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WHAT IS NEEDED AT THE ACCEPTABLE MINIMUM?

Studies on the operationalisation
of the concept of poverty

Lauri Mäkinen



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The originality of this publication has been checked in accordance with the University of Turku quality assurance system using the Turnitin Originality Check service.

ISBN 978-951-29-9369-7 (PRINT)
ISBN 978-951-29-9370-3 (PDF)
ISSN 0082-6987 (Print)
ISSN 2343-3191 (Online)
Painosalama, Turku, Finland 2023

UNIVERSITY OF TURKU

Faculty of Social Sciences

Department of Social Research

Social Policy

LAURI MÄKINEN: What is needed at the acceptable minimum? Studies on the operationalisation of the concept of poverty

Doctoral Dissertation, 162 pp.

Doctoral Programme of Social and Behavioural Sciences

September 2023

ABSTRACT

This dissertation focuses on the operationalisation of the concept of poverty. It analyses the capacity of the consensual deprivation indicator and reference budgets (RBs) in establishing the minimum acceptable living standard in Finland. Based on this examination, this dissertation introduces alternative indicators based on the consensual deprivation indicator and RBs.

Alleviating poverty is considered to be the primary task of a welfare state. In wealthy countries, poverty is typically understood as relative poverty. Relative poverty is typically defined as individuals being unable to participate in the minimum acceptable living standard of their society due to a lack of resources. Therefore, relative poverty involves the lack of social efficiency.

Numerous poverty indicators have been developed for operationalising the concept of relative poverty. There are different factors that separate poverty indicators. One relates to whether poverty is measured through resources—such as household income—or living standards; these indicators are described as indirect and direct indicators, respectively. The second difference relates to the source of expertise. The source of expertise refers to whose decision the operationalisation of poverty is based on. This dissertation focuses on public-led and expert-led poverty indicators. For public-led indicators, the minimum acceptable living standard is based on the assessment of the public. Common to the public-led indicators is that some sort of consensus is assumed about the minimum acceptable living standard. In expert-led indicators, the decisions about the minimum acceptable living standard are made by experts, such as researchers.

This dissertation presents six different poverty indicators and examines their capacity to establish a minimum acceptable living standard. Frequently, poverty is measured using the at-risk-of-poverty (AROP) indicator, in which the poverty threshold is set at 60% of the equivalised national median income. The poverty threshold is set based on expert opinion. Even though this indicator is widely used, it has several acknowledged problems; thus, deprivation indicators are being increasingly used to measure poverty. Deprivation indicators focus on the lack of consumption items. There are different deprivation indicators with differences in how the minimum acceptable living standard is established. Relative deprivation examines necessities, which are defined by experts; however, it makes use of income to derive the poverty threshold. In this sense, it can be seen as an income-based

indicator. For the consensual deprivation indicator, the necessities are defined by the public and the poverty threshold is understood as an enforced lack of these necessities. The material deprivation indicator has similarities with the consensual deprivation indicator; however, the minimum acceptable living standard is considered to be supranational, rather than national.

Additionally, there are RBs, which are considered to be the oldest indicator of living standards. RBs are priced baskets of goods that can be constructed to present the minimum acceptable living standard. This is done by taking into account the institutional and social context of the given society. However, there is not a shared methodology for constructing such RBs. RBs can be constructed either based on expert knowledge or the information provided by focus groups.

The dissertation comprises four sub-studies. The first sub-study examines whether a consensus can be established using the consensual deprivation indicator. This is analysed using two criteria established in earlier research. First, people should base their assessment on public evaluations, rather than private judgments, of the necessity for certain items. Secondly, people should agree on what the necessities are. Typically, this is analysed at the group level; however, in this sub-study the analysis takes place between individuals. The results indicated that the consensual deprivation indicator was problematic in terms of establishing the minimum acceptable living standard. Further, people's views on the necessities were shaped by their own preferences. Additionally, consensus regarding the necessities was modest at best.

The second sub-study examines whether two RBs produce similar results. Two Finnish RBs provide an excellent opportunity, as they target the same living standard and are constructed for the same period and population but are based on different methodologies. This sub-study provides explanations of why differences between RBs occur. Building on the findings of the first and second sub-studies, this dissertation introduces alternative poverty indicators. The results indicate that the two RBs produce different estimates about the resources needed for the minimum acceptable living standard. Notably, the differences involved mainly the costs for housing and mobility. The differences in the estimates were traced back to differences in information bases, selection criteria and pricing of the items.

The third sub-study examines poverty in Finland using a poverty indicator based on RBs. The results regarding the prevalence and concentration of poverty of the RB indicator were contrasted with those of the AROP indicator. The results indicated that the poverty rate was lower with the RB indicator, compared with the AROP indicator. Additionally, the risk groups of poverty were somewhat different. In particular, this concerns the elderly, as the poverty rates for this group were considerably lower when using the RB-based indicator.

In the fourth sub-study, several different weighting approaches are used for analysing consensual deprivation. Typically, using the consensual deprivation approach, the items are unweighted, thereby attributing the same importance to all items. This sub-study argues that by using the weighted approach, some of the problems regarding typical consensual deprivation indicators can be avoided. The results indicate that weighting the items changes the prevalence of material deprivation but only modestly.

In sum, this dissertation illustrates that the consensual deprivation indicator does not lead to a unified view of the minimum acceptable living standard. Similarly, different RBs produce different estimates of the minimum acceptable living standard. Nonetheless, RBs can address some of the problems that are embedded in the AROP indicator. However, further methodological work is needed. In a similar vein, the weighted consensual deprivation indicator reflects more accurately the minimum acceptable living standard in Finland, compared with the unweighted approach. These alternative poverty indicators have the potential to be used in poverty research to improve the accuracy of poverty measurement.

KEYWORDS: poverty, living standards, deprivation, Reference budgets

TURUN YLIOPISTO

Yhteiskuntatieteellinen tiedekunta

Sosiaalitieteiden laitos

Sosiaalipolitiikka

Lauri Mäkinen: What is needed at the acceptable minimum? Studies on the operationalisation of the concept of poverty

Väitöskirja, 162 s.

Yhteiskunta- ja käyttäytymistieteiden tohtoriohjelma

Syyskuu 2023

TIIVISTELMÄ

Väitöskirjassa tarkastellaan köyhyyden käsitteen operationalisointia. Tutkimus analysoi konsensuaalisen deprivatio-mittarin sekä viitebudjettien kykyä määrittää vähimmissään hyväksyttävää elintaso Suomessa. Tähän tarkasteluun perustuen, väitöskirja esittää vaihtoehtoisia mittareita, joita voi hyödyntää köyhyyden mittaamiseen.

Köyhyyden vähentämistä pidetään hyvinvointivaltion keskeisimpänä tehtävänä. Varakkaissa eurooppalaisissa maissa köyhyys yleensä ilmenee suhteellisen köyhyytenä. Suhteellisella köyhyydellä tarkoitetaan kyvyttömyyttä saavuttaa elintaso, jota pidetään vähimmissään hyväksyttävänä kussakin yhteiskunnassa. Suhteellinen köyhyys onkin eräänlaista sosiaalisen toimintakyvyn puutetta.

Köyhyysmääritelmän operationalisointiin on kehitetty useita erilaisia köyhyysmittareita. Mittareita erottaa useat eri tekijät. Eräs keskeinen ero mittareiden välillä on siinä, mitataanko köyhyyttä resurssien, kuten kotitalouden tulojen kautta, vai elintason kautta. Ensin mainittuja mittareita kutsutaan epäsuoriksi mittareiksi ja jälkimmäisiä suoriksi mittareiksi. Toinen ero liittyy siihen, kuka määrittelee vähimmissään hyväksyttävän elintason. Tässä tutkimuksessa keskitytään asiantuntijavetoisiin sekä kansalaisvetoisiin köyhyysmittareihin. Kansalaisvetoisissa mittareissa kansalaiset määrittävät mitä vähimmissään hyväksyttävään elintasoon sisältyy. Tyypillistä näille mittareille on, että ne perustuvat jonkinlaiseen konsensukseen vähimmissään hyväksyttävästä elintasosta. Asiantuntijavetoisissa mittareissa vähimmissään hyväksyttävä elintaso määritetään asiantuntijoiden, kuten tutkijoiden toimesta.

Tutkimuksessa esitellään viisi erilaista köyhyysmittaria ja tarkastellaan niiden kykyä määrittää vähimmissään hyväksyttävää elintaso. Yleisimmin köyhyyttä tarkastellaan pienituloisuusmittarilla, jossa köyhyysraja asetetaan 60 prosenttiin kansallisista ekvivalenteista mediaanituloista. Köyhyysraja perustuu asiantuntijoiden arvioihin. Vaikka mittari on laajasti käytetty, on se monin osin ongelmallinen. Deprivatio-mittareiden käyttö onkin lisääntynyt näiden ongelmien vuoksi. Deprivatio-mittarit keskittyvät kulutushyödykkeiden tai palveluiden puutteeseen. Suhteellisessa deprivatio-mittarissa tarkastellaan asiantuntijan määrittämiä välttämättömyshyödykkeitä, mutta köyhyysraja perustuu tulopohjaiseen tarkasteluun. Konsensuaalisessa deprivatio-mittarissa välttämättömyshyödykkeet määrittää kansa ja köyhyyttä tarkastellaan näiden hyödykkeiden vastentahtoisena puutteena.

Näiden ohella tutkimuksessa esitellään viitebudjettimittarit, joita pidetään vanhimpana elintason mittarina. Viitebudjetit ovat tavaroista ja palveluista koostuvia hyödykekoreja, jotka hinnoiteltuna voivat edustaa mitä tahansa elintasoa. Viitebudjetissa huomioidaan kunkin maan yhteiskunnallinen ja institutionaalinen konteksti. Viitebudjettien laatimiseen ei ole kuitenkaan olemassa yhteistä metodologiaa. Viitebudjetteja voidaankin laatia kansalaisvetoisesti tai asiantuntijavetoisesti.

Väitöskirja koostuu neljästä artikkelista. Ensimmäinen artikkeli tarkastelee, että perustuuko konsensuaalinen deprivatio-mittari konsensukseen. Tätä tarkastellaan kahden kriteerin kautta. Ensinnäkin vastaajien näkemysten hyödykkeiden välttämättömyydestä ei tulisi heijastella heidän omia tarpeitaan tai halujaan, vaan perustua laajempaan perspektiiviin. Toiseksi, vastaajien tulisi olla samaa mieltä siitä, mitkä hyödykkeet ovat välttämättömiä kaikille. Tyypillisesti samanmielisyyttä on tarkasteltu ryhmätasolla, mutta tässä artikkelissa tarkastelu ulotetaan myös yksilöiden väliseen samanmielisyyteen. Tulosten perusteella voidaan esittää, että konsensuaalisen deprivatio-mittarin avulla ei voida tuottaa yhtenäistä kuvaa vähimmissään hyväksyttävästä elintasosta. Tulokset viittaavat siihen, että ihmisten näkemykset välttämättömyshyödykkeistä määrittyvät ainakin osin heidän omien halujensa kautta. Myös ihmisten samanmielisyyttä välttämättömyshyödykkeistä on korkeintaan kohtalaista.

Toinen artikkeli tarkastelee kahta suomalaista viitebudjettia ja sitä, tuottavatko ne samalaisia tuloksia yhteiskunnalliseen osallisuuteen tarvittavista resursseista. Tarkasteltavat viitebudjetit tarjoavat hyvän mahdollisuuden tarkasteluun, sillä ne pyrkivät määrittämään samaa elintasoa, ovat rakennettu samaan aikaan ja samoille kotitaloustyypeille, mutta ovat rakennettu eri menetelmin. Artikkeli tuottaa tietoa siitä, mistä erot viitebudjettien tuloksissa johtuvat. Tulosten mukaan viitebudjetit tuottavat jossain määrin erilaisia arvioita vähimmissään hyväksyttävästä elintasosta. Erityisen suuret erot ovat havaittavissa asumiseen ja liikkumiseen arvioiduissa menoissa. Erot viitebudjettien osalta paikannettiin erilaisiin tietopohjiin, valintakriteereihin ja hinnoitteluun.

Kahteen ensimmäiseen artikkeliin pohjautuen, väitöskirja esittelee kolmannessa ja neljännessä artikkelissa vaihtoehtoisia tapoja mitata köyhyyttä. Kolmannessa artikkelissa analysoidaan köyhyyttä ensimmäistä kertaa Suomessa käyttämällä viitebudjetteihin perustuvaa köyhyysmittaria. Viitebudjettimittarin tuloksia köyhyyden yleisyydestä ja köyhyyden kohdentumisesta väestöryhmiin vertaillaan pienituloisuusmittariin. Tulosten mukaan viitebudjettimittarin tuottama köyhyysaste on matalampi verrattuna pienituloisuusmittariin. Tämän ohella köyhyyden riskiryhmät ovat jossain määrin erilaisia. Esimerkiksi iäkkäiden kohdalla köyhyys on harvinaisempaa, kun käytetään viitebudjettimittaria.

Neljännessä artikkelissa konsensuaalista deprivatiota tarkastellaan erilaisten painotusmenetelmien avulla. Hyödykkeitä painotuksessa käytettiin sekä välttämättömyysnäkemysnäkökulmiin perustuvia lukuja että hyödykkeiden yleisyyttä yhteiskunnassa. Tyypillisesti konsensuaalisessa deprivatiossa hyödykkeet ovat painottamattomia, eli niiden tärkeydessä ei ole eroa. Artikkelissa esitetään, että painottamalla hyödykkeitä voidaan välttää ongelmia, jotka liittyvät konsensuaaliseen deprivatioon. Tulosten mukaan painojen käyttäminen muuttaa aineellisesta puutteesta saatua kuvaa ainoastaan vähäisesti, sillä monen hyödykkeen kohdalla puute oli matalaa.

Väitöskirjan tulokset antavat viitteitä siitä, että konsensuaalinen deprivatiomittari on monessa mielessä ongelmallinen. Hyödykkeiden tärkeyden painottaminen – joko niiden yleisyyden tai niiden välttämättömyyden mukaan – tarkoittaa aineellisesta puutteesta saatua kuvaa. Huolimatta siitä, että viitebudjetit tuottavat erilaisia tuloksia, niiden voidaan nähdä pienituloisuusmittaria paremmin kuvastavan vähimmissään hyväksyttävään elintasoon tarvittavia resursseja. Metodologista työtä viitebudjettien kehittämiseksi on syytä jatkaa, jotta vertailukelpoisia viitebudjetteja voidaan käyttää sosiaali-indikaattorina Euroopassa.

ASIASANAT: köyhyys, aineellinen puute, viitebudjetit, pienituloisuus

Acknowledgements

It's been a long and a rocky road. I owe debt of gratitude to so many people for supporting and helping me in this project. Next, I want to express my sincere thanks to all of you.

First and foremost, I want to thank my supervisor, Professor Veli-Matti Ritakallio. Without Veli-Matti, I would have never started the PhD project. Thank you Veli-Matti for your dedication, invaluable guidance and support during this long path. Veli-Matti's detailed and insightful comments improved my work considerably. When things looked grim, Veli-Matti's comments motivated me to push forward.

I want to express my gratitude to Professor Heikki Hiilamo and Associate Professor Susan Kuivalainen who acted as pre-examiners of my thesis. Thank you for contributing your time and for the constructive and valuable feedback that helped me finalize my work. Thank you Heikki for acting as my departmental pre-examiner and also accepting the invitation to be the opponent at the public defense of my dissertation.

My work was greatly improved, thanks to the valuable comments from several peers. My warmest thanks go to MA Laura Järvi, PhD Ilari Ilmakunnas and PhD Merita Mesiäislehto for the comments during our meetings. Particularly I want to thank Ilari for co-authoring the sub-study IV with me. It's been a pleasure to share my path with all of you.

During the 10 years I worked at the Department of Social Research, I had the privilege of working with great colleagues. Especially I want to thank PhD Henna Isoniemi and PhD Milla Salin for all your support and guidance and for the great times we had teaching together. Thanks also to the rest of the "Manse"-gang: PhD Jarkko Rasinkangas and PhD Enna Toikka. Thank you for the memories! I also want to express my gratitude to Professor Heikki Ervasti, Associate Professor Takis Venetoklis, MA Elina Sutela, MA Sami Mustikkamaa, MA Mari Anttila, Associate Professor Leena Koivusilta, PhD Anniina Kaittila, Professor Mia Hakovirta, Associate Professor Minna Ylikännö, Professor Johanna Kallio, PhD Anne-Mari Jaakola, PhD Tuula Kaitsaari, MA Ari-Matti Näätänen, Professor Merja Anis, Professor Leo Nyqvist and Marja Tamminen for all your support.

Working with reference budgets has been a big part of my academic career. Constructing reference budgets is a team effort. Particularly I want to thank MA Anna-Riitta Lehtinen. Anna-Riitta's support and mentoring was crucial when I first started to work with reference budgets. I had the pleasure to work in several international projects concerning reference budgets. I want to thank PhD Tess Penne, Senior Research Fellow Tim Goedemé, PhD Berenice Storms, PhD Karel Van den Bosch and PhD Irene Cussó. It was an honor to work with the "best in the business". Additionally, I want to thank my Finnish colleagues Professor Pasi Moisio, Professor Outi Sarpila, MA Anna Grahn and MA Anna Kuusela for the co-operation in constructing reference budgets. Working with you made the "ghastly chore" less ghastly.

At the beginning of the year 2023, I started a new job at Itila. I have the pleasure to work with great people. Especially I want to thank Research Professor Tiina Ristikari, PhD Aapo Hiilamo and MA Mari Hirvonen. Thank you for creating an inspiring and supportive work environment!

Outside the academia, I want to thank my friends and family. Special thanks go to Kristian, Jenna, Toni and Tiina! You have given me the chance to steer my thoughts away from the thesis and into more fun things.

Lastly, I want to thank my family. My parents Raimo and Leena have always encouraged me to pursue my dreams and supported me in my endeavours. I also want to thank my brother Klaus: you have always been a role model for me. Thank you also to my sister Anniina, "bonusmom" Paula and "bonusbrother" Sami!

Finally, I want to thank my wife Saara. With Saara's endless support encouragement and help I was able to push through. Saara: "You're my first, my last, my everything"!

In Turku, July 2023
Lauri Mäkinen

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List of Original Publications

This dissertation is based on the following original publications, which are referred to in the text by their Roman numerals:

- I Mäkinen, Lauri (2018) Consensus or dissensus? Analysing people's perceptions of the necessities of life in Finland. *Journal of Poverty and Social Justice*, 26(3): 359-377.
- II Mäkinen, Lauri (2021) Different methods, different standards? A comparison of two Finnish reference budgets. *European Journal of Social Security*, 23 (4): 360-378
- III Mäkinen, Lauri (2017) Viitebudjetti köyhyyden mittarina – muuttuuko köyhyyden kuva? *Yhteiskuntapolitiikka*, 82 (2): 153-164. *In English: Reference budgets as indicators of poverty – does our understanding of poverty change?*
- IV Ilmakunnas, Ilari and Mäkinen, Lauri (2020) Age differences in material deprivation in Finland: How do consensus and prevalence-based weighting approaches change the picture? *Social Indicators Research*, 154: 393-412.

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1 Introduction

Reducing poverty is one of the primary purposes of the welfare state. This is also manifested in the policy objectives of the European Union (EU), which argues that the number of people at risk of poverty or social exclusion should be reduced by at least 15 million persons by 2030 (EU 2021). Poverty, as a relative phenomenon, is understood as individuals being unable to enjoy the minimum living standard that is considered acceptable in a given society. Measuring poverty is important, as it provides information about the magnitude of poverty and the risk groups of poverty. Numerous indicators are used to determine the minimum acceptable living standard. Earlier research has established that different measures produce different results regarding the prevalence of poverty and the risk groups of poverty. This means that the picture of how well welfare states have succeeded in poverty mitigation is highly dependent on which poverty indicator used. David Piachaud (1987, 161) claimed that the use of the term “poverty” carries the moral imperative that something should be done to address it. This indicates that poverty has a clear political dimension and is intertwined with the performance of the welfare state. This places poverty research at the core of social policy research.

This study analyses poverty indicators and their capacity to answer the question “What is needed at the acceptable minimum in Finland?”. The operationalisation of the concept of poverty is the foundation for all empirical poverty research. If the foundation is not built on solid ground, the analyses will not produce reliable results regarding poverty’s prevalence, risk groups or development over time.

In this study, the operationalisation of the concept of poverty is assessed using two indicators: consensual deprivation and reference budgets (RBs). These measures are prominent indicators of poverty that are being increasingly used to measure poverty. Based on the consensual deprivation indicator, poverty is analysed through the lack of necessities. In this approach, the public consensually defines what the necessities are (Mack and Lansley 1985). This has been viewed as a democratic way of defining the minimum acceptable living standard. This study examines the general assumptions regarding the consensual determination of such necessities. This is done by analysing whether people have reached a consensus regarding the necessities of life and, hence, about the minimum acceptable living standard. The study provides a

methodological contribution to the studies regarding the consensus on such necessities, as interpersonal agreement is analysed instead of the typical inter-group analysis (see, however, McKay 2004).

Building on its findings, the present study presents alternative ways to analyse material deprivation, thereby avoiding the pitfalls of conventional approaches. This results in a poverty indicator that considers more comprehensively the differing opinions that citizens have regarding the minimum acceptable living standard, whilst placing greater emphasis on items that can be considered as more important. This study provides a methodological contribution to the measurement of deprivation, as weighting is not only examined for the entire sample but also across age groups.

Secondly, the study examines RBs and their suitability for poverty measurement. RBs refer to priced baskets of goods that can present any living standard (Bradshaw 1993). The present study's analysis is conducted, by first analysing whether RBs that aim to illustrate the same living standard but use different methods actually produce similar estimates about the minimum acceptable living standard. This study provides an important contribution to the topic by inspecting the mechanisms that cause these differences. Building on this work, a poverty indicator is constructed for measuring poverty in Finland. In this pioneering study, the results are contrasted to the at-risk-of-poverty (AROP) indicator, in which the poverty threshold is set at 60% of the equivalised national median income. This study presents the AROP indicator's well-acknowledged problems. The comparison between RBs and the AROP indicator provides valuable insights regarding the prevalence and concentration of poverty, which depend on the indicator used. The results of the comparison indicate that, in many ways, RBs tackle the issues inherent to the AROP indicator and provide a more reliable basis for poverty measurement, compared with the AROP indicator.

A cross-cutting theme in this dissertation is the question of expertise. Here, expertise refers to the issue of who is making the decisions about the operationalisation of poverty. In this dissertation, expertise is not assumed to be something that only experts have: in fact, there could be several actors defining minimum acceptable living. This study focuses on poverty indicators in which either the public or experts have a central role in establishing the minimum acceptable living standard. In examining the results of the two RBs, the results of public-led and expert-led approaches are compared.

Poverty indicators are social indicators; accordingly, their capacity to fulfil the criteria set for social indicators should be assessed. The indicators presented in this study can be assessed against the quality criteria for social indicators set by the Indicators Sub-Group (2015): indicators should 1) be valid so that they capture the essence of poverty, 2) be robust and statistically validated, 3) provide a sufficient level of cross-national comparability, 4) be timely, and 5) respond to policy

interventions. The assessment of the indicators' ability to operationalise poverty is presented in the conclusions of the study.

The field of poverty research is driven by the continuous effort to improve poverty measurement. This study is a part of this effort. As a methodological exercise, it provides new information about complementary poverty indicators and their suitability for poverty measurement. However, the study is not merely an academic exercise of the best way of measuring poverty. Hopefully, the results of this study do not end as “a semantic and statistical squabble” (Piachaud 1987) about poverty measurement but instead provide a means for improving social policy.

Even though the measurement issues of this study are of universal nature, its results are impacted by its focus on Finland. In line with the relative notion of poverty, the minimum acceptable living standard is highly impacted by contextual factors, such as the overall living standard of the society, its social norms and institutions. The fact that Finland is a wealthy country with low levels of economic inequality and a comprehensive welfare state is likely to influence what is seen as a minimum acceptable living standard and the resources needed to achieve it. Nonetheless, the results of this study provide better means for poverty measurement for all of Europe.

The remainder of the dissertation is organised as follows. In the next section, the various conceptualisations of poverty are examined. There the definitions of absolute and relative poverty are examined. This section is followed by a section on poverty measurement. The section begins with a discussion on the general principles of poverty measurement. After that, the income-based poverty indicators—the AROP indicator, RBs and the relative deprivation indicator—are presented. This is followed by the examination of different deprivation indicators. After that, the research design of the main study is presented. This is followed by the presentation of the results in the sub-studies. The main study is concluded with a discussion of the results.

2 What is poverty?

Research should begin by defining its key concepts. Measuring poverty is futile without a proper understanding of what it is. Thus, it is of importance to differentiate between poverty's definitions and indicators. Poverty definitions define what poverty is, whereas poverty indicators are used to operationalise poverty to measure it. It is generally regarded that poverty is a multi-dimensional concept. There are different poverty definitions, which are typically classified into two categories: absolute and relative poverty. These concepts refer to different forms of poverty: absolute poverty is typically related to physical efficiency, whereas relative poverty involves social efficiency. However, in both phenomena, poverty is seen as enforced. Whilst these two concepts of poverty are well established, their difference in poverty measurement is far from clear (see, for example, Alcock 1997; Goedemé and Rottiers 2011). Nonetheless, it is theoretically important to explore the two phenomena. In the following sections, these definitions are examined.

2.1 Absolute poverty: focus on physical efficiency

Absolute poverty refers to individuals having less than the absolute minimum that is needed (Alcock 1997; Goedemé and Rottiers 2011). Typically, absolute poverty is seen in terms of physical efficiency. People in absolute poverty are seriously deprived: they may face hunger and suffering. In absolute poverty, poverty is not directly related to the living standards of others in the surrounding society (Goedemé and Rottiers 2011). According to the United Nations (1995, 38) absolute poverty is¹:

...a condition characterised by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information. It depends not only on income but also on access to services.

¹ Nowadays, the United Nations and World Bank use the term "extreme poverty". The term is preferable, as it reflects the severity of the phenomenon and does not claim to be an absolute standard. Nonetheless, absolute poverty is used here, as it is still often used in the poverty literature.

Whilst it is irrefutable that, according to the abovementioned definition, absolute poverty is about deprivation that threatens basic human needs, the fulfilment of these needs is relative to the given society (see, for example, Alcock 1997; Gordon 2006). In fact, it has been argued by several scholars that measuring absolute poverty is always relative (see, for example, Townsend 1979; Ringen 1988; Andress 1998; Atkinson et al. 2002; Gordon 2006; Goedemé and Rottiers 2011). This is because minimum subsistence is socially defined in a certain context and varies across countries (see, for example, Sawhill 1988). For example, the surrounding society influences what is considered a proper diet (whether it is rice, potatoes, vegetables or meat) or shelter (Alcock 1997). Hence, absolute poverty becomes relative when one tries to measure it. Strictly speaking, for measuring absolute poverty, severe deprivation is not the only precondition. Additionally, the standard should be fixed: it should be measured the same way, regardless of the period or country, and only adjusted according to changes in prices (Atkinson et al. 2002). These two preconditions make measuring absolute poverty challenging. For example, Goedemé and Rottiers (2011) argue that the division between absolute and relative poverty “is more confusing than helpful”. One could conclude that even though absolute poverty exists as a theoretical phenomenon, attempts to measure it typically include relative elements.

2.2 Relative poverty: poverty as social inefficiency

Moving from absolute poverty to relative poverty essentially implies a change in perspective. If absolute poverty focuses on the lack of physical efficiency, relative poverty involves social efficiency (see, for example, Kangas and Ritakallio 2008). In relative poverty, poverty is understood *relative* to the living standard of the society. Thus, relative poverty is dynamic and the meaning of poverty changes as the living standard of the society changes. Whereas, in absolute poverty, needs should be satisfied with items that are constant, in relative poverty, the needed goods and services consistently change with the living standard of the society. The change from absolute poverty to relative poverty is often described as the “rediscovery of poverty” (Ringen 1988; Piachaud and Webb 2004). This change has led to expansion of the tasks of welfare states (Kangas and Ritakallio 1996). This means that the purpose of welfare states is not merely to provide enough resources for physical functioning, but also to support citizens in realising full citizenship. Therefore, the adoption of the relative view on poverty has had significant impacts on public policy and the resources needed to provide acceptable living standard for citizens.

There are different definitions of relative poverty; one of the most notable was introduced by Peter Townsend (1979, 31), who defined relative poverty as follows:

Individuals, families and groups in the population can be said to be in poverty when they lack the resources to obtain the types of diet, participate in the activities and have the living conditions and amenities which are customary, or are at least widely encouraged or approved, in the societies to which they belong.

Even though Townsend was not the first to suggest that poverty is of relative nature (Ringen 1987), he has been highly influential on poverty research². Before Townsend, Adam Smith (1776) had noted that poverty is relative, defining necessities as:

...not only the commodities which are indispensably necessary for the support of life, but whatever the custom of the country renders it indecent for creditable people, even of the lowest order, to be without.

Additionally, the Council of the European Communities (1975, 34) has defined poverty in relative terms:

...individuals or families whose resources are so small as to exclude them from the minimum acceptable way of life of the member state in which they live...

The poverty definitions of Townsend and the Council of the European Communities have several common elements. In both, poverty involves *low resources*. Resources should not be understood only in terms of income but, more broadly, including wealth and services (see, for example, Ringen 1987; Decanq et al. 2013). Subsequently, both definitions stress that poverty is about not achieving a *minimum acceptable or approved living standard*. This implies that a minimum acceptable living standard is something that is shared between citizens in each country, i.e. people should be in a consensus regarding what the minimum acceptable living standard comprises of (Goedemé and Rottiers 2011). Thirdly, people in poverty are *excluded* from the lifestyle that is considered acceptable in each society. This exclusion, in turn, happens due to low resources. Notably, both definitions are somewhat abstract and, as the next chapter shows, different poverty indicators have been operationalised from these definitions.

Rowntree's (1901) poverty research highlights that the difference between absolute and relative poverty may be confusing. Rowntree's (1901)—a pioneer of modern poverty research—study on poverty in the city of York is often conceived to

² According to Google Scholar, Townsend's book has been cited circa 6,800 times.

present absolute poverty (see, for example, Townsend 1979). Rowntree's work was inspired by the work of Charles Booth (1889/1904) in London.³ However, there are sensible reasons for categorising Rowntree's approach as a relative view on poverty (see, for example, Veit-Wilson 1986; Ringen 1988; Piachaud and Webb 2004).

Rowntree studied poverty in the city of York, observing the living standards of 11,560 working-class households. Rowntree differentiated between two types of poverty. The first corresponds to families "whose total earnings are insufficient to obtain the minimum necessities for the maintenance of merely physical efficiency", i.e. what Rowntree (1901, 86) called "primary poverty". The primary poverty threshold for households was established by calculating the costs of a very simple diet, clothing, rent and heating. The second type corresponds to "families whose total earnings would be sufficient for the maintenance of merely physical efficiency were it not that some portion of it is absorbed by other expenditure, either useful or wasteful", what Rowntree (1901, 86) called "secondary poverty".

Importantly, for Rowntree, poverty was not just about primary poverty—even though it was often conceived that way—it also referred to individuals who lived in secondary poverty. Poverty was measured by observing the living conditions of the working-class and comparing them with the conventional living standards at the time (Veit-Wilson 1986). Households were identified as living poverty when they—based on the observation of the research team—lived in "obvious want and squalor" (Rowntree 1901, 19-20). As Veit-Wilson (1986) argued at length that Rowntree did not calculate the primary poverty threshold to define poverty but to distinguish primary poverty from secondary poverty. Households living in secondary poverty were nonetheless living in poverty, even though their income was more than was needed for physical efficiency. Thus, primary poverty may be seen as narrowly relative (Veit-Wilson 1986), whereas total poverty—primary and secondary poverty—is clearly based on relative assessments, as the living standards of the sample are compared to the given society's conventional living standards.

Rowntree's study was highly influential and similar concepts and methods were used by other researchers to study poverty thereafter (for an extensive list, see Townsend 1979). Rowntree himself (Rowntree 1941, according to Veit-Wilson 1986) continued his studies of poverty in York. His subsequent studies also focused on physical efficiency but also included the costs for social needs. According to Townsend (1954; 1962), Rowntree's view on poverty was static, with a strong emphasis on physical efficiency and less focus on social needs. Even though Rowntree later aimed to incorporate social needs into his calculations, no clear

³ Spicker (1990) argues that even though Rowntree's work is often contrasted to Booth's, there were significant differences. Spicker states that Booth's purpose was to describe the living conditions of the poor than to assess the cost of basic needs.

criteria for including these items was established (Townsend 1954). Based on the critique of Rowntree, Townsend argued that humans are “social animals”, and that our relationships with other members of society influence our consumption of goods. According to Townsend (1970, 18-19), as societies become richer, new needs are imposed on their members. These ideas led Townsend to establish his famous poverty definition, presented above.

As has been illustrated, relative poverty and the minimum acceptable living standard are dynamic by nature; thus, what they entail changes over time. This process is illustrated by the fact that some items once perceived as luxuries become necessities needed for a decent living standard (see, for example, Dwyer 2009). For example, according to a survey collected at the University of Turku, only 11% of respondents considered cell phones necessary in 2000. This proportion increased to 87% in 2020. This is of course explained by the rapid technological development in the past decades and the decrease in cell phone prices making them accessible to a larger group of people. There are also sociological explanations for how luxury items become necessities. In class-based explanations (see, for example, Veblen 1899/2007; Simmel 1957), higher social classes aim to distinguish themselves from others by purchasing expensive and rare items, whereas other groups in society try to imitate the consumption patterns of the elites. This way, consumption patterns “trickle down” and become part of customary consumption patterns through the process of emulation. This process of imitation partly explains that the customary lifestyle tends to move upwards, especially if societies become more affluent (Dwyer 2009). However, it should be noted that the customary living standard and the minimum acceptable living standard are not synonyms: even though the customary living standard may change as new items become more common in the society, it does not necessarily mean that they are considered a part of the minimum acceptable living standard (Sen 1981; 1983). Additionally, minimum acceptable living standard does not linearly move upwards as the societies become richer. Results by Dunn (2021) from the UK suggest that the number of necessities have not increased in parallel with the increased incomes of the households.

Whilst the relative nature of poverty has been widely accepted, there are some opposing views about whether fully relative view on poverty is functional. Most notable is Amartya Sen’s claim (1981) that the core of poverty is absolute. According to Sen (1983; 1985), poverty should be defined based on capabilities, not resources or utility. Poverty is not merely having less resources than other members of society; it also implies not having certain minimum capabilities (Sen 1985). According to Sen (1999), this capability approach focuses on “deprivations that are intrinsically important”, rather than income, which is important only in the instrumental sense.

Sen makes an important distinction between capabilities and *functionings*. For Sen (1992), capabilities comprise possibilities that a person can do or be, whereas

functionings are those capabilities that are realised. Sen illustrates the difference between capabilities and functionings by using starving and fasting as examples. Both starving and fasting are functionings which have the same end result (being hungry) but with an important difference. People who are fasting are capable of eating but choose not to, whereas starving people do not have this possibility. In Sen's view, living standards should be analysed based on capabilities, not functionings. In other words, the focus should be on what people can be or can do, rather than focusing on what they actually have or how they feel. However, Sen never developed this list of basic capabilities.

For Sen, capabilities (such as having the opportunity to be clothed and fed) are absolute in the sense that they apply to all societies. This is to be understood so that a person's lack of capabilities is examined absolutely, not just in relation to other members of society (Sen 1985, 670). Simultaneously, Sen (1983) recognises that the items needed to satisfy these capabilities differ between countries, based on the norms, habits and wealth of their society. Therefore, for Sen, poverty cannot be examined without the social context, i.e. what items are needed to satisfy the basic capabilities in each society. This, in turn, means that the resources needed to satisfy citizens' basic capabilities differ between countries and individuals. Here, welfare state institutions play an important role: in countries with comprehensive and accessible welfare state systems, persons need relatively fewer resources to meet their basic capabilities, compared with societies in which these services are not accessible for all. Additionally, people with the same financial resources may not be able to achieve the same living standard. Instead, some individuals are likely to need additional resources to meet their capabilities, due to disabilities or health issues. These are often called conversion factors (see, for example, Sen 1999).

Sen (1981) has also argued that relative poverty definitions are unable to grasp poverty that is severe and society-wide, as in the case of famines. As the abovementioned definitions are concerned with the minimum acceptable living standard, famines are not acceptable in any society. Thus, these definitions seem to grasp Sen's idea at its absolute core.

Whilst the present dissertation focuses on poverty, it is important to briefly discuss key concepts closely related to poverty, namely, income inequality and social exclusion. Income inequality typically refers to how income is distributed in the society. Both—inequality and poverty—are prescriptive concepts, indicating that there is something unacceptable that should be addressed. Similar to inequality, poverty is about having less than others; however, poverty is also about people not having enough resources to reach a minimum acceptable living standard. In other words, inequality is not necessarily poverty, but poverty is inequality. In fact, poverty can be seen as the unacceptable state of inequality (Alcock 1997).

Poverty and social exclusion overlap in some ways. As was illustrated above, poverty leads to exclusion due to lack of material resources. In social exclusion, exclusion is not limited to lack of resources. For example, Burchardt et al. (2002) have defined social exclusion as not being able to participate in key activities within a society. This means that people can be excluded without being in poverty (see, for example, Berghman 1995), such as due to limited social or human resources or discrimination.

The second difference relates to the dynamic nature of social exclusion. Often, social exclusion is seen as a dynamic process in which disadvantages accumulate (Berghman 1995; Levitas 2000). Conversely, poverty is seen as a static state of affairs. To summarise, poverty is a distinct phenomenon with established indicators to measure its extent.

3 Measuring poverty

Defining poverty only takes us so far. In empirical poverty research, the definition of poverty needs to be operationalised into a measurable form. In principle, the purpose of such operationalisation is to construct an indicator as valid as possible, so that it measures what it is supposed to measure. The primary purpose of poverty research is to identify the poor. This means that a threshold of minimum acceptable living standard needs to be established. Additionally, the indicator should take into account that this standard evolves over time. In reality, operationalising poverty is one of the most difficult aspects of empirical poverty research (Heikkilä 1990).

There exists a broad consensus on what poverty is; however, there is considerable disagreement regarding how it is best measured. During the last 120 years of poverty research, several different poverty indicators have been developed, but none are universally accepted. Debate about the best ways of measuring poverty would be futile if the indicators produced similar estimates about poverty. However, as this study shows, this is not the case: it is not only that the indicators produce different estimates on the prevalence of poverty but that the people identified as poor also differ. These differing results are problematic in light of the performance of the welfare state. As different indicators produce different results, it is difficult to estimate the resources needed to alleviate poverty and which groups are in the direst need.

In principle, all the poverty measures have been contested. However, this does not mean that they are equally bad in capturing the poverty phenomenon. Before the different poverty indicators are presented, more general issues related to the measurement of poverty are examined.

3.1 Direct and indirect measurement of poverty

Poverty can be measured either via needs- or resource-based approaches (see, for example, Erikson 1993). Needs-based approaches focus on the satisfaction of basic needs. One example is the theory of human need, proposed by Doyal and Gough (1991), in which there are two universal needs: autonomy and health. These are the basic needs that need to be fulfilled in order for people to participate in society. However, before the fulfilment of basic needs, there are intermediate needs.

According to the needs-based approach, poverty is seen as a nonfulfillment of these needs. The critique against the needs-based approach relates to the identification of needs. This is especially related to the juxtaposition of needs and wants, which may be difficult to distinguish. Further, one could argue that needs can be met in various ways. For example, Townsend (1962) argued that the need for nutrition or energy can be fulfilled in numerous ways.

Resource-based theories (also known as the Scandinavian level of living approach) mainly see poverty in terms of resources. This research strand focuses on people's capacity to make use of resources to meet their needs. (Erikson 1993). When defined this way, resources come close to the concept of capabilities introduced by Sen (1985). Resource-based approaches assume that people use their resources in a way that best enhances their wellbeing. This may not always be the case. For example, people can spend their income to items that have a deteriorating impact on their wellbeing, such as alcohol and cigarettes. Secondly, people have different needs. This means that the same resources may not be sufficient for all, while others may require additional resources to achieve the same level of wellbeing.

The discussion shown above relates to the question about whether we analyse poverty via resources or living conditions. These are also called indirect and direct indicators, respectively (Ringen 1988). Resources do not have intrinsic value but can be used to purchase items that have intrinsic value, such as food and clothing. In this sense, resource-based indicators are input-based measures. From the perspective of indirect indicators, resources give people the ability to consume (Halleröd 1995); it is irrelevant whether people spend their income on necessities (e.g. food, housing, clothing etc.), what matters is that they have the possibility to do so. In this sense, indirect approaches consider people's different preferences. Typically, resources are seen as household disposable income, i.e. income after social transfers and taxes. The use of disposable income is problematic, as income is not the only resource that households may have at their disposal. For example, households may have wealth and savings, which could be used to enhance their living standard or smooth out fluctuations in income.

Conversely, direct poverty indicators focus on how people live (Ringen 1988). Direct approaches examine the living standard that is available to citizens after they have made use of the resources they have at their disposal (Andress 1998). Direct indicators may focus on the standard of consumption or non-monetary aspects of poverty, such as the lack of material goods. Thus, indirect measures focus on inputs (resources), whereas direct indicators examine outcomes.

However, there are several studies concluding that the overlap between incomes and actual living standards is far from perfect (see for example Kangas and Ritakallio 1996; Bradshaw and Finch 2003). Therefore, the results of the direct and indirect poverty indicators do not necessarily produce similar results.

3.2 Who knows best? Expert and public-led poverty indicators

In order to be relevant, poverty indicators should be able to determine when the living standard is unacceptable. Setting the poverty threshold can be seen as the primary purpose of the poverty indicators, on which poverty measurement is based. After this, indicators can provide answers to such questions as a) “How much poverty is there?”, b) “Who are the poor?”, c) “How poor are the poor?” and c) “How long have the poor been poor?”. Without a proper poverty indicator that captures the essence of poverty, these questions will not be answered satisfactorily.

Poverty research is about making choices. There are different views about whether a large amount of decisions makes poverty measurement arbitrary. On one end, there is Rebecca Blank (2008), who argues that in the development of poverty indicators, researchers have to make several arbitrary decisions, such as determining the poverty threshold. At the other end is Townsend (1997), who states that as long as poverty is something that can be measured and observed, poverty measurement is not arbitrary. According to Townsend, poverty measurement is highly contested, but is scientific in a sense that indicators may be replaced with measures that are “more sophisticated and comprehensive”.

In addition to the issue regarding the direct and indirect measurement of poverty, a crucial aspect that distinguishes poverty indicators relates to the issue of expertise (see, for example, Dubnoff 1985; Veit-Wilson 1987). Source of expertise—or information base—refers to an agent according to whose views the minimum acceptable living standard is defined. Basically, there are two sources of expertise for indicators: experts or the public—these are defined in this study as expert-led and public-led indicators, respectively.⁴ In expert-led indicators, as their name implies, poverty is operationalised by experts. This means that the decisions about the measurement, such as the setting of the poverty threshold and how the minimum acceptable living standard is conceived, are determined by experts. In this study, the term “experts” is understood as a broad category including individuals who have specialised knowledge in their field, based on research or other experience they have gathered (Goedemé et al. 2015). Experts’ decisions can be made either based on their knowledge on the matter or based on judgment. This definition allows the possibility that decisions about poverty measurement may not be based on empirical evidence.

Conversely, public-led indicators assume that the minimum acceptable living standard can be derived from social values. In these indicators, the minimum

⁴ The suffix “led” is used, as purely expert-based or purely public-based poverty indicators rarely exist. Instead, expert-led approaches often make use of consensual information, and vice versa, but there are clear differences in how much each type of information is emphasized.

acceptable living standard is based on the evaluation of the people. Often, public-led approaches are called “consensual”, as some sort of consensus is required regarding the minimum acceptable living standard. Public-led approaches stem from the critique towards expert-led knowledge, which is not considered to provide valid judgments about the minimum acceptable living standards (Fahmy et al. 2015). According to Piachaud (1987, 149): “it seeks to cast aside self-appointed, self-opinionated experts and 'let the people decide'.” Observing this difference, Bradshaw (1994) classifies the expert-led and public-led approaches as “top-down” and “bottom-up”.

According to Bradshaw et al. (2008), poverty indicators can be classified into three broad categories: relative income measures, measures of deprivation and budgets standards (or RBs). This list could be supplemented with other indicators, such as subjective poverty indicators, which are being increasingly used to measure poverty. Subjective poverty indicators are based on each individual’s subjective assessment. Even though they have similarities, subjective indicators differ from public-led indicators in one important aspect: in subjective indicators, people assess their own living situation, whereas public-led approaches are concerned with the living standard of the general public. Van den Bosch (1998) makes use of Barry’s (1990) private- and public-oriented evaluations in distinguishing between subjective and public-led approaches. Private evaluations consider the living standard of the people themselves, whereas public evaluations concern a larger group, typically everyone in the given society. According to Van den Bosch (1998), public-led indicators are only meaningful if people use public evaluations when making judgments. Private evaluations are, as their name implies, private and can mean different things to different people.

Even though subjective indicators can be used to complement other poverty indicators, they have problematic factors. Subjective poverty indicators are typically either subjective experiences about whether the household can “make ends meet” or income levels needed to avoid poverty, defined by respondents. In the former, households can be considered to be living in poverty if they are making ends meet with great difficulty. In the latter, subjective poverty lines can be derived based on respondents’ evaluations by calculating the average income level for different household types. Many of the leading poverty researchers (see, for example, Sen 1981; Atkinson 1987; Townsend 1987) have argued that the subjective experience of poverty should not be the basis for poverty measurement. Instead of feelings, the assessment of poverty should focus on the objective situation of the household, such as its resources or living standards. According to this view, poverty is not about what individuals feel, but what they have. Conversely, subjective income poverty lines are problematic in comparing the results over time and across countries (Van den Bosch

2001). Despite the above-mentioned issues, subjective poverty indicators are being increasingly used for poverty measurement.

Relative income measures and deprivation indicators are of special importance in the European poverty debate, as the EU monitors its poverty targets by using these two indicators. The AROPE indicator (measuring risk of poverty or social exclusion) is a blend of three indicators: risk of poverty, material deprivation and low work intensity. Particularly, the first two reflect poverty, whereas low work intensity is more related to social exclusion. RBs comprise the oldest indicator of poverty and are being increasingly used in recent years.

The purpose of this study is not to provide an exhaustive list of poverty indicators, but to focus on expert-led and public-led indicators. This study presents six different poverty indicators that follow alternative logics in the operationalisation of the minimum acceptable living standard. First, these indicators use different metrics of well-being: two are based on income and two on household deprivation. Several different deprivation indicators have been introduced to the field of poverty research. In this study, the term *deprivation* refers to all indicators examining the deprivation of necessities. Deprivation indicators have in common that they examine poverty as a lack of items. The material deprivation indicator used by the EU is hereafter referred to as the *material deprivation* indicator. This indicator originally measured deprivation via nine items (Eurostat 2017); however, since 2021, it comprises thirteen items. Subsequently, the term *relative deprivation* is used to describe Townsend's approach, while *consensual deprivation* is used to refer to Mack and Lansley's approach (1985).

Secondly, the indicators differ in their source of expertise, which refers to the information used to operationalise poverty. When the aspects regarding the metric of well-being and source of expertise are combined, one can draw a two-by-two frequency table of different poverty approaches; this is a modified version of the classification by Kangas and Ritakallio (2008). The six different approaches are presented in Table 1.

Table 1. Income and deprivation indicators based on their source of expertise.

	Low income	Deprivation
Experts	AROP Expert-led RBs Relative deprivation	
Public	Public-led RBs	Consensual deprivation Material deprivation

On the left side of the table, the income-based indicators are presented. These indicators have in common that they produce a monetary poverty threshold. Additionally, for deriving the poverty rate (the share of poor households), income-based indicators could be used to calculate the poverty gap. The poverty gap is expressed in percentage points, indicating how far below the poverty threshold households are, on average. The poverty gap provides important information regarding the severity of poverty, as income far below the poverty threshold is worse than having an income closer to the threshold. This means that looking at the poverty gap provides a more comprehensive picture of poverty than just examining the “headcount” of poverty (i.e. poverty rate).

First, on the upper-left corner are the indicators that use income as their metric of well-being; they are constructed based on expert evaluations. A prime example of this is the AROP indicator, in which poverty is set at 60% of the equivalised national median income, while the threshold is set based on expert recommendations (see, for example, Atkinson et al. 2002). Secondly, there are the RBs that are constructed based on expert knowledge. RBs refer to baskets of goods that when priced, can present any given living standard (Bradshaw 1993). Thirdly, the relative deprivation indicator can be classified into this category. Despite its name and the fact that it makes use of necessities, defined by experts, the poverty threshold in the relative deprivation indicator is based on income. The approach introduced by Peter Townsend (1979) has been influential for poverty measurement, even though it is rarely used in contemporary poverty measurements. Despite its limited use, Townsend’s approach is presented, as it interestingly demonstrates the advantages and disadvantages of using expert evaluation in analysing poverty as deprivation. Additionally, Townsend’s idea about poverty as a mere lack of items can provide an alternative to the consensual deprivation indicator, which is often considered problematic. However, income-based indicators differ considerably regarding how their poverty threshold is derived. These differences are elaborated upon in the following section.

The bottom left corner illustrates RBs that are constructed by the public. Public-led RBs are constructed using consensual information about the minimum acceptable living standard. The rationale behind public-led RBs is that minimum living standards are socially and culturally specific (Walker 1987). Further, the consensual income method could be categorised here. In this approach, survey respondents are asked about the income a certain family type needs at the minimum. This differs from the subjective poverty line approach described above, in which people are asked about their own income. In the consensual income method, survey respondents should consider a larger group as their object in deriving the poverty line. Consensual income deprivation relies on the assumption that there is some consensus about the minimum income needed. However, the results from previous studies suggest that

this kind of consensus does not exist (see, for example, Van den Bosch 2001.) The indicator will not be analysed in detail, as it is rarely used in contemporary poverty measurements.

On the right side of the table are the deprivation indicators, which focus on the lack of consumption items. Deprivation indicators address poverty as lack of consumption items due to a lack of resources. In both income-based and deprivation indicators, poverty is typically analysed at the household level, instead of the individual level. This choice is based on the assumption that households share their resources equally. However, this assumption of intra-household sharing of resources has been questioned (see, for example, Pahl 1983). Both deprivation indicators and RBs aim to identify the items needed for a minimum acceptable living standard. However, they differ in that deprivation indicators focus on the lack of items and do not assign price tags for them and therefore do not produce a monetary threshold. Secondly, deprivation indicators typically focus on a handful of items, whereas RBs comprise hundreds of items.

On the bottom-right corner of the table are the consensual deprivation indicators. Consensual deprivation examines the minimum acceptable living standard through items that the people consensually determine as necessities. This approach differs from relative deprivation, as necessities are defined by the public, not by experts. Both deprivation indicators are based on the assumption that poverty is dynamic, which means that the items needed for a minimum acceptable living standard are not fixed and vary across countries and time. The same rationale applies to RBs. The upper-right corner is empty, as neither of the deprivation indicators presented here is expert-led. In both deprivation indicators—consensual deprivation and material deprivation—the necessities are based on public perceptions.

It has to be noted that the table simplifies the indicators. In fact, in many of the indicators, expertise is not as unidimensional as presented. For example, in the consensual deprivation indicator, the power of the public is somewhat constrained, as the items that people evaluate are drafted by experts. Conversely, many RBs make use of several different expertise sources in determining the items that belong in the baskets. Nonetheless, these approaches place greater emphasis on a certain source of expertise, which may justify the classification.

In the following chapters, these indicators are examined more thoroughly. Special interest is placed on how minimum acceptable living standard is conceived in each indicator.

3.3 Income-based poverty indicators

This chapter presents the three income-based poverty indicators, namely, the AROP indicator, RB indicators and the relative deprivation indicator. Even though each

indicator produces a monetary poverty threshold, the logic in deriving the poverty threshold is different for each. The AROP indicator and the RB indicator are both indirect indicators of poverty. It has been suggested that the RB indicator could be used to contextualise the AROP indicator (see, for example, Goedemé et al. 2019). First, the AROP indicator is presented. This section focuses on the advantages and shortcomings of the indicator. Thereafter, the expert-led and public-led RBs are scrutinised. This section ends with the description of the relative deprivation indicator.

3.3.1 AROP – poverty as low income

In recent decades, the AROP indicator has become the standard in European poverty measurements. In the AROP indicator, the poverty threshold is established at 60% of the national median equivalent of disposable income. As the AROP indicator uses household income to draw the poverty threshold, it measures households' living standards indirectly (Ringen 1988). This indicator assumes that below the threshold, households are unable to achieve the living standard that is customary in society (Callan and Nolan 1991). Therefore, median income is considered to reflect the customary living standard (Goedemé and Rottiers 2011).

Households of different sizes are made comparable using an equivalence scale. There are several different scales; however, the modified Organisation for Economic Co-Operation and Development's (OECD) scale is the most typical⁵. Even though the use of equivalence scales can be considered technical, different scales impact poverty rates considerably (see, for example, Buhmann et al. 1988; De Vos and Zaidi 1997).

The AROP indicator has irrefutable merits. First of all, it is simple: drawing the poverty line is straightforward and easy to understand. Secondly, the indicator is transparent, as the poverty line is set at the same level across all countries. Thirdly, harmonised and reliable income data are available across Europe. Additionally, the indicator provides a monetary threshold, which can be used to assess the resources needed for alleviating poverty.

Moreover, the indicator's shortcomings are well known. The fact it uses disposable income as a proxy for resources is problematic, as some crucial elements that impact households' livelihood remain overlooked. First, the focus on disposable income neglects that households can potentially make use of wealth or savings at their disposal or lend money. Additionally, inter-household transfers—such as transfers from parents to children—are not included in the income statistics. This

⁵ In the modified OECD-scale, a weight of 1 is assigned to the household head, 0.5 to household members aged 14 or over and 0.3 to children under the age of 14.

does not apply exclusively to the AROP indicator but also to other indicators that make use of households' income. Secondly, this indicator, in its typical form, does not consider home ownership. As housing costs are typically the largest single household expenditure, the tenure status has a significant impact on households' livelihood. Housing costs also vary across and within countries. Typically, in metropolitan areas and large cities, housing costs are high. This suggests that the poverty threshold should account for the different housing costs between rural and urban areas.

There are studies that have considered housing costs in the AROP indicator (see, for example, Ritakallio 2003; Fahey et al. 2004). In these studies, poverty rates are calculated after housing costs are deducted from the disposable income. The idea is intuitive and has merit, as it considers that housing costs vary across regions and that home ownership has an important impact on the standard of living. The incorporation of housing costs could also take into account the fact that home ownership varies across countries (Ritakallio 2003). Additionally, the consideration of housing costs could decrease the poverty rates of the elderly in countries with high home-ownership rates (Fahey et al. 2004). However, prior studies' findings are not straightforward. In a study conducted by Fahey et al. (2004), the poverty rates after housing costs were higher in almost all examined countries, compared with before housing costs. Additionally, the incorporation of housing costs produced mixed results regarding poverty among the elderly and home ownership's impact on poverty. In some countries—such as Finland—the elderly had lower poverty rates after housing costs. However, these results do not show unequivocally that home ownership reduces poverty.

Besides these issues, this method faces some methodological problems. First of all, prior studies have made use of the modified OECD-scale to make households comparable. The use of this scale is problematic, as it is likely to overestimate the economies of scale that occur from cohabiting. This suggests that specific equivalence scales should be used when considering housing costs. The use of the modified OECD-scale can actually inflate the after-housing-costs poverty rate.

Thirdly, the AROP indicator ignores households' different needs regarding services such as health care, education and childcare (see, for example, Kangas and Ritakallio 2008). There is considerable variation across countries regarding the public provision and/or subsidisation of these services. The services—often called as in-kind income—may have an important impact on households' living standard, depending on the country. The situation is clearly different if these services are provided for free or are heavily subsidised, compared with a scenario where they are bought at full market price. Taking into account these services could be especially important in cross-national poverty measurement. There are studies that have accounted for the impact of in-kind income on households' livelihood. In these

studies, the so-called extended income is calculated as a sum of the disposable household income and the imputed value of the services (see, for example, Smeeding et al. 1993; Callan and Keane 2009; Aaberge et al. 2017). Typically, the value of the services is calculated based on their production value and the actual use of these services, whilst making use of the same equivalence scales used for cash income. The fact that the use of these services is connected to life cycles can be problematic. In this respect households that are heavy users of these services—such as those including elderly individuals and children—will seem better off, as the price of these services is included as their income.

Even though the inclusion of the imputed value of services may increase the accuracy of describing the household resources, the operationalisation of the poverty threshold remains problematic. Several researchers (see, for example, Callan and Nolan 1991) have argued that the threshold cannot be logically derived from the definition of poverty. In other words, it cannot be logically and unequivocally concluded that those below the threshold cannot reach the minimum acceptable living standard. This means that the indicator is not linked with the concept of need, while it cannot be stated that those below the threshold are living in need (Sen 1983; Spicker 1993/2013). The problem lies in the fact that the AROP indicator focuses on low income and does not consider whether the income is sufficient for a minimum acceptable living standard (Callan et al. 1993).

In fact, setting the poverty line to any point of the income distribution has been considered equally arbitrary (Callan and Nolan 1991). Goedemé and Rottiers (2011) have argued that the AROP indicator could be understood to reflect the first part of Townsend's (1979) definition (exclusion from customary living conditions) but not the second part (the living standard, which is at least widely encouraged or approved by society). Thus, the assumption of linearity between the AROP threshold and the minimum acceptable living standard remains vague (Goedemé et al. 2019). The fact that the AROP threshold changes according to changes in the median income makes the indicator relativistic. Even though poverty is seen as relative to each society, there are no compelling reasons for the symbiotic relation between the threshold and median income.

Setting the poverty line at 60% of the median income has not always been the common practice. In fact, until the late 1990s, it was typical to set the poverty at 50% of the median income. It was not until the recommendation of the Eurostat Task Force (1998) that the 60% threshold came into widespread usage. The use of a different poverty threshold is not just a technical matter, as it strongly impacts the poverty rate. In 2021, the poverty rate for Finland using the 60% poverty line was 10.8%, but only 4.0% using the 50% line (Eurostat 2022). Thus, the use of a slightly higher poverty line would, effectively, more than double Finland's poverty rate. This relativistic connection with median income can lead to bizarre results. For example, the poverty

rate will remain unchanged if the increase in the income of those below the AROP threshold is shared by others in society. This is illogical, as the improved living standards of the poorest are not reflected as a lower poverty rate. Similarly, if the living standard decreases in society equally, the poverty rates remain unchanged, given that the relative situation stays the same (Ringen 1988; Callan and Nolan 1991).

The indicator's relation with the median income has produced irrational results during times of economic fluctuations (see Ritakallio 2001). This was evident in Finland during the recession in the early 1990s, when the unemployment rate grew from circa 3% in 1990 to circa 17% in 1993 (Tilastokeskus 2019). The high unemployment rate decreased the equivalised median income, which subsequently lowered the AROP threshold. Due to the lower threshold, the poverty rate decreased from 10.5% in 1990 to 7.6% in 1995. Simultaneously, the social consequences of the economic recession were substantial: for example, people receiving social assistance increased from circa 8% in 1991 to 11% in 1995 (Sotkanet 2023). This illustrates the peculiarity of the AROP indicator: even though people were facing hard times and the living standards deteriorated, the results regarding poverty looked positive.

The problems of the AROP indicator are also conspicuous in cross-national comparisons. As the threshold is set the same way across countries, the vast differences in living standards between countries are ignored. It has been observed that life on the AROP threshold in different countries does not equate to the same living standards (see, for example, Hick 2014; Goedemé et al. 2019). Goedemé et al. (2019) found that in Belgium and Hungary, the AROP rates were the same, whereas the purchasing power in Belgium was 2.5-times higher, compared with that in Hungary. This means that the households on the AROP threshold in Belgium can afford to buy 2.5 times more goods and services than their counterparts in Hungary. This was further illustrated by Goedemé et al. (2015b), who observed the costs of a food basket in relation to the AROP threshold in various countries. The differences in the price of the food basket, compared with the threshold, were vast: costs differed between circa 10% in Luxembourg to over 90% in Romania. This indicates that households on the AROP-threshold in Romania had to spend almost all of their income on food, whilst the poor in Luxembourg had resources left to fulfil other needs. These examples indicate that the AROP threshold is likely to be too low to afford the basic necessities in the poorer countries, while possibly being too high in richer countries.

Subsequently, this means that the AROP indicator may underestimate the number of people living in poverty in poor European countries (Guio 2005; Beblavy and Mizsei 2006; Juhasz 2006), whilst the poor in the richer European countries have more resources to buy the goods and services they need (Goedemé and Rottiers 2011; Goedemé et al. 2019). Fahey (2007) observed that since the differences in living standards of the European countries are so significant, the poor in some of the richer countries might be considered well-off in the less wealthy countries. The

abovementioned issues reflect that the AROP indicator may not have comparable results across countries and that the connection of poverty to the minimum acceptable living standard is overlooked in setting the poverty threshold. It should be remembered that applying the same procedures across countries does not mean that the results will be comparable.

There are studies that have moved away from national poverty thresholds and have questioned their use (see, for example, Fahey 2007; Kangas and Ritakallio 2007). The rationale behind this is that the focus on the national median income ignores the vast differences in living standards across nations. It could also be argued that people are comparing their lifestyles not only to their countrymen, but to a wider, European reference group. In essence, this would suggest that the minimum acceptable living standard is shared on a supranational level. This idea has some merit, but it assumes that the poverty threshold (whether national or supranational) reflects a minimum acceptable living standard. However, as it is shown above, there is no indication that this is the case, neither at the national or supranational level.

The abovementioned drawbacks have been noticed by Atkinson et al. (2002), who recommended that the prefix “at-risk-of” should be added. This was later adopted by Eurostat. The prefix expresses that one cannot unequivocally say that those below the poverty threshold live in poverty, but they are at an increased risk of being poor. The noted problems clearly demonstrate that the simplicity of the indicator comes at a price. The indicator fails to recognise the large differences between and within countries, reacts perversely to changes in the median income and ignores the added value of free services and housing costs that impact living standards. Therefore, it is questionable whether the indicator establishes a minimum acceptable living standard in Europe. This in turn weakens the indicator’s primary goal: identifying the people in poverty.

3.3.2 Reference budgets – a spectrum of approaches

RBs are considered to be the oldest indicator for assessing living standards, as RBs were first established in the 1700s (Deeming 2010). RBs aim to capture poverty by determining the items needed for a minimum acceptable living standard and assigning a price to them. Whilst the RBs could, in principle, be calculated to represent any living standard, typically, RBs are established to determine what is needed to have a minimum acceptable living standard. This makes them a meaningful indicator for poverty measurement. Thus, RBs have been applied to poverty measurement for over a century and have been said to be the obvious choice for deriving the minimum income needed (Atkinson et al. 2002).

RBs can be divided into expenditure-based and fully-specified RBs. Expenditure-based RBs do not fit the abovementioned definition of RBs, as they are

not comprised of concrete items. Instead, expenditure-based RBs are based on people's actual consumption, typically making use of information about household consumption. The most notable example of expenditure-based RBs is the US poverty threshold, which is based on Mollie Orshansky's (1965) calculations in the 1960s. Orshansky made use of food plans and set the poverty threshold by multiplying the cost of these food calculations by three. The underlying rationale was that families with children spend roughly one third of their income on food. Orshansky's method seems to be based on the assumption that objective information can be gathered about food needs but not about needs that are more social or conventional in nature (Goedemé 2015b). It is generally accepted that the method is outdated, as families in the 2000s spend far less in food than in the 1960s. This means that the poverty threshold in contemporary society does not represent the same living standards as it did in the 1960s. Orshansky's method was complemented in the 1990s by Citro and Michael (1995). Instead of examining food expenditure alone, Citro and Michael included the median expenditure for food, clothing and shelter.

However, expenditure-based measures are problematic in several aspects. For example, they face the risk of being circular and are not based on needs, as is typical in other RBs. The fact that Citro and Michael's approach takes into account median expenditure in three categories is an arbitrary choice, as other needs are not examined. The rest of this chapter will focus on fully-specified RBs, which consist of concrete items needed to achieve the targeted living standard.

RBs comprise different *baskets*—i.e. bundles of items such as food, housing and clothing—that are deemed necessary for the given living standard. RBs are an example of “methodological nationalism”, since they are used to define the items needed for a minimum acceptable living standard in a given nation-state (Fahey 2010). This means that RBs aim to consider what citizens need for social participation, whilst considering the institutional, cultural and social context (Goedemé et al. 2015a). Institutional context is taken into account by considering the impact that public institutions—such as education, health care and public transportation—have on citizen's livelihoods. This means that RBs consider the costs of accessing these services. Cultural and social context are considered by incorporating social expectations about the minimum acceptable living standard in a given society. Additionally, RBs take into account housing costs, which can be assessed based on tenure status and geographical locations.

RBs approach the minimum acceptable living standard from a needs-based perspective. Even though needs are considered, RBs are a relative indicator of living standards, as they consider what is needed for social participation in a certain context. The content of RBs is meant to change due to the changing requirements of the minimum acceptable living standards. RBs can be seen to include a normative and a behavioural component (Saunders and Bedford 2017). The normative component

refers to needs judgment, whereas the behavioural component comprises the consumption patterns, habits and norms prevalent in each society. The purpose of RBs is to connect these elements and find a balance among them. One illustration of normativeness is that RBs typically rely on the idea of capability (Sen 1985). This means that RBs do not focus on what people actually have or do (functionings) but on what people should be able to have or do (capabilities). Normativeness does not mean that RBs are prescriptive, instructing how people should consume or lead their lives. Instead, they offer an example of how the living standard could be achieved. RBs, in a sense, combine the needs-based approach with the resource-based approach (Erikson 1993). This means that RBs are based on needs; however, the total budget presents a monetary threshold. It is up to the people to decide how to spend their resources.

Constructing RBs is a time-consuming task. To underline this, Jonathan Bradshaw (1993) stated that drawing RBs is “nothing less than a ghastly chore”. The process involves determining hundreds of items, their quantities, prices and lifespans. The selection of items should be carried in a way that RBs present consistently similar living standards across family types. As the process is laborious and the aim is to maximise validity, RBs are constructed for a limited number of cases. These family types—often called hypothetical households—are the target population for which the RBs are created. The households typically differ to some extent; for example, there are adults and children of different ages. This is based on the fact households face different expenses in different phases of life; for example, families with children face expenses regarding day-care and education. This means that RBs consider poverty to be dependent on the phase of life, so that the resources needed for the minimum acceptable living standard vary between phases of life.⁶

For hypothetical households, some assumptions are made. For example, it is often assumed that the household members are in good health (see, for example, Lehtinen et al. 2010; Goedemé et al. 2015a). This assumption obviously does not hold true for the larger public. Secondly, there could be assumptions regarding the place wherein the hypothetical households are assumed to reside. This enables the calculation of housing costs for different urban and rural areas.

RBs aim explicitly to answer the questions “how much income is enough?” According to Dubnoff (1985), this question does not suffice, but should be complemented with the following questions: “enough to do what?”, “enough for whom?” and “enough according to whom?”. These questions can be considered as indicating the constituting elements of RBs (Goedemé et al. 2015b). “Enough to do what?” refers to the *target living standard*, i.e. the living standard that the RBs aim to illustrate. “Enough for whom?” refers to the *target population*, which means the

⁶ This is also (at least) partly reflected in the modified OECD-scale, in which consumption weights differ between children of different ages.

population that the RBs are applicable. “Enough according to whom?” focuses on the *source of expertise*, or information base, as indicated by Goedemé et al. (2015b). The information base is used to translate the living standard into concrete items in the RBs. Important actors in the process of constructing RBs are the evaluators, who make decisions about setting the living standards, which information base to use and the selection criteria. The selection criteria determine the information retained for the information base. These aspects distinguish the various RBs.

There is no unified methodology for constructing RBs. This means that RBs, in most cases, are not comparable across countries, as they may not present the same living standard across countries, are based on different methodologies and are not targeted for the same population. According to Deeming (2020), RBs can be divided into three approaches: expert-led, focus group-led and survey-led. Expert-led RBs are created based on scientific knowledge, guidelines and recommendations. Survey-led RBs are typically determined based either on the possession or necessity of certain items, based on survey information. For example, items could be included in the RB if 50% or more of the people surveyed possess the given item. For focus group-led RBs, the content is determined consensually by groups of citizens.

The three approaches also differ in their source of expertise: expert-led RBs rely mostly on expert knowledge, whereas survey-led and focus group-led RBs are based on public perception. It should be noted that purely expert or purely public RBs rarely exist, as almost all RBs make use of both sources of expertise (Deeming 2017). Nonetheless, the approaches are distinct, as they emphasise different information sources. The remainder of this chapter will focus on expert-led and focus group-led RBs, as they are the dominant methodologies (Storms et al. 2014).

Expert-led RBs

The choice between expert-led and focus group-led RBs is related to differences in how needs are best conceived and how minimum living standards should be captured (Deeming 2017). In the expert-led approach, needs are considered universal so that, regardless of the society, everyone has the same needs. In the expert-led approach, needs are often derived from theories that establish basic needs, as in Doyal and Gough’s (1991) theory of human need⁷. The universality of needs does not indicate that expert-led RBs are identical across countries: it is likely that the items needed

⁷ In the Doyal and Gough’s theory there are two fundamental needs, physical health and personal autonomy. Besides these fundamental needs, there are ten intermediate needs which are somewhat modified to be used for RBs: food, adequate housing, health care, personal care, clothing, maintaining social relations, rest and leisure, mobility, safety in childhood, and security.

to satisfy these needs differ across countries. These differences reflect dissimilarities among the norms, habits and institutional contexts associated with the needs, and also, to some extent, the general living standard of the country. In richer countries, the minimum acceptable living standard may include items that may be unnecessary in less wealthy countries. This chapter does not present an exhaustive list of expert-led RBs; instead, it focuses on the most influential ones.⁸ Early RBs were primarily based on expert assessment. In his pioneering work, Rowntree (1901) made use of expert knowledge in establishing the threshold for primary poverty. Rowntree's (1901, 86) definition of primary poverty was frugal, as it meant that households "whose total earnings are insufficient to obtain the minimum necessities for the maintenance of merely physical efficiency" (see more in Chapter 2.2.). Only items that were essential for physical efficiency were included. Expert knowledge was prevalent in the calculation of the food basket, which was determined by a nutritionist to ensure a sufficient calorie intake. Additionally, Rowntree made use of survey information and mixed this with his own personal judgments.

Rowntree's methods in establishing citizens' necessities have been considered problematic. First and foremost, Rowntree did not seem to have a solid foundation for his approach. In some parts of the RB, Rowntree had to partly rely on his own judgment when selecting the items (Townsend 1954). This meant that choices were arbitrary and proper criteria for need, different from Rowntree's own judgments, could not be established (Townsend 1962; 1979). The housing costs in RBs were determined based on actual rents, while the calculation of other costs was based on survey data from working-class people. This raises the problem of circularity, as the minimum costs were not based on needs. This meant that households' resources restricted the possibilities that households had to consume items. According to Veit-Wilson (2000), the housing conditions were not decent enough to maintain physical health. Even though Rowntree's approach may not reflect what poverty means in contemporary Western societies, the basic principle—determining the goods necessary to avoid poverty and pricing them—is present in contemporary RBs. In his second study, in 1941, Rowntree made use of a similar approach but made adjustments for the calculation of costs. In this 1941 study (according to Veit-Wilson [1986]), Rowntree augmented the diet and also included costs for meeting social needs, which were excluded from the original study. Here, a similar problem emerges: the judgments of Rowntree were arbitrary and based on his own criteria (Townsend 1954).

Townsend's critique towards Rowntree's approach was so influential that RBs were neglected in poverty research for decades. However, in the past few decades,

⁸ For a more extensive list on the expert-led RBs, see Storms et al. 2014.

expert-led RBs have been created across Europe (for a full listing, see Storms et al. 2014). This revitalisation is partly due to the work of Bradshaw (1993) in the UK. Expert-led RBs do not have a unified approach: they differ in many respects, targeting different living standards and populations.

One of the most notable expert-led approaches on RBs was taken in the ImPRovE project, funded by the 7th Framework Programme of the European Commission. This project's aim was to construct cross-comparable RBs for seven cities: Antwerp, Athens, Barcelona, Budapest, Helsinki, Luxembourg and Milan. Cross-comparability was pursued with a common theoretical and methodological framework. The approach made extensive use of guidelines, recommendations and expert knowledge (Goedemé et al. 2015a).

Cross-comparability in the ImPRovE RBs did not mean identical RBs across countries. Instead, differences between countries were accepted but limited to differences in institutional settings, climate and geographical conditions, culture and availability, quality and item prices. The approach aimed at harmonisation, so that the same procedures could be implemented worldwide. The lists of goods and services were adapted to local contexts, using different data sources, such as national surveys, guidelines and recommendations. This approach is not fully based on expert knowledge, as focus groups reviewed the lists of goods. One round of focus groups was held, including 16 people. The adjustments to the lists, suggested by the focus groups, were checked by the coordinating team to ensure cross-country comparability. Differences between countries were allowed if the focus groups provided reasoned evidence, even though comparability between countries was given precedence (Goedemé et al. 2015a).

Expert-led RBs have been criticised for being arbitrary in making decisions about the content of the budget (Hårvik Augstulen and Borgeraas 2018). This is partly related to the fact that they have been unable to identify the items that are needed to fulfil citizens' needs, since they lack information about what is customary and acceptable in a given society. To fill this void, expert-led approaches typically incorporate focus groups to discuss the pre-defined content of the baskets. This has been found to discourage discussions in the focus groups and skew the items in the RBs in favour of the original list.

Public-led RBs

In public-led RBs, needs and items are considered socially determined in a given context (Walker 1987). Public-led RBs are typically constructed in focus groups, who consensually determine the needs that should be fulfilled. Therefore, typical is that the process of constructing RBs does not start from a predefined list of needs and items, but these are determined during the process of constructing RBs. The RBs

are based on the assumption that citizens are the best experts in defining the minimum acceptable living standard. Relying on the information provided by the focus groups and accepting that needs are socially perceived resembles the logic of the consensual deprivation indicator (Mack and Lansley 1985). Even though the consensual deprivation indicator is based on survey information and public-led RBs with focus groups, they all share the idea that the minimum acceptable living standards are socially perceived and not something that can be defined by experts.

One of the most notable public-led RBs is the minimum income standard (MIS). The MIS approach was established in 2008 for the UK. Afterwards, the MIS approach has been applied in various countries (e.g. France: Gilles et al. 2014; Ireland: McEvoy et al. 2020; and Mexico: Valadez-Martinez et al. 2018). The purpose of the MIS approach is for participants to define what the minimum acceptable living standard entails and the items needed to reach it. However, the participants are informed by expert knowledge, especially in food and heating. Nevertheless, the focus groups make the final decisions regarding the content. Notably, this approach promotes consensus and participants are instructed to reach consensus on the content of the RBs. This approach is based on sequential focus groups, comprising different people. The first focus groups define the targeted living standard; afterwards, there is a sequence of different focus groups who check and make revisions to the RBs (Davis et al. 2015).

In Finland, an adapted version of the MIS approach is conducted by the Centre for Consumer Society Research (CCSR) (Lehtinen et al. 2010; Lehtinen and Aalto 2014). Similarly, the content is defined by the focus groups, but expert knowledge is used in some respects. The CCSR's approach differs from the MIS approach in two aspects. First, the participants do not define what the minimum acceptable living standard entails, starting instead from a predefined definition. Secondly, the organisation of the focus groups is different: the sequential focus groups in Finland comprised the same people.

The critique against the public-led approach relates mostly to the method used to construct the RBs, namely, the focus group method. As focus group discussions comprise a qualitative method, the results are not likely to be representative of a larger population (Deeming 2010). The method is highly sensitive to small factors, such as the composition and methodology of the focus groups. Additionally, public-led RBs that do not start from a predefined living standard are of little use in cross-national comparisons. The fact that in two countries MIS studies have adopted different definitions of the minimum acceptable living standard does not provide an international standard (Davis et al. 2014). Instead, it is argued that comparison could be possible relative to the minimum standards of a given country (Davis et al. 2014). Whilst intriguing, the idea is problematic, it is not comparable across countries.

The critique targeted at Rowntree's approach is still prevalent regarding RB studies. This line of critique sees expert knowledge as arbitrary and incapable of reflecting the minimum acceptable living standard in society. Conversely, the critique against public-led RBs is related to the lack of representative data. Whilst it is easier to reach a consensus within a smaller group of people, it is not reasonable to assume that this shared view could reflect the views of the wider public. As research on the consensus deprivation indicator in the next chapter illustrates, the views of the general public may not reflect consensus. It is not well known whether expert-led and public-led RBs produce similar results and what kind of impact the methodological choices have on the results.

Comparing the AROP indicator with the RB-based poverty indicator

It would be meaningful to compare the AROP indicator and RB-based poverty indicator, as both produce a monetary poverty threshold. Research focusing on the poverty figures between the AROP indicator and RB poverty indicator is scarce in Europe. A study (Penne et al. 2016) comparing Belgium, Finland and Spain indicates that the AROP indicator and the RB poverty indicator differ across countries. The analysis concentrated on densely populated areas revealed that poverty in Finland and Belgium measured with the RB indicator was somewhat lower, compared with that measured with the AROP indicator. For Spain, the results were the opposite: poverty rate measured with the RB indicator was higher than that measured with the RB indicator. This finding is partly explained by the broad welfare state in Finland. As many services—such as health care, education and childcare—are provided for free or are heavily subsidised, the resources needed to reach the minimum acceptable living standard in Finland is relatively lower.

Further, risk groups also seem to differ when using different indicators. In Finland, the poverty rate for the elderly was considerably lower than that obtained with the AROP indicator. Similar results were found in studies (Moisio et al. 2016; Munkkila et al. 2019) building on the work of sub-study III in the present dissertation. The reason for the differences in poverty rates are mostly explained by how the indicators are constructed: the AROP threshold is based on the distribution of incomes in society, whereas the RB indicator aims to define the items needed for the minimum acceptable living standard.

3.3.3 Relative deprivation – deprivation and income in focus

The third income-based indicator follows a very different logic for how the poverty threshold should be derived. The understanding of poverty as deprivation was pioneered by Peter Townsend (1979). Even though Townsend used the term

“deprivation”, it can be understood as a synonym for poverty. For Townsend, deprivation happened due to lack of material items, rather than resources alone. Townsend himself called the approach objective, as he conceived that poverty could be analysed value-free, without relying on either researchers’ or people’s values. Townsend (1979, 46) made a distinction between actual needs and perceived needs—and, hence, between actual and perceived poverty. From this viewpoint, poverty could be observed scientifically by a researcher, thus distinguishing it from the normative views of society and the subjective views of the individual (Yamamori 2017). In fact, Townsend refused the idea that poverty measurement could be based on social perception (Townsend 1985, 44), as the public’s perception of poverty may not be the same as actual poverty or deprivation. In this perspective, what matters is the objectively observable living situation, rather than people’s subjective perception of their situation. These features make the approach an archetype of expert-led poverty measurement, in which the decisions regarding poverty are made in a top-down framework, using scientific measures to observe the living standards.

Townsend’s relative deprivation approach on poverty was inspired by the work of Runciman (1966). Runciman perceived relative deprivation as a subjective phenomenon in which people compared themselves to a reference group. However, Townsend adopted a different perspective on relative deprivation (Veit-Wilson 1987). For Townsend, relative deprivation was an objective phenomenon, not a feeling. People were not considered deprived based on their subjective perception, but because their observable living standard was lower, compared with others.

Deriving the poverty threshold was a multiphase process. First, Townsend drew a list of consumer items and gathered information about the possession of these items via a survey. The list included 60 items which presented styles of living, from different spheres of life⁹. The items were considered to present the prevailing standard that is shared and approved in the society (Piachaud 1987; see also Hick 2012). The lack of these items would entail deprivation and therefore exclusion of the customary living standard. Focusing on the lack of items makes Townsend’s approach behavioural, as the interest was in people’s consumption patterns and the prevailing living standards. However, the list of 60 items was not used in further analyses. Instead, based on the answers, Townsend drew a shorter summary index of 12 items, which was meant to apply for the whole population.¹⁰ The index was not used as poverty line but an income poverty threshold was derived on a point which the deprivation index scores rapidly increased. Thus, poverty was understood as a lack of resources to attain these items. In many ways, the relative deprivation

⁹ The list included items for example on diet, clothing, fuel, household items, housing, recreation, education and social relations.

¹⁰ The list included items for diet, social relations, recreation and household items.

indicator resembles other deprivation indicators, but the difference relates to the use of income. Even though generally the deprivation indicators are considered direct indicators of poverty, these factors make the approach as indirect as income was used to derive the poverty threshold.

Townsend's approach has been in many ways influential; however, it has also spurred a great deal of criticism. Townsend conceived deprivation to be a simple lack of items, without any reference to whether the lack was due to low income, choice or preference (see, for example, Piachaud 1981 [in Mack and Lansley 1985]). Veit-Wilson (1987) assessed that Townsend's approach reflected differences in tastes and was not related to need. Secondly, Townsend's claim of an "objective" poverty measurement has been criticised. Several researchers have pointed out that defining poverty thresholds or poverty measurement in general is a highly subjective task (see, for example, Piachaud 1981 [in Mack and Lansley 1985]; Blank 2008). Thirdly, there was criticism against the inclusion of items in the deprivation index. This was seen as highly problematic, as Townsend did not provide any clear criteria on the construction for the 12-item index (see, for example, Mack and Lansley 1985).

3.4 Deprivation approaches – poverty as a lack of necessities

Material deprivation approaches examine the lack of certain consumption items by using an index of deprivation. Deprivation indicators can be classified into two broad categories: those that measure relative deprivation and those that measure consensual deprivation. These approaches have many similarities, but they differ in how a) the items are selected for the examination and b) how they address a lack of items. Deprivation can be seen as an outcome of low resources (Mack and Lansley 1985; Callan et al. 1993; Halleröd 1995). Therefore, the focus is on determining a living standard that indicates poverty, which occurs from the scarcity of resources. Deprivation indicators are being increasingly used, as they bridge some of the gaps in the AROP indicator. For example, deprivation indicators focus on the living standards via outputs, rather than inputs, as the AROP indicator, thus avoiding some of the pitfalls of income-based poverty indicators.

3.4.1 Consensual deprivation - socially defined necessities

The consensual deprivation approach to poverty stems from the critique towards Townsend's approach. In many ways, the consensual approach introduced by Mack and Lansley (1985) is a refinement and a continuation of Townsend's work (Halleröd 1994). Mack and Lansley (1985, 9) define poverty as "an enforced lack of socially

perceived necessities". This means that items become necessities when they are consensually perceived as necessary by the public. The difference between Mack and Lansley's and Townsend's approaches lies in their source of expertise: for Townsend it is the expert who defines the items, for Mack and Lansley it was the populace. The underlying assumption of the approach is that the public knows best what the social necessities are (Veit-Wilson 1987) and hence can define the minimum acceptable living standard.

Mack and Lansley's approach on consensual deprivation consisted of two phases. In the first part, people were presented a list of items and asked which they considered necessary for everyone. The items that the majority (50% or more) of people considered necessary were regarded as socially perceived necessities. In the second phase, people were presented the same list and asked which items they had. The respondents who could not afford three or more necessities were classified as poor. In this sense, Mack and Lansley controlled for choice and preferences regarding the items, which was not considered in Townsend's approach. This means that in the consensual deprivation indicator, deprivation is based on the subjective consideration of each respondent. In a sense, the consensual deprivation approach integrates Sen's ideas that the focus should be on capabilities and not functionings (see, for example, Hick 2016). Further, the fact that people's preferences are considered, makes it consistent with Sen's suggestions.

It is suggested that consensual deprivation has advantages in relation to other poverty indicators. It is argued that as the items are socially perceived, the approach would be less arbitrary in defining the minimum acceptable living standard, compared with the AROP indicator (Hick 2015). Compared with the relative deprivation approach, the consensual approach has been found to more comprehensively reflect poverty as a social phenomenon (see, for example, Halleröd et al. 1997). Unlike Townsend, who, in principle, examined deprivation indirectly (establishing the poverty line based on income), Mack and Lansley examined poverty directly by analysing the living standards of the public, rather than relying on income to derive the poverty threshold.

The consensual approach is not devoid of expert knowledge, as researchers draw the list of items that citizens evaluate. Moreover, researchers define the thresholds for necessities (50%) and the number of items that households must lack to be considered poor. Therefore, the public's influence on the measurement is limited.

The approach of Mack and Lansley has been adopted in various country-specific studies (see, for example, Halleröd 1995 in Sweden; Kangas and Ritakallio 1998 in Finland; Van den Bosch 1998 in Belgium; Saunders 2004 in Australia). Additionally, the material deprivation indicator that the EU uses, originates from Mack and Lansley's approach. The material deprivation indicator uses the same indicators across the EU, whereas Mack and Lansley examined deprivation in the British

context. In this sense, consensual deprivation in its typical form is an example of methodological nationalism (Fahey 2010).

The validity of the consensual deprivation indicator is based on the condition that no great variation in the perception of necessity exists between different groups of people (see, for example, Gordon and Pantazis 1997; Pantazis et al. 2006; Kelly et al. 2012). The fulfilment of this condition has been analysed in several studies. It is generally admitted that when different groups are compared, the differences are generally small (see, for example, Gordon and Pantazis 1997; Pantazis et al. 2006; Wright 2011; Kelly et al. 2012). Simultaneously, there is variation in the consideration of necessities, especially between different age groups (Van den Bosch 1998; Saunders et al. 2007; Kelly et al. 2012; Mack et al. 2013). However, group-level analyses might hide the differences between individuals. When analysing agreement at the individual level, a British study found only moderate agreement regarding the necessities (McKay 2004). This paradox is accurately described by Fahmy et al. (2015), who suggest that the lack of differences between groups does not indicate a widespread agreement on what the necessities are.

There is a line of critique according to which the consensus in consensual deprivation is interpreted loosely. It has been argued that there are no logical reasons for setting the threshold to 50%, and that the approach is more majoritarian than consensual (Veit-Wilson 1987; Van den Bosch 1998). According to Veit-Wilson (1987), this critique might be a purist view on consensus, as consensus strictly means that “there are no objectors”. Conversely, claiming consensus to exist in a situation in which 51% of a group considered item X necessary and 49% consider it non-necessary hardly reflects consensus. This not so far-fetched example illustrates that the binary classification of necessities and non-necessities exceptionally simplifies reality. The decision where to set the threshold has implications for the deprivation index and, subsequently, for the poverty rate.¹¹

Deprivation is typically examined using a deprivation index. The deprivation index is a sum of items that a household cannot afford. If a household is deprived of an item, it will receive a score of 1; if not, it will receive the score of 0. This binary classification of items suggests that all items are considered equally important. However, already in the original study there were some items more necessary than others. Mack and Lansley’s (1985) results indicated that there were items that almost everyone considered necessary, such as heating (97%) and an indoor toilet (96%). Simultaneously, equal weights—and, hence, equal importance—were attributed to items for which there was more disagreement, such as a television (51% considered it necessary) and going on holiday (63%). There are solid arguments for establishing heating or an indoor toilet as

¹¹ However, according to Mack and Lansley (1985), the results would not drastically change if a higher threshold was used.

more necessary than going on holiday. However, in the Townsendian (see, for example, Townsend 1954) perspective, it could be argued that this kind of ranking is not meaningful. The argument is that social needs can actually outrank physical needs. Banerjee and Duflo (2011) provide some evidence for this: in some cases, people prefer buying items such as TVs over meeting their physical needs. Thus, there are compelling arguments for establishing some items as more important than others.

The central problems of the consensual deprivation indicator—the majoritarian approach and importance of the items—could be avoided by weighting the items. There are good arguments for using weighed approaches for analysing deprivation. First, assigning weights attaches greater importance to items that are considered more necessary or more prevalent in society. Secondly, weighting enables a more precise analysis of deprivation, compared with relying on a simple binary deprivation score of 0 and 1. In previous studies, weights have been assigned to items in order to reflect either their prevalence (Tsakloglou and Papadopoulos 2002; Guio 2009) or necessity (Halleröd 1995; Guio 2009) in the society. Additionally, weighting could be extended to population groups to reflect the prevalence and necessity of items in these groups. For example, it is known that there are differences in consumption patterns (Purhonen et al. 2011; Ahonen and Vaitinen 2015) and views on the necessities between age groups (Pantazis et al. 2006; Saunders et al. 2007; Mack et al. 2013). If a person is lacking an item that is highly prevalent or widely considered necessary in their own age group, its lack could be seen as reflective of more severe deprivation. Conversely, if the item does not correspond to the consumption patterns or the perception of necessity in a given age group, its lack could be perceived as less severe. Previous research has indicated that the impact of weighting on material deprivation could be higher in less wealthy countries and vice versa (Guio 2009). However, these studies have used equal weights for all the respondents and have not considered that weights may differ among different population groups. The abovementioned reasons provide reasonable justifications to weight items in age groups.

Van den Bosch (1998) argues that in order to talk about consensus, agreement on the necessities is not enough, but participants' views on the items should not be shaped solely by their personal preferences. Essentially, this means that people's perception of necessity of an item for others should not be impacted by whether the respondent possess the item or perceives it as important for themselves. For talking about consensus to be meaningful, people should be able to differentiate their own wants and needs from the needs of the general public, i.e. use publicly-oriented reference groups instead of privately-oriented reference groups. It has been noted that people's views are at least partly explained by whether the respondent possesses the item or not (Van den Bosch 1998). Besides possession of the item, the subjective need that the person has for the item could impact their perception of necessity. Personal need for the item could be a more direct indication of private evaluation than mere possession.

The survey approach for establishing the necessities has also been questioned (see, for example, Walker 1987). According to Walker, the respondents face a difficult task in trying to respond to questions that they may not have thought of beforehand and that might be difficult. As the purpose is to define socially perceived necessities, people should be given the possibility to interact with other people to discuss and hear their opinion. Based on qualitative data, Fahmy et al. (2015) found that the perception of necessity is not only reduced to different opinions but also to cognitive differences, different interpretations of needs and the lack of contextual information. Keeping this in mind, the lack of agreement found in determining necessities of life could be enhanced by using focus-group or deliberative-polling information (Gough 2020).

When using deprivation indicators to analyse poverty, the connection to social policy is not straightforward. Deprivation indicators do not present a monetary threshold. Therefore, these indicators do not refer to the resources that households need to avoid poverty or whether different policies have been able to reduce poverty. This makes it difficult to use the material deprivation indicator for assessing the adequacy of social security (Gabos and Goedemé 2016).

3.4.2 Material deprivation – supranational necessities

The material deprivation indicator is, in many ways, the continuation of Mack and Lansley's consensual deprivation indicator. Like the consensual deprivation indicator, the material deprivation indicator is based on public perceptions of necessities and treats deprivation as an "enforced lack" (Guio 2009). Since 2010, the indicator has been included as a sub-indicator in the AROPE-indicator, meant for monitoring the poverty targets of the EU for the year 2020. The inclusion of the material deprivation indicator has been considered to complement the AROP indicator in reflecting countries' different living standards across the EU (Fusco et al. 2010). In the AROPE-indicator, material deprivation was understood in terms of "severe material deprivation", indicating that the household would lack four items from a total of nine. Originally, the indicator comprised nine items (Eurostat 2017); however, since 2021, it comprises thirteen items.¹² The new indicator is used as a sub-indicator for monitoring the poverty targets for 2030.

¹² The items include the following: face unexpected expenses; one-week annual holiday away from home; avoid arrears; afford a meal with meat, chicken or fish or vegetarian equivalent every second day; keep their home adequately warm; a car for personal use; replace worn-out furniture; replace worn-out clothes with new ones; have two pairs of shoes; spend a small amount of money each week on him/herself; have regular leisure activities; get together with friends/family for a drink/meal at least once a month; have an internet connection.

Material deprivation has somewhat standardised the measurement of deprivation in Europe, as the same deprivation index is used across countries. Essentially, this means that the indicator assumes that the minimum acceptable living standard comprises the same items across countries. This suggests that the minimum acceptable living standard is not seen as national but supranational. The material deprivation indicator's advantage is that it allows comparisons to be made across countries. However, it faces some challenges; partly, these challenges are similar to those of the consensual deprivation indicator, whereas others are indicator-specific. The shared issues relate to the binary classification of necessities/non-necessities. This is illustrated by the fact that the importance of items differs. For example, a holiday is considered necessary by 49% of Europeans, while 97% consider heating to be necessary. Despite significant differences in their necessity, this indicates that going on holiday is considered as important as keeping one's home warm.

The indicator-specific issues relate to the number of items in the index and cross-national differences in the perception of necessity. Firstly, it is suggested that the number of items in the index is limited. As the indicator originally included only nine items, it is evident that the indicator cannot present the minimum acceptable life in a comprehensive way (Guio and Marlier 2012). This was somewhat corrected in the updated material and social deprivation indicator, which includes a higher number of items. Secondly, the assumption that the minimum acceptable living standard is of supranational nature is problematic. Specifically, this relates to the fact that items in the index are treated as equally important across countries (see, for example, Hick 2014; Gabos and Goedemé 2016), even though there are differences in the perceptions of necessity. For example, 80% of Greeks considered a holiday away from home necessary, while only 26% of Germans perceived so (Dickes et al. 2008). It has been suggested that these differences in holidays could reflect cultural differences in attitudes towards items (Kis et al. 2015). The abovementioned examples of the necessity of the items suggest that the material deprivation indicator is problematic in establishing a shared view of the minimum acceptable living standard.

AROP and material deprivation – different phenomena?

It is widely known that different poverty indicators produce different results regarding the prevalence of poverty and the risk groups of poverty. As different indicators identify different people as living in poverty, different policy responses are needed, depending on what measure is used (Bradshaw and Finch 2003). It has been suggested that in order to acquire a comprehensive picture of poverty, several complementary indicators should be used simultaneously (see, for example, Kangas and Ritakallio 1998; Bradshaw and Finch 2003). The AROP and material

deprivation indicators are often compared because they approach poverty from different perspectives.

In Figure 1, poverty rates measured with the AROP and material and social deprivation indicators in EU countries are presented. The Figure illustrates that there is a positive correlation between the poverty rates of the two indicators ($r = 0,48$). Essentially, this means that in countries with high AROP rates material deprivation also tends to be high. The lowest poverty rates were found in Nordic countries, whereas the highest poverty rates were found in Eastern and South European countries.

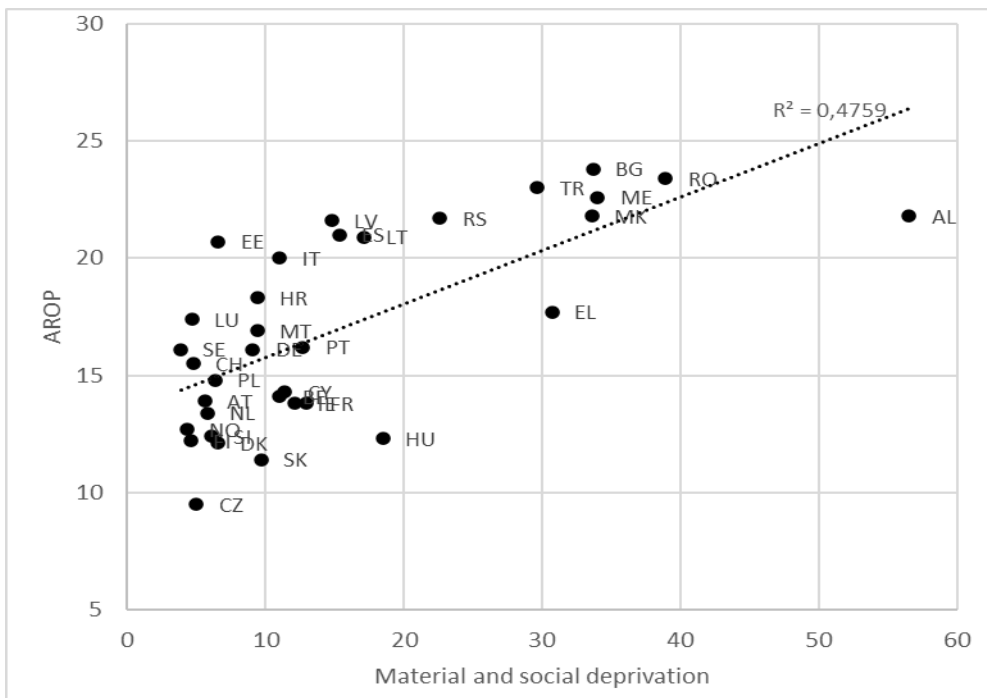


Figure 1. AROP and material and social deprivation rates in EU countries in 2020, (%).

When the focus is moved from the country to the household level, the overlap is different. Several studies have found that the overlap of the AROP and deprivation indicators is rather weak (see, for example, Kangas and Ritakallio 1998; Bradshaw and Finch 2003; Berthoud and Bryan 2011; Hick 2015). Previous studies indicate that not all individuals below the AROP threshold are deprived (see, for example, Nolan and Whelan 2010; Hick 2015), while not all deprived individuals are below the AROP threshold (Nolan and Whelan 2010). This is illustrated by the fact that only 6.6% of individuals below the AROP threshold lived in material deprivation in

Finland in the year 2020. For those living in material deprivation, the overlap was stronger: 45.3% are also poor, according to the AROP indicator (Eurostat 2022)¹³. This means that the same people are not identified as poor when different methods are used.

Table 2 presents the AROP and material and social deprivation rates for different population groups in Finland in the year 2020. The results show that the material and social deprivation rates were consistently lower than the AROP rates. According to the AROP indicator, 12.2% of Finns are classified as poor, whereas only 4.6% are considered poor with the deprivation indicator. Despite this, there are groups that are at a high risk of being poor according to both indicators: these groups include single people, single parents and unemployed individuals. Conversely, there are groups at high risk in the AROP indicator but at low risk of being deprived. Households in which the household head is over 65 years old have an above average risk for being poor, according to the AROP indicator, but a low risk of being deprived.

Table 2. AROP and material and social deprivation rates (%) in Finland in 2020.

	AROP	Material and social deprivation
Age group		
<i>Under 18</i>	11.6	3.7
<i>18-64</i>	11.8	5.5
<i>65 or over</i>	13.9	3.2
Household type		
<i>Single</i>	27.3	8.9
<i>Couple</i>	5.5	2.9
<i>Single parent</i>	22.4	14.2
<i>Two or three adults with dependent children</i>	7.9	2.3
Employment		
<i>Employed</i>	3.1	2.1
<i>Unemployed</i>	44.2	23.7
<i>Retired</i>	14.0	3.3
Total	12.2	4.6

Source: Eurostat 2022

¹³ Due to data constraints, this is calculated with the old material deprivation indicator instead of the new material and social deprivation indicator.

There are different explanations for this discrepancy between the indicators. First, the AROP and material deprivation indicators do not measure the same thing (Berthoud and Bryan 2011): the AROP indicator examines poverty indirectly via resources, whereas the material deprivation indicator focuses directly on living standards. Second, and related to the first point, it could be that the differences are explained by measurement issues, as disposable income is not a good indicator of resources or deprivation items are not comprehensive enough to depict the customary living standards (see, for example, Hick 2014). Third, it is plausible that people have different needs regarding health care, education and mobility, which can impact the livelihoods (see, for example, Fusco, et al. 2010) and are not evident when the AROP indicator is used. Fourth, it is possible that people have different strategies for making ends meet and some households are more resourceful in this than others. Fifth, experiencing low income for shorter periods may not necessarily lead to deprivation, compared with longer spells of low income. Nonetheless, Berthoud and Bryan (2011) suggest that low income may actually cause deprivation, but this connection is not strong.

Various studies suggest that either low income or deprivation alone are not sufficient conditions for poverty, which should be considered when both conditions are met (see, for example, Ringen 1987; 1988; Callan et al. 1993). This dual criterion suggests that poverty measurements should incorporate both low income and low standard of living (Ringen 1987; 1988). This dual criterion has been suggested to reflect the poverty definition of Townsend in a comprehensive way (Callan et al. 1993). Additional argument in favour of the consistent poverty indicator is that the deprivation and AROP indicators identify different people as poor. In this sense, a consistent poverty indicator could better reflect the multidimensional nature of poverty. However, there are several measurement issues in both indicators, as this study has illustrated. This would mean that combining two imperfect indicators would hardly produce the optimal result.

4 Research design

This section presents the research design of this dissertation. First, the aim of the study is presented. Next, the data and methods used in the study are presented.

4.1 Aim of the study

The overarching question of this study is: what is needed at the acceptable minimum? This study answers this by analysing the operationalisation and measurement of poverty using consensual deprivation indicator and RBs, from the perspective of the minimum acceptable living standard. First, this is achieved by examining whether the consensual deprivation and RB indicators can be used to present a unified view of the minimum acceptable living standard. Second, building on this, the present study analysed poverty using the RB indicator and a weighted consensual deprivation indicator. The results of the RB indicator were contrasted with those of the AROP indicator, while those of the weighted consensual deprivation indicator were compared with those of the typical, unweighted consensual deprivation indicator. The sub-studies in this dissertation are presented in thematical, rather than chronological, order. Essentially, this means that the sub-studies first examine the indicators; next, building on this work, the dissertation presents alternative poverty indicators.

Consensual deprivation indicators are being increasingly used to measure poverty. These indicators approach the minimum acceptable living standard by letting the people consensually decide which items are needed to achieve it. Thus, a crucial question is whether there is consensus regarding the necessities of life? According to Van den Bosch (1998), this should be scrutinised by looking at two criteria: 1) “Do people have a publicly-oriented view of the necessities of life?” and 2) “Do people agree on the necessities of life?”. This perspective of consensus is also adopted in this dissertation. Typically, agreement is analysed at the group level; however, in this study, agreement is analysed inter-personally. This alternative view can provide additional information about agreement, which may be overlooked in the group-level analysis. This is examined in sub-study I.

RBs have been found to have the potential to be useful social indicators for measuring poverty or assessing the adequacy of social security. Simultaneously,

little is known about whether RBs that target the same living standard but make use of different methodologies produce similar results. Comparisons have not yet been possible, as RBs do not present the same living standard and are not constructed for the same households or periods. In studying RBs, it is important to examine whether different methods produce similar results, as well as the impact that different methodological choices have on the results and poverty measurement at large. The study analyses two RBs created for Finland. The Finnish case offers a unique possibility since the RBs provide a meaningful comparison, as 1) they target the same living standard, 2) have the same target population and 3) are constructed for the same period. However, the RBs are constructed using different methods: one is an expert-led RB, whereas the other one is a public-led RB. This is analysed in sub-study II. Sub-studies I and II answer the following research questions:

1. Does the consensual deprivation indicator establish a consensus about the minimum acceptable living standard?
2. Do different RBs produce similar estimates of the minimum acceptable living standard?

The second aim of the main study is to analyse poverty via alternative indicators. As this dissertation has illustrated so far, the AROP indicator does not effectively establish a minimum acceptable living standard across Europe. In many ways, the RB indicator could be seen as an alternative for the AROP indicator. Whereas the AROP indicator cannot logically derive a minimum acceptable living standard, RBs empirically aim to do exactly that. The RB indicator does not mechanically react as the median income changes, like the AROP indicator does; the RB threshold evolves with changes in the institutional, social and cultural contexts. The fact that RBs take into account housing costs makes it easier to examine the resources needed for the minimum acceptable living standard for different tenure statuses and for different geographical locations. Lastly, the fact that costs related to access in services, such as education and health care are included in the RBs, has considerable advantages for cross-national comparisons, compared with the AROP indicator. These differences in indicators provide good reasons to contextualise the AROP indicator with RBs. RBs, as a poverty indicator, are examined in sub-study III

The consensual deprivation indicator in its typical form has several problematic features. The choice of the threshold (50%) is arbitrary and there are differences in the perception of necessities, especially across age groups. Additionally, the items in the deprivation index have varying degrees of importance. These problems provide sound reasons for weighting the items. Sub-study IV analyses material deprivation using different weighting schemes; it examines how prevalence and necessity weights in the whole population and in specific population groups change the picture of material deprivation. Taken together, sub-studies III and IV offer

valuable new information on poverty, compared with the existing poverty indicators. Sub-studies III and IV answer the following questions:

3. How does the picture of poverty change when the RB indicator is used, compared with the AROP indicator?
4. Does the use of the weighted consensual deprivation indicator change the results, compared with the unweighted indicator?

The four research questions presented in this section examine the minimum acceptable living standard from different perspectives. Together, the four sub-studies provide answers to the overarching question of the study: what is needed at the acceptable minimum? Table 3 summarises the research questions, data and methods of the sub-studies.

Table 3. The research questions, data and methods used in the sub-studies.

Sub-study	Research question(s)	Data	Methods
Sub-study I: Mäkinen (2018)	1) Is there a consensus on the necessities of life in Finland? 1a. Do people have a public-oriented view of the necessities of life? 1b. Do people agree on the necessities of life?	KONSE survey 2015	Multifactor variance of analysis (ANOVA), Cohen's Kappa, cross-tabulation and binary logistic regression analysis.
Sub-study II: Mäkinen (2021)	1) Do two Finnish RBs produce similar estimates of acceptable living standards 2) Does differences in the RBs' research design or implementation produce any differences in the RBs' estimates	Reports of the RBs	Percentual differences between the RBs, percentual differences between the RBs and the social assistance level and AROP threshold. Content analysis was used for analysing the mechanisms between the RBs.
Sub-study III: Mäkinen (2017)	How does the picture of poverty change when poverty is analysed with the RB poverty indicator, compared to the AROP indicator	Income Distribution statistics 2013	Poverty rates with the RB-poverty indicator and the AROP-indicator. Poverty gaps for both indicators.
Sub-study IV: Ilmakunnas and Mäkinen (2020)	How weighting the deprivation items based on considerations of necessities and possession of deprivation items among all respondents and within population subgroups affect group-level differences in material deprivation in Finland?	KONSE survey 2015	Descriptive statistics, deprivation index, Wilcoxon's matched-pairs signed rank tests

4.2 Data

Konse Survey

Sub-studies I and IV make use of the KONSE survey, which was conducted by the Department of Social Research, at the University of Turku. The KONSE survey (Hyvinvointierot väestöryhmien välillä ja hyvinvointiongelmien paikantuminen) has been conducted six times, in 1995, 2000, 2005, 2010, 2015 and 2020. The survey's primary focus is to examine the livelihoods of the Finnish adult population, with a special focus on issues related to poverty. This dissertation makes use of the KONSE 2015 survey, which included 2,000 respondents between the ages of 19 and 70. The data were based on a random sample of 5,000 Finnish individuals by the Population Register Centre. The survey includes typical socio-demographic variables such as gender, age, place of residence, education, household income, family composition and employment status of the respondent and of other household members.

The KONSE survey provides unique data to examine deprivation, as it includes a segment in which people are asked about the necessity of certain consumption items and the possession of these items. The segment includes 23 items gathering data on whether a given item was 1) "necessary", 2) "not necessary but desirable", or 3) "unnecessary for a Finnish adult in contemporary Finland". In both sub-studies (I and IV), the items were recoded into dummy-variables where response 1) was valued as 1 and responses 2) and 3) as 0. Possession of these items was assessed via four options: 1) "You have it and cannot do without it"; (2) "You have it but could do without it"; (3) "You do not have it and do not need it"; (4) "You would like to have it but cannot afford it". In sub-study I, these options were coded into dummy-variables to reflect respondents' want for the item. This meant that options 1 and 4 were given a value of "1", whereas options 2 and 3 were given a value of "0". In sub-study IV, the possession of the items was coded in an alternative way to dummy-variables. Options 1 and 2 were given a value of "1", whereas options 3 and 4 were given a value of "0". In sub-study IV, the deprivation rates were also calculated based on the possession of the item. These variables received a value of "1" if the respondent would have liked to have the item but could not afford it (option 4). Otherwise, the variable had a value of "0".

In sub-study I, only the respondents who answered all the questions in the segment ($n = 1,858$) were included. In sub-study IV, data from 1,739 respondents, between the ages of 19 and 70, were used in the analysis. In sub-study I, the perception of necessity was analysed in four age groups: 19–35, 36–52, 53–64 and 65–70 years. In sub-study IV, a different categorisation was used. Respondent's age was categorised into four groups: 18–35, 36–49, 50–59 and 60–70 years.

RBs

Sub-study II analysed whether two different RBs constructed for Finland produced similar results, as well as the mechanisms causing the differences. Sub-study II made use of the reports based on the CCSR and ImPRovE RBs (for CCSR, see Lehtinen et al. 2010 and Lehtinen and Aalto 2014; for ImPRovE, see Goedemé et al. 2015a). These reports provide information about the amounts of the total RBs and also different commodity baskets. Additionally, the reports describe how the different RBs were constructed, such as the information base(s) that were used to create the RBs, selection criteria for retaining information from the information base, how pricing of items was conducted and who were the evaluators that made the decisions regarding the abovementioned factors. The author of this dissertation was a part of the research team in the ImPRovE project¹⁴. This allowed access to more detailed data about the items in the RBs, such as the prices of the items. The CCSR RBs were also used in sub-study III to create the RB-based poverty indicator.

Income Distribution Statistics

Sub-study III used the 2013 Income Distribution Statistics to analyse the RB-based poverty indicator and the AROP indicator. The Income Distribution Statistics is a survey conducted by Statistics Finland. The survey includes 11,000 households and its data are identical to that of the EU statistics on income and living conditions (EU-SILC). It includes information about the distribution of private households' income. The data include households' background information, such as household size, age of the household members, as well as gender and housing data (Official Statistics of Finland 2022).

4.3 Methods

Sub-study I

In sub-study I, consensus was analysed using various quantitative methods. Differences between the population groups regarding the number of necessities was analysed with a multifactor analysis of variance (ANOVA). In a multifactor ANOVA, a continuous dependent variable is required whilst the independent

¹⁴ As the author was part of the ImPRovE research team, special attention was paid to the objectivity of the analysis. To assure this, a theoretical framework was used to analyse the differences between the RBs. The results of the sub-study are based on observable data and not the opinion of the author.

variables are categorical. The multifactor ANOVA is an appropriate method, as the analysis focused on the average number of necessities in the population groups. The independent variables—age, gender, poverty experience and place of residence—were categorical and thus appropriate for the analysis.

For analysing consensus on the necessities, Cohen’s Kappa analysis (a method for analysing inter-personal agreement) was used. Cohen’s Kappa was preferred over the percent agreement method, which simply examines the share of items on which two respondents agree. Percent agreement does not consider that agreement may happen by chance. Cohen’s Kappa takes this into account by examining “expected agreement” and “proportional agreement”. The analysis examined all the individual answers for the 23 items in the survey in pairs. Thus, over 1,700,000 pairs were analysed via the Kappa test.

The impact of personal preferences was analysed using cross-tabulation and binary logistic regression analysis. Binary logistic regression was used, as the dependent variable was binary (whether a given item was necessary or unnecessary). The analysis was conducted in two phases to determine how the inclusion of personal want for the item changed the results. The marginal effects were reported to examine how much higher the probability of those wanting the item and defining it as necessary was compared to that of those who stated that they did not need the item. The values of -2 log likelihood were used to examine the model fit.

Sub-study II

In sub-study II, the monetary amounts of the RBs were compared. The differences between RBs were analysed as percentual differences. The comparison with the RBs to the social assistance level and AROP threshold were also illustrated as percentual differences. To analyse the mechanisms that produced differences between RBs, the reports were analysed using content analysis. The analysis was guided by the theoretical framework. The analysis focused on the selection criteria, evaluators and information base, as well as their impact on the differences between RBs.

Sub-study III

Sub-study III introduced the RB-based poverty indicator and compared its results to the AROP indicator. The RB poverty indicator was created based on the RBs constructed by the CCSR for the year 2013. The RBs created for the hypothetical households were extrapolated to all Finns by using equivalence scales calculated based on the RBs. The equivalence scale based on the RBs was somewhat different than the often-used modified OECD scale. The following weights were calculated for the RB indicator: the household’s first adult received a weight of 1, the second

adult 0.75, adults over 65 years old 0.95, adolescents (13–17 years old) 0.7, 7–12-year-olds received a weight of 0.55 and children under the age of seven received a weight of 0.4. For the AROP indicator, the modified OECD-scale was used. In this scale, the first adult received a weight of 1, other household members older than 13 received a weight of 0.5 and members under 13 years old received a weight of 0.3.

Some changes were made to the CCSR RBs, as they were perceived to be problematic for poverty measurement. These included the cost of a car, which was excluded from the RBs; instead, the price of public transportation was included. Further, alternative housing costs were used. The housing costs were differentiated based on tenure status and geographical location. Apartment sizes and housing costs for tenants and households with mortgage payments were calculated based on the statistics of the Social Insurance Institution of Finland (Kela). For outright owners, the same apartment size was assumed, whereas the housing cost was calculated based on the maintenance charge provided by Statistics Finland. For the AROP indicator, housing costs were not considered, which is the typical approach.

The total RBs—including housing costs—were used as a poverty threshold that was compared to the household's disposable income. Households whose disposable income was below the RB threshold were considered poor. Poverty was analysed based on the tenure status of the household, household type, labour force status and age. With the AROP indicator, households were considered poor if their income was below 60% of the equivalised median income.

For inspecting the differences between the RB indicator and the AROP indicator, the study focused on poverty rates (% of people that were poor) and the poverty gap, which illustrates the depth of poverty. The poverty gap was expressed as how far (in percentage points) the household was below the poverty threshold.

Sub-study IV

The deprivation index and its statistical reliability were tested via Cronbach's alpha coefficient (Alpha coefficient = 0.89). The weights for the items were calculated based on both their necessity and their prevalence in Finnish society. The weights were calculated using information on all respondents and also age group-level information. Group-level weighting for different age groups was used, as previous studies found significant differences in the perception of necessities and in consumption patterns across age groups. In the former approach, item weight is the same for all the respondents, whereas, in group-level weighting, each person in a given age group receives an item-specific weight. In total, four different weights were used: (1) prevalence-weighted items for all respondents, 2) prevalence-weighted items for the age groups, 3) necessity-weighted items for all the respondents and 4) necessity-weighted items for the age groups. The weights were

normalised so that the sum of weights across the items was equal to 1. The normalised weights were calculated so that each weight was divided by the sum of all the weights.

The deprivation index was analysed via descriptive statistics. The unweighted deprivation index was first examined by looking at the mean number of lacked necessities. To analyse weighted deprivation, the deprivation index was examined using the values of median, the 75th percentile and 90th percentile. These were used to obtain a more accurate picture of deprivation, as the mean value for deprivation was the same across all age groups. Wilcoxon's matched-pairs signed rank tests were estimated, as the deprivation index was not normally distributed.

5 Results of the sub-studies

The section summarises the results of the sub-studies. Table 4 describes the research questions and the main results of all sub-studies. Later, the sub-studies are presented in a more detailed matter.

Table 4. The research questions and main results of the sub-studies.

Sub-study	Research question(s)	Main results
Sub-study I: Mäkinen (2018)	1) Is there a consensus on living necessities in Finland? 1a) Do people have a public-oriented view of living necessities? 1b) Do people agree on living necessities?	People's views about living necessities are influenced by their private evaluations. The agreement on the necessities is moderate at best. The results indicate that according to the set criteria, consensus on living necessities does not exist in Finland.
Sub-study II: Mäkinen (2021)	1) Do two Finnish RBs produce similar estimates of acceptable living standards? 2) Do differences in RBs' research design or implementation produce any differences in RBs' estimates?	The estimates of the RBs on the resources needed for social participation differ, especially when housing costs are included. Because of this, the results of the RBs differ, compared with the AROP-threshold. The discrepancies occurred due to differences in information bases, evaluators, selection criteria and pricing.
Sub-study III: Mäkinen (2017)	1) How does the picture of poverty change when poverty is analysed with the RB poverty indicator, compared with the AROP indicator?	The poverty rate is lower when the RB indicator is used because the poverty threshold for most households was lower than with the AROP indicator. Poverty is concentrated on different population groups. The elderly, particularly, have a lower poverty rate with the RB indicator.
Sub-study IV: Ilmakunnas and Mäkinen (2020)	How does weighting deprivation items based on considerations of necessities and the possession of deprivation items among all respondents and within population subgroups affect group-level differences in material deprivation in Finland?	Younger people experienced higher deprivation than older individuals. The differences decreased when using the weighted approach instead of the unweighted approach.

Sub-study 1: Consensus or dissensus? Analysing people's perceptions of the necessities of life in Finland

Sub-study I analysed whether people have reached a consensus regarding the minimum acceptable living standard when the consensual deprivation indicator is used. In this indicator, people determine which items are necessary for everyone. Deprivation is seen as an enforced lack of these necessities. The approach is based on the assumption that people agree on what the necessities are. This assumption was contested. In this sub-study, consensus was analysed using two criteria, established by Van den Bosch (1998). First, people should have a publicly-oriented view on the necessities in question, so that their views do not reflect their personal preferences for the items. If people's answers were influenced by their wants or possessions, they would be making private evaluations, rather than publicly-oriented evaluations. This would mean that discussion about consensus is pointless. Secondly, people should agree on what the necessities are. Typically, agreement is analysed at the group level, while the perceptions of different groups—e.g. men and women, or those with low income and those with high income—are contrasted. The analysis based on the differences between population groups is a crude way of analysing agreement. To obtain a more detailed view on this issue, in this sub-study, agreement was analysed between individuals.

This sub-study used age group, gender, subjective poverty experience and place of residence as independent variables. Researchers have found these factors to influence people's perceptions of necessities. The independent variables were used to analyse the average number of necessities and inter-personal agreement in each group. Additionally, the variables were used as control variables to analyse respondents' public-oriented views. To study whether the respondents made public-oriented evaluations of the necessities, a variable regarding the possession of items was used. The answer choices were: 1) "You have it and could not do without it", 2) "You have it but could do without it", 3) "You do not have it and do not want it" and 4) "You would like to have it but cannot afford it".

The results showed that personal preferences influenced respondent's views about necessities of life. Respondents who perceived the item as necessary for themselves were more likely to perceive it as necessary for others as well. Conversely, there was indication that some participants distinguished between the importance of the item for themselves and for others. When examining the number of items, there was a considerable variation between respondents: 75% of respondents considered 6–15 items necessary, whilst the standard deviation was 4.1. Statistically significant differences in the number of necessities were found between age groups and subjective poverty perception. The Kappa-test analysis revealed that agreement on the necessities of life between individuals is moderate at best. When the Kappa test was conducted at the group level, the results showed that the most

significant differences were between age groups. Agreement was highest in the youngest age group and decreased with age.

The results of the study indicated that consensus on necessities of life could not be reached. Respondents' personal preferences influenced the perception of necessity, whilst the agreement between individuals according to the Kappa test was modest. This indicates that the consensual deprivation indicator is not based on a solid foundation and that a unified view on the minimum acceptable living standard cannot be established using the consensual deprivation indicator.

Sub-study II: Different methods, different standards? A comparison of two Finnish Reference Budgets

Sub-study II examined two RBs created specifically for Finland using different methods. It analyses whether RBs that target the same living standard but are created through different methods produce similar estimates on the resources needed for social participation. According to the European Pillar of Social Rights' (EPSR) fourteenth principle, everyone should have the right to adequate minimum income benefits to ensure a dignified life. This principle is monitored using the AROP indicator. However, it has been suggested that RBs could provide a better means for this assessment (Penne et al. 2020).

There is no unified methodology for creating RBs. Regardless, RBs provide a meaningful point of comparison, as they have been created to present a uniform living standard for the same hypothetical households and for the same period. These features provide a unique possibility for comparison. Examining the consistency of results across different RBs is important if RBs are to be used for monitoring the EPSR's principles. This sub-study's focus is on inspecting whether the possible differences in the design or implementation of the RBs have impacted the estimates of the minimum acceptable living standard. The levels of the two RBs are contrasted with the thresholds of social assistance in Finland and the AROP indicator.

The first RB is a public-led RB created by the CCSR using focus group information from 2013. In public-led RBs, necessities and the items needed to fulfil them are assumed to be socially determined. The second RB was constructed in the ImPRovE project under the 7th Framework Programme of the European Commission of 2014. The project aimed to construct cross-comparable RBs for seven different cities (Antwerp, Athens, Barcelona, Budapest, Helsinki, Luxembourg and Milan). The ImPRovE RB is an expert-led RB, as expert knowledge, guidelines and recommendations are often used to construct RBs. Expert-led RBs are typically based on the assumption that people's needs are identical, regardless of time and space. It should be noted that in both RBs, different information sources are used. Nonetheless, there are clear differences in the

hierarchy of these information bases: the CCSR emphasises the information provided by focus groups and the ImPRovE project places greater emphasis on expert knowledge.

This sub-study makes use of the reports available for both RBs. The RBs were compared regarding their information bases, selection criteria, evaluators and pricing. Information bases comprise the source of expertise, such as experts or focus groups. The selection criterion of the CCSR's RB was that that everyone or almost everyone considered necessary the items to be included. However, no explicit criterion was established for the inclusion of items.

This sub-study examined RBs that were comparable between the CCSR and the ImPRovE project. These represented a single man, a single woman, a couple and a couple with two children (a four-year-old boy and a ten-year-old girl). In both RBs, the households were assumed to be living in Helsinki. This sub-study examined seven different commodity baskets: food, clothing, personal hygiene and health, leisure, mobility, household goods and housing. The RBs were compared with and without housing costs.

The results revealed that RBs produce somewhat different results when housing costs are excluded. In four of six RBs, the difference was over 10%, including two comparisons with over a 30% difference. A particularly large difference was found for the four-year-old boy and the couple with two children. The results showed that the ImPRovE project's RBs were higher for children, whereas the CCSR's RBs were higher in other cases. A more detailed analysis was conducted by examining the different baskets. In some baskets, the differences between RBs were small or non-existent, whereas the differences exceeded 10% in other cases.

The considerably higher CCSR RB for the couple with two children can be explained by their household's higher mobility costs. In the CCSR's RB, automobile-related expenses were included, whereas in the ImPRovE project's RB, public transportation was assumed. The CCSR's decision to include car-related expenses was based on unclear selection criteria. Sixty per cent of the couples with children considered a car necessary, whereas 80% of childless couples considered a car necessary. However, automobile-related expenses were only included for couples with children. The fact that cars were included for only some households, despite similar or even higher perceived necessity for a car, illustrates that the selection criteria were not unambiguous. Additionally, this indicates problems in the validity of the CCSR's RB approach, as different families may not have achieved the same living standard even though the same need for a car was indicated.

The two RBs analysed provided very different estimates on housing costs. The differences were mainly owed to different pricing methods but also due to different estimates on the minimum size of the apartments. Due to such differences, the

housing costs in the CCSR RBs were 40–100% higher, compared with the ImPRovE project's RBs. As there were considerable differences in estimating housing costs, the total budgets for the two RBs were significantly different. The CCSR's RBs were—depending on the family type—25 to 50% higher than the ImPRovE project's RBs. This suggests that the RBs provide very different estimates about the minimum acceptable living standard.

When the RBs were contrasted with the AROP thresholds, the CCSR's RBs were 117–153% of the AROP threshold. Conversely, the ImPRovE project's RB was slightly lower than the AROP threshold (93–99%, depending on the family type). When compared with the median income, the CCSR's RB for couples with two children was almost at the median income. These results underline that the RBs do not present the same living standard.

When the RBs were contrasted with Finland's social assistance¹⁵ in 2014, the considerable differences between RBs did not make a difference. Regardless of the RBs used, the level of social assistance was inadequate. However, depending on the RB used, the inadequacy differed. If one uses the CCSR's RBs, the level of social assistance varied between 64–77% of the RBs. Respectively, the social assistance was circa 80% of the ImPRovE project's RBs.

The results revealed that even though the RBs targeted the same living standard, the estimates on the minimum acceptable living standard were different. These results raise a question: “Do the RBs even present a common living standard?”. Based on the analysis, the differences in the RBs emerged due to differences in the source of expertise, selection criteria, evaluators and pricing. However, given the limited access to the data, the rationale for including the items remains unknown in many cases. This makes the replication of the study difficult for external researchers. Even though RBs are typically transparent, the process of creating RBs should also be transparent. If the RBs are to be used for assessing the Pillar of Social Rights, their creation should be based on commonly agreed and unambiguous criteria. Additionally, it should be pursued ensured the RBs are as comparable as possible across countries. This way, RBs could provide something that the AROP indicator cannot.

¹⁵ One could also use the term “guaranteed minimum income”, which is similar to the term “social assistance”. Both can be understood to include the same elements: the benefit is a last-resort income support system with means testing. The term “social assistance” was preferred, as it is the translation that the Social Insurance Institution of Finland (Kela) uses.

Sub-study III: Viitebudjetti köyhyyden mittarina – muuttuuko köyhyyden kuva? (in English: Reference budgets as indicators of poverty – does our understanding of poverty change?)

Sub-study III examined the use of RBs in poverty measurements and compared the results with the AROP indicator, which is most often used to measure poverty. The problems of the AROP indicator were discussed in Chapter 3.3.1. This sub-study is the first to use an RB-based poverty indicator for poverty measurement in Finland.

This sub-study analysed the RBs created by the CCSR for 2013. The RBs targeted a living standard equivalent with poverty definitions, as it aims to define items needed for social participation in Finland. The CCSR calculated RBs for nine hypothetical households, with adults and children of different ages. This information was used in constructing the RB poverty indicator. For the measurement of poverty, the 2013 Income Distribution Statistics of Statistics Finland were used.

The results showed that the prevalence and concentration of poverty were slightly different with the RB indicator, compared with the AROP indicator. According to the results, the poverty rate was lower when the RB indicator was used. This was mainly due to the inclusion of housing costs, which considered both the differences in regional housing costs and costs based on tenure status. Therefore, the poverty threshold, using the RB indicator, was lower, especially outside the metropolitan area. The results showed that the RB indicator produced a considerably lower poverty rate for individuals over 65 years old. This was mainly due to the consideration of tenure status. Most individuals over 65 years old were outright owners, which meant that their poverty threshold, using the RB indicator, was considerably lower.

The results suggest that the RB indicator can address the problems typically associated with the AROP indicator, especially those regarding the cost of services and housing. However, RBs have certain drawbacks. They may underestimate poverty, especially among individuals over 65 years old. The fact that RBs are calculated based on the assumption that household members are in good health, could lead to underestimating the health care costs needed for some households. It should also be noted that the content of the RBs will also influence the results, as there is no unified methodology for creating RBs. This partly emphasises the role of the researchers in constructing RBs.

Sub-study IV: Age differences in material deprivation in Finland: How do consensus and prevalence-based weighting approaches change the picture?

Sub-study IV examined how consensual deprivation changes when different weighting approaches are used. Consensual deprivation is typically analysed using a

deprivation index. Items in the index can be included either based their necessity or their prevalence in society. The index based on the public's consideration of necessities, is a consensual approach. In this approach, the items that the majority perceives as necessary are included in the deprivation index. The majority threshold is arbitrary and presents a loose definition of consensus. Typically, the items in the deprivation index receive an equal weight. This (unweighted) approach is problematic in several respects. It is widely recognised that the perception of necessity differs across population groups; particularly, different age groups have remarkably different perceptions of what is necessary. These shortcomings can be addressed by weighting the items based on their importance.

This sub-study makes use of two weighting approaches: one based on prevalence and one based on necessity. In prevalence-based weighting, items that possess a larger share receive a greater weight. The rationale for this is that the more prevalent the item is in society, the more likely a lack of it will cause deprivation. In necessity-based weighting, the weight is determined based on the necessity of the item. Similarly, the items that are perceived as necessary by most people receive higher weights. These rates were calculated based on the answers of the entire sample, as well the different age groups. Weights calculated based on the entire sample are of the same size for everyone; however, the weights based on age groups are targeted for the given age group. For each respondent, both unweighted and weighted deprivation indices were calculated.

According to the results, there were differences both in the possession of items and the perception of necessity. The perception of necessity differed significantly, not only for the overall sample but also across age groups. The results revealed that younger respondents experienced more material deprivation than older respondents, both in the weighted and unweighted indices. The weighted approach reduced the deprivation differences between age groups; however, the impact of weighting remained modest. There are two explanations for this. First, there were many items for which there were differences in possession and the perception of necessity; however, deprivation of these items was rare. This decreased the impact of weights in deprivation. Conversely, for items for which deprivation was high, the differences in consensus and possession rates were small. These results are in line with the previous results—i.e. weighting had weak influence in countries where deprivation was low. These results indicate that weighting could produce meaningful results in countries where deprivation is higher. This sub-study concludes that weighting the items based on their prevalence and necessity can better reflect what poverty is and give a more nuanced picture of poverty.

6 Conclusions and discussion

Paul Spicker (1993/2013) stated that: “*The task of finding appropriate measures is so difficult, and so frustrating, that academics, researchers, campaigners and politicians have been driven, again and again, to use measures of poverty which they know to be inadequate, misleading and sometimes even contradictory to the positions which they wish to adopt*”. In a similar vein, Atkinson et al. (2001) argued that constructing an accurate and valid poverty line is impossible. The present dissertation has taken these claims as a starting point and aimed to perform a difficult task: improve the validity of the measurement of poverty.

This study examined the capacity of consensual deprivation indicators and RBs to determine a minimum acceptable living standard in the Finnish context. Building on its findings, this study introduced alternative poverty indicators to complement the AROP indicator and the consensual deprivation indicator. However, conventional indicators have several inherent problems. For instance, it has been acknowledged that the AROP threshold cannot be logically derived from the concept of poverty. This means that its results regarding the prevalence and concentration of poverty are, at best, merely indicative.

Moreover, the consensual deprivation indicator, which is based on the consensual determination of necessities is problematic regarding the identification of necessities and in the practice of treating the items as equally important. The results of this study suggest that the consensual deprivation indicator does not actually lead to a consensual view of the minimum acceptable living standard for Finnish society. According to the criteria set for consensus, people should have a publicly-oriented view of the necessities and they should also agree what those necessities are. When assessed against these criteria, this indicator is somewhat problematic. People’s views about what is needed at the minimum do not reflect a consensus due to the modest agreement regarding the specific necessities, while the necessity of items is influenced by private judgments. However, one could argue that the conditions for consensus set by this study are so strict that it may be impossible to meet them, at least in a survey setting. It is also expected that the number of items under examination impacts the results regarding consensus. In this study, 23 items

were examined. If there had been fewer items under examination, consensus might have been easier to reach.

Despite its problems, the consensual deprivation indicator has an evident advantage over the expert-led approach in defining necessities, as the latter may include clearly arbitrary elements. The consensual deprivation indicator has the merit of being a more democratic way of approaching the minimum acceptable living standard, as living necessities are defined by the majority, whilst providing a direct indicator of poverty measurement. As the minimum acceptable living standard in the indicator is socially perceived, it provides more reliable results than the AROP indicator (see, for example, Hick 2015), even though full consensus may be impossible to reach. Nonetheless, the indicator can be improved. Some of the issues in the consensual deprivation indicator were tackled in a sub-study by using a weighted approach instead of the typical unweighted approach. Weighting is intuitive, as the items that are more prevalent or are considered more necessary are treated with higher importance in the deprivation index.

This weighting procedure did change the deprivation rate but only marginally, deprivation was low in Finland, overall. However, the potential of the weighting approach is realised in cross-national comparisons, as differences between the weighted and unweighted results are likely to be higher in countries with higher deprivation rates. This suggests that the weighted deprivation approach is a potentially meaningful indicator for measuring deprivation in Europe.

The results regarding RBs and their capacity to establish the resources needed for achieving for minimum acceptable living standard are twofold. According to the results of the dissertation, the two RBs, which were constructed with different methods, did not produce similar estimates regarding the minimum acceptable living standard. Whilst it is somewhat expected that the estimates differ, this finding is not reassuring. The differences in the results were pinpointed to the choices made before and during the construction of RBs. If the RB indicator is to be included in the portfolio of European social indicators, a common methodology and standardised procedures for constructing RBs must be established. Otherwise, RBs between countries would not be comparable and would yield drastically different results regarding the prevalence of poverty and the risk groups of poverty.

Despite the differences between different RBs, the results regarding poverty measurement are encouraging and indicate that the RB poverty indicator is a meaningful alternative to the AROP indicator. Particularly, the inclusion of housing costs—which differed between tenure status and geographical location—led to differences between the indicators. The incorporation of housing costs highlights that the resources needed for achieving the minimum acceptable living standard depend on where and how people live. Additionally, the inclusion of in-kind income—e.g. the value of services—provides a clearer picture of the resources that

the household has at its disposal. In a way, the sub-study's methodological contribution—i.e. constructing an RB-based poverty indicator—offers a substantive contribution to poverty measurement, as our understanding of poverty in the Finnish context was enhanced through these findings.

The results of this study suggest that public-led approaches are somewhat problematic in establishing the minimum acceptable living standard. Such problems are visible in the results of both the consensual deprivation indicator and public-led RBs, although they emerge differently. As necessities are determined in the consensual deprivation method using large-scale surveys, this procedure lacks interaction between respondents. The problem in public-led RBs is not on the lack of interaction but that the small number of participants does not provide representative results. One way to address these issues would be to use deliberative methods, such as large-scale citizen assemblies. In this method, participants are encouraged to interact with each other and with the researchers to elaborate on how their views are conceived. Potentially, assemblies could also be used to steer people away from making private judgments regarding the necessities and towards a public-oriented view. This method could provide more robust (but not necessarily more representative) results, compared with the focus group-led approach. This could provide important input for both RBs and material deprivation indicators regarding what is needed at the minimum. Basically, the method could be seen as a type of co-research in which the public and the experts work together in assessing the minimum acceptable living standard. Large assemblies could also benefit expert-led RBs, which are considered to lack information about the norms and habits of citizens' everyday lives. Experts could set clear criteria about what information is retained from the discussions to ensure that the results are in line with the targeted living standard of the RB.

To summarise the results of this study in more detail, the indicators' capability to operationalise poverty is also assessed against the quality criteria set for social indicators set by the Indicators Sub-Group (2015). This assessment is presented in Table 5. The indicators are ranked based on their capacity to meet the criteria: low, medium and high. For the sake of simplicity, different RBs are treated as one in the table. The assessment is conducted in the European context. Even though this study focused on Finland, the results can be generalised to cross-national poverty research.

Table 5. Indicators evaluated against the criteria for social indicators set by the Indicators Sub-Group.

The indicator should...	AROP	RB	Unweighted consensual deprivation	Weighted consensual deprivation
...capture the essence of the problem and have a clear and accepted normative interpretation	Low	Medium	Medium	Medium
...be robust and statistically validated	Medium	Medium	Medium	Medium
...provide a sufficient level of cross-country comparability	Medium	Potentially high	Medium	Medium
...be built on available underlying data and be timely and susceptible to revision	High	Medium	High	High
...be responsive to policy interventions but not subject to manipulation	Medium	High	Low	Low

First, the indicator should be valid so that it captures the essence of poverty. The first criterion is also the most important one: if the indicator does not meet this requirement, it cannot be considered a good indicator of poverty. The capability of the RB indicator to produce valid results is somewhat twofold. The strength of the RB poverty indicator lies in its explicit purpose of determining what is needed for achieving minimum acceptable living, including the necessary housing costs and the cost of accessing services. However, as the results of this study indicate, different RBs do not produce similar results regarding what is needed at the minimum. RBs suffer some problems regarding their external validity. External validity refers to how well the RBs can be generalised to the wider population. The results of this study suggest that RBs may underestimate the costs related to health care, especially for individuals with health issues. As this study and many prior studies have shown, the AROP indicator is problematic in several aspects in establishing the minimum acceptable living standard. The assumption that a minimum acceptable living standard can only be achieved above the poverty threshold is not justified. Although the inclusion of housing costs and in-kind income would more comprehensively reflect the resources that the household has at its disposal, the poverty threshold in the AROP indicator would still be arbitrary.

Regarding the unweighted consensual deprivation indicator, its problems lie in the fact that the consensus on what items constitute the minimum acceptable living standard is only modest. Further, the minimum acceptable living standard is reduced to a binary classification: items are necessary or unnecessary. In this sense, the weighted consensual deprivation indicator performs better: it shifts away from this

binary classification and establishes that some items are more important for achieving the minimum acceptable living standard (see Halleröd 1995). One could argue that by looking at the perception of necessity across age groups, the weighted consensual deprivation indicator more comprehensively examines the minimum acceptable living standard. The results indicate that the minimum acceptable living standard is somewhat contextual and depends on citizens' phase of life. Similarly, the content of RBs is somewhat different for people of different ages. The weighted consensual deprivation indicator is more complex than the unweighted approach. Therefore, communicating the results of the weighted approach to the wider public can be challenging.

Additionally, the indicator should reflect the changes that impact households' livelihoods. Inflation was significant in 2022, which means that people needed more resources to achieve the minimum acceptable living standard. Prices increased significantly for food, energy, and fuel. These changes have had negative impacts on the livelihoods of almost all households and should be reflected in the indicators. As the AROP indicator only focuses on household income, the poverty threshold does not increase in tandem with prices. For RBs, inflation is directly connected to the poverty threshold of the RB indicator. As prices increase, the poverty threshold also increases, which leads to higher poverty rates. According to an analysis using the RB indicator (Hiilamo et al. 2022), inflation has increased the poverty rate by 2.5 percentage points since 2021. Inflation is also likely to increase material deprivation, as people may experience increased difficulties in purchasing necessities. According to Menyhert's (2022) predictions, material deprivation will increase due to inflation. In this respect, the unweighted and weighted consensual deprivation approaches are likely to react to the increase in prices.

Secondly, the indicator should be robust and statistically validated. The results of this study indicate that there are issues regarding robustness in RBs. These problems were analysed by Penne et al. (2020), who argued that robustness was an issue, given the lack of data regarding many elements of the creation of RBs, such as items' prices and life spans. Furthermore, the inclusion of focus groups in creating RBs decreases robustness. The focus group method is sensitive to several factors: the composition of the group, the group dynamics and the focus group moderator(s). However, the RB indicator is more robust during times of economic fluctuations, compared with the AROP indicator. For material deprivation indicators—both weighted and unweighted—robustness concerns the selection of the items in the deprivation index. In this sense, the indicators are sensitive to the items included in the deprivation index. However, the use of the material deprivation indicator has standardised the measurement of material deprivation in Europe.

Thirdly, the indicators should provide a sufficient level of cross-national comparability. All the four indicators face some issues regarding cross-national

comparability. For the AROP indicator, the problems are well-acknowledged. These problems could be potentially resolved using the RB indicator, as this study has explained. Currently, cross-nationally comparable RBs are unavailable but the results from the seven-country comparison conducted by the ImPRovE project are encouraging (Goedemé et al. 2015). However, more research is needed to maximise substantive comparability in addition to procedural comparability.

The weighted consensual deprivation indicator's relation to cross-national comparability is mixed. For example, weighting the material deprivation according to the national perceptions of the necessity of items could reflect more accurately the minimum acceptable living standard in each country. However, this would be a radical shift away from the current approach, in which the minimum acceptable living standard is conceived as supranational. It should be noted that the use of the weighted deprivation indicator is likely to produce more complex results than the simple unweighted approach, thereby making the findings more difficult to interpret. Similar to the unweighted approach, a poverty threshold should be derived in the weighted approach. The threshold should be based on careful consideration in order to avoid arbitrary decisions. Guio (2009) highlights that even small differences in setting the threshold could lead to significant differences in poverty rates.

Fourthly, the indicator should be timely. This criterion is not generally an issue for the indicators, except for RBs. Constructing RBs is a laborious and time-consuming task. The use of RBs for European wide poverty analysis is hindered by the fact that extensive resources are required for the creation process.

Fifthly, the indicator should respond to policy interventions. The indicators presented here, react differently with policy interventions. In the AROP indicator, the responsiveness is not always straightforward. For example, if a policy intervention equally increases the incomes of all citizens, the decrease in poverty rate will be non-existent. Conversely, if the increase is targeted to poor households, the poverty rate is likely to decrease. Further, the indicator does not respond to changes in the cost of accessing public services, such as health care, education or childcare. For RBs, there is a more straightforward connection between the interventions and poverty rate: if the incomes of poor households increase or the cost of accessing services decreases, this will decrease the poverty rate. For deprivation indicators, the connection is not as straightforward. As was explained in Chapter 6, there is only a small overlap between indirect income and direct deprivation indicators. This suggests that the evaluation of policy outcomes is somewhat difficult if the material deprivation indicator is used.

This dissertation's analysis indicates that the dominant poverty indicators—the AROP and consensual deprivation indicators—offer simple solutions to the complex poverty phenomenon. However, simple solutions are rarely the answer to complex issues: crude measures produce crude results. The indicators presented here—RBs

and the weighted consensual deprivation indicator—reflect this complexity. Therefore, a more nuanced approach may better reflect the multidimensional and complex phenomenon of poverty. Simultaneously, the more complex approaches have their drawbacks, as noted above.

This analysis highlights that, in many ways, the RB indicator outperformed the AROP indicator. This suggests that the RB indicator more accurately describes the resources needed for the minimum acceptable living standard for people in different living situations, compared with the AROP indicator. If one were to use an indirect poverty indicator, the present study's comparison suggests that the RB indicator would prove superior to the AROP indicator. In these respects, the use of RBs would enhance the income-based poverty measurement. The difference between the weighted and unweighted consensual deprivation indicators is less clear. However, the comparison suggests that the weighted approach can avoid some of the pitfalls of the unweighted approach. For the measurement of "consistent poverty"—in which there is a dual criterion of low resources and low living standard—the RB indicator, together with the weighted consensual deprivation indicator, offers valuable insights.

This study is not without limitations. This dissertation focused on the minimum acceptable living standard in Finland, which limits the generalisability of the results. Thus, the results of this study should be interpreted with caution. This study's results regarding intra-personal agreement were similar to those of McKay (2004) in Britain. However, this does not mean that the results regarding intra-personal agreement on necessities would be similar in other countries. This is partially related to the fact that consensus on the necessities is highly dependent on the items that people evaluate. It is plausible that the results regarding consensus would have differed if other items were analysed. Similarly, the impact of weighting based on the prevalence of items and items' perceived necessity in each age group might produce more significant differences in material deprivation in other countries. Regarding RBs, their differences in the estimates for social participation and the mechanisms that produced the differences are specific to the Finnish context. However, it is probable that the identified mechanisms will exhibit differences in other countries. Nonetheless, this study adopted a framework for analysing the differences between RBs that could be applied in other countries. Similarly, the use of RBs in poverty measurement is an approach that could be used in other countries, even though the results of the RB-based indicator might differ.

The analysis of deprivation only included respondents between 19 and 70 years old. This may have had an impact on the results. It is possible that individuals aged over 70 years perceive living necessities differently than younger respondents. Future research should take this into account when analysing deprivation. Secondly, the study only had limited means of examining the mechanisms causing the differences in the two RBs. Future studies on this topic would benefit considerably

from including more data (regarding pricing, focus group discussions and the decisions made by the researchers).

It should also be noted that the study analysed poverty at the household level. Frequently, it is assumed that resources are distributed equally within the household, which suggests that household income is a valid measure of poverty at the individual level. However, this may not always be true; in some cases, resources are not shared equally, as men receive a higher share of the household resources, compared with women (see, for example, Lechene et al. 2019). Firstly, this means that it is possible that within a non-poor household, there may be poor household members, and vice versa. Secondly, it is likely that the unequal distribution of resources underestimates women's poverty rate.

Additionally, this study analysed deprivation from adults' perspective. This adult-centric approach is based on the assumption that parents are the most knowledgeable in assessing children's needs and wants. However, it has been noted that there are differences between adults and children regarding what they perceive as necessary. A study focusing on Hong Kong found that adults and children emphasised different items: adults preferred items related to education and development, whereas children preferred items related to social roles and norms (see, for example, Lau et al. 2019). Generally, it has been suggested that measures of deprivation based on children's views may provide better insights into the subjective well-being of children, compared with adult-centric measures (Main & Bradshaw 2012).

Poverty research should not just be an academic exercise of methodological acrobatics—it should try to improve people's living standards (Piachaud 1987). The results of this study are, in many ways, politically relevant. This is especially visible regarding RBs, which have a direct connection to the performance of the welfare state, especially regarding its capability to provide adequate social security and alleviate poverty. In Finland, RBs have already been used to analyse the adequacy of social security. The assessment—which is conducted every four years and is required by the law—has used the CCSR's RBs as one of the main indicators of adequacy. The general finding of the three assessments has been that social security is inadequate for many recipients when compared with the RBs (Perusturvan riittävyiden I arviointiryhmä 2011; Perusturvan riittävyiden II arviointiryhmä 2015; Perusturvan riittävyiden III arviointiryhmä 2019). As this dissertation has shown, the CCSR's RB and the ImPRovE project's RB do not yield similar estimates regarding the resources needed for the minimum acceptable living standard. This finding is interesting from the perspective of the assessment of the adequacy of social security in Finland. It is likely that the results and the conclusions regarding the adequacy of social security could have been somewhat different if the ImPRovE project's RBs had been used instead. Once again, this highlights the fact that

selecting indicators is of crucial importance and can have a significant influence on how the prevalence of poverty or the adequacy of social security are conceived.

Alleviating poverty is considered to be the primary task of the welfare state. The RB indicator introduced in this study paints a different picture of the prevalence of poverty, compared with the AROP indicator, especially regarding poverty among the elderly—which is high with the AROP indicator. Depending on which indicator is used to measure poverty among the elderly, policy measures may vary. If RBs are used, the primary goal of the welfare states seems almost accomplished. However, policy actions should not be based only on the results of one indicator but on a broader portfolio of indicators. This dissertation has illustrated that the RB indicator and the weighted consensual deprivation indicator have the potential to be included in this portfolio.

List of References

- Aaberge, R., Langørgen, A. and Lindgren, P. (2017) *The distributional impact of public services in European countries*. Eurostat Methodological and Working Papers, Luxembourg: Publications Office of the European Union
- Ahonen, K. and Vaitinen, R. (2015). *Eläkeikäisten kulutus Suomessa 1985–2012*. Eläketurvakeskuksen raportteja 06/2015. Helsinki: Eläketurvakeskus.
- Alcock, P. (1997) *Understanding poverty*. London: McMillan.
- Andress, H-J. (1998) Empirical poverty research in a comparative perspective: Basic orientations and outline of the book. In: Andress H-J. (ed.), *Empirical poverty research in a comparative perspective*, Aldershot: Ashgate, pp. 1-26.
- Atkinson, A.B. (1987) On the measurement of poverty. *Econometrica*, 55(4): 749-764.
- Atkinson, A. B., Cantillon, B., Marlier, E. and Nolan, B. (2001). *Indicators for social inclusion in the European Union*. In: Conference on Indicators for Social Inclusion: Making Common EU Objectives Work.
- Atkinson, T., Cantillon, B., Marlier, E. and Nolan, B. (2002) *Social indicators: The EU and social inclusion*. Oxford: Oxford University Press.
- Banerjee, A. and Duflo, E. (2011) *Poor economics: A radical rethinking of the way to fight global poverty*. New York: Public Affairs.
- Barry, B. (1990) *Political argument: A reissue with a new introduction*. New York: Harvester Wheatsheaf.
- Beblavy, M. and Mizsei, K. (2006) Make spurious poverty statistics history. *Development and Transition*, 4(4).
- Berghman, J. (1995) Social exclusion in Europe: Policy, context and analytical Framework. In: Room, G. (ed.), *Beyond the threshold: measurement and analysis of social exclusion*, Bristol: Policy Press, pp. 10-28.
- Berthoud, R. and Bryan, M. (2011) Income, deprivation and poverty: A longitudinal analysis. *Journal of Social Policy*, 40(1): 135-156.
- Blank, R. (2008) Presidential address: How to improve poverty measurement in the United States. *Journal of Policy Analysis and Management*, 27(2): 233-254.
- Booth, C. (1889/1904) *Life and labour of the people in London. First series: Poverty*. New York: MacMillan.
- Bradshaw, J. (1993) Introduction. In: Bradshaw, J (ed.) *Budget standards for the United Kingdom*. Aldershot: Avebury, pp. 1-2.
- Bradshaw, J. (1994) The conceptualisation and measurement of need: a social policy perspective. In Popay, J. and Williams, G. (ed.), *Researching the people's health*, London: Routledge, pp. 45-57.
- Bradshaw, J., Middleton, S., Davis, A., Oldfield, N., Smith, N., Cusworth, L. and Williams, J. (2008) *A minimum income standard for Britain. What people think*. Loughborough: Joseph Rowntree Foundation.
- Bradshaw, J. and Finch, N. (2003) Overlaps in dimensions of poverty. *Journal of Social Policy*, 32(4): 513-525

- Buhmann, B., Rainwater, L., Schmaus, G. and Smeeding, T. (1988) Equivalence scales, well-being, inequality and poverty: Sensitivity estimates across ten countries using the Luxembourg Income Study (LIS) database. *Review of Income and Wealth*, 34 (2): 115-142.
- Burchardt, T., Le Grand, J. and Piachaud, D. (2002) Degrees of exclusion: Developing a dynamic, multidimensional measure. In Hills, J., Le Grand, J. and Piachaud, D. (eds.) *Understanding social exclusion*. Oxford: Oxford University Press, pp. 30-43.
- Callan, T. and Keane, C. (2009) *Non-cash benefits and the distribution of economic welfare*. IZA Discussion Paper no. 3954.
- Callan, T. and Nolan, B. (1991) Concepts of poverty and the poverty line. *Journal of Economic Surveys*, 5(3): 243-261.
- Callan T., Nolan, B. and Whelan, C. (1993) Resources, deprivation and the measurement of poverty. *Journal of Social Policy*, 22(2): 141-172.
- Citro, C. and Michael, R. (1995) *Measuring poverty: A new approach*. Washington: National Academy Press.
- Council of the European Communities (1975) *Council Decision of 22 July 1975 Concerning a Programme of Pilot Schemes and Studies to Combat Poverty*. 75/458/EEC, OJ L 199, 30.7.1975, Brussels: Publications Office of the European Union.
- Davis, A., Hirsch, D., Iwanaga, R., Iwata, M., Shigekawa, J., Uzuki, Y. and Yamada, A. (2014) Comparing the minimum income standard in the UK and Japan: Methodology and outcome. *Social Policy and Society*, 13(1): 89-101.
- Davis, A., Hirsch, D., Padley, M. and Marshall, L. (2015) *How much is enough? Reaching social consensus on minimum household needs*. Loughborough: Centre for Research in Social Policy.
- Decanq, K., Goedemé, T., Van den Bosch and Vanhille, J. (2013) *Poverty in the European Union: Concepts, measurement and data*. ImPRovE Methodological Paper no. 13/01.
- Deeming, C. (2010) Determining minimum standards of living and household budgets: Methodological issues. *Journal of Sociology*, 47(1): 17-34.
- Deeming, C. (2017) Defining minimum income (and living) standards in Europe: Methodological issues and policy debates. *Social Policy and Society*, 16(1): 33-48.
- Deeming, C. (2020) Minimum income standards and reference budgets: Past, present, future? In Deeming, C (ed.) *Minimum income standards and reference budgets: International and comparative policy perspectives*. Bristol: Policy Press, pp. 333-344.
- De Vos, K. and Zaidi, M. A. (1997) Equivalence scale sensitivity of poverty statistics for the member states of the European Union. *Review of Income and Wealth*, 43(3): 319-333.
- Dickes, P., Fuscio, A. and Marlier, E. (2008) *Socially perceived necessities of life across EU countries: Structures and consensus*. Paper prepared for the 30th General Conference of The International Association for Research in Income and Wealth.
- Doyal, L. and Gough, I. (1991) *A theory of human need*. London: McMillan.
- Dubnoff, S. (1985) How much income is enough? Measuring public judgments. *Public Opinion Quarterly*, 49(3): 285-299.
- Dunn, A. (2023) Necessities laid bare: An examination of possible justifications for Peter Townsend's purely relative definition of poverty. *Journal of Social Policy*, 52(2), 237-255.
- Dwyer, R.E. (2009) Making a habit of it: Positional consumption, conventional action and the standard of living. *Journal of Consumer Culture*, 9(3): 328-347.
- Erikson, R. (1993) Descriptions of inequality: The Swedish approach to welfare research. In: Nussbaum, M and Sen, A. (eds.) *The quality of life*, Oxford: Oxford University Press, pp. 67-83.
- European Union (2021) *The European pillar of Social Rights Action Plan*. https://ec.europa.eu/info/strategy/priorities-2019-2024/economy-works-people/jobs-growth-and-investment/european-pillar-social-rights/european-pillar-social-rights-action-plan_en. Accessed 9.9.2022.
- Eurostat (2017) *Material and social deprivation*. <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/DDN-20171212-1>. Accessed 15.7.2022

- Eurostat (2022) Persons by risk of poverty, material deprivation, work intensity of the household, age and sex of the person - intersections of EU 2030 poverty target indicators. <https://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do>. Accessed 14.7.2022
- Eurostat (2022) At-risk-of-poverty rate by poverty threshold, age and sex - EU-SILC and ECHP surveys. https://ec.europa.eu/eurostat/databrowser/view/ILC_LI02__custom_3570596/default/table?lang=en. Accessed 12.10.2022
- Eurostat Task Force (1998) *Recommendations on social exclusion and poverty statistics*.
- Fahey, T., Nolan, B. and Maitre, B. (2004) Housing expenditures and income poverty in EU countries. *Journal of Social Policy*, 33(3): 437-454.
- Fahey, T. (2007) The case for an EU-wide measure of poverty. *European Sociological Review*, 23(1): 35-47.
- Fahey, T. (2010) *Poverty and the two concepts of relative deprivation*. UCD School of Applied Social Science Working Paper Series.
- Fahmy, E., Sutton, E. and Pemberton, S. (2015) Are we all agreed? Consensual methods and the 'necessities of life' in the UK today. *Journal of Social Policy*, 44 (3): 591-610
- Fusco, A., Guio, A.C. and Marlier, E. (2010) Characterising the income poor and the materially deprived in European countries. In: Atkinson, A.B. and Marlier, E. (eds) *Income and living conditions in Europe*. Luxembourg: Publications Office of the European Union, pp. 133-153.
- Gabos, A. and Goedemé, T. (2016) *The Europe 2020 social inclusion indicators: Main conclusions of the ImPRovE project on validity, methodological robustness and interrelationships*. ImPRovE Discussion Paper 13/16.
- Gilles, L., Covolo, C., Concialdi, P. and Math, A. (2014) *ONPES reference budgets: Study conducted at the request of the French National Observatory on Poverty and Social Exclusion (ONPES)*. Report, ONPES, France.
- Goedemé, T., Penne, T., Hufkens, T., et al. (2019a) What does it mean to live on the poverty threshold? Lessons from reference budget research. In: Cantillon, B., Goedemé, T. and Hills, J. (eds.) *Decent incomes for all: Improving policies in Europe*. New York: Oxford University Press, pp. 13-33.
- Goedemé, T. and Rottiers, S. (2011) Poverty in the enlarged European Union. A discussion about definitions and reference groups. *Sociology Compass*, 5(1): 77-91.
- Goedemé, T., Storms, B., Stockman, S., Penne, T. and Van den Bosch, K. (2015a) Towards cross-country comparable reference budgets in Europe: First results of a concerted effort. *European Journal of Social Security*, 17(1): 3-30.
- Goedemé, T., Storms, B. and Van den Bosch, K. (2015b) *Pilot project: Developing a common methodology on reference budgets in Europe. Executive summary*. Brussels: European Commission.
- Gordon, D. (2006) The concept and measurement of poverty. In: Pantazis, C., Gordon, D. and Levitas, R. (eds.) *Poverty and social exclusion in Britain. The Millennium Survey*. Bristol: Policy Press, pp. 29-69.
- Gordon, D. and Pantazis, C. (1997) The public's perception of necessities and poverty. In: Gordon, D. and Pantazis, C. (eds.) *Breadline Britain in the 1990s*, Aldershot: Ashgate, pp. 71-96
- Gough, I (2020) Defining floors and ceilings: The contribution of human needs theory. *Sustainability: Science, Practice and Policy*, 16(1): 208-219.
- Guio A. C. (2005) *Material deprivation in the EU population and social conditions, living conditions and welfare, 21/2005*. Luxembourg: Eurostat.
- Guio, A.-C. (2009). *What can be learned from deprivation indicators in Europe*. Luxembourg: European Commission, Office for Official Publications of the European Communities.
- Guio, A.-C. and Marlier, E. (2012) Measuring material deprivation in the EU indicators for the whole population and child-specific indicators.
- Halleröd, B. (1994) *A new approach to the direct consensual measurement of poverty*. SPRC Discussion Paper no. 50. Sydney: University of New South Wales.

- Halleröd, B. (1995) The truly poor: Direct and indirect consensual measurement of poverty in Sweden. *Journal of European Social Policy*, 5(2):111-129.
- Heikkilä, M. (1990) *Köyhyys ja huono-osaisuus hyvinvointivaltiossa*. Sosiaalihuollituksen julkaisuja 8/1990, Sosiaalihuollitus.
- Hick, R. (2012) The capability approach: Insights for a new poverty focus. *Journal of Social Policy*, 41(2): 291-308.
- Hick, R. (2014) Poverty as capability deprivation: Conceptualising and measuring poverty in contemporary Europe. *European Journal of Sociology*, 55(3): 295-323.
- Hick, R. (2015) Three perspectives on the mismatch between measures of material poverty. *The British Journal of Sociology*, 66(1): 163-172.
- Hick, R. (2016) Between income and material deprivation in the UK: In search of conversion factors. *Journal of Human Development and Capabilities*, 17 (1): 35-54.
- Hiilamo, A., Räsänen T., Korpela, T., Mukkila, S., Mäkinen, L. and Ristikari, T. (2022) *Hintojen nousun vaikutuksia lapsiperheköyhyyteen voidaan lieventää vain vähän lapsilisäjärjestelmän muutoksilla*. <https://tutkimusblogi.kela.fi/arkisto/6774>. Accessed 30.1.2023
- Härvik Augstulen, M.H. Borgeraas, E (2018) *Review of the Norwegian reference Budget: In light of similar initiatives across Europe*. Oslo: Consumption Research Norway SIFO.
- Indicators Sub-Group (2015) *Portfolio of EU social indicators for the monitoring of progress towards the EU objectives for social protection and social inclusion*. Report, Publications Office of the European Union, Luxembourg.
- Juhasz, G. (2006) Exporting or pulling down? The European social model and eastern enlargement of the EU. *The European Journal of Social Quality*, 6(1): 82-108.
- Kangas, O. and Ritakallio, V-M (1996) Eri menetelmät – eri tulokset. Köyhyyden monimuotoisuus. In Kangas, O and Ritakallio, V-M, (eds.) *Kuka on köyhä? Köyhyys 1990-luvun puolivälin Suomessa*. Helsinki: Stakes.
- Kangas, O. and Ritakallio, V-M. (1998) Different methods – different results? Approaches to multidimensional poverty. In: Andress H-J. (ed.) *Empirical poverty research in a comparative perspective*, Aldershot: Ashgate, pp. 167–203.
- Kangas, O. and Ritakallio, V-M. (2007) Relative to what?: Cross-national picture of European poverty measured by regional, national and European standards. *European Societies*, 9(2): 119-145.
- Kangas, O. and Ritakallio, V-M. (2008) *Köyhyyden mittaustavat, sosiaaliturvan riittävyys ja köyhyyden yleisyys Suomessa*. Sosiaali- ja terveysturvan selosteita, Kelan tutkimusosasto.
- Kelly, G., Tomlinson, M., Daly, M., Hillyard, P., Nandy, S. and Patsios, D. (2012) *The necessities of life in Northern Ireland*, Working Paper 1, Working Paper – Analysis Series No.1, Bristol: Poverty and Social Exclusion in the UK.
- Kis, A., Özdemir, E. and Ward, T. (2015) *Micro and macro drivers of material deprivation rates*. Research note no.7. Brussels: European Commission.
- Lau, M., Gordon, D., Zhang, M. and Bradshaw, J. (2019) Children's and adults' perceptions of child necessities in Hong Kong. *Social Policy & Administration*, 53: 835-853.
- Lechene, V., Pendakur, K. and Wolf, A. (2019) *OLS Estimation of the intra-household distribution of consumption*. IFS Working Papers
- Lehtinen, A.-R. and Aalto, K. (2014) *Viitebudjettien päivitys vuodelle 2013. Mitä kohtuullinen eläminen maksaa?* Helsinki: Kuluttajatutkimuskeskus.
- Lehtinen, A.-R., Varjonen, J., Rajas, A., et al. (2010) *Mitä eläminen maksaa? Kohtuullisen minimin viitebudjetit*. Helsinki: Kuluttajatutkimuskeskus.
- Levitas, R. (2000) What is social exclusion? In: Gordon, D. and Townsend, P. (eds.) *Breadline Europe: The measurement of poverty*. Policy Press: Bristol, pp. 357-384.
- Mack, J. and Lansley, S. (1985) *Poor Britain*. London: Allen and Unwin.
- Mack, J., Lansley, S., Nandy, S. and Pantazis, C. (2013) *Attitudes to necessities in the PSE 2012 survey: Are minimum standards becoming less generous?* PSE-UK Working Paper Analysis Series 4, Bristol: Poverty and Social Exclusion in the UK.

- Main, G. and Bradshaw, J. (2012) A Child Material Deprivation Index. *Child Indicators Research*, 5: 503-521.
- McEvoy, O., Mac Mahon, B. and Thornton, R. (2020) *2018/19 Review and Rebase Minimum Essential Standard of Living*. Dublin: The Vincentian Partnership for Social Justice.
- McKay, S. (2004) Poverty or preference: What do 'consensual deprivation indicators' really mean? *Fiscal Studies*, 25(2): 201-223
- Menyhert, B. (2022) *The effect of rising energy and consumer prices on household finances, poverty and social exclusion in the EU*. A preliminary empirical analysis. JRC science for policy report. Brussels: European Commission.
- Moisio, P., Mukkila, S., Ilmakunnas, I., Mäkinen, L., & Saikkonen, P. (2016) Perusturvan riittävyys ja köyhyys.
- Mukkila, S., Ilmakunnas, I., Moisio, P. and Saikkonen, P. (2019) Köyhyys ja perusturvan riittävyys. In Kestilä, L. and Karvonen, S. (eds.) *Suomalaisten hyvinvointi 2018*. Helsinki: Terveiden ja hyvinvoinnin laitos.
- Nolan, B. and Whelan, C. (2010) Using non-monetary deprivation indicators to analyze poverty and social exclusion: Lessons from Europe? *Journal of Policy Analysis and Management*, 29(2): 305-325.
- Official Statistics of Finland (OSF): Income distribution statistics [online publication]. ISSN=1799-1331. Helsinki: Statistics Finland [Referenced: 31.1.2023]. Access method: <https://www.stat.fi/en/statistics/tjt>
- Orshansky, M. (1965) Counting the poor: Another look at the poverty profile. *Social Security Bulletin*, 28(3): 3-29.
- Pahl, J. (1983) The allocation of money and the structuring of inequality within marriage. *The Sociological Review*, 31(2): 237-262.
- Pantazis, C., Gordon, D. and Townsend, P. (2006) The necessities of life. In: Pantazis, C., Gordon, D. and Levitas, R. (eds.) *Poverty and social exclusion in Britain: The Millennium Survey*. Bristol: Policy Press, pp. 89-122.
- Penne, T., Cussó Parcerisas, I., Mäkinen, L., Storms, B. and Goedemé, T. (2016) *Can reference budgets be used as a poverty line?* ImPRovE Working Paper No 16/05. Antwerp: Herman Deleeck Centre for Social Policy – University of Antwerp.
- Penne, T., Cornelis, I. and Storms, B. (2020) All we need is...Reference budgets as an EU policy indicator to assess the adequacy of minimum income protection. *Social Indicators Research* 147 (3): 991-103.
- Perusturvan I arviointiryhmä (2011) *Perusturvan riittävyuden arviointiraportti*. Avauksia 4/2011. Helsinki: Terveiden ja hyvinvoinnin laitos.
- Perusturvan II arviointiryhmä (2015) *Perusturvan riittävyuden arviointiraportti 2011–2015*. Työpäperi 1/2015. Helsinki: Terveiden ja hyvinvoinnin laitos.
- Perusturvan III arviointiryhmä (2019) *Perusturvan riittävyuden arviointiraportti 2015-2019*. Työpäperi 6/2019. Helsinki: Terveiden ja hyvinvoinnin laitos.
- Piachaud, D. (1981) Peter Townsend and the holy grail. *New Society*, 10(81): 421.
- Piachaud, D. (1987) Problems in the definition and measurement of poverty. *Journal of Social Policy*, 16(2): 147-164.
- Piachaud, D. and Webb, J. (2004) Changes in poverty. In: Glennerster, H., Hills, J., Piachaud, D. and Webb, J. (eds.) *One hundred years of poverty and policy*. York: Joseph Rowntree Foundation, pp. 29-47.
- Purhonen, S., Gronow, J. and Rahkonen, K. (2011) Highbrow culture in Finland: Knowledge, taste and participation. *Acta Sociologica*, 54(4): 385-402.
- Ringin, S. (1987) *The possibility of politics: A study in the political economy of the welfare state*. Oxford: Clarendon Press.
- Ringin, S. (1988) Direct and indirect measures of poverty. *Journal of Social Policy*, 17(3): 351-365.

- Ritakallio, V-M. (2001) Multidimensional poverty in the aftermath of the recession: Finland in 1995 and 2000. In: Kalela, J., Kiander, J., Kivikuru, U., Loikkanen, H. and Simpura, J. (eds.) *Down from the heavens, up from the ashes. The Finnish economic crisis of the 1990s in the light of economic and social research*. Helsinki: Valtion taloudellinen tutkimuskeskus, pp. 406-426.
- Ritakallio, V-M. (2003) The importance of housing costs in cross-national comparisons of welfare (state) outcomes. *International Social Security Review*, 56 (2): 81-101.
- Rowntree, S. (1901) *Poverty: A study of town life*. New York: Macmillan.
- Rowntree, S. (1941) *Poverty and progress. A second social survey of York*. London: Longmans, Green and co.
- Runciman, W.G. (1966) *Relative deprivation and social justice: A study of attitudes to social inequality in twentieth-century England*. Oakland: University of California Press.
- Saunders, P. (2004) *Towards a credible poverty framework: From income to deprivation*. SPRC Discussion Paper 131. Sydney: Social Policy Research Centre.
- Saunders, P. and Bedford, M. (2017) *New minimum income for healthy living budget standards for low-paid and unemployed Australians*. SPRC Report 11/17. Sydney: Social Policy Research Centre.
- Saunders, P., Naidoo, Y. and Griffiths, M. (2007) *Towards new indicators of disadvantage: Deprivation and social exclusion in Australia*. Sydney: Social Policy Research Centre
- Sawhill, IV. (1988) Poverty in The U.S.: Why it is so persistent? *Journal of Economic Literature*, 26(3): 1073-1119.
- Sen, A. (1981) *Poverty and famines. An essay on entitlement and deprivation*. Oxford: Oxford University Press.
- Sen, A. (1983) Poor, relatively speaking. *Oxford Economic Papers*, 35(2): 153-169.
- Sen, A. (1985) A sociological approach to the measurement of poverty: A reply to Professor Peter Townsend. *Oxford Economic Papers*, 37(4): 669-676.
- Sen, A. (1992). *Inequality reexamined*. Oxford: Oxford University Press
- Sen, A. (1999) *Development as freedom*. Oxford: Oxford University Press.
- Simmel, G. (1957) Fashion. *The American Journal of Sociology*, 62(6): 541-558.
- Smeeding, T., Saunders, P., Coder, J., Jenkins, S., Fritzell, J., Hagenars, A., Hauser, R. and Wolfson, M. (1993) Poverty, inequality, and family living standards impacts across seven nations: The effect of noncash subsidies for health, education and housing. *Review of Income and Wealth*, 39(3): 229–256.
- Smith, A. (1776/1976) *Inquiry into the nature and causes of the wealth of nations*. Chicago: The University of Chicago Press.
- Sotkanet (2023) Toimeentulotukea saaneissa kotitalouksissa asuvat henkilöt <https://sotkanet.fi/sotkanet/fi/haku?indicator=s84qt9ZNCgAA®ion=s07MBAA=&year=sy5LsjbV0zUEAA=&gender=t&abs=f&color=f&buildVersion=3.1.1&buildTimestamp=202211091024>. Accessed 6.6.2023
- Spicker, P. (1990) Charles Booth: The examination of poverty. *Social Policy and Administration*, 24(1): 21-38.
- Spicker, P. (1993/2013) *Poverty and social security: Concepts and principles*.
- Storms, B., Goedemé, T., Van den Bosch, K., Penne, T., Schuerman, N. and Stockman, S. (2014) *Pilot project for the development of a common methodology on reference budgets in Europe*. Review. Brussels: European Commission.
- Tilastokeskus (2019) Työvoimatilastoja 60 vuotta. https://tilastokeskus.fi/til/tyti/2018/16/tyti_2018_16_2019-12-03_tie_001_fi.html?utm_source=dlvr.it&utm_medium=twitter. Accessed 6.6.2023
- Townsend, P. (1954) Measuring poverty. *The British Journal of Sociology*, 5(2): 130-137.
- Townsend, P. (1962) The meaning of poverty. *The British Journal of Sociology*, 13(3): 210-227.
- Townsend, P. (1970) Measures and explanations of poverty in high income and low income countries: The problems of operationalizing the concepts of development, class and poverty. In: Townsend, P. (ed.) *The concept of poverty*. London: Heinemann, pp. 1-45.

- Townsend, P. (1979) *Poverty in the United Kingdom. A survey of household resources and standards of living*. Oakland: University of California Press.
- Townsend, P. (1985) A Sociological approach to the measurement of poverty - A rejoinder to Professor Amartya Sen. *Oxford Economic Papers*, 37(4): 659-668.
- Townsend, P. (1987) Deprivation. *Journal of Social Policy*, 16(2): 125-146.
- Townsend, P. (1997) The poverty line: Methodology and international comparisons. In Gordon, D. and Pantazis, C. (eds.) *Breadline Britain in the 1990s*, Aldershot: Ashgate, pp. 49-69.
- Tsakoglou, P. and Papadopoulos, F. (2002) Poverty, material deprivation and multidimensional disadvantage during four life stages: Evidence from the ECHP. In Heady, C., Barnes, M., Millar, J., Middleton, S., Tsakoglou, P. and F. Papadopoulos (eds.), *Poverty and social exclusion in Europe*. Cheltenham: Edward Elgar.
- United Nations (1995) *Report of the World Summit for Social Development. Copenhagen, 6-12 March 1995*. Geneva: United Nations.
- Valadez-Martinez, L., Padley, M. and Torres Penegos M (2018) A dignified standard of living in Mexico: Results of a pilot study of the minimum income standard approach. *Social Indicators Research*, 140: 695-714.
- Van den Bosch, K. (1998) Perceptions of the minimum standard of living in Belgium: Is there a consensus. In Andress, HJ. (ed.) *Empirical poverty research in a comparative perspective*. Aldershot: Ashgate, pp. 135-166
- Van den Bosch, K. (2001) *Identifying the poor: Using subjective and consensual measures*. Milton Park: Routledge
- Veblen, T. (1899/2007) *The theory of the leisure class*. Oxford: Oxford University Press.
- Veit-Wilson, J. (1986) Paradigms of poverty: A rehabilitation of B.S. Rowntree. *Journal of Social Policy*, 15(1): 69-99.
- Veit-Wilson, J. (1987) Consensual approaches to poverty lines and social security. *Journal of Social Policy*, 16(2): 183-211.
- Veit-Wilson, J. (2000) Unfinished business: Seebohm Rowntree's project for British minimum income standards. In Bradshaw, J. and Sainsbury, R. (eds.) *Getting the measure of poverty. Early legacy of Seebohm Rowntree*. Aldershot: Ashgate, pp. 39-59.
- Walker, R. (1987) Consensual approaches to the definition of poverty: Towards an alternative methodology. *Journal of Social Policy*, 16(2): 213-226.
- Wright, G. (2011) *Socially perceived necessities in South Africa: Comparing the views of sub-groups of the population*. Working paper 9, Oxford: Centre for the Analysis of South African Social Policy, University of Oxford.
- Yamamori, T. (2017) The Smithian ontology of 'relative poverty': Revisiting the debate between Amartya Sen and Peter Townsend. *Journal of Economic Methodology*, 26(1): 70-80.



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ISBN 978-951-29-9369-7 (PRINT)
ISBN 978-951-29-9370-3 (PDF)
ISSN 0082-6987 (Print)
ISSN 2343-3191 (Online)