, 2014; Galor, 2009) by inducing political instability and credit market imperfections (Castelló-Climent, 2010). Indeed, policies in favour of educational equality have had positive effect on economic growth (Park, 1996): several studies have analysed the effectiveness of educational government expenditure and subsidies on regional economic growth (Dissou et al., 2016) and disparities (Shindo, 2010). Finally, educational inequality has a spillover effect on labour conditions, social exclusion,