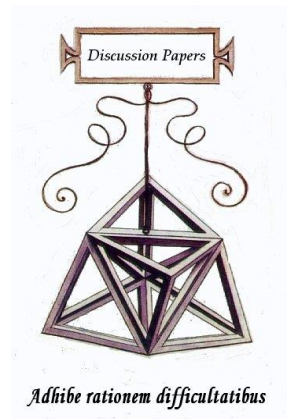




Discussion Papers

Collana di

E-papers del Dipartimento di Economia e Management – Università di Pisa



Christian Morabito, Vincenzo Mauro, Monica Pratesi

The multidimensional aspects of the educational poverty: a general overview on measures and lack of data in Italy

Discussion Paper n. 280
2021

Discussion Paper n. 280, presentato: **Dicembre 2021**

Indirizzo dell'Autore:

Christian Morabito, Save the Children; christian109@hotmail.com

Vincenzo Mauro, Department of Political Sciences, Communication and International Relations, University of Macerata; vincenzo.mauro@unimc.it

Monica Pratesi, Department of Economics and Management, University of Pisa; monica.pratesi@unipi.it

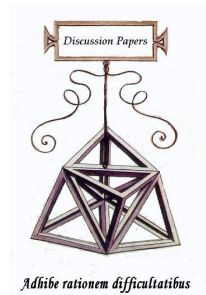
© Christian Morabito, Vincenzo Mauro, Monica Pratesi

La presente pubblicazione ottempera agli obblighi previsti dall'art. 1 del decreto legislativo luogotenenziale 31 agosto 1945, n. 660.

Si prega di citare così:

Morabito C, Mauro V, Pratesi M (2022), "The multidimensional aspects of the educational poverty: a general overview on measures and lack of data in Italy", Discussion Papers del Dipartimento di Economia e Management – Università di Pisa, n. 280 (<http://www.ec.unipi.it/ricerca/discussion-papers>).

Discussion Paper
n. 280



Christian Morabito, Vincenzo Mauro, Monica Pratesi

The multidimensional aspects of the educational poverty: a general overview on measures and lack of data in Italy

Abstract

The goal of the paper is to fix the ideas on the current state of the art on the definition and measure of educational poverty (EP). The main concepts involved in the definition of EP are reviewed under the multidimensional approach to the definition of poverty. The main indicators are recalled and described to pave the way towards the definition of a multidimensional educational poverty set of indicators under the theoretical framework of basic capabilities. The issue is relevant to design and monitor the national action plans for the implementation of the EU Childhood Guarantee initiative. Lacks of data on child poverty and deprivation in education need to be overcome to provide detailed and timely evidence to policy making.

Keywords: Educational poverty; Multidimensional indicators

JEL: C43, C81

Premise

The concept of poverty, that has been observed and analysed in monetary and material terms for decades, has recently witnessed a significant change in the way it is defined and measured. The almost unanimous consensus of the scientific community on the multidimensional nature of such a complex topic led to a shift from traditional measurements, based on a single variable, to multidimensional approaches (Sen, 1999; Chakravarty and D'Ambrosio, 2006; Alkire and Foster, 2011; Nicholas et al, 2017). These new methods aim to embrace the phenomena under study from a broader perspective through the use of a large number of variables.

The problem of identifying the dimensions chosen to capture such a multifaceted concept remains central to the measurement process. Furthermore, this key process must satisfy criteria of transparency: as Alkire (2008) points out, many researchers do not explain in a transparent way the rationale behind the choice of the dimensions used for the measurement of poverty.

The debate on poverty measurement has been extended to the concept of deprivation of opportunities, introducing tools for measuring deprivation including aspects such as education and health.

This debate has also influenced the way the specific poverty of children is measured, with experiments conducted in particular in Italy (the Save the Children's Educational Poverty Index), and tools developed to contrast it. Lastly, the Childhood Guarantee, adopted by the European Union in 2021, combines the fight against child deprivation through the access to a range of services (education, early childhood, health, nutrition, housing). The effectiveness of these tools, such as the Childhood Guarantee, however, is limited by the inadequate data collection system relating to the multidimensional poverty of minors. These limits undermine the ability to plan public policies.

In this multidimensional context, the paper is a contribution to fix the ideas on the definition and measurement of educational poverty. Education is an important area of interest of Child Guarantee initiative. Our goal is to introduce the reader to the main concepts involved and to highlight some data lacks to apply the multidimensional approach to educational poverty in Italy. Section 1 revises the Sen-Nussbaum theoretical framework; Section 2 introduces a multidimensional educational poverty set of indicators; Section 3 enlarges the perspective to European poverty indicators, Section 4 and 5 make the point on the availability of data in Italy for all the thematic areas of the EU Childhood Guarantee.

1. Theoretical framework and applications

The concept of 'multi-dimensional' poverty, seen not only as material deprivation but also of lack of opportunities and rights related to education, health, and other fundamental aspects for the life of individuals, can be traced back to the work of Amartya Sen and his theory of capabilities (Sen, 1999). According to Sen, in fact, *“What the capability perspective does in poverty analysis is to enhance the understanding of the nature and causes of poverty and deprivation by shifting primary attention away from means (and one particular means that is usually given exclusive attention, viz., income) to ends that people have reason to pursue, and, correspondingly, to the freedoms to be able to satisfy these ends.”* (Sen, 1999, p. 90).

What the capability perspective does in poverty analysis is to enhance the understanding of the nature and causes of poverty and deprivation by shifting primary attention away from means (and one particular means that is usually given exclusive attention, viz., income) to ends that people have reason to pursue, and, correspondingly, to the freedoms to be able to satisfy these ends.

Amartya Sen analyses the link between equality and freedom, as the foundation of justice. A fair society should guarantee the 'substantial' freedom of individuals, through the equality of capabilities, defined as resources (or opportunities) that each individual must possess in order to be truly free to choose his/her own future and pursue his/her objectives in life. Assuming that objectives and choices are different for different individuals, the choice of a single dimension,

specifically material and economic dimension, appears insufficient. Hence the need to consider capabilities as multidimensional concept (Sen, 1999).

As Sen underlines, defining capabilities is a very complex exercise, depending on the cultural, historical and economic conditions of the context where individuals are born and grow up.

An important work on this topic has been carried out by Martha Nussbaum (2011). Nussbaum tried to identify a set of "basic" (Sen, 1999) or 'central' (Nussbaum, 2011) capabilities, essential for giving dignity to human life, regardless of individual goals and choices and context. A sort of 'universal' minimum standard of opportunity, below which there can't be freedom. Every society, therefore, should guarantee the right to live to the end of a human life of normal length; have good health, including reproductive health; to be adequately nourished; to have adequate shelter; physical integrity; freedom of thought and religion; freedom and fullness of feeling; practical reason; belonging, social interaction, mutual respect and non-discrimination in relation to sex, ethnicity, sexual orientation, caste, religion, species; relationship with other animal and plant species and nature; possibility to play, and carry out recreational activities; freedom of participation in political life, right to work and decent working conditions (Nussbaum 2011: 33-34).

Ingrid Robeyns (2003a, 2003b) developed a list of four criteria for defining and identifying dimensions of interest and capabilities:

- 1) Explicit formulation: the lists of the dimensions chosen should be defined explicitly and transparently, discussed and defended.
- 2) Methodological justification: the method used for the selection of the dimensions should be clarified, scrutinized and defended. It should remain open to criticism and modifications.
- 3) Different level of generalisation: this criterion underlines how the ideal process of choice should include two phases: the first regards the selection of domains or ideal dimensions, while the second focuses on reducing the list according to what is feasible.
- 4) Exhaustion and non-reduction: the list of capabilities must include all the important elements. No dimension or domain considered significant should be excluded.

In fact, the basic capabilities overlap with the civil, political, economic, and social rights contained in the Universal Declaration of Human Rights (<https://www.un.org/en/about-us/universal-declaration-of-human-rights>). In addition, they also focus on some aspects such as the relationship with nature, the discrimination with respect to gender, ethnic group, but also disability (Nussbaum, 2011). They are therefore inalienable universal rights; being deprived in any of them represents the essence of poverty.

The contribution of Amartya Sen, Martha Nussbaum and Ingrid Robeyns inspired the change in the concept of poverty, and consequently in the tools for measuring social progress. An example of this is the Human Development Index (HDI, UNDP, 1990). First presented in 1990 by the United Nations Development Program - UNDP and born from the criticism of the measurement of development simply in terms of growth in gross domestic product, the HDI tries to measure some basic capabilities or opportunities, considered essential to realize human development. Alongside the per capita GDP, the index includes education (mean years of schooling completed and expected years of schooling upon entering the education system), and life expectancy. Poverty (in this case of countries) is defined for the first time in a multi-dimensional sense, as deprivation of adequate income, but also of education and health.

A further step in this direction was taken in 2010, when the Multi-dimensional Poverty Index (MPI - Multidimensional Poverty Index) was associated with the Human Development Index (UNDP, 2010). The MPI index (Alkire and Foster, 2011) aims to measure poverty through a set of deprivation indicators that refers to the dimensions used in the HDI (health, education, standard of living), such as access to electricity and clean water, housing conditions, infant mortality, years of education and attendance at school, level of nutrition (UNDP, 2010). Furthermore, also in 2010, the HDI was enriched with a 'correction' (Inequality-adjusted HDI) aimed at registering the inequality

in the distribution of the three pillars (therefore taking into account one of the most important aspects of Sen theory, the variability of exogenous or endogenous factors that can affect opportunities and rights for some individuals compared to others, and consequently their freedom) (UNDP, 2010).

Recently, the debate on the measurement of poverty has been associated with the discussion on the measurement of the well-being of societies beyond GDP, in particular due to the work carried out by the Commission on the Measurement of Economic Performance and Social Progress, better known as the 'Stiglitz-Sen-Fitoussi' commission (Stiglitz, Sen and Fitoussi, 2009). This was a source of inspiration for the elaboration of the 'Better Life Index' by the Organization for Economic Cooperation and Development (OECD, 2013). The work of the three Nobel laureates focuses on the need to measure the progress of individuals and countries using a multidimensional approach, looking at aspects related to human and social development, sustainability, and the importance of evaluating the well-being from the subjective point of view of citizens (for example through surveys on life satisfaction, or participation, as in the case of the Better Life Index) with particular emphasis on the analysis of inequalities. In Italy, the work of the Stiglitz-Sen-Fitoussi Commission and the OECD was continued by ISTAT and CNEL with the project for the measurement of Fair and Sustainable Wellbeing (Benessere Equo e Sostenibile, BES), launched in 2010 (ISTAT and CNEL, 2013).

2. The multi-dimensionality of child poverty and educational poverty

The switch of poverty measurement from 'one-dimensional', as material deprivation, to 'multi-dimensional', as deprivation of basic opportunities (or capabilities), has also influenced the debate on the measurement of child deprivations. Significant work in this field has been done in Italy by Save the Children. In 2014, for the first time in Italy, Save the Children tried to analyse "educational poverty", namely a poverty specific to minors, defined as the "deprivation by children and adolescents of the possibility of learning, experimenting, and freely developing skills, talents and aspirations" (Save the Children, 2014)

This concept of educational poverty, inspired by Martha Nussbaum's aforementioned theoretical framework on basic capabilities (Nussbaum, 2011), identifies at least four basic dimensions specific to the educational context of children. These opportunities are comparable to the rights guaranteed in the International Convention on the Rights of the Child and Adolescent; in particular, the right to live, be healthy, to achieve a full development of physical, mental, spiritual, moral, and social emancipation, to receive a proper education regarding the respect for others and for nature, tolerance, the right to non-discrimination, the right to listen, the freedom of expression and thought, and respect for opinions, protection from violence and abuse, the right to have a dignity. Therefore, 'universal' opportunities, that should be guaranteed to all human beings, regardless of the natural, political, socio-economic or cultural context in which they live, and potentially discriminating factors such as the social and cultural origin of the family, or gender.

1. Opportunity to learn to understand:

This opportunity refers to the basic capability '*Practical reason*' (Nussbaum, 2011). It includes the analysis of different sources, interpretation, problem solving and decision-making skills. A series of skills similar to those assessed through cognitive skills tests.

2. Opportunity to learn to be:

This opportunity refers to the basic capabilities '*being able to use the senses, to imagine, think, and reason*' and '*being able to laugh, to play, to enjoy recreational activities*' (Nussbaum, 2011). It represents the self-esteem in oneself and in one's abilities. Creating an identity, a system of values, setting goals in life and having aspirations and dreams. But also, the fullness of feelings, and the ability to control them even in difficult or stressful situations.

3. Opportunity to learn to live together:

This opportunity refers to the basic capabilities of '*being able to live with and toward others, to recognize and show concern for other human beings, to engage in various forms of social*

interaction; to be able to imagine the situation of another' (Nussbaum, 2011). The capacity of having interpersonal and social relationships, cooperation, communication, empathy, negotiation and also refusal. In short, all those essential capabilities for human beings as social beings. This status is necessarily linked to the awareness of the importance of the community, of belonging to a group, a category, a culture, of the participation in the life of the community and politics, of common well-being, of concern for the well-being of others as the foundation of individual well-being.

4. *Opportunity to learn to do:*

This opportunity refers to the basic capability of *'being able to live to the end of a human life of normal length', 'body health' and 'body integrity'* (Nussbaum, 2011). It includes the possibility of living, physical health and integrity, safety, as 'functional' conditions for education and other opportunities to learn.

Educational poverty is therefore characterised as deprivation of human capital in its instrumental function, linked to the material needs as adults (Robeyns, 2006), but also as deprivation of the opportunity of learning to know, to be, to live together, to do. An idea of poverty that captures the intrinsic essence of education, but also its instrumental value, aimed at multi-dimensional well-being.

Save the Children also developed an educational poverty index (IPE) aimed at measuring the multi-dimensional educational poverty of minors among the Italian regions. The index is formed of 9 indicators that measure the access to educational services from early childhood, the quality of the educational offer at school, but also participation in sports, cultural, recreational activities, school dropout, and levels of skills achieved (Save the Children, 2014). This attempt to formulate a multidimensional index for educational poverty has been followed by Istat (Quattrociocchi, 2019). The discussion on the statistical properties of this index and the general debate on the validity of composite indicators are out of the economy of this paper. The interested reader can deepen the debate in other contributions (Maggino F., 2017; Terzi et al, 2020; Mauro et al, 2021).

3. Child poverty measurement in the Europe, and tools to fight it: focus on Child Guarantee

The debate on poverty measurement has also invested the European institutions. The first attempt to develop multidimensional poverty measurements took place in 2000, with the introduction of the "Laeken indicators". Developed during the Laeken European Council of the same year, the framework of indicators aims to measure poverty and social exclusion, considering other dimensions in addition to income. The list of indicators includes its persistence, unemployment, early school leaving, life expectancy at birth, health status, as well as a measure of the level of inequality.

These indicators were introduced to support the Lisbon strategy, aimed at making Europe "the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion" (European Council, 2000).

The Laeken indicators represent the core of the current system adopted by the European Union to monitor the progress of the Member States with respect to the objectives of the "European Pillar of Social Rights" (<https://www.epr.eu/>), the reference framework of the EU for social cohesion. Within this framework, the fight against poverty and the social exclusion of minors has an important role, with reference to both material and "educational" deprivation. This is a very important task, as about 23% of children and adolescents in Europe in 2020 were at risk of poverty and social exclusion. For this reason, in 2021 the European Union decided to adopt the "Child Guarantee", a programming and financing tool for policies focused on the reduction of child poverty. The Child Guarantee aims to reduce poverty and social exclusion, guaranteeing all children and adolescents in Europe a proper access to quality education (including school activities), early childhood education services, health care, adequate nutrition (in particular through the canteen service at school), and housing (European Commission, 2021).

One of the main aims is the need to guarantee access to such opportunities and essential rights for particularly vulnerable groups of children, such as i) children with disabilities, ii) children of foreign origin and refugees, or iii) in difficult socio-economic and housing conditions, or iv) living outside the native family context.

In order to support and stimulate the Member States to undertake policies aimed at fighting child poverty, the European Union asks countries with high levels of deprivation to use the 5 % of the European Social Fund Plus (ESF +), and also encourages the States to use other available resources, such as the European Fund of regional development (ERDF), REACT-EU, Invest-EU, and, of course, the Recovery and Resilience Facility. In addition, all EU members are required to submit an Action Plan for the implementation of the Childhood Guarantee, whose progresses are periodically monitored by the European Commission every two years.

The national action plans of EU Child Guarantee are aimed at breaking the intergenerational cycle of poverty and reducing social inequality. To reach the goal they require appropriate data to design the policies, to monitor them and to evaluate the results.

4. Child poverty in Italy and the lack of data

The European Child Guarantee initiative aims to provide free: healthcare, education, early childhood education and care, decent housing, and adequate nutrition to every child who is at risk of poverty or social exclusion in Europe.

The main aim of this policy is to combat child poverty and reduce social inequalities.

In Italy, in 2020, 1.337 million children (13.5%) live in absolute poverty. For this reason, Italy is one of the countries that must use at least 5% of ESF + funds, as required by the Childhood Guarantee, to fight 'multi-dimensional' child poverty.

If we take a closer look to the data on the access to the services included in the Child Guarantee, only 13.2% of children under 3 attend public nursery schools and kindergartens. Therefore, services managed by the municipalities, that are generally open to all children regardless of income or family condition, can be accessed by a very small amount of people. In addition, there is a high level of inequality between region, with the South of the country heavily penalised (ISTAT, 2019).

The canteen service, identified in the Childhood Guarantee as the mean to ensure balanced and adequate nutrition for children, is available only in 56.3% of schools. Again, this service is less common in the South, so that minors coming from economically disadvantaged families are more penalised. Focusing on access to quality education, and more specifically on the possibility for children to have access to adequate tools for studying, the situation is similar. 12.3% of children do not have access to a PC or tablet, and the percentage raises to 19% in the South. Finally, the percentage of Italians living in overcrowded conditions (27.8%) rises to 41.9% among minors. A survey conducted by Save the Children shows that one out of three families (32.7%) had to postpone the payment of bills (37.1% in the South, and 43.8% in the Islands) and one out of four (26, 3%) also the monthly rent or mortgage payments during the COVID-19 emergency, adding uncertainty to the precarious housing conditions that many children face in Italy (Save the Children, 2020).

The situation is serious and needs an intense analysis of the data, taking a multi-dimensional view.

These impressive figures need to be disaggregated by study domain. Obviously, it is necessary to have their value for the four groups of children targeted by the Child Guarantee initiative, i) children with disabilities, ii) children of foreign origin and refugees, or iii) in difficult socio-economic and housing conditions, or iv) living outside the native family context. Anyway, it is not less important to be able to classify the figures by gender, age, ethnic group, geographical area, socio economic status of the children and their households.

5. An overview on data needed and recommendations

The following Table shows the main indicators needed for the Child Guarantee initiative: for each thematic area of interest we suggest simple indicators, showing what the situation is like, we

provide a description, the data source, and the level of disaggregation of available data. The last column contains our indication on what is missing.

The table is the result of a general reflection on the data on children and their households and/or reference adults. It is clear that specific actions targeted for specific groups (e.g. migrants) should be based on even more specific data.

Area of interest	Indicators	Source	Disaggregation	What is missing
Healthcare	Children morbidity indicators * Children mortality indicators * Children Care delivery indicators *	ISS – Istituto Superiore di Sanità ISTAT-EHIS European Health Interview Survey (>15, few questions <15) ISTAT ISTAT-EUSILC European Survey on Income and Living Conditions	Regions Regions, gender, age, socio-economic status of the head of the household, income	Disaggregation for the 4 target groups of Child Guarantee initiative ** Access by minors to medical and dental care Data on the psycho-physical conditions of children Data on child abuse and neglect
Education - Quality education	Full-time classes primary and secondary school (%) Technological equipment available for teaching in laboratories and classrooms (%) Networked classrooms (%) Minors with PCs, tablets, home connections and digital skills (%) Minors doing sport, leisure, culture (%)	MI ¹ OCSE-PISA survey at national level ISTAT-AVQ Aspetti della Vita Quotidiana Survey	Administrative archives (finest geographical detail) Regions, gender, age, socio-economic status of the head of the household	Disaggregation for the 4 target groups of Child Guarantee initiative: ** Finer geographical disaggregation (provinces, cities and districts) Lack of data on extracurricular activities ² in school and on the costs related to school books and other materials, and transport
Early childhood education and care	Nursery schools and kindergarten (ratio to population of children)	ISTAT (administrative data for municipalities) MI	Regions, Provinces Municipalities Ambito Territoriale Sociale (ATS)	Disaggregation for the target groups of Child Guarantee initiative ** Public/private provider: only since 2012-13
Housing	Minors in overcrowded homes	ISTAT – EUSILC ISTAT- AVQ	Regions, gender, age, socio-economic status of the head of the household, income	Data on expenses for households with minors for housing, and disaggregated by the 4 target groups of Child Guarantee initiative Integration of EUSILC data with AVQ data and HES (Household Expenditure Survey) data
Nutrition	Schools with canteen service (%) Consumption of balanced meals (Standardized proportion of people aged 3 and over who consume at least 4 portions of fruit and / or vegetables daily)	MI ISTAT Indagine AVQ - Aspetti della Vita Quotidiana	Administrative archives (finest geographical detail) Regions, gender, age, socio-economic status of the head of the household	Disaggregation for the 4 target groups of Child Guarantee initiative** Finer geographical disaggregation (provinces, cities and districts)

¹ Ministero dell'Istruzione (MI)

² Extracurriculars refer to activities pursued outside of the classroom. Examples of extracurricular activities are: being a member of a sports team, serving as chief editor of your school newspaper, or playing in a regional orchestra. Working a part-time job and volunteering also count as extracurriculars.

*

Morbidity rates: incidence, prevalence, attendance rate

Mortality rates: Maternal Mortality Rate, Infant Mortality Rate, Child Mortality Rate, Disease Specific Mortality

Care delivery indicators: Doctor/population ratio, Doctor/nurse ratio, Population/bed ratio

** More specifically the 4 target groups contain:

- (a) homeless children or children experiencing severe housing deprivation;
- (b) children with disabilities;
- (c) children with mental health issues;
- (d) children with a migrant background or minority ethnic origin, particularly Roma;
- (e) children in alternative, especially institutional, care;
- (f) children in precarious family situations, e.g. risk of poverty or social exclusion.

The Child Guarantee initiative could represent a significant opportunity for Italy to update and integrate the existing data on children.

Two aspects stem out from the analysis of the Table:

1. Data on the four main thematic areas are available, but they are produced by different Institutions, while interaction between national and international Institutions (ISTAT, ISS, MI, OCSE) is required to have a coherent multidimensional overview on children life.
2. Disaggregated data is missing, however it is essential to leave no one behind. Lack of timely data regarding in particular access to services by the most disadvantaged groups of children can represent a major issue, both in terms of appropriate planning of resources and monitoring of results.

To keep the children on the agenda there is the need to outline an effective *data modernization action plan* aimed at collecting data on 'multi-dimensional' child poverty and educational poverty; The disaggregation by study domain (socio-economic status, disability, access to health care) and/or geographical domain (cities, provinces, regions, urban/not urban areas) is not straightforward. Anyway it can be performed by Small Area Estimation methods, as it done for Sustainable Development Goals by the Inter-Secretariat Working Group on Household Surveys of the United Nations (Min et al, 2022). There are examples related to educational poverty, and they are based on model-based predictions of the IPE (Pratesi et al, 2020, Bertarelli et al, 2021).

Household surveys can play an important role in collecting data on children. They already are critical for monitoring inequalities by gender, class, location disability and other markers of disadvantage, which is critical for monitoring progress against the Sustainable Development Goals (SDGs). They should give this evidence also for children. It is important that the main ISTAT surveys on households, such as the European Survey on Income and Living Conditions (EUSILC), the Multipurpose surveys (Aspetti Vita Quotidiana Survey) and HES (Household Expenditure Survey), collect more data on children and their daily life.

Integrating household surveys with other data sources, as administrative archives from Ministry of Education (Ministero dell'Istruzione) and geospatial data, can bring various benefits: for example on producing more granular and timely data.

This will improve the understanding of the context behind the data on children. allowing a significant planning and monitoring of national actions plan for Child Guarantee initiative. This will give us a complete picture and permit to know if the situation of the most vulnerable is improving.

Acknowledgement

This work was supported by the Jean Monnet Chair “*Small Area methods for Multidimensional Poverty and living conditions Indicators in EU- SAMPIEU*” funded by European Commission Erasmus+ Programme – Jean Monnet Action (Project reference: 600494-EPP-1-2018-1-IT-EPPJMO-CHAIR).

References

- Alkire, S. & Foster, J. (2011) *Understandings and Misunderstandings of Multidimensional Poverty Measurement*, Oxford Working Paper No. 43, Oxford
- Alkire, S. (2008), Using the capability approach: prospective and evaluative analyses, in Alkire, S., Comim, F., Qizilbash, M. (eds.), *The capability approach: concepts, measures and applications*. Cambridge University Press, pp. 26–50
- Bertarelli, G., D'Agostino, A. , Giusti, C & Pratesi, M. Measuring Educational Poverty in Italy: a Multidimensional and Fuzzy Approach (2021). in Betti, G., Lemmi, A. (eds.), *Analysis of Socio-Economic Conditions: Insights from a Fuzzy Multidimensional Approach*. London and New York: Routledge.
- Chakravarty, S. R., & D'Ambrosio, C. (2006). The measurement of social exclusion. *Review of Income and Wealth*, 52 , 377-398
- European Commission (2021). EU strategy on the rights of the child, [Online]: https://eur-lex.europa.eu/resource.html?uri=cellar:e769a102-8d88-11eb-b85c-01aa75ed71a1.0002.02/DOC_1&format=PDF (last access Jan, 17, 2022)
- European Council (2000). Presidency Conclusion. Lisbon European Council 23 and 24 March 2000, [Online]: https://www.europarl.europa.eu/summits/lis1_en.htm (last access Jan, 17, 2022)
- ISTAT & CNEL (2013) *BES 2013. Il Benessere Equo e Sostenibile in Italia*, ISTAT e CNEL, Roma.
- ISTAT (2019). Rilevazione su asili nido e servizi integrativi sulla prima infanzia. [Online]: <https://www.istat.it/it/files/2019/12/Report-asili-nido-2017-2018.pdf> (last access Jan, 17, 2022)
- Maggino F (ed) (2017), *Complexity in Society: From Indicators Construction to their Synthesis*, Springer, Social Indicators Research Series book series (SINS, volume 70)
- Mauro V., Giusti C., Marchetti S., Pratesi M. (2021), Does uncertainty in single indicators affect the reliability of composite indexes? An application to the measurement of environmental performances of Italian regions. *Ecological Indicators*, vol 127, 2021
- Yongyi Min, Haoyi Chen, Andres Gutierrez Rojas, Building capacities on small area estimation for SDGs: A Toolkit & an eLearning Course, Inter-Secretariat Working Group on Household Surveys of the United Nations. https://unstats.un.org/sdgs/files/meetings/iaeg-sdgs-meeting-12/13a_Work-on-SAE-20211101-v2-rev-AG.pdf (last access Jan, 17, 2022)
- Nicholas, A., Ray, R., & Sinha, K. (2017). Differentiating between dimensionality and duration in multidimensional measures of poverty: Methodology with an application to china. *Review of Income and Wealth*, 60, 48-74
- Nussbaum, M. (2011). *Creating Capabilities: The Human Development Approach*, Harvard University Press, Cambridge
- OECD (2013) Better Life Index, [Online]: <http://www.oecdbetterlifeindex.org/> [February 2014]
- Pratesi, M., Quattrociochi, L., Bertarelli, G., Gemignani, A. & Giusti, C. (2020). Spatial Distribution of Multidimensional Educational Poverty in Italy using Small Area Estimation. *Social Indicators Research*. <https://doi.org/10.1007/s11205-020-02328-5>
- Quattrociochi L. (2019) La povertà educativa, in *Rapporto sulla popolazione, L'istruzione in Italia*, ed il Mulino
- Robeyns, I. (2006) Three Models of Education: Rights, Capabilities and Human Capital, *Theory and Research in Education*, 4 (1), p. 69-84

Robeyns, I. (2003a). “Sen’s Capability Approach and Gender Inequality: Selecting Relevant Capabilities”, *Feminist Economics*, 9(2–3): 61 – 92.

Robeyns, I. (2003b). *The Capability Approach: An Interdisciplinary Introduction*, University of Amsterdam, Amsterdam.

Save the Children (2014). *La lampada di Aladino*, [Online]: <https://s3.savethechildren.it/public/files/uploads/pubblicazioni/la-lampada-di-aladino.pdf> (last access Jan, 17, 2022)

Save the Children (2020). *Con gli occhi delle bambine. Atlante dell’infanzia a rischio 2020*, [Online]: https://s3.savethechildren.it/public/files/uploads/pubblicazioni/con-gli-occhi-delle-bambine_0.pdf

Sen, A. K. (1999). *Development as freedom*. Oxford: Oxford University Press.

Stiglitz, J. E., Sen, A., & Fitoussi, J. P. (2009). Report by the commission on the measurement of economic performance and social progress, [Online]: <https://ec.europa.eu/eurostat/documents/8131721/8131772/Stiglitz-Sen-Fitoussi-Commission-report.pdf>

Silvia Terzi, Adrian Otoi, Elena Grimaccia, Matteo Mazziotta, Adriano Pareto (2020), *Open Issues in Composite Indicators. A Starting Point and a Reference on Some State-of-the-Art Issues*, Università degli Studi Roma Tre Dipartimento di Economia

UNDP (1990) *Human Development Report 1990 – Concepts and Measurement of Human Development*, Oxford University Press, New York and Oxford

UNDP (2010). *Human Development Report 2010 – The Real Wealth of the Nations: Pathways to Human Development*, Palgrave Macmillan, New York

Discussion Papers

Collana del Dipartimento di Economia e Management, Università di Pisa

Comitato scientifico:

Luciano Fanti - *Coordinatore responsabile*

Area Economica

Giuseppe Conti
Luciano Fanti
Davide Fiaschi
Paolo Scapparone

Area Aziendale

Mariacristina Bonti
Giuseppe D'Onza
Alessandro Gandolfo
Elisa Giuliani
Enrico Gonnella

Area Matematica e Statistica

Laura Carosi
Nicola Salvati

Email della redazione: lfanti@ec.unipi.it