

APPROACHES TO SUBJECTIVE POVERTY IN ECONOMIC AND SOCIOLOGICAL RESEARCH

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Abstract: Poverty is a complex phenomenon which has been the subject of research across the social sciences. There have been varying approaches to defining and measuring poverty, especially with regard to research focus. In economic and sociological research, the concept of subjective poverty, which is particularly interesting in terms of psychological research into poverty, represents an alternative to the predominant objective measures of poverty. This article reviews the approaches to poverty used in economic and sociological research, paying special regard to representative approaches to subjective poverty, including subjective poverty lines and outlines the aspects relevant to psychological research into poverty.

Keywords: income poverty; capability approach to poverty; subjective poverty; subjective poverty line.

Introduction

While there have been different approaches to and concepts for defining and measuring poverty, inferior living conditions and their serious individual and social consequences have remained dominant. The scale of poverty ranges from the imminent threat of starvation and increased risk of certain diseases, to the inability to participate in the services normally available to the rest of society. The economic concept of poverty deals with subsistence income levels. Several levels are taken into account: (1) the existential subsistence minimum, the lowest standard of living at which only the most basic living needs can be satisfied (extreme poverty line); (2) social subsistence minimum, reflecting ability to meet socially recognized needs (poverty line); (3) minimal comfort, society's minimum level for a comfortable standard of living.

In the economic sciences, poverty is understood as a comparative concept based on the consensus of those who view the phenomenon of poverty from the outside. This is generally based on statistics (Riegel, 2007).

In sociology, there are particular views of specific aspects of poverty. For example, Shildrick and Rucell (2015) describe a *functionalist approach* in which poverty is understood to be a consequence of circumstance. In other words, the poor share the general values of society but are unable to implement them because of low income, insufficient qualifications

and so on. Lewis, Webley, and Furnham (1995) have discussed *conflict theory* which emphasizes that poverty inhibits the ability to fight for the distribution of scarce resources, while *interaction theory* underlines the stigma of poverty, because poverty is not only an economic deprivation but is involved in self-concept as well.

Gordon (1972) interpreted *radical theories* which distinguish the primary labour market (typically relative stability and high income) from the secondary labour market (unstable with low income), resulting from bad interaction between governments and trade unions. Townsend (1979) described the *theory of minority groups* and *subculture theory*. The former approach distinguishes between primary poverty (resulting from the death of the breadwinner, illness, injury) and secondary poverty (resulting from alcoholism, mismanagement, irregular income, etc.). Subculture theory identifies the common features of poorer segments of societies in different countries. These include values, interpersonal relationships, family and community structures, similar patterns of consumption and time spending and differences in economic, intellectual or emotional level compared with the majority of society.

Psychology has the ability to go deeper into the objective and subjective components of poverty. However, Džuka, Babinčák, Kačmárová, Mikulášková, and Martončík (2017) consider the initial state of psychological research into poverty to be an ‘open space’ in Slovakia. In other countries, research has only just started to reveal the psychological aspects of poverty and has not yet focused on a comprehensive understanding. They point out that, globally, the psychological research on poverty enjoys significant attention, especially that relating to the subjective causes and psychological consequences of poverty. The aim of this article is to review the representative approaches to subjective poverty and outline the aspects that are important for psychological research into poverty: first, the basic approaches to defining the variables for conceptualizing poverty (financial resources, capabilities and the multidimensional approach); second, the identification of objective and subjective poverty; and finally, third, subjective poverty lines and subjective sub-indicators used in poverty measures.

Income vs capabilities

In the economic research, there are two basic approaches to defining the variables for conceptualizing poverty. The first is to *define poverty according to financial resources* (income, wealth, consumption level, etc.) and is a conventional and widely used approach in the methodologies of the World Bank (Ravallion, 1994, 2010; Ravallion & Chen, 1997). Income poverty measures are taken from the utilitarian understanding of wealth, with an emphasis on individual utility as the key variable. In this context, and along with an additional set of rigorous assumptions (including the completeness of markets, the absence of externalities and public goods, the absence of increasing economies of scale, the specification of cardinal utility functions), income is seen as a measure of individual welfare as all welfare-relevant goods can be purchased on the competitive market. Income shortfalls can then be understood as economic welfare shortfalls or poverty. Most analysts are not primarily interested in short-term or life-cycle fluctuations in income. Instead, they rely on expenditure as a more stable indicator of long-term or lifetime resources

and thus of welfare. There is wide agreement that household consumption or income aggregates should be normalized for cost-of-living differences, including differences in household size. However, there are different views as to how this normalization should be done. Equally, neither income nor consumption (even with seemingly appropriate normalizations) are considered sufficient for measuring welfare (Ravallion, 2012). The weaknesses in this approach are mainly related to the suitability and interpretation of utility as a measure of welfare. There is also the problematic interpersonal comparability of utility for which there is no suitable empirical procedure in addition to strict cardinal utility functions (Klasen, 2000).

The alternative approach is based on the idea that poverty may lie in the lack of basic benefits, basic skills or capabilities, and that some of these cannot be purchased as there is no sufficient supply in the market system (Sen, 1992, 1999). *The capability approach to measuring poverty* defines poor people as those who have limited freedom or chance of realizing their own lifestyles. Financial resources are but one of the means of achieving a certain level of well-being in this sense and the definition of poverty should therefore focus directly on 'well-being outcomes'. Another argument is that in economic behaviour it is possible to identify differences in a person's ability to convert income into utility. This multifactorial approach to defining and measuring poverty and well-being is therefore focused on observing and measuring the capabilities of individuals and households. Poverty is then defined as the inability of a person to achieve a minimum level of 'vital capabilities' (e.g. the inability to be healthy, inability to be rich, well dressed, have housing)¹.

Bibi (2005) has noted that the measure of so-called self-reliant poverty (a concept which originates from Sen's capability approach) should ultimately identify those households in greatest difficulty—those at the bottom of the distribution of capabilities-to-generate-minimum-necessary-income².

On one hand, this approach overcomes multiple issues in defining poverty found in approaches based solely on financial resources—for example heterogeneity in human behaviour, the effect of public goods on individual well-being and the methodological pitfalls associated with the utilitarian calculus of utility. On the other hand, it is difficult to select the relevant skills and set the trade-offs (relative weights) across the dimensions. There is also a lack of reliable data on non-monetary variables suitable for international comparison. The selection of components is usually discussed and modified with regard to the social context in which the research is being conducted. The necessary information is collected through questionnaires (e.g. income, education, ownership of consumables, means of transport, housing, access to healthcare, access to credit). The weights of the individual components in the selection can then be derived empirically via Principal Component Analysis (PCA) or Multiple Correspondence Analysis (MCA) (Klasen, 2000).

¹ It is important to note that in this approach capability is understood differently from psychological research where 'capability' is primarily understood as part of the personality structure.

² It is important to note that this approach only partially reflects Sen's capabilities approach, as it does not account for the deprivation suffered by families with limited access to some public services. For more details regarding the non-axiomatic and axiomatic approaches to elaborating the multidimensional poverty measures see Bibi (2005, pp. 3-33).

The standardized scores for the individual components are then used to define quintiles representing a certain degree of poverty or well-being (similarly, the DHS Wealth Index has been created).

A brief summary of the discussed characteristics of both approaches can be seen in Table 1.

Table 1. Comparison of the financial resources and capability approaches to defining poverty

	Financial resources approach	Capabilities approach
Measure of welfare	Income, wealth, consumption	Capabilities of individuals and households
Concept of poverty	Income shortfall, Economic welfare/consumption shortfall	Lack of basic benefits, basic skills or capabilities
Problematic aspects	Suitability and interpretation of utility as a measure of welfare;	Difficulty of selecting relevant skills to set the trade-offs (relative weights) across the dimensions;
	Interpersonal comparability of utility (lack of a suitable empirical procedure in addition to strict cardinal utility functions).	Limited availability of reliable data on non-monetary variables suitable for international comparison.

Source: Own

Nevertheless, as Ravallion (2012) states, recognizing that welfare is ‘multi-dimensional’ and that income is an incomplete metric does not mean we can credibly collapse multiple dimensions into a single, unidimensional space. The basic problem is that we do not know the prices for valuation. The prevailing practice is essentially to make ad hoc assumptions about welfare function (and hence the weights).

Based on the *multidimensional approach to poverty*, several globally used measures have been developed such as the Human Development Index (HDI), Physical Quality of Life Index (PQLI) and the Global Multidimensional Poverty Index (MPI). The widely used MPI index consists of ten sub-indicators grouped into three dimensions (education, health and living standards). According to the MPI, an individual whose total weight of deprivation indicators is equal to or greater than 3 would be considered poor (Alkire et al., 2015; Alkire, Roche, & Vaz, 2017). The MPI measures poverty on an individual level making it possible to provide a detailed overview of the spectrum of deprivation faced by the poor. It enables international comparisons between countries, regions and at the global level, as well as comparisons of poverty within ethnic groups, and urban and rural communities. Although the HDI also considers education, health and living standards, in the MPI each of these dimensions is described by more than one sub-indicator. Yet, neither the HDI nor the MPI capture the moral, emotional and spiritual dimensions of poverty.

Objective vs subjective poverty

Objective poverty is defined by factors that are not dependent on personal opinion and individuals' perceptions. It is based on an analysis of the available socio-economic information on households or household files. In contrast to the prevailing objective approaches, the *subjective concept of poverty* is based on the belief that the individual is best placed to assess the urgency of his/her needs and to hierarchize his/her satisfaction in a given social reference framework. In this context, relative poverty or deprivation refers to a situation where an individual evaluates his/her life situation as unfavourable when compared to the life situation of other reference groups or persons within the same reference group.

However, neither the psychological nor economic theories of poverty offer much insight into what constitutes a relevant comparison group. Researchers therefore have to rely on some potentially strong identifying assumptions. Additionally, Clark (2018) points out the bias effect resulting from a subjective comparison of one's situation with a reference group – namely that individuals say they are happier when they earn more, but less happy when others earn more. In their older work, Clark and Oswald (1996) analysed British Household Panel Survey (BHPS) data and showed that job satisfaction among British employees rose with the individual's income but fell in the case that the income of the peer group (defined as other people with the same job and demographic characteristics) increased.

The subjective approach to poverty has mainly been associated with Dutch-Flemish economics (e.g. B. Van Praag, H. Deleeck). In this approach, the *identification of subjective poverty* is based on respondents' answers to the question of what level of income is required to meet their basic needs. The core data is obtained from respondents' self-assessments in sample surveys. Each respondent is asked to rate his or her economic welfare, or a broader concept such as life satisfaction or happiness, on an ordinal scale (Cantril ladder). Alternatively, the respondent provides money metrics of points on qualitative welfare scales, such as minimum income needed to make ends meet (Minimum Income Question – MIQ) (Ravallion, 2012).

There are three main ways in which these subjective data are used to inform poverty measurements:

1. As a means of testing objective poverty lines, by regressing self-rated welfare on income normalized by the poverty line plus the variables that went into the construction of the poverty line, which should be jointly insignificant if those lines accord with subjective welfare;
2. To calibrate a composite welfare index using the subjective welfare regression coefficients as the weights;
3. To derive a poverty line in the income space, defined as the income level at which some critical level of subjective welfare is reached in expectation.

The *Participatory Poverty Assessment – PPA* can be considered an alternative approach to examining poverty. In this approach, poor people's attitudes are taken into account in analysing subjective poverty and formulating strategies for reducing poverty through public policy. In the newer PPA approaches, researchers do not seek to prescribe the criteria under which poverty is assessed. Rather, they focus primarily on the perceptions of respondents

and their well-being. PPA can help to identify poverty in the following ways: by detecting perceptions about trends and factors influencing poverty (e.g. uncertainty, inflation, market trends, declining environmental quality); by selecting significant welfare indicators which can be further verified using conventional research methods (e.g. uncertainty level verification); by examining trends in areas that are difficult to track using conventional quantitative methods. The benefits of a participatory approach lie above all in identifying the hidden dimensions of poverty and opportunities to analyse causality and the processes by which people become poor (i.e. the psychological causes of poverty) and how they get out of poverty (Norton et al., 2001).

Tosun et al. (2018) created a different approach which was used in CUPESSSE³ to collect data on various indicators related to the *concept of economic self-sufficiency*. It also explores the role that families play in the journey from education to employment. In their survey, economic self-sufficiency has several objective aspects such as income independence (whether and to what extent respondents provide for themselves through paid jobs or self-employment—versus relying on their family or the state) and their housing situation. The respondents' *subjective perceptions* relate to self-assessed economic conditions (to what extent during the six months prior to the interview had they been able to: 1. pay their bills by themselves, 2. afford decent housing, 3. afford extras like trips or hobbies and 4. put some money aside), and includes a subjective indicator of financial satisfaction (measured on a four-point ordinal Likert scale). Although the concept of economic self-sufficiency is not primarily about poverty, it can be used to identify a sample of respondents who are subjectively dissatisfied with their economic situation and describe the extent to which individuals are able to provide for themselves without external assistance. However, as Tosun et al. (2018) have noted, a fully independent income does not always imply a decent standard of living, let alone satisfaction with one's economic situation.

Poverty lines

Apart from the subjective poverty lines, there are subjective sub-indicators used in poverty measures based on prevailing objective variables, which are usually used alongside objective measures in order to refine their outcomes.

When investigating developing countries, researchers define the poverty threshold on a monetary basis (most often on the basis of an absolute income, such as the income poverty range or the value of household expenditures) and use a range of other objective variables. These include the daily nutritional value of available food, type of habitation, type of access to water, type of toilet, main cooking source, main heating source, number of durable

³ A collaborative research project, "Cultural Pathways to Economic Self-Sufficiency and Entrepreneurship in Europe" (CUPESSSE), funded by the European Commission from February 2014 to January 2018, focused on young adults, their economic situation and values and attitudes to work and education. CUPESSSE involved social scientists at academic institutions in 11 countries: Austria, the Czech Republic, Denmark, Germany, Greece, Hungary, Italy, Spain, Switzerland, Turkey and the UK (Tosun et al., 2018).

consumer goods (e.g. bicycle, telephone, radio, TV, stove, car, etc.), access to education and access to health care (Klasen, 2000).

For researching satisfaction of basic needs in developed countries, there are indicators of material deprivation⁴ found e.g. in the EU-SILC methodology under the material deprivation module. These include indicators such as rental arrears or delayed mortgage repayments, heating, electricity, gas or water arrears, deferred loan repayments, the ability to afford a one-week annual holiday with the family away from home, the ability to afford a meal containing meat, poultry, fish (or vegetarian equivalent) every other day, the ability to deal with unexpected expenses, ownership of a telephone, colour TV, computer, washing machine and car.

The set of variables also includes a *subjective assessment* of the household's overall ability to make ends meet and an estimate of the lowest monthly income limit at which the household would be able to make ends meet. There is also a subjective assessment of the financial burden associated with total housing costs and the financial burden associated with lease purchases and loans. Variables indicating the boundary at which basic needs are met include also a subjective assessment of the quality of the physical and social environment (dwelling too dark, insufficient daylight, noise from neighbours or the street, pollution, dirt or other environmental problems, violent crimes or vandalism near the home) (EU-SILC, 2011).

With regard to the complexity of such data, Annoni and Weziak-Bialowolska (2016, p. 183) conclude that “the perfect measure of poverty in terms of economic well-being should be a combination of income, consumption and welfare”. They explain that although measuring income is not difficult, measuring consumption level and welfare is more complicated. Consequently, level of disposable income is often used as a proxy for consumption.

While risk of poverty is based on the concept of relative poverty (e.g. in the EU-SILC methodology, the at-risk-of-poverty line is defined as disposable income of below 60% of the national median equivalent disposable income), material deprivation provides an accompanying view, based on both objective and absolute criteria. Income is used as a variable in two ways: (1) to measure income distribution between households and (2) as a classification and/or substance variable in conjunction with other social indicators. In particular, it is used alongside social exclusion⁵ indicators (EU-SILC, 2013). Material deprivation is defined in relation to the economic conditions of the individual or household. It is the forced inability to achieve an indicative material standard that most people consider desirable or necessary for a full life. The material deprivation rate is then defined as the share

⁴ Material deprivation refers to the inability to afford some items that most people consider desirable or even necessary to lead an adequate life. The EU-SILC material deprivation rate indicator distinguishes between individuals who cannot afford a certain good or service, and those who do not have this good or service for another reason, e.g. because they do not want or need it (EU-SILC, 2018).

⁵ In social psychology the term social exclusion is used to refer to the consequences of being excluded, rejected or marginalized from desired relationships or groups and the social psychological processes through which this occurs (Hutchinson, Abrams & Christian, 2005). Exclusion exacerbates poverty, while leaving poverty behind necessitates the elimination or circumvention of the usual effects of social exclusion (Narayan & Petesch, 2007).

of the population exposed to the forced inability to afford at least three (or four where there is a severe material deprivation rate) of a list of verified items⁶ (EU-SILC, 2015). Except for one isolated indicator of income poverty, a combination of this indicator and others is used.

The aggregated indicator of poverty or social exclusion (AROPE)⁷ has been described by Vlačuha and Kováčová (2015). It is based on the multidimensional approach to measuring poverty. In addition to the concept of income poverty, the indicator takes two other dimensions into account—material deprivation and exclusion from the labour market. The aggregated indicator is a combination of three sub-indicators—risk of poverty rate, material deprivation rate and low labour intensity and is defined as the number of people at risk of poverty and/or material deprivation and/or living in households with low work intensity.

The objective indicator of income poverty risk is usually supplemented by *subjectively declared financial problems*. The EU-SILC methodology has reported subjective testimonies of households about their ability to make ends meet (on a six-point scale, ranging from ‘very difficult’ to ‘very easy’). However, the results obtained using both indicators—objective and subjective—show very little overlap. Mysíková, Večerník and Želinský (2015) reported that the two optics are quite different, and can be referred to as ‘objective’ and ‘subjective’. It is necessary to add that the ‘objective’ calculus (at-risk-of-poverty line) is affected by the methodological approach chosen by the experts and is, ultimately, based on a political decision. On the other hand, ‘subjective’ estimations by households can be considered relatively objective as they take circumstances into account that cannot be determined from income calculation—in particular expenditure and debt burden.

Subjective poverty lines can be considered a mixture of both absolute and relative concepts. Unlike the above-mentioned subjective sub-indicators, they are based on dichotomized income variables and differ from each other in several respects.

The *Leyden Poverty Line (LPL)* is based on the Welfare Function of Income (WFI), which is derived from a particular survey question—the Income Evaluation Question (IEQ)⁸—and additional knowledge of the respondent’s personal characteristics (Goedhart,

⁶ Sub-indicators of material deprivation used in the EU-SILC methodology include: (ability to reimburse) unexpected expenditures; a one-week holiday away from home per year; food including meat, chicken, fish or a protein equivalent every other day; adequate heating; durable goods such as a washing machine, colour TV, telephone or car; payment of rent, mortgages or bills (in a timely manner).

⁷ AROPE was used in the EU-SILC methodology as the headline indicator for monitoring the EU 2020 Strategy poverty target.

⁸ The IEQ derived by Bernard Van Praag reads as follows:

“Please try to indicate what you consider to be an appropriate amount for your household for each of the following cases. Under my/our conditions I would call an after-tax household income per week/month/year of: about very bad,
about bad,
about insufficient,
about sufficient,
about good,
about very good.

Please enter an answer on each line and underline the period you refer to” (Flik & Van Praag, 1991).

Halberstadt, Kapteyn & Van Praag, 1977; Van Praag, Spit, & Van de Stadt, 1982). According to the LPL, a family is considered ‘ α -poor’ if the evaluation of total family income falls below a certain level of utility α , for example 0.4 or 0.5, that is, LPL(04) and LPL(05), respectively. On the contrary, if the evaluation of the family income exceeds level α , the family is ranked among the ‘non-poor’ (Flik & Van Praag, 1991). This poverty line concept makes it possible to break down the survey sample into multiple quantiles, which the other representative concept of the subjective poverty line does not (see e.g. Danisman Isik, 2018; Mareš & Rabušić, 1997; Delhaussse, Luttgens, & Perelman, 1993).

The *Subjective Poverty Line (SPL)* introduced by Kapteyn, van de Geer and van de Stadt in 1985 states that families are poor if they think their incomes are not sufficient to make ends meet. This measure is based on the previously discussed Minimum Income Question (MIQ)⁹. Instead of asking about income amounts corresponding to several welfare levels, it asks for one income amount which corresponds to a specific welfare label. It is assumed to describe the boundary between being ‘poor’ and ‘non-poor’. According to the definition of the SPL, a respondent’s answer is understood as an individual’s poverty line. Ravallion (2012, p. 9) has similarly defined the *Social Subjective Poverty Line (SSPL)* based on the MIQ as “the income below which people tend to think they are poor in the specific setting and above which they tend to think they are not poor”. As Flik and Van Praag (1991, p. 321) have stated, the LPL (based on a multi-level question) seems to be theoretically superior to the SPL (based on a one-level question), as the SPL is likely to be more subject to random response fluctuations and more sensitive to varying interpretations of the one level.

One could expect that the answers to several ordered verbal labels are much more carefully selected and calibrated as the respondents have to rank several levels as opposed to being presented with just one level—make ends meet. Kapteyn, Kooreman and Willemsse (1988) have pointed out that both the LPL and SPL approaches are model-based and that the responses themselves do not directly generate poverty lines. Indeed, it is necessary to estimate a model that explains inter-household variation in the responses to the survey questions. These two aspects identify two crucial methodological issues in the implementation of the SPL and LPL: the responses should measure what they are intended to measure and the model should be correctly specified and estimated. Both poverty lines depend on family composition and on the distribution of incomes and family compositions in the family’s reference group. It is also worth mentioning that one of the conditions for the existence of an SPL/SSPL is that subjective welfare is an increasing function of income, as it is invariably indicated in cross-sectional studies (see e.g. Clark, Frijters, & Shields, 2008; Garcia-Carro & Sanchez-Sellero, 2019).

The Centre for Social Policy in Antwerp has come up with its own measure called the *CSP poverty line* (Deleeck, 1989). This is based on the Herman Deleeck question which

⁹ The standard MIQ reads as follows: “What do you consider as an absolute minimum net income for a household such as yours? In other words, we would like to know an income amount below which you won’t be able to make both ends meet.

About per week / per month / per year.

Please underline the period you refer to” (Flik & Van Praag, 1991).

is standardly used in a modified form also in the EU-SILC question battery.¹⁰ The CSP method uses a small subsample of people who consider themselves to be on the margin¹¹, while in both the LPL and SPL the poverty threshold is estimated based on opinions of what constitutes a poverty or non-poverty situation both for people who consider their income to be on the margin and those who view their income differently (below or above the margin). Flik and Van Praag's reliability assessment for each of these subjective poverty lines, as measured by their standard deviation, has shown that the LPL performs best in this respect. The SPL comes next and the CSP measure ranks third (Flik & Van Praag, 1991). A brief comparison of the basic characteristics of the discussed poverty lines is given in Table 2.

Table 2. Comparison of the basic characteristics of subjective poverty lines

	Leyden Poverty Line (LPL)	Subjective Poverty Line (SPL); Social Subjective Poverty Line (SSPL)	CSP Poverty Line
Survey question	Income evaluation question (IEQ)	Minimum income question (MIQ)	Herman Deleeck question
Sample	Including people considering themselves on the margin, as well as above and below the margin	Including people considering themselves on the margin, as well as above and below the margin	Only people considering themselves on the margin
Breakdown of survey sample into quantiles	Yes	No	Yes
Dichotomized income variable	Yes	Yes	Yes
Reliability assessment ranking	1.	2.	3.

Source: Own

¹⁰ The EU-SILC variable 'HS120: Ability to make ends meet' uses the following question format: "A household may have different sources of income and more than one household member may contribute to it. Thinking of your household's total income, is your household able to make ends meet, namely, to pay for its usual necessary expenses?"

1 – With great difficulty

2 – With difficulty

3 – With some difficulty

4 – Fairly easily

5 – Easily

6 – Very easily" (EU-SILC 2013).

¹¹ In this case, the poverty line is calculated only from the answers to the MIQ from respondents who answered this supplementary question "with some difficulty". It is believed that only these respondents can relevantly report the minimum amount needed for the household.

Conclusions

According to the findings of Džuka et al. (2017), three areas of research interest in the psychological problems of poverty have been identified: 1) research into the causes of poverty, 2) research into the psychological consequences of poverty, 3) and more recently research into the relationship between the psychological consequences of poverty and the persistence of poverty. In all cases, the way poverty is operationalized and the way the research sample of poor people is specified play an important role.

Based on our analysis of previously published scientific papers¹², we can report that on one hand subjective data have redefined the long-standing debate on whether poverty is 'absolute' or 'relative'. However, the structure of the poverty profile has turned out to be different in some respects. While objective poverty lines have often implied that larger households are poorer, this has not typically been the case in cross-sectional studies which use the subjective approach, as these tend to suggest greater economies of scale in consumption than normally assumed, at least in developing countries (Ravallion, 2012). Nevertheless, it has to be taken into account that people generally only know their approximate level of income. Respondents take an estimate of their actual income as their frame of reference when answering the income evaluation and minimum income questions (Kapteyn, Kooreman, & Willemse, 1988). Household income should therefore be measured twice in surveys, in order to determine the biasing effects of respondents' systematic errors in estimating their own income (e.g. the frame-of-reference bias).

Furthermore, the reliability of the measures used to assess economic situation and the validity of the scores obtained directly depend on the problem the researcher aims to solve. For psychological research (especially that focused on the psychological consequences of poverty, or the relationship between psychological consequences and persistence in poverty), the concept of subjective poverty is particularly relevant, especially in cases where awareness of being poor affects thinking-related functions (such as the effect of poverty on working memory, self-control or attention). Depending on the research question or hypothesis, employing a subjective measure of economic situation will probably be more appropriate than addressing objective indicators. Once the researcher decides whether to employ economic, psychological or multidimensional poverty operationalization, it is of course helpful to use several measures and to properly report them in a sensitivity analysis.

However, it is also necessary to mention the long-standing scepticism amongst economists regarding subjective questions, notably when these data are used as dependent variables. The most pressing issue is thus the extent to which subjective questions are reliable, in the sense of obtaining similar answers under similar circumstances. In estimates concerning income or other gradients in subjective welfare, an *attenuation bias* can arise from psychological adaptation to adverse circumstances. For example, Večerník and Mysíková (2016) have pointed out that based on the social desirability argument, it is assumed households with low incomes tend to report a higher income than they actually have. On the other hand, households with a higher income are expected to make themselves

¹² The literature search was performed in May 2018 and includes the fifty most cited studies from each of the databases: Web of Knowledge, EBSCO, and ProQuest, using the keyword 'subjective poverty'.

‘poorer’ in an interview situation. Income understatement usually rises with amount of income. This also applies to incomes which flow from several sources such as from multiple jobs. It has been confirmed that while earnings tend to be skewed in income reporting by household respondents, old age and other types of pension benefits do not suffer from such distortion. As a result, the income poverty of persons in households with wage earners may be overestimated in comparison with persons living in households with old aged pensioners. Angel, Heuberger and Lamei (2017) have also pointed out significant differences between estimated incomes in the Austrian EU-SILC survey data and the Austrian official register data on income. Their analysis revealed an increase in cross-sectional poverty rates for 2008–2011 and in the longitudinal poverty rate when register data were used instead of survey data. They concluded that these changes in the poverty rate were mainly driven by the differences in employment income rather than sampling weights or other income components.

The current state of knowledge highlights the need to view poverty as a multi-causal phenomenon, and that aiming to understand its psychological causes by focusing on one dimension is a simplification. Davis and Gouws (2013) suggest that further research should take into account the current cultural context and cultural background, as well as the genetic constitution of the individual affecting his or her adaptation to the environment. Advanced analyses should therefore take into account a number of perspectives besides subjective ones, such as the impact of demographic variables (e.g. ethnicity, education, geographical location, employment) as possible causes of poverty.

Moreover, Van den Bosch et al. (1993) pointed out that both SPL and CSP assume that “minimum income” and “with some difficulty” mean the same thing to all respondents and that there is a household consensus reflecting the household’s standard of living. However, Ravallion (2012, p. 8) claims that “one must allow for heterogeneity, such that people at the same standard of living give different answers to the subjective welfare question, or that the same person may give a different answer depending on when they are interviewed”. As such, these variations could stem from idiosyncratic ‘mood’ effects, personality traits or simply from errors. It is not the person’s stated perception of his or her welfare in an interview that is taken to be the relevant metric as this is bound to contain many factors that would not be deemed relevant. He concludes that the subjective questions are used to calibrate an interpersonally comparable welfare function based on observed covariates deemed to be relevant on a priori grounds—it is the role of these data sources in calibration that is the present focus.

Even when they have similar personalities or statistically ignorable differences, different people may apply different criteria when scaling their welfare. They have different ideas about what it means to be rich or poor, or what it means to be satisfied or dissatisfied with life. Latent heterogeneity in factors that are essentially irrelevant to welfare but influence responses to subjective welfare questions may lead us to question the implied interpersonal comparisons of welfare from subjective data.

In this respect, it may be concluded that subjective data could be used mainly to identify the weights on the dimensions of welfare for which prices are missing or unreliable and determine the poverty lines based on subjective data. From a wider point of view, as Kingdon and Knight (2006) indicate, it is possible to view subjective well-being as an encompassing concept which permits us to quantify the relevance and importance of the other approaches and their component variables.

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