EuSocialCit

European Social Citizenship

How can reference budgets contribute to the construction of social indicators to assess the adequacy of minimum income and the affordability of necessary goods and services?

Authors

Storms, Bérénice
Cornelis, Ilse
Delanghe, Heleen
Frederickx, Marieke
Penne, Tess
Carrillo-Alvarez, Elena
Cussó-Parcerisas, Irene
Bernát, Anikó
Mäkinen, Lauri
Muñoz Martínez, Júlia
Szivos, Péter

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Authors: Bérénice Storms is Research Manager at CEBUD, Thomas More Kempen. Ilse Cornelis is researcher at Thomas More Kempen. Heleen Delanghe is researcher at Thomas More Kempen. Marieke Frederickx is researcher at Thomas More Kempen. Tess Penne is researcher at Thomas More Kempen. Elena Carrillo-Alvarez is Senior Lecturer at Ramon Llull University. Irene Cussó-Parcerisas is researcher at Ramon Llull University. Anikó Bernát is Senior researcher at TÁRKI Social Research Institute, Lauri Mäkinen is University Teacher at University of Turku. Júlia Muñoz Martínez is PHD student at Ramon Llull University. Péter Szivos is Senior Researcher at TÁRKI Social Research Institute.

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Summary

In this working paper we argue that the EU needs a new, additional indicator to implement and monitor the right to an adequate minimum income, as stipulated in principle 14 of the European Pillar of Social Rights. In article 5 of the 'Council Recommendation on adequate minimum income ensuring active inclusion' three kind of indicators are recommended for this purpose. We explain why they all can be criticized, particularly because they insufficiently grasp the essence of what is meant by an adequate minimum income. We define a minimum income as adequate when it succeeds in guaranteeing individual citizens a living standard that enables them to fully participate in society.

An adequate level of income is not only determined by the net level of cash benefits or labour income, but also by the extent to which essential goods and services are affordable. Affordability and adequacy are two sites of the same coin. An income is adequate when essential goods and services are affordable, and vice versa, a good or service is affordable when the disposable household income is at an adequate level to consume a particular good or service without sacrificing consumption of other essential goods and services. Indicators that suffer from insufficient recognition of the link between these two concepts, can result in inadequate monitoring, misleading policy conclusions and ineffective personal assistance interventions.

We are convinced that high-quality reference budgets can make an important contribution to developing adequacy and affordability indicators that are helpful for both, contextualizing existing indicators, and providing combined guidance for successful, multi-level anti-poverty strategies. Reference budgets are priced baskets of goods and services, that illustrate the amount of income that well-defined family types need at the minimum to fully participate in the society in which they live. Departing from a solid theoretical and methodological framework, they look for the financial fulfilment of so-called 'thick needs', while taking account of the differences in socio-economic living conditions between and across Member States. In this paper we are describing the essential building blocks for the development of high-quality reference budgets and discuss their merits and drawbacks. We strongly recommend setting up projects aimed at improving methodology and data availability to improve their comparability. So, they can be very helpful for the Commission to monitor the progress of the implementation of the Council Recommendation and to enhance cross-border learning.

In this project we have taken some major steps forward in constructing cross-national comparable food budgets, in terms of their content as well as well as in terms of the pricing strategy. Moreover, we added the sustainability aspect to the reference budget approach, ensuring that an adequate standard of living defined could also be safeguarded for the next generation. Based on the improved methodology, we have worked out comparable food budgets for households living in an urban context in Belgium, Finland, Hungary and Spain and we used these budgets in a tentative exercise to assess the affordability of a healthy and sustainable diet.

How can reference budgets contribute to the construction of social indicators to assess the adequacy of minimum income and the affordability of necessary goods and services

Project name	The Future of European Social Citizenship
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Work package	EuSocialCit is an interdisciplinary research project aiming to support the EU in strengthening social rights and European social citizenship. It evaluates the current state of social rights in Europe and their relationship to social inequalities, gender inequalities, poverty and precariousness, and diagnoses the shortcomings of current policies and institutions at the level of individual countries and the EU. The EuSocialCit project focusses on three domains in which social rights are important: the empowerment of citizens (e.g. education and activation), fair working conditions and social inclusion. Each of these domains are respectively studied as part of WP3, WP4 and WP5. This report is produced as part of WP5 which is entitled ***Inclusion through social policy***. This WP focusses on minimum incomes sensu lato, social protection and housing. It identifies, among others, more effective policy packages for the future, based on an innovative set of policy indicators.
Web address	For more information about the EuSocialCit project, please visit www.eusocialcit.eu. EuSocialCit's output can also be found in its community on Zenodo: https://zenodo.org/communities/eusocialcit.

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1. Introduction

An adequate minimum income is imperative for the fight against poverty and for the realisation of human rights (Cantillon et al., 2019; Van Lancker et al., 2020). A safety net that secures a decent level of minimum income is not only a prerequisite for the realisation of other rights, but is also a right in itself. The right to an adequate minimum income has been a long-standing commitment of the EU and its Member States and plays a prominent role in the fight against poverty and social exclusion in Europe. In the European Pillar of Social Rights (EPSR) (Commission, 2017), principle 14 specifically addresses the right to an adequate minimum income that ensures a life in dignity, emphasizing the importance of labour market participation and access to enabling goods and services. Recently, this has been further elaborated and supported by the European Commission and Council by means of a Recommendation on adequate minimum income, proposing three benchmarks to assess adequacy (Council of the European Union, 2022): (1) the 'national-at-risk-of poverty threshold (AROP), (2) the monetary value of necessary goods and services, including adequate nutrition, housing, healthcare and essential services, according to the national definitions and (3) a benchmark that member states are free to define and which is 'established by national law or practice and is of a comparable level as the previous two'.

These EU initiatives are important steps forward towards adequate minimum incomes in Europe. When assessing income adequacy, we strongly agree that, besides the income-based AROP-indicator, there is need for a benchmark that represents the costs that households face to access necessary goods and services. Indeed the expenses that households have to make to fulfil their needs, determine largely the extent to which their income is sufficient. Moreover, in last years, the relation between adequate income levels and access to essential goods and services has increasingly come to the fore. The COVID19 crisis and the sharp rise in energy prices revived the discussion on affordability and the vulnerability of people living on inadequate minimum income schemes. This calls for a comprehensive view that reconciles, rather than separates, income-support and cost-reducing measures.

In this paper, despite the considerable progress that has been made at EU level, we argue that the proposed benchmarks are insufficient for two main reasons. Firstly, they are not underpinned by significant normative resources that provide justifications of what should be understood as an adequate income in terms of human dignity. Following Vandenbroucke et al. (2021), we refer here to general deontic resources which can legitimize claims – including claims aimed at turning general principles and prescriptions into legislative provisions. Secondly, although the Recommendations' second benchmark refers to the monetary value of necessary goods and services, it lacks a clear operationalisation of what needs have to be met, what satisfiers are minimally required and how to translate this into a monetary value that takes account of different living situations.

More specifically, we advocate the development and use of high-quality reference budgets as a benchmark providing a sound multi-dimensional understanding of what social safety nets should entail in order to guarantee a life in dignity at all stages of life. Reference budgets are priced baskets

of goods and services that illustrate what households need in order to be able to live a dignified life. While they can be used for several purposes, in this paper we focus on the appropriateness of reference budgets for assessing the adequacy of minimum incomes. By calculating the minimum necessary costs, reference budgets-based indicators have the great advantage of including the link with affordability. An income is only adequate when it enables people to afford all essential goods and services, while goods and services can only be affordable if people have a sufficiently high income to be able to pay for them. In this way, reference budgets provide combined guidance for three related core strands of any successful anti-poverty strategy, namely (1) policies that increase income protection directly through the tax- and benefit system and wage regulations; (2) policies that improve the affordability of essential goods and services and (3) policies that strengthen individual competences and labour market participation.

However, if the adequacy of minimum incomes is to be monitored at the European level, there is need for reference budgets that can be compared, at least in a procedural way, across member states. In previous EU projects (Goedemé, Storms, Penne, et al., 2015b; Goedemé, Storms, Stockman, et al., 2015a, Menyhert, 2021) first attempts have been made towards the development of cross-nationally comparable reference budgets in Europe. This paper frames within the large-scale EuSocialcit project, where additional steps have been taken towards more comparability. More specifically, the methodology to develop cross-nationally comparable food baskets representing a healthy and sustainable diet has been further elaborated and implemented in four European countries (Belgium, Finland, Hungary and Spain). In this paper, we summarize the main achievements and lessons of this project for the future development of complete reference budgets across Europe. Although food budgets alone are obviously insufficient to assess the adequacy of minimum incomes, the paper aims to illustrate how these comparable food baskets are a first step to measure both affordability problems and income adequacy in a comprehensive way across Europe.

Since complete and comparable reference budgets across Europe are still a long road, this paper sets out the most important building blocks to develop high-quality reference budgets. Following Van Lancker, Aranguiz & Verschueren (2020), these can be seen as *core standards* that form a guiding framework to support member states to develop reference budgets that represent what is minimally needed for social participation taking into account national circumstances. This instrument of national consensus-building would not only support the concrete implementation of the Pillar and Recommendation within the member states but could also contribute to a common understanding of what it means to live a life in dignity across Europe, and in this way enhance normative justifications for a comparative minimum income benchmark at European level.

The structure of this paper is as follows. Section 2 briefly frames the current European initiatives with respect to the right to an adequate minimum income. In section 3 we discuss what is to be understood by an adequate minimum income and how this links to affordability. Section 4 first concentrates on the indicators put forward to monitor income adequacy at an European level. The discussion of their advantages and disadvantages is based on generally accepted quality criteria of social indicators, and points to the different dimensions of adequate minimum income protection systems. In the last part of section 4 we further elaborate on reference budgets as indicators to assess minimum income

adequacy, setting out the essential building blocks and discussing their merits and drawbacks. Section 5 focuses on the need for comparable indicators to facilitate cross-national learning and to help the Commission in its monitoring task on the adequacy of minimum income support. It discusses the further steps taken in the EuSocialcit project, lessons learned and potential further steps. Section 6 concludes.

2. The right to an adequate minimum income at EU level

The right to an adequate minimum income started with the 1992 Council Recommendation on common criteria concerning sufficient resources and social assistance in social protection systems (European Council, 1992). In later years the link with active inclusion policies gained more ground, with an emphasis on labour market integration and access to enabling services (European Commission, 2008, 2010).

The most recent and important EU initiative that goes the furthest in recognising the right to an adequate minimum income, is the European Pillar of Social Rights (EPSR). The EPSR has been endorsed by the European Parliament, the Council and the Commission in 2017 as a common endeavour for a strong social Europe that enhances social rights and social cohesion (European Commission, 2017). It enfolds 20 principles, of which principle 14 states that: *"Everyone lacking sufficient resources has the right to adequate minimum income benefits ensuring a life in dignity at all stages of life, and effective access to enabling goods and services. For those who can work, minimum income benefits should be combined with incentives to (re)integrate into the labour market."* Besides principle 14, the commitment to guarantee an adequate income is also reflected in other principles such as the right to an adequate minimum wage (principle 6), adequate social protection (principle 12) and adequate unemployment benefits (principle 13) (European Commission, 2017).

In March 2021 the Commission adopted an Action Plan for the implementation of the EPSR, turning the 20 principles into concrete actions (European Commission, 2021). It proposes three headline targets for the EU to reach by 2030 on poverty reduction, employment and skills. In the area of poverty reduction, the ambition is to reduce the number of people at risk of poverty or social exclusion by at least 15 million by 2030, including at least 5 million children. In order to reach this target, the Action Plan calls for an integrated approach to address needs at all stages of life. Progress is monitored through a revised social scoreboard and a benchmarking framework on minimum income, agreed by the Social Protection Committee (European Commission, 2021).

In addition, in order to support the minimum income policies of the Member States, the Council of the European Union adopted two important initiatives of the European Commission: *the Directive of the EU Parliament and the Council on adequate minimum wages* (Directive (EU) 2020/2041) and *the Council Recommendation on adequate minimum income ensuring active inclusion* (Council of the European Union, 2022). First, the directive on adequate minimum wages was one of the first key actions accompanying the EPSR. It specifically supports EPSR principle 6 recognising the right to adequate minimum wages that ensure a decent standard of living.

Second, the Council Recommendation on adequate minimum income replaces and extends the 1992 Council Recommendation while building on the 2008 Commission Recommendation on active inclusion of people excluded from the labour market. The recommendation specifically contributes to the implementation of principle 14 but also contains reference to the other principles in the Pillar that

are focused on adequate incomes, access to services and labour market integration. Its aim is to guide Member States on how to ensure that their minimum income schemes are adequate, inclusive and reach all people in need, and help incentivise those who can work back to the labour market (Council of the European Union, 2022). More specifically, guidance is offered on how to improve (a) adequacy of minimum income, (b) coverage and take-up of income support, (c) access to inclusive labour markets, (d) access to enabling and essential services, (e) assessment of individual needs and tailored support, and (f) effectiveness of the multi-level governance of social safety nets.

In this paper, we focus on the first key component, recommending the provision of adequate social safety nets through adequate income support and in-kind benefits. In the recommendation Member States are advised to set the level of adequate minimum income through a transparent and robust methodology taking account of the specific needs and disadvantaged situations of the households, while safeguarding incentives to (re)integrate the labour market for those who can work. In article five of the recommendation three benchmarks are put forward to assess minimum income adequacy. In this paper, we criticize each of them because they do not sufficiently grasp the essence of what is meant by an adequate minimum income. Before going more into depth on these current indicators and on why we think high-quality reference budgets should be added to the benchmarking framework, the next section starts with defining what we mean by an adequate minimum income.

3. What do we mean by an adequate minimum income?

3.1 Defining the concept of minimum income

Minimum incomes are part of the broader social safety nets of welfare states and can be seen as the non-contributory and means-tested safety nets of a last resort for people to fill the gap to reach a decent level of income and reduce poverty and social exclusion. Social safety nets or social protection systems include a wide variety of policy instruments that can be divided into two types: (1) cash benefits, meaning all types of monetary income support, and (2) benefits in kind, meaning all types of measures that directly aim at improving the access to essential goods and services. All cash and in kind benefits can further be distinguished along the continuum from universal to targeted measures, in other words the extent to which they are specifically directed to vulnerable groups.

Generally, cash benefits can be divided in two strands (Cantillon & Buysse, 2016). On the one hand, it includes the social security system that protects everyone from social risks such as illness, disability, unemployment, raising children or old age (horizontal redistribution, mostly based on contribution). The aim of this first strand is to maintain – up to a certain extent – the acquired standard of living across the life course. On the other hand, most EU welfare states provide means-tested minimum income benefits (vertical redistribution, non-contributory). The aim is explicitly to guarantee a minimum decent living standard for beneficiaries who have exhausted all other sources of income or for whom benefits are not adequate. Both redistributive mechanisms build on principles of solidarity and reciprocity, while operating in symbiosis with the pursuit of economic growth and productivity (Cantillon & Buysse, 2016). Hence, in the traditional social protection system, the strive for a decent living standard has always been intrinsically linked with the strive for active inclusion and economic and social stability.

Besides cash benefits, social safety nets also contain benefits in kind in order to prevent and combat poverty and inequality and enhance active inclusion. In-kind benefits are always related to the provision of certain goods or services and so households have no or little discretion over their use. On the universal-targeted axis we can broadly distinguish two types of in kind benefits: 1) the universal public provision or subsidization of goods and services such as health care, public transport, education and care services, that are provided by the government for free or far below their cost regardless of households' financial situations and, (2) targeted cost reductions and social tariffs that improve access to essential (public) goods and services specifically for vulnerable groups such as social housing, study grants and social tariffs for energy or public transport.

As emphasized in the EU Recommendation on adequate minimum income (Council of the European Union, 2022), minimum incomes, generally provided through social assistance schemes or other social security minima, should be seen as a part of general income support, which in turn forms part of the social safety net as a whole. Together with support systems for people in work (minimum wage, in-work benefits, meal vouchers or eco cheques), this whole social safety net of cash and in-kind benefits

can be seen as a machinery with different radars interacting with each other, together contributing to alleviate poverty and social exclusion and to guarantee life in dignity at all stages of life. Hence, it should be brought in focus when assessing the adequacy of minimum incomes.

However, especially when including targeted cost-reducing, in-kind benefits, it is important to bear in mind that they are not all rights-based and that non-take-up rates might be high due to several institutional, administrative and socio-cultural barriers (see e.g. Van Mechelen and Janssens 2017). Therefore, we argue to include only those benefits that are automatically allocated or at least characterised by high service and take-up rates. Policy makers should be aware of the fact that the different roads to strive for an adequate minimum income are not neutral and could have behavioural implications such as the extent of non-take up dan labour market participation.

Although minimum wages are not captured by the definition of minimum income, they are an important element of the social safety net as a whole. Minimum wages, often topped up with social assistance schemes and in-work benefits, are crucial in order to ensure a decent living standard for those participating in the labour market. Moreover, they have a considerable impact on the level of minimum incomes because of the (political) importance of financial work incentives (see e.g. Collado et al. 2019). Therefore, for a comprehensive analysis of minimum income adequacy, the adequacy of income protection for people working at a minimum wage should be taken into consideration.

3.2 What do we mean by adequacy?

Dictionary definitions of adequacy explain the concept as ‘sufficient for the purpose’, and more specifically refer to a quantity or quality that meets a need or requirement but without being abundant (Merriam-Webster, 2022; Oxford University Press, 2022). In line with these definitions, we will base our elaboration on adequate minimum income, on both a discussion of the main purpose of minimum income in Europe and the level at which they can be considered as sufficiently satisfying.

We can identify a threefold objective of minimum income protection, and of approximately of the entire social safety net: (1) alleviating poverty and ensuring a decent life, (2) stabilizing and supporting the economy, especially in times of crisis, and, (3) promoting social inclusion and active labour market participation. At the same time income protection should be fiscally sustainable (Collado, et all., 2019; Vandenbroucke et al., 2021). In other words, minimum income levels are considered adequate if they are high enough to enable people a life in dignity and at the same time not being too high in order to maintain financial incentives for those capable to work and in order to be budgetary sustainable. However, the notion of human dignity is commonly used at an abstract level in many disciplines and traditions, hence having different meanings (McCrudden, 2013; Sedmak, 2013). According to Aranguiz (2021), the right to human dignity holds a central position in the EU, symbolizing a benchmark commitment in- and outside the countries of the European Union. It represents the very essence of being human and thus the inviolable core of all other human rights: it’s because we are human beings, we deserve respect and are entitled to human rights. The term ‘inviolable core’ refers to those aspects of a legal rule that are universal and whose compliance is not place and time dependent. Searching for the essence behind these 'hard core' social rights, scholars refer to the reciprocal nature of the

concept of human dignity, i.e. social rights are 'social' not only because they aim to protect individual human dignity, but also because they strive to achieve a more humane society (Chan et al., 2006; Maes, 2003; Sedmak, 2013; Stroobant, 1995).

From this reciprocal relationship between humans and society, EU member states are expected to develop a minimum income that is at a sufficiently satisfying level compatible with a life in human dignity, while maintaining incentives to work for minimum income beneficiaries. In other words, the net minimum income, including in kind benefits of families living on non-contributory and means-tested benefits should be high enough so that people remain able to participate in society. The need for a sufficient income to participate fully in society is supported by compelling international research showing that a lack of financial resources has a negative impact on the access to services such as quality housing, health care or employment services (Eurofound, 2017; Bonoli et al. 2017, Hernández-Quevedo et al., 2006; Lynch et al., 2000; Marmot, 2002; Muennig, 2008). Moreover, a chronic lack of money has substantive psychological consequences, such as higher levels of stress, shame and anxiety, that in turn lead to economic behaviour that causes social exclusion (Duflo & Banerjee, 2011; Haushofer, 2019; Haushofer & Fehr, 2014; Mani et al., 2013; Mullainathan & Shafir, 2013; Schwabe & Wolf, 2009; Shah et al., 2012; Walker & Bantebya-Kyomuhendo, 2014). On the other hand, the level of minimum benefits should not be too high so that people are not motivated to work. This may be the case when net income from work is barely higher than the income from benefits[1]. Both when people are no longer able to work, as well as when people are no longer motivated to work, the sustainability of the welfare state is at risk.

Hence, there is a need for further theoretical underpinnings to translate the broad and abstract concept of human dignity into an adequate threshold, providing justifications of what is minimally needed to live a life in human dignity, more in particular referring to the needs and satisfiers that are essential to enable full participation in society. So, a connection must be made between a rights based discourse and a needs based discourse. For this, we can draw on the work of Dean (2010), who conceives the right to a decent income, like all other social rights, as socially negotiated expressions of human needs that evolve over the course of history. They can be negotiated from the national to the European and global level, ranging from the suboptimal to the emancipatory, referring respectively to the so-called 'thin needs', or only the necessary needs for survival as human beings and to the fulfilment of 'thick needs', which add a layer of needs necessary for a dignified existence, to be able to develop fully as a human being and to participate in society (Dean, 2010; Gough, 2014; Nussbaum, 2000).

3.3 The link between adequate incomes and access to essential goods and services

Several principles in the EPSR (2017) refer to access to affordable goods and services of good quality. For instance: the right to quality and inclusive education, training and life-long learning (principle 1),

[1] However, research shows that this relationship is far from straightforward but depends heavily on the institutional context (Biegert, 2017).

the right to affordable early childhood education and care of good quality (principle 11), the right to timely access to affordable, preventive and curative health care of good quality (principle 16), access to social housing or housing assistance of good quality (principle 19) and the right to access essential services of good quality, including water, sanitation, energy, transport, financial services and digital communications (principle 20) (Commission, 2017).

The Action Plan (Commission, 2021) as well as the Council recommendation on adequate minimum incomes (2022) include the 'improvement of access to enabling[2] and essential[3] services' as one of the specific objectives in order to deliver on EPSR Principle 14. Effective access to services is defined as "a situation in which relevant services are readily available, affordable, accessible, of good quality, provided in a timely manner and where the potential users have equal access to them, are aware of their existence, as well as of entitlements to use them" (Council of the European Union, 2022). Together with adequate income support, effective access to enabling and essential services (of good quality) is named as part of a robust social safety net that ensures a life in dignity.

Access to goods and services is about meeting needs (Levesque et al 2013; Eurofound 2020). In describing the right to access to these essential services, affordability is consistently mentioned as a key condition. In addition, principles 11, 19 and 20 emphasize the right to support measures to enhance access to services for people in more vulnerable situations. Affordability – as a part of access – should be then seen and analysed in proportion to people's needs. In the whole process of obtaining access, affordability and the ability to pay are but one dimension where potential barriers might manifest, alongside other non-financial barriers (Levesque et al 2013; Eurofound 2020). The affordability of a good or service depends on (1) the direct cost or price to use or consume a good or service in order to fulfil needs, (2) the indirect opportunity costs such as loss of income or time, (3) the economic resources of the person and the household, (4) the expenses of accessing other needs, (5) the socio-political context (Levesque et al 2013; Vanhille et al. 2018). Policies can improve the affordability of a specific good or service by intervening in each of these aspects. On the one hand, policy makers can aim at reducing the (in)direct costs of the specific good or service or of essential goods or services in general. On the other hand, they can increase the economic capacity of households by applying universal or selective measures in the tax and benefit system. So, every successful intervention on either of these aspects that results in increasing the affordability of essential goods and services among households entitled to minimum income contributes (to a lesser or greater extent) to increasing adequacy.

Affordability and adequacy are mutually interlinked. We have defined an adequate income as sufficient resources to be able to fully participate in society. Hence, an income is only adequate when

[2] Enabling services are defined as services targeting specific needs of persons lacking sufficient resources to ensure that they are able to integrate in society and, where relevant, into the labour market, including social inclusion services, for example social work, counselling, coaching, mentoring, psychological support, rehabilitation and other general enabling services, including early childhood education and care, healthcare, long term care, education and training, and housing.

[3] Essential services are fundamental for social integration and in principle available for the whole population, recognising problems of access and affordability for people experiencing budget constraints. Examples are water, sanitation, energy, transport, financial services and digital communications.

it covers the minimum costs to access the goods and services necessary to fulfil needs for social participation. In other words, when it enables people to afford all essential goods and services. On the other hand, a good or service can only be affordable if people have a sufficiently high income to access the good or service without being forced to under-consume other essential goods and services, in other words to meet their needs. In section five, we will show that indicators that do not sufficiently account for this link between adequacy and affordability potentially give rise to misleading policy conclusions and advice. First section 4 discusses in more detail the current indicators for assessing and monitoring minimum income adequacy, especially those that are mentioned in the Council recommendation on adequate minimum income.

4. How is adequacy proposed to be monitored?

4.1 Guiding principles for social indicators

Based on the work of Atkinson et al. (2002) and the monitoring framework published by the Social Protection Committee Indicator Sub-Group (Social Protection Committee, 2022), we summarise the quality criteria for the development of social indicators in Europe.

First, a good indicator should capture the essence of the social problem and have a clear and widely accepted normative interpretation (internal validity). This also means that an indicator should be meaningful, intuitive and should clearly indicate what is considered progress and what is considered regression. The second criterion states that a high-quality indicator must be robust and statistically measurable (external validity). The data used must be reliable and the method must be replicable in another context without unexplained deviations. Third, a good indicator should provide a sufficient level of cross-national comparability, as far as practicable. As a fourth criterion, it is important that an indicator is responsive to policy interventions, without being susceptible to manipulation. Finally, it is also stressed that an indicator should build on available data, be timely and susceptible to revision. Next to these methodological criteria, the ISG specified two categories of indicators (EU indicators and National indicators) in which indicators should be used. In doing this, it aims to overcome the problem that sometimes an indicator needs to contain very specific policy information, but does not fulfil all the quality criteria (e.g. comparability). The first category contains commonly agreed EU indicators, which have the aim to compare Member States' progress towards common objectives on social protection and inclusion. The second category, commonly agreed national indicators, contains indicators based on common definitions and assumptions but do not allow for direct cross-country comparison or do not have a clear normative interpretation. They aim to provide key information to asses Member states' progress, as for example on the scale and nature of specific policy interventions. Next to this two categories of indicators, the SPC states the importance of the availability of context information which is needed to frame and understand the different national contexts.

4.2 Current indicators to monitor adequacy at the EU level

The recommendation on adequate minimum income (Council of the European Union, 2022) puts forward three possible ways to measure the adequacy of minimum incomes. It defines the level of income needed as: "*a level which is at least equivalent to one of the following:*

a) the national-at-risk-of poverty threshold; or

b) the monetary value of necessary goods and services, including adequate nutrition, housing, healthcare and essential services, according to the national definitions; or

c) *other levels comparable to the levels referred to in point (a) or (b), established by national law or practice*." (Council of the European Union, 2022, article 5)

The national-at-risk-of-poverty threshold (AROP), measured as 60% of the national equivalised median income, is today commonly used as an indicator to monitor the adequacy of minimum income

at the European level. Adequacy is assessed by comparing the level of a minimum income with the national poverty threshold (as an indication of the extent to which a minimum income succeeds in reducing income poverty) (European Commission & Social Protection Committee, 2022; Social Protection Committee, 2022; Van Lancker, Aranguiz & Verschueren, 2020). Also in the renewed social scoreboard, published as a part of the European Pillar of Social Rights Action Plan, it remains the most important indicator to assess the adequacy of minimum income. In line with this, the renewed scoreboard proposes a new secondary indicator, named the 'benefits recipients rate' which includes the share of individuals (age 18-59) receiving any social benefit (other than old-age) among the population at-risk-of-poverty (as an indicator of how well the minimum income scheme covers its target population) (European Commission, 2021; Council of the EU, 2021).

Both indicators are recently used in a study from the Joint Research Centre of the European Commission (Almeida, De Poli, Hernández, 2022), finding that the level of minimum income benefits is below the poverty line in more than half of the EU Member States. Another current commonly used indicator to assess minimum income adequacy, although not included in the Recommendation, compares the level of the minimum income by the income of a low-wage earner defined as 50% of the gross average wage (as an indication of financial incentives to the labour market) (European Commission & Social Protection Committee, 2022). The 2022 Minimum Income Report published by the Social Protection Committee and the European commission shows that in all member states the net minimum income for a single person is below 80% of the income of a low-wage earner (but differing a lot between member states), and thus ensuring financial incentives to work (European Commission, 2022; European Commission and Social Protection Committee, 2022).

The second indicator included in the Recommendation on adequate minimum incomes concerns the monetary value of necessary goods and service. Here the Recommendation refers to reference values based on nationally defined baskets of goods and services, reflecting the cost of living in a given Member State or a region as a guide towards adequate minimum income. Despite the reference to some specific needs to define a cost of living, a broader (methodological) framework is missing. The Recommendation makes no (normative or theoretical) substantiated link between an adequate living standard in terms of living in dignity and the goods and services included in a monetary indicator for assessing adequacy. Next to that, neither a detailed operationalised definition of 'necessary goods and services' or methodological guidelines on how to calculate the cost of these needs is provided.

In the following sections we will reflect on some merits and drawbacks of using the AROP as an indicator to measure the adequacy of minimum income. After that we will describe reference budgets as an alternative indicator to assess the adequacy of income, which in our view could be an excellent translation of the second indicator put forward by the Recommendation on adequate minimum income (see point b) above, (Council of the European Union, 2022). Also for this indicator we will reflect on some merits and drawbacks.

4.3 Merits and drawbacks of the AROP

As discussed in the beginning of this section, besides being one of the main headline poverty indicators in the EU2020 strategy (European Commission, 2020a) and in the Action plan of the EPSR (European Commission, 2021), the at-risk-of-poverty-threshold is also commonly used to assess the adequacy of minimum income in Europe. As such, using the AROP-threshold as an income adequacy benchmark is in line with past and previous pan-European policy strategies and statistical infrastructure. However, since the adoption of the AROP in 2001 a lot of arguments pro and contra the indicator have been discussed in scientific literature. We will here, without claiming to be exhaustive, focus on some of its merits and drawbacks with a view of assessing and monitoring the adequacy of minimum income in Europe.

Regarding the criterion of internal validity, the AROP has a rather **straightforward interpretation**. When defining adequate income in terms of not living in poverty, the AROP's focus on disposable income fits with the official European poverty definition (Decanq, De Wilde, Nolan, Parolin, Storms & Van den Bosch, 2022): "People are said to be living in poverty if their income and resources are so inadequate as to preclude them from having a standard of living considered acceptable in the society in which they live (Council of the European Communities, 1975: Art. 1.2)". This aspect of relativity is key for conceptualising and measuring poverty. However, by assuming that what can be considered as an adequate living standard in society evolves proportionally to the national median income, this indicator **lacks normative persuasiveness**. It makes no statement on the extent to which an income fixed to 60% of the median income is sufficiently adequate in all member states to enable people to live a life in dignity. This is why many European Countries also report on other (40%, 50%, 70%) threshold values.

Therefore, the **AROP-threshold should be contextualized** (Cantillon and Vandenbroucke 2014). In fact, when Atkinson et al. (2002) made their recommendations for a system of EU social indicators, they wrote, "It is, we believe, possible to 'demystify' the choice of percentage, and thus the level of the poverty line, by explaining what it means in terms of purchasing power in each individual member state" (Atkinson et al. 2002, p.92). Later, the EU's Indicator Sub-Group emphasized that "for each country, the poverty risk indicator must be assessed by looking at both the share of people whose income is below the threshold and the comparative level (in purchasing power standards [PPS]) of this threshold" (Social Protection Committee Indicator Sub-Group, 2022, p.15).

Being solo based on cash income, the AROP is **biased against benefits in kind and public services and only responsive to income policies**. This is particularly problematic when using the AROP for assessing and monitoring the adequacy of minimum income. The problem has been acknowledged by researchers for quite some time, and a number of studies are addressing it, using a variety of approaches and methods for taking account of housing, education or healthcare costs (European Commision, 2013; Eurostat; 2022a; Maestri, 2015; Verbist, Föster & Vaalavuo; 2012; Verbist & Matsaganis, 2014), but because of methodological difficulties and data challenges this is still not a common practice.

At an individual level, the AROP-threshold it is **not sufficient as an indicator to assess minimum income adequacy** or to use it as a benchmark to give individual support. Using the AROP as a benchmark to provide an answer to the question: 'can this family live a life in dignity when receiving a minimum income?' is difficult for several reasons of which the most important are: the level of the AROP does not necessary reflect a level of income needed to fully participate in society, it does not take into account necessary costs families face, nor access to goods and services in a specific societal context and it is not straightforward to take account of received in kind benefits when assessing financial needs.

Being a largely procedural indicator, the AROP is conceived as a **reliable and robust** indicator (Aranguiz, 2020; Atkinson, Guio & Marlier, 2017). Given the current data available, using the AROP makes it possible to generalise the assessment of minimum income adequacy to the national population level. It is also relatively easy to implement in a large number of countries and can be compared between countries and over time.

However, using the AROP for comparing income adequacy across countries or over time, difficulties arise. It's threshold appears to refer to **different levels of adequacy or decency across countries**, showing that an income at the level of the AROP-threshold makes it possible to participate adequately in society in some EU member states, while not even representing a level of basic physical subsistence in other countries (Goedemé, et al., 2019). Because of this, comparability in terms of actual living standards is limited. In comparing the AROP over time, a particular point of concern arises. When shocks in the median income appear, for example in periods of strong economic growth or rapid economic decline, the at-risk-of-poverty rate shows counterintuitive trends. These are often not in line with the evolution of purchasing power or living conditions (Goedemé et al., 2022; Savage et al., 2019).

Finally, evaluating the AROP in terms of feasibility, the indicator has been **implemented relatively easily** in different countries. It is built on the EU-SILC data which is updated yearly. The COVID-19 crisis highlighted the need to study possibilities of revising the indicator with new methodologies. The importance of timely data for crisis management together with the barriers of data collection caused by the crisis brought new initiatives as Flash estimates into focus and demonstrate the improvability of the AROP indicator. Flash estimates provide timelier social statistics by using the nowcasting methodology which makes it possible to more rapidely estimate the impact of policies or economic shocks on social outcomes, as the AROP (Eurostat, 2022b).

4.4 Reference Budgets

Based on the previous section, we argue that there is a need for an additional indicator to assess and monitor the adequacy of minimum income support at different policy levels. One of the main drawbacks of the AROP, is that it often does not represent an accurate picture of what can be understood as a decent living standard in different countries and is, therefore, not well suited to be used (as the only indicator) for monitoring relevant policies. Recent EU initiatives propose to include a needs-based monetary reference value of necessary goods and services as a benchmark to assess adequacy but they refrain from translating this into a concrete guiding framework that relates to

human dignity (see Section 4.2). The following normative and empirical questions arise: what goods and services are minimally needed to ensure a dignified life, how should this be translated in a monetary value and how does this differ across households and contexts?

In our view, reference budgets offer a well-suited method to operationalise this additional indicator, since they are precisely an attempt to answer these urgent questions. Reference budgets are priced baskets of goods and services that illustrate a given living standard (Bradshaw, 1993, p. 1). In Europe, reference budgets are well known and widely used by various stakeholders (Storms et al., 2014a). In many countries, they refer to the minimum required resources that people need in order to fully participate in society. In a more limited number of (mainly eastern European) countries, they relate to a lower living standard, namely a (slightly higher than) subsistence level. Reference budgets are used for several purposes. At a general macro policy level, they are used as a benchmark for assessing the adequacy of (minimum) income protection schemes, measuring poverty or contextualizing existing income poverty measures (thresholds and equivalence scales). In eight countries, national governments currently rely on reference budgets to assess, determine or update the level of minimum income benefits (European Commission, 2022, pp. 19-22). At a micro-level, the most common use is providing financial education and debt advice. An additional practice of public administrations or other stakeholders at the local level is its use for assessing financial need tailored to each family and providing additional financial support accordingly (see: Storms et al., 2014a, pp. 14-38 ; The European Platform on Reference Budgets[4]).

Deciding on the purposes for which reference budgets are developed co-determines their conceptual basis and design. This paper addresses the appropriateness of reference budgets for assessing adequate minimum income. In section 3 of this paper, we defined adequate minimum income as social safety nets of a last resort that succeed in guaranteeing individual citizens a living standard that enables them to fully participate in society, while strengthening the economic and social stability of a society. We explained that an adequate level of income is not only determined by the net level of monetary benefits or labour incomes, but also by in kind benefits and by the out-of-pocket costs of essential goods and services.

In what follows, we further elaborate on the essential building blocks and discuss the merits and drawbacks of reference budgets as indicators to strengthen the adequacy of national member states' minimum income safety nets. Since there are many different routes to develop a reference budget, we must first clarify which reference budgets approach we refer to in order to be able to evaluate its merits and drawbacks. Therefore, we will start with a discussion of the essential building blocks that high-quality reference budgets should meet if they wish to be used for the purpose of monitoring income adequacy. In the next paragraph, we elaborate on the extent to which reference budgets meet the quality criteria for commonly agreed national indicators put forward by the ISG in order to evaluate the appropriateness as an indicator to assess the extent to which a national minimum income is sufficiently high (see above, Atkinson, et al., 2002).

[4] The EU Platform on Reference Budgets is a platform that brings together researchers and stakeholders that work on Reference budgets across Europe. For more information see www.referencebudgets.eu.

4.4.1 Building blocks of high quality reference budgets

For reference budgets to be of good quality and accepted as a suitable tool by various social stakeholders, including governments at different administration levels, civil society organisations and citizens, they must have a strong conceptual and methodological basis. Based on previous research on comparable reference budgets at the EU level (e.g. Goedemé, Storms, Penne, et al., 2015a; Goedemé, Storms, Stockman, et al., 2015b; Menyhert et al., 2021), this section discusses the key building blocks needed to develop reference budgets for the purpose of monitoring the adequacy of minimum incomes across European countries. We will subsequently define the targeted standard of living, the targeted population, the theoretical framework for taking certain needs into account when determining the standard of living and the method in order to operationalise these needs into an accurate minimum monetary benchmark.

Targeted standard of living

The standard of living to which Article 14 of EPSR refers is the one that should guarantee to all citizens a life in dignity at all stages of life. In the third section of this paper we discussed the concept of human dignity and how this, given its reciprocal nature, can be translated to social participation. We define this *as being able to adequately play (and contribute to) the various social roles one should be able to play as a member of society* (Storms 2012). However, determining what constitutes full social participation is a distinctly normative issue of which the outcome is continuously determined by the different value judgements and attitudes of various stakeholders. Therefore, reference budgets should be seen as an **instrument to build a social consensus on what constitutes a decent standard of living**.

As said above, there is little doubt that any targeted standard of living, even if everyone would understand it in the same way, has a certain elusiveness and hence it cannot refer to an exact limit. However, we do think it is possible to estimate a lower bound for the minimum financial resources required, especially when specific assumptions are made about the characteristics of the target population.

Target population

The target population is the group of people for whom reference budgets are developed. As the European Union wants to support the policies of its Member States and offer guidance to improve the adequacy of minimum income, the target group consists in theory of all European citizens, at all stages of life. However, in line with the principle of subsidiarity, social protection policy remains primarily a responsibility of the Member States. Therefore, and given the large economic, cultural, institutional, geographical and climatic differences between countries, not so much in terms of needs (Goedemé et al., 2019) but rather in terms of the nature and cost of the satisfiers to fulfil these needs, the target group for which reference budgets will be developed should initially be limited to the inhabitants of each European country. It is best to start from the **national level**, unless there are major geographical, cultural or institutional differences between regions or communities, leading to significant variations in the access to and prices of essential goods and services. In these cases, it is important to explain why reference budgets differ from region to region and in what respects they are similar.

But even within the same country or region, there are large variations between households (e.g. depending on their composition, place of residence or health status of family members) in the type, quantity and cost of products and services needed to fulfil essential needs. It is therefore impossible to develop one benchmark that represents an adequate standard of living for any household in a specific country. For assessing a monetary threshold, reference budgets must be developed for well-defined **hypothetical households** living in a specific individual-family and environmental context.

In order to estimate a **lower bound** for the minimum required financial resources, and to enhance feasibility and validity, the living context of the target population ought to be relatively favourable, and at the same time not too far from what can be considered feasible in a given society. By giving a very concrete and transparent description of the personal characteristics of the family members (in good health, well-informed and having the required competences to manage their limited budget) and their living conditions (a housing and living environment of good quality and with sufficient access to (public) goods and services), a reference budget can be calculated that illustrates an acceptable minimum cost of a dignified living standard for specific family types.

When evaluating neediness for actual individual living situations, this illustrative financial bottom line should be adapted if the conditions do not apply. Therefore, it is crucial that reference budgets are **flexible** to be customised for individualized support so that the specific needs and often disadvantaged living situations of vulnerable households can be taken into account (e.g. their actual housing and health situation). This can be done by social workers from social services in dialogue with needy households. For instance, by making use of online applications they can become a tailor-made instrument for local policy makers to grant additional support to individual families with insufficient resources (Frederickx, Storms, Cornelis, 2022).

Theoretical framework

A well-argued instrument of consensus building on what is needed to participate fully in society is essentially a normative matter that should depart from a solid theoretical framework. In consulting philosophical and empirical literature the abstract concept of human dignity is to be translated into a theoretical framework that can be widely accepted and used to operationalise an adequate minimum income. In doing this, reference budgets take a human needs perspective and interweave this with social rights. As explained in section 3, combining a needs- with a rights-based discourse strengthens the normative justification and validity of the benchmark.

Importantly, reference budgets do not aim to capture what one is actually having or doing, but following the capability theory (Sen 1985, 1983; Nussbaum 2000), they measure what one *is able to* have or do. Thinking in terms of *capabilities*, i.e. the total set of possibilities available to a person, also has the advantage of allowing for a distinction between minimum capabilities (or basic needs) and the resources required to fulfil them that are relative to individual and societal circumstances (Sen 1985, 1983). For instance, a person in bad health requires more resources to obtain the same set of capabilities than a person in good health. In turn, when that person lives in a society with an accessible health care system, fewer personal resources are needed, compared to a society with high socio-economic barriers to access health care.

To develop reference budgets across Europe, a common set of essential human needs or basic capabilities should be identified that, at least at an abstract level, can be applied in a universal way. Sen never developed such a list of basic capabilities, but others (e.g. Doyal and Gough 1991; Nussbaum 2001) made valuable attempts at defining a normative framework regarding what is needed to operationalise a minimum decent living standard or full social participation.

In a previous study (Goedemé et al 2019) we found that, at least at an abstract level, there seems to be a common understanding across Europe of what is needed for adequate social participation. We found overall support in focus groups across 24 EU capital cities for the relevance of the following set of needs: adequate housing, clothing, an adequate diet, personal hygiene and health care, rest and leisure, maintaining social relations, security in childhood, mobility, security and lifelong learning. Furthermore, several of these needs were found to resonate well with social rights included in the European Convention of Human Rights and the European Social Charter (Goedemé et al 2019). Although this list of needs does not claim to be exhaustive (e.g. some focus group participants identified additional needs such as decent work, active (political) participation or access to information) and further research is definitely needed, these findings are promising for developing a common benchmarking framework to operationalise an adequate minimum income in Europe.

Method

The development of high-quality reference budgets is a highly detailed process of different phases that requires intensive collaboration with partners and stakeholders from a variety of disciplines and domains. Therefore, the first step is always to build an extensive and **multi-disciplinary network** of experts, researchers and social partners in the field. What is minimally needed to be able to live a dignified life and participate fully in society in a specific context is an empirical question that encompasses all areas of life. Therefore, reference budgets are necessarily based on multidisciplinary research and large data collection efforts. In order to become a valid an reliable instrument, reference budgets rely on a **mixed-method approach** building on the strengths of a wide range of information sources. This so-called triangulation combines expert knowledge with experienced knowledge and quantitative with qualitative data, including official guidelines and regulations, scientific research, expert opinions, survey data, and well-considered views of citizens.

What it means to participate adequately in society is also necessarily a **normative** question. Therefore, reference budgets should build on well-grounded arguments departing from a needs-perspective. The question is what does any person or household – given their living context – should be able to consume at the minimum in order to be able to participate in society? This differs from questioning what a person actually wants, does or should preferably consume. In other words, reference budgets should not reflect actual or prescriptive consumption patterns. Instead, they should be based as much as possible upon existing guidelines and regulations as well as up-to-date knowledge and empirical findings in order to define a financial lower bound for social participation. Securing this minimum needs-threshold with a strong normative justification will improve its validity and strengthen the argumentation regarding the content of the items included in the baskets of goods and services.

On the other hand, reference budgets should not be too far from reality either. The **consultation of citizens** is key to develop acceptable and well-motivated reference budgets. Consulting people with different socio-economic backgrounds during the process provides essential information on the completeness, acceptability and feasibility of reference budgets. Often this is done by organising focus groups, which is a suitable method to collect arguments, experiences and opinions through well-informed discussions. However, there are also other (more representative) ways of consulting citizens that might be explored. Essentially, the budgets need to be acceptable and feasible for those who have to live with them.

Besides building on scientifically and experientially grounded argumentation, **transparent** documentation is equally important to allow reference budgets to fulfil their consensus-building role. In order to develop reference budgets, a lot of detailed decisions need to be made on the type, quantity, quality, life span, purchasing strategies and prices of the items included in the different baskets. Therefore, the content of the reference budgets, the steps taken in the decision-making process and the underlying reasoning must be open for the public to enhance the acceptability and validity. In doing this, they not only become subject to public debate but also to continuous quality improvement if more evidence-based and high-quality data becomes available over time.

Pricing is crucial. Sensitivity analyses of previous projects (Goedemé et al 2015; Carrillo-Alvarez et al, forthcoming) have shown that small changes in the price method can largely affect the total level of the reference budgets. The different items in the reference budgets can be described in terms of product categories based on the European version of COICOP (Classification of Individual Consumption According to Purpose) and can be priced using consumer price statistics. Whereas this has important advantages in terms of efficiency, ease of frequent updating and representativeness of the items and prices included (Menyhert, et al., 2021), there are also important limitations of this method. For instance, the arbitrary choice of price level is an important driver for the level of the budget (e.g. 25th percentile price or other price cut-off point). Furthermore, it is difficult to include quality characteristics of products, the face validity is low, access to price data is often restricted or very expensive and there is limited comparability in the way the source data is collected across countries. Alternative and related methods such as using crowd-sourced data (e.g. Numbeo[5]) offer prices based on a relatively large samples of prices. However since these are not based on random selections from a population frame, reliability may pose significant challenges and the number of items included is generally very low. An alternative option is conducting a hand-collected small-scale price-survey in a selection of retailers at a single point. This has the advantage of being able to ensures low but acceptable prices while safeguarding the quality of products. The drawback is that it is very time-consuming and less robust. Evidence from the ABSPO project (Menyhert, et al., 2021) suggests that price information based on the most versus the least customized methods of price collection (hand-collected pricing versus national average price statistics from Eurostat, respectively) yielded very similar estimates in terms of the calculated food budgets. This suggests that the preference for one or the other can be based on other considerations (e.g. such as accessibility, acceptability, …). A combination between a manual price survey and official price data could be a promising in-between

[5] See https://www.numbeo.com/cost-of-living/

solution. A reliable and robust price method should at least contain the following characteristics: (1) minimum price levels, (2) that are considered acceptable and feasible for people living on a minimum income. (3) The selected retailers should be accessible and well-spread, and (4) the purchasing strategy should allow for freedom of choice, while (5) a minimum quality of the products must be guaranteed.

For reference budgets to reflect evolutions in purchasing power and welfare, they must be **frequently updated**. Prices should be adjusted at least once a year, but in times of high inflation (cfr. the current energy crisis) this will not be sufficient and more regular adjustments must be considered in order to give accurate information on the purchasing power of low income families. As for adjustments to general welfare evolutions, the content of the baskets should be revised periodically (for instance every five years) to take into account changes in social norms and expectations. This results in timely reference budgets that can be used to assess the adequacy of minimum income and monitor progress over time. In order to allow for robust comparisons over time, fluctuations must always be justifiable by changes in prices, in social expectations or in the supply of necessary goods and services. When better or more up-to-date data become available to calculate reference budgets, this should be taken into account retrospectively where possible.

Reference budgets must illustrate what specific household types need to be able to participate in society in the **long-term**. Minimum incomes should allow people to live a dignified life for as long as they depend on it. Hence, they must include the purchase of durables (e.g. washing machine, kitchen equipment,…) taking into account a realistic life span, reflecting here the duration of use of a durable until the product is discarded or no longer acceptable for use due to reasons of health, efficiency or social exclusion. As long as reliable information is lacking here for a wide range of products, citizens should be consulted to discuss the acceptability and feasibility of the estimated life spans.

4.4.2 Merits and drawbacks of reference budgets

The main advantage of reference budgets is their **internal validity**. If they are based on a sound normative framework on human needs and human dignity, if they are embedded in the cultural and institutional context of a country or region, and if the target living standard, the target population and methodological choices and procedures are transparently documented and based on widely accepted and realistic assumptions, they can be considered a valid tool for assessing the minimum financial resources to achieve a decent standard of living. On the other hand, the validity of reference budgets depends heavily on the quality of the vast amount of data needed to underpin them. These are not always available, of sufficient quality or up-to-date, thus undermining the quality of reference budgets. If reference budgets are used at the local level to tailor a family's level of income adequacy, the (new) data on necessary expenditures, gathered by discussions between social workers and financially vulnerable people can be used to confirm or improve the validity of reference budgets. Importantly, reference budgets should never be used in a prescriptive way but as a benchmark to reflect on the income that people minimally need in order to be able to participate in society, while their actual consumption patterns are left to the people's choice.

The Achilles heel of reference budgets is their **reliability** and **robustness**. Whereas in the case of survey-based measures, statistical reliability can be assessed on the basis of relatively standardised methods, this is not the case for the methodology of reference budgets that often involves qualitative data sources. There are two main reasons for this. First, the concept of social participation remains somewhat elusive and many concrete and detailed choices have to be made. Second and most importantly, there is a lack of high-quality representative data (for instance on prices, lifespans and social expectations) within but especially across countries. These limitations have an impact on the comparability of reference budgets across time and space. To ensure that the level of reference budgets does not depend too much on the researchers or on the consulted experts and citizens who provide scientific and experience-based knowledge, reference budgets must be founded on a transparent and harmonised mixed-method approach, while describing clearly the underlying assumptions and justifying each decision with well-grounded arguments (see building blocks in 4.4.1).

Reference budgets that are priced annually or – in uncertain periods with major price fluctuations or with large fluctuations in the supply of certain necessary goods and services – several times a year, have the additional advantage that they can be used in a **timely** manner for policy evaluations on minimum income adequacy. When local administrations utilise ICT tools based on tailor-made reference budgets, the data collected by these tools can (in uncertain times, for example, during the corona crisis or during the current energy crisis) provide useful input to policy makers at various levels to take appropriate and targeted measures.

Explicitly building on government guidelines and regulations on the accessibility, quality and affordability of essential goods and services ensures that reference budgets are **responsive to policy changes**. By going beyond income, reference budgets-based indicators not only reveal the impact of policies that directly increase the level of income but also of policies that improve the affordability of necessary goods and services. Every significant increase or decrease in the out-of-pocket cost of essential (public) goods and services should be reflected in the updating process of the reference budgets. Adequacy indicators based on reference budgets have the great advantage of accurately monitoring the simultaneous impact of multi-level (income-related and expenditure-related) policies for maintaining decent living standards. Based on this, governments are able to take quick and targeted actions. However, they remain a monetary indicator aiming to represent a financial bottom line for specific family situations and living contexts. Anti-poverty policies that affect income adequacy indirectly by improving other determinants of access to goods and services (such as their availability and acceptability) or by strengthening individual competences that enhance social and economic participation, will not be directly reflected in this monetary benchmark. However, if reference budgets are customised to individual living situations (e.g. through the use of online applications), they can be used as a starting point for further individualized support and coaching.

For reference budgets **not to be susceptible to easy manipulation**, none of the stakeholders, including the authority that commissioned or financed the construction of reference budgets may have a solo direct influence on the composition and level of the resulting reference budgets. By involving various stakeholder organisations, the latter can be an important ally in avoiding manipulation of the reference budgets (in construction or use) by politicians.

Lastly, a few words on the comparability of reference budgets across countries. In order to be useful as an indicator to monitor the adequacy of minimum income at a European level, fully-specified reference budgets should be **substantially comparable across countries and time,** going beyond procedural comparability. The latter can be found when the same procedures and calculation methods are followed in different living contexts, which is the case for the AROP. We talk about substantive comparability when the indicator represents the same level of living standard in different living contexts (Goedemé et al. 2015a). In other words, at the level of the reference budgets, needs for social participation should be fulfilled at a similar level across household types, countries and time. This means that the level of the reference budgets varies because, and only because, needs and needs-based costs vary due to differences in the individual context (age, household composition, health situation, competences) or to differences in the societal context (geographical or climatological conditions, institutions, cultural context or the availability, quality and price of goods and services). Although previous research projects (Goedemé, Storms, Penne, et al., 2015a; Goedemé, Storms, Stockman, et al., 2015b; Menyhert et al., 2021) have made considerable progress, the construction of cross-national comparable reference budgets remains a steep and winding road (Goedemé, 2020). Procedural comparability requires extensive coordination between countries and substantive comparability is difficult to grasp because of data gaps, robustness issues in information sources and procedures, including pricing procedures.

However, as rightly pointed out by the SPC Indicators Sub-Group (Social Protection Committee, 2022, pp. 10-11), it is not always possible for an indicator to meet all quality criteria, while still providing the core information to capture the key dimensions of a commonly agreed policy objective (e.g. adequate minimum income). Therefore, in the short and medium term, reference budgets can only be used as 'commonly agreed national indicators' based on predefined building blocks (see above) for designing and monitoring the adequacy of minimum income protection and the affordability of necessary goods and services in EU countries.

5. How to achieve qualitative and maximally comparable reference budgets in Europe

In the previous section we advocated adding a reference budget indicator to the EU portfolio of social indicators as a 'commonly agreed national indicator' to assess minimum income adequacy, contextualising the AROP as a 'commonly agreed EU indicator'. In this section, we elaborate further on the need for comparable indicators to facilitate cross-national learning and to help the Commission in its monitoring task on the progress of the implementation of adequate minimum income support schemes. In the EuSocialCit-project, we have built on the results of previous research projects (Goedemé, Storms, Penne, et al., 2015b; Goedemé, Storms, Stockman, et al., 2015a, Menyhert, 2021) to further improve the methodology for developing cross-comparable reference budgets. More specifically we investigated how the methodology of developing comparable food baskets can be enhanced. Besides adding a layer of common guidelines and improving the pricing strategy, we have also investigated the feasibility of including sustainability criteria at different levels to construct the food budgets. We developed the improved food baskets in four European countries: a southern European country (Spain), a western European country (Belgium), a northern European country (Finland) and an eastern European country (Hungary).

5.1 Design of the EuSocialCit research on sustainable healthy food baskets

Reference budgets are widely used for different purposes in Europe and can be constructed in various ways (see above). In section 4.3.1. we outlined a framework of components (building blocks) that affect the quality of reference budgets developed for the purpose of assessing the adequacy of minimum incomes. To construct cross-nationally comparable reference budgets, at the minimum the same concepts (standard of living, target population), theoretical framework, methods and procedures should be used across countries. For developing the food baskets in the EUSocialCit-project, all four countries used the common theoretical framework (Doyal & Gough, 1991; Storms, 2012) and a common concept of the standard of living as described in section 4.3.1. The developed food budgets represent in a normative manner what a family needs to consume a healthy diet. Food has not only a biological function but also an important psychological, social and cultural function. The food budgets in the EuSocialCit project focus on the first function but also contribute to the other functions, taking account of cultural dietary habits in each country. However, specific products and services that only contribute to the psychological and social functions of food, such as eating out and takeaway meals, are not included in the food basket and should be taken into account in other baskets, for instance in the baskets illustrating the minimum cost for leisure, entertaining social relation or a safe childhood. Since the developed food baskets represent a lower bound, the assumption is made that meals are home-cooked and food items are purchased, prepared, stored and consumed in an economical way. Therefore, the food budgets of the EuSocialCit project includes a minimum cost for kitchen equipment (e.g. refrigerator, cutlery, pots and pans). As in the Pilot project (Goedemé, Storms, Penne, et al., 2015a) we define the target population by assuming that families live in an urban context with accessible retailers without the necessity of owning a car. The family

members are in good health, so no adapted diet is required due to illness, and are well-informed which enables them to compare prices, assess product quality and purchases items in low-price shops. The feasibility and acceptability of these assumptions has been discussed and verified in focus groups in the Pilot project (Goedemé, Storms, Penne, et al., 2015a). In order to move forward in the development of **cross-nationally comparable** reference budgets, the building blocks were extended and refined by taking sustainability criteria into account to extend the target population and by improving the robustness of the methodology.

5.1.1 Target population: the addition of sustainability criteria to safeguard the needs of future populations

This project added the sustainability aspect in order to ensure that the standard of living defined in section 4.3.1 is not only guaranteed for the present citizens but also safeguarded for the next generations, given the threat of environmental degradation and climate change. The view that a life compatible with human dignity should not adversely affect the living conditions of other people, both now and in the future is the main argument for including sustainability criteria in the development of reference budgets (Storms & Van den Bosch, 2009). Specifically for food reference baskets, the goal of providing healthy and sustainable food that has a limited impact on the environment, accessible to everyone, is pursued by supranational governments and authorities such as the European Union (European Commission, 2020), the WHO and the Food and Agriculture Organization (FAO) of the United Nations (World Health Organization, 2019). Food production, land use for food production and the supply chain of food (transportation, processing, packaging, retail and preparation) all have a significant impact on environmental changes. Additionally, food systems are also affected by climate change, threatening food and water security (Clark et al., 2020; Crippa et al., 2021; Poore & Nemecek, 2018).

A first attempt has been made to include sustainability criteria in the development of a reference budget for healthy food for Spanish citizens by Carrillo-Alvarez et al (2021), using the leading EAT-Lancet guidelines(Willett et al., 2019). The latter are dietary guidelines that have been developed by the EAT-Lancet commission and aim to represent a scientifically-based healthy diet within planetary boundaries on a global level. Adding the EAT-Lancet guidelines changes the diet composition and therefore the content of the healthy food basket. However, not only diet composition but also the distance from the origin of food items to consumption, the packaging and the seasonality of food items have an impact on sustainability. Carrillo-Alvarez et al (2021) included these three additional sustainability criteria for fresh food products (vegetables, fruits, potatoes, meat and fish). Hence, in the current project we aim to develop cross-country comparable food budgets taking into account these sustainability criteria. In addition to exploring the impact of a sustainable diet (based on the EAT-Lancet guidelines) on food budget levels, a further objective is to explore the possibility of applying the additional three sustainability criteria (country of origin, packaging and seasonality) that were used in the Spanish context (South-Europe) in other European (Northern, Western and Eastern) countries.

5.1.2 Methodology

The methodology of the reference budgets requires multiple choices about the needs to be covered, the number, quality and type of goods and services to include and their life spans, the shops in which the products are priced and the pricing strategy itself. As these choices appear often equally reasonable, differences in resulting reference budgets would be difficult to pinpoint and explain, undermining their applicability for cross-national comparison and policy evaluation (Goedemé, Storms, Penne, et al., 2015a). In the EuSocialCit project we resolve this issue and improve the cross-country comparability by including common EU guidelines for the development of the food baskets (instead of only national guidelines as was the case in the EU Pilot project (Goedemé, Storms, Penne, et al., 2015a)) and by making the pricing strategy less prone to different interpretations and arbitrary decisions by executive country teams.

Improving the cross-comparability of the content of the food baskets

A first challenge was to improve the comparability of the content of the food baskets for the four countries. For the food baskets developed in the EU pilot project (Carrillo-Álvarez, Penne, et al. 2019b; Goedemé, Storms, Penne, et al., 2015a), national nutritionists compiled a healthy diet for various family types based on the national Food Based Dietary Guidelines (FBDGs). FBDGs are science-based national recommendations for healthy eating addressed to the general public. They take into account not only the biological needs of people but also relevant cultural and social habits as well as food availability (Carrillo-Álvarez et al, 2019a, 2019b), in other words, the environmental context of the population for which the food baskets are being constructed. As the purpose of the FBDGs is to bring nutritional guidelines closer to the general public, they reflect recommended patterns of consumption of broad food categories (e.g. daily or weekly portions of fruit, vegetables, fish, …). Consequently, a diversity of dietary patterns can be consistent with the FBDGs and there is a lot of room for personal interpretations by the nutritionists which is disadvantageous for the cross-national compatibility of the resulting food baskets. Moreover, there are large differences between countries in terms of timeliness, quality and level of detail of the FBDGs (Carrillo-Álvarez et al, 2019a). Although there have been initiatives trying to harmonize FBDGs at European level, the European Food Safety Authority (EFSA) recognizes the difficulty of doing so in terms of cultural habits and food representation (Bechthold et al., 2018; European Food Safety Authority, 2010).

The approach followed here aims to improve the methodology by using common healthy food standards, namely the Dietary Reference Values of nutrients (DRVs) (EFSA, 2017) and the EAT-Lancet thresholds for a sustainable diet (Willett et al., 2019). DRVs are a set of reference intake values that determine the amount of energy and nutrients required to meet physiological requirements of different population groups (i.e. children, adults, elderly, pregnant women…). EFSA has compiled DRVs for a wide range of nutrients, for healthy European citizens from birth to old age. The EFSA DRVs provide reference values to ensure the nutrient adequacy of the food baskets. In the EUSocialCit-project, nutritionists started from the existing national FBDG-based food baskets, updated them to the most recent FBDG in each of the four countries and aligned them with the EFSA DVRs. The resulting food baskets do not only meet dietary requirements that are culturally acceptable and in line with each country's public health targets, but they are also cross-national comparable in terms of

nutritional values (energy content, macronutrients and micronutrients), thus avoiding disproportionate discrepancies between countries.

Additionally, as the majority of the FBDGs do not take into account criteria for a sustainable food diet (Springmann et al., 2020), the EAT-Lancet guidelines (see previous section) were applied to the resulting food budgets to develop sustainable healthy food baskets for adult men and women in the four countries. The EAT-Lancet framework (Willett et al., 2019) is universal for all food cultures and production systems with the potential for local adaptation, which makes the guidelines suitable for reference budgets as they can be adapted to different contexts. Finally, to achieve maximum cross-nationally comparable contents of the food baskets, various product groups of the sustainable food baskets were harmonised across the four countries in order to remove remaining arbitrary differences. The resulting diets still comply with the FBDGs, the EFSA DRV's and the EAT-Lancet guidelines, with the remaining differences only explained by institutional variations, climate or geographical variations, cultural differences, or differences in availability, quality and prices of food items.

Applying the aforementioned steps resulted in three baskets: 1) the FBDG/DRV baskets in which most recent FBDG-based food baskets were made consistent with the European DRVs, 2) the sustainable food baskets in which the FBDG/DRV baskets were made sustainable according to the EAT-Lancet guidelines and 3) the harmonized sustainable food baskets in which the last arbitrary differences in the content of the sustainable food baskets were eliminated using the criteria mentioned above (Carrillo-Álvarez et al., forthcoming).

Improving cross-comparability of the pricing strategy of the food baskets

A second major challenge for cross-nationally comparative food baskets is the pricing strategy, or the type of data that are taken into consideration to calculate a minimal cost of healthy food. In the current project, the pricing procedure from earlier EU projects was further refined to increase cross-country comparability and extended to include a first investigation of the usability of additional sustainability criteria at the level of pricing.

There are different pricing methods or data sources that can be used to develop reference budgets, each with its own advantages and drawbacks (see section 4.4.1). An optimal cross-country comparable pricing strategy should allow to calculate the necessary budget to acquire a basket of food items that are both fully compliant with the characteristics outlined in the dietary guidelines (content) and that are acceptable and feasible to low-income citizens in terms of allowing enough variation in product-choices and shop selection, at a minimal price level.

A common procedure to establish the cost of reference baskets in a cross-country comparable manner, which was extensively used in previous projects, involves **small scale hand-collected pricing**. This pricing method aims to reflect the minimal budget to meet food-related needs in a manner that both complies to dietary guidelines and that is accessible to low-income consumers (Carrillo-Álvarez et al., 2019b). This results in minimal food budgets with high levels of face validity corresponding to what low income people would spend when buying healthy food. As described in section 4.4.1 hand-

collected pricing has its drawbacks such as being very time-consuming and being sensitive to choices of stores and items as well as human errors. The replicability of the hand-collected pricing procedures can be increased by standardization and transparency of methodological choices. This can be done by providing highly detailed lists of goods and services with corresponding characteristics, price levels and assumed lifespans, together with a list of selection criteria for retailers In the current project, we proposed this hand collected pricing procedure to price the food baskets (both food items and kitchen equipment), and we tried to improve the previous studies by further standardizing the procedure (Carrillo-Álvarez et al., 2023), as well as by extending the hand-collected pricing in order to be able to investigate the cross-national feasibility of different sustainability criteria (Carrillo-Álvarez et al., 2021) as explained in section 5.1.1 (see Carrillo-Álvarez et al., 2023, for more details).

5.2 Design Results from the EuSocialCit-project

In short, we aimed to improve the cross-national comparability of healthy food baskets within Europe and investigated the development of a sustainable food basket, by adjusting both the diet composition of the baskets and the pricing procedure. In this section, we first discuss the feasibility of applying the aforementioned sustainability criteria across Southern, Western, Eastern and Northern European countries. Next, we describe the evaluation of the cross-comparability of the resulting food baskets, also in comparison with food baskets of previous research projects. Finally, we indicate how these newly developed reference food budgets can be used to evaluate minimum income adequacy in an EU context .

5.2.1 Feasibility of sustainability criteria for food in Europe

We analysed the impact of different sustainability criteria on the minimum necessary budget for healthy food. The analysis indicates that the minimum budget for a healthy sustainable diet (i.e. content in line with the EAT-Lancet guidelines but not applying additional sustainability criteria at the pricing level) is cheaper in comparison with the non-sustainable food basket (the FBDG/DRV food basket) for three out of four countries, namely Finland, Spain and Hungary. In Belgium, the minimum monthly budget for food baskets with a sustainable diet is slightly higher than the FBDG/DRV food basket because the national FBDG of Belgium already consider guidelines for sustainable diets.

Secondly, we wanted to investigate the applicability of additional sustainability criteria for buying local food items (or of a neighbouring country), food items in bulk and in season. When these criteria were added, the minimum necessary cost increased in the four countries. This is consistent with previous research results of Carrillo-Alvarez et al (2021) who examined the impact of the same sustainability criteria on the minimum necessary budget for healthy and sustainable food in Spain. However, the number of food items meeting one or more of the price-level sustainability criteria within one food category (e.g. fresh fruit) decreases strongly in Belgium, Finland and Hungary. Consequently, consumers in these countries have limited freedom of choice if the sustainability criteria of country of origin, bulk and seasonality are taken into account. For instance, only four fruit varieties meet the criterion 'local' and only one fruit variety meets the three criteria 'local', 'bulk' and 'in season' for the countries Belgium, Finland and Hungary. In Spain, this problem presents itself much less since about a dozen fruits are local while meeting the three price-level sustainability criteria. The strongly limited freedom of choice for consumers in Belgium, Finland and Hungary conflicts with one of the basic principles of the reference budgets, which is to ensure that the reference budget is feasible for

households who have to live on a low budget. Hence, it is currently not advisable to include sustainability criteria other than those related to the food content when constructing cross-nationally comparable food baskets within Europe. In the results that follow we only include the sustainability criteria regarding the diet (i.e. the EAT-Lancet guidelines) and not the price-level sustainability criteria. Further research is needed to formulate additional sustainability criteria adapted to each country and evaluate their impact on the minimum cost of healthy food.

5.2.2 Evaluation of the cross-national comparability of the European food baskets

To evaluate the cross-national comparability of the resulting food baskets[6] within the EuSocialCit-project, we performed a shift share analysis[7] capturing the variation of the healthy food budget due to differences in diets across the four countries (see Figure 1). This analysis compares the minimum cost of a healthy diet for an adult male as constructed in the Pilot project (based solely on national FBDGs available in 2014) and the three constructed baskets in the EuSocialCit project, namely the FBDG/DRV basket, the sustainable basket and the harmonized sustainable basket (see section 5.1.2). The sum of the absolute amounts of variation of the four countries in the cost of healthy food attributable to differences in diets is higher in the Pilot project (EUR 207.5, adjusted for inflation) compared to the three food baskets in the EuSocialCit project: EUR 112.1 in the FBDG/DRV basket; EUR 75.4 in the sustainable basket and EUR 46.1 in the harmonized sustainable basket. The total decrease of variation due to differences in diets for the four countries is the strongest between the Pilot food basket and the FBDG/DRV basket. But also adding the EAT-Lancet criteria to adjust the content of the food baskets still considerably reduces the variation between countries. The reduction is less pronounced between the sustainable and the harmonized sustainable food baskets. As the variation in food budgets attributable to differences in diets between countries is the lowest for harmonized sustainable food baskets, these baskets are the most preferable in pursuing the most cross-national comparability.

[6] See Carrillo et al. (2023) for more detailed information of the content of the sustainable food baskets.

[7] The shift share analysis was performed by calculating the average quantity and average cost of each food item in the diet across the four countries. It then compares the minimum cost of healthy food based on the 'average' diet (and national prices) with the minimum cost of healthy food based on that country's diet (and national prices). The difference in cost between the two food baskets is explained only by the difference in diet. This analysis was carried out for the four countries and for four different food baskets: the food baskets as made up in the Pilot project and the three food baskets in the EuSocialCit project.

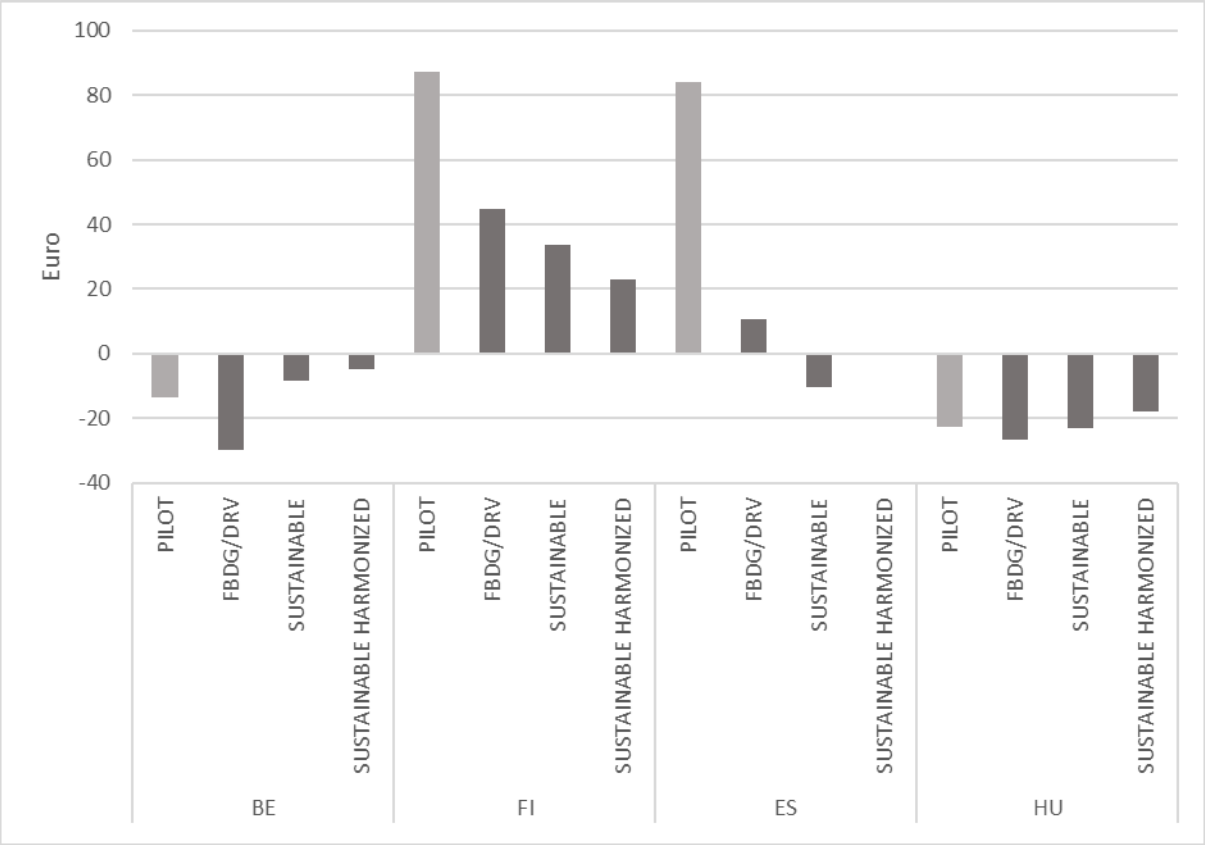

Figure 1: The variance of the minimal budget (in euro) for a healthy diet for a male single adult due to differences in the diet in the Pilot-project and the EuSocialCit-project (Belgium, Finland, Spain and Hungary, June 2022

In addition, a second shift share analysis (see **Error! Reference source not found.**) was conducted in order to examine the effect of national price variations on the variation in the food baskets. This analysis has demonstrated that the total variation in the cost of healthy food attributable to local differences in food prices was higher in the Pilot project (EUR 160.7, adjusted for inflation) compared to the three food baskets in the EuSocialCit project: EUR 47.7 in the FBDG/DRV basket; EUR 53.9 in the sustainable basket and EUR 42.9 in the harmonized sustainable basket. This suggests that the refinement and standardization of the hand-collected pricing procedure has decreased the overall cross-country variability due to pricing differences between countries. However, the decreased price level variations may also be (partially) due to alignments in the market prices across the four countries between 2015 and 2022. Further validation using other data sources is needed to figure this out.

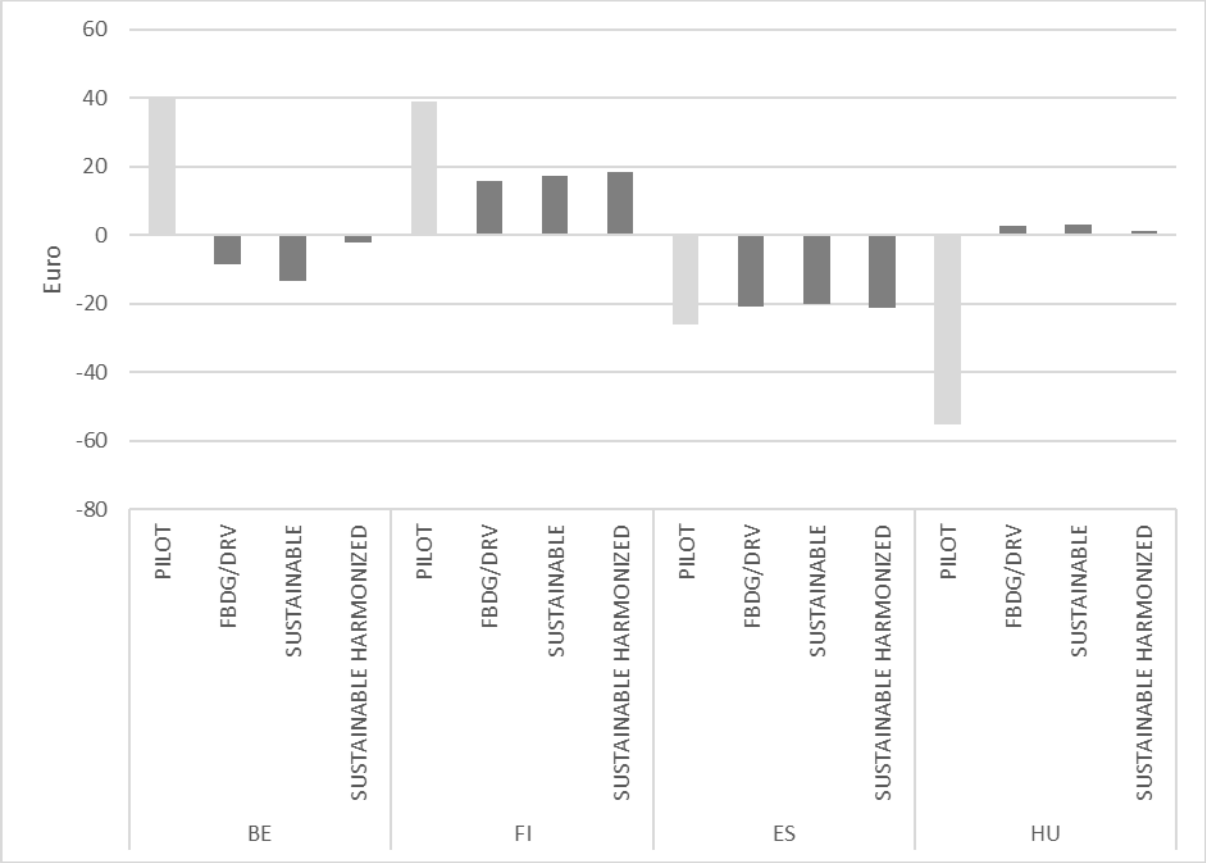

Figure 2: The variance of the minimal budget (in euro) for a healthy diet for a male single adult due to differences in local prices in the Pilot-project and the EuSocialCit-project (Belgium, Finland, Spain and Hungary, June 2022)

5.2.3 How to use European food budgets to measure adequacy of minimum income and affordability of food?

The exercise presented here was a first step to improve the methodology to construct cross-country comparable reference budgets to monitor the adequacy of minimum income across the EU. With reference budgets we translate what is needed for adequate social participation into a concrete monetary benchmark that represents the minimum cost to access all necessary goods and services. In doing this, they reveal the mutual relationship between affordability and adequacy. An income is only adequate when it enables people to afford all essential goods and services, while goods and services can only be affordable if people have a sufficiently high income to be able to pay for it. We have discussed in section 4.3.1 that in order to assess the adequacy of minimum incomes, reference budgets should build on a theoretical framework that represents a common understanding of what is needed to be able to participate fully in different European member states. Preliminary research has shown that there is overall support for the following needs: adequate housing, clothing, an adequate diet, personal hygiene and health care, rest and leisure, maintaining social relations, security in childhood, mobility, security and lifelong learning. In this paper we have only focused on the development of cross-nationally comparable food baskets that represent the need for a healthy diet in the different countries. Without the minimum cost of other essential needs, they cannot be used to evaluate minimum incomes. However, in this section we demonstrate an illustrative exercise to

give an idea of the potential of reference budgets as indicators to monitor minimum income adequacy in Europe. The results can be used as an inspiration and a first step towards fully developed reference budgets in Europe.

By comparing the constructed food baskets for a single person (indicated by the dark grey bars in Figure 3) with the disposable income from social assistance[8] (indicated by the light grey bars in Figure 3) (Marchal et al., 2018), (tentative) assessments can be made about the affordability of healthy and sustainable food in the four countries.

Three main methods can be distinguished to measure the affordability of goods or services: the self-reported assessment approach, the income-ratio and the residual income approach (e.g. Ezzenia & Hoskara, 2019; Miniaci et al., 2008; Chen et al., 2010). The self-reported method uses a survey to question whether a family has sufficient resources to buy goods or services. In this case, the food deprivation indicator (Eurostat, 2021) is a self-reported indicator for food affordability in Europe. In 2021, the percentage of singles unable to afford a meal with meat, chicken, fish (or vegetarian equivalent) every second day was respectively 6,6% in Belgium, 5,0% in Finland, 7,3% in Spain and 18,7% in Hungary, suggesting problems of food affordability for a considerable proportion of the population. However, self-reported indicators are relatively subjective and therefore often used as a complement to more objective indicators such as the income-ratio approach and the residual income approach (see later). Both indicators can use actual household expenses or normative expenditures on food, and the use of each has its own merits and drawbacks (see Penne & Goedeme, 2021). Here, we compared the necessary minimum budget for healthy (and sustainable) food (i.e. normative expenditures) with the income from social assistance.

[8] The simulated net disposable income from social assistance is based on the MIPI-HHoT database (see Marchal et al. 2018) and includes gross income, adjusted with child benefits, social security contributions and personal income tax. For Finland, a housing benefit is included if applicable. The authors would like to thank Elise Aerts (UAntwerp) for updating the calculations to 2021.

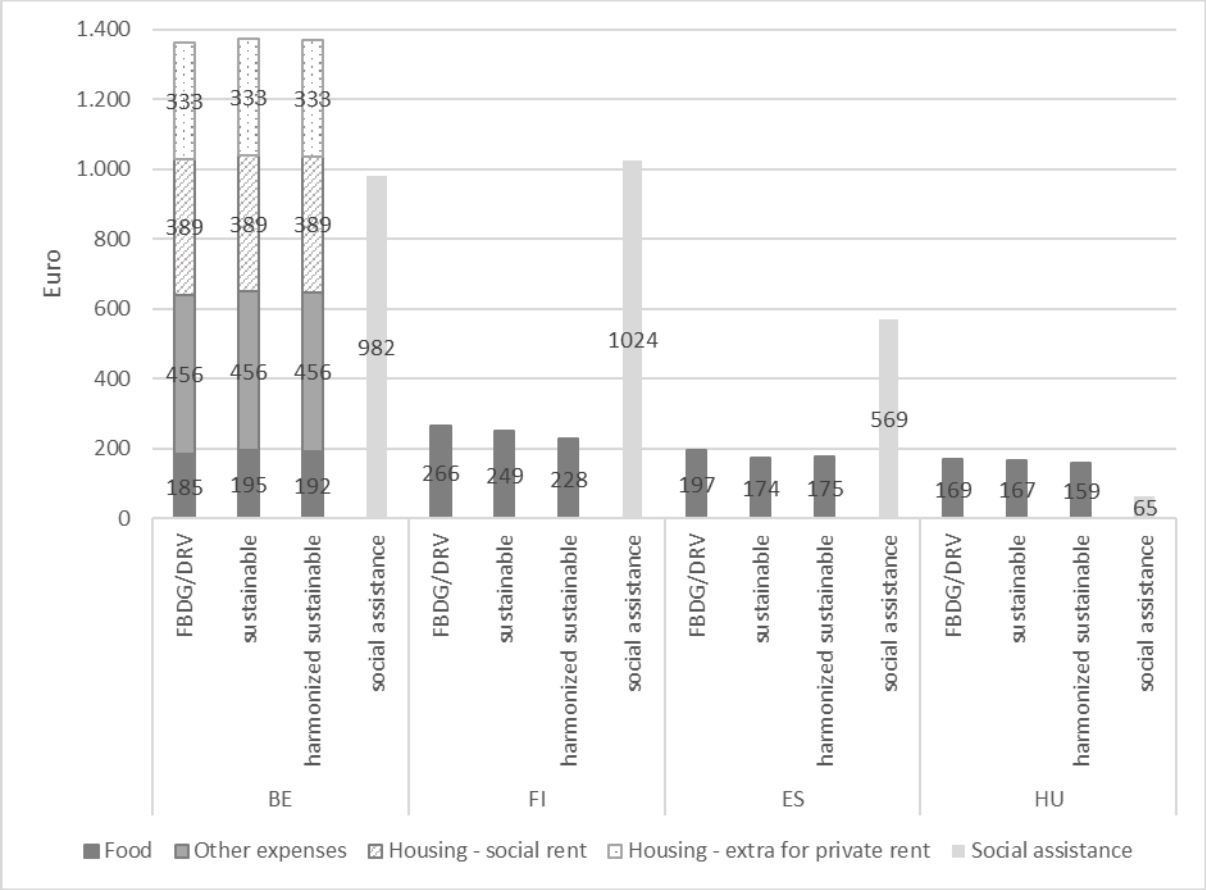

Figure 3: Comparison of the developed food reference budgets within the EuSocialCit project and the reference budget of Belgium with the net disposable income of social assistance for a single person for Belgium, Finland, Spain and Hungary (2021)

Note: Other expenses: calculated cost of reference budgets for clothing, transportation, health and personal care, leisure, maintaining social relationships and safety. *Housing – social rent*: calculated cost of a housing reference budget including rent in the social housing market and utilities. *Housing – extra for private rent*: additional calculated cost of rent in the private market compared to the rent in social housing. The most recent data available on social assistance refers to 2021. Therefore, the developed food basket of the EuSocialCit-project (June 2022) was recalculated using the harmonized index of consumer prices (HICP, EUROSTAT)

In the income-ratio approach food costs faced by households are compared with the (disposable) households' income. Ward et al. (2013) constructed an income-ratio indicator for measuring the affordability of food claiming that families who have to spend more than 30% of their household income on a healthy food basket, experience "food stress" and are pushed to purchase less or lower quality food. According to this indicator, single adults receiving social assistance in Belgium and Finland do not experience 'food stress' as they need to spend 20% and 22% of their disposable income on healthy and sustainable food (measured with the harmonized sustainable food basket, including kitchen equipment). In Spain this percentage rises to 31% and in Hungary, a single person receiving social assistance cannot afford healthy and sustainable food since the monthly budget necessary for this diet is 2,5 times the disposable income from the social assistance. According to the indicator of Ward et al. (2013), single persons receiving social assistance in Spain and Hungary are in "food stress". This indicator is however entirely income-based, not taking into account other minimum necessary expenses for, for example, housing, mobility, health care and leisure. This has serious disadvantages,

as an indicator solely based on income will evaluate the food affordability for person A who rents a cheaper (social) house at the same level as for person B who rents a more expensive (private) house (assuming their income and other expenses are equal), although person A has more financial resources to purchase food than person B.

Hence, a more appropriate measure could be the residual income approach, comparing the household food cost with the residual income, i.e. the income that remains after all necessary goods and services, except those of food, have been paid for. Reference budgets can be used to measure the affordability of food using the residual income approach as they normatively reflect the minimum necessary expenditures of a household. Similarly, fully developed reference budgets could be used to assess the adequacy of minimum incomes. Ideally, there exist cross-nationally comparable complete reference budgets in Europe that include all minimum necessary expenses to evaluate the affordability of the different goods and services on the one hand and the adequacy of (minimum) incomes on the other hand, but at the moment this is not the case.

For Belgium, up-to-date reference budgets of good quality are available which are represented in Figure 3. On top of the minimum expenditure on healthy food, the reference budgets include the minimum housing expenditure when renting social housing (shaded bars), the additional minimum expenditure to rent a private house (i.e. the difference in minimum cost between private and social rent, visualised in the pointed bars) and other minimum necessary expenditures (grey bars) such as clothing, education, rest, mobility, maintaining social relations. For a single person in 2021, the reference budget in Belgium is EUR 1.370 per month when the person rents a home on the private housing market and EUR 1.037 per month when one can rent a social house, taking into account the harmonized sustainable food basket. The residual incomes (EUR 137/month for a single person renting a social house and EUR 196/month renting a private house) are insufficient to buy healthy and sustainable food (EUR 192/month) when one receives social assistance in Belgium, both for single persons renting on the social or private housing market. Measuring food affordability with a residual income approach using reference budgets, taking all minimum necessary costs of goods and services into account, we found that healthy and sustainable food is not affordable for a single person receiving social assistance in Belgium. However, the opposite is the case when applying the methodology of Ward et al. (2013) to a single person receiving a social assistance benefit. This exercise illustrates, as confirmed by previous research (Vanhille et al., 2018; Penne and Goedemé 2021) that the construction of the indicator to measure affordability of food (and by extension other necessary goods or services) has an impact on how many people and which groups of people are identified as persons for whom food is (not) affordable .

When evaluating the adequacy of a (minimum) income or the affordability of goods and services, all minimum necessary expenses such as health care, housing, utilities, education and mobility should ideally be taken into account. For Hungary however, one can conclude that the disposable income from social assistance for a single person is not adequate for full participation in society since it does not even cover the necessary expenses for healthy and sustainable food. For Belgium, Figure 3 shows that social assistance for a single person is insufficient to live in dignity both for persons renting private housing and for persons renting social housing. As described in Section 3, affordability and adequacy

are two sides of the same coin. When the affordability of a good (in this case healthy food) is measured by residual income, calculated through reference budgets, the adequacy of the income concerned is also evaluated. Since the reference budgets reflect a lower bound of a minimum necessary income and therefore assume an optimal personal situation (e.g. a person is in good health) and living context (e.g. quality housing and the person does not need to own a car to be sufficiently mobile), the minimum necessary income for a single person, in reality, will often be higher, undermining the adequacy of social assistance for a single person even more. Measuring the adequacy of (minimum) incomes using reference budgets demonstrates how different policy measures can improve adequacy. The graph above indicates the large impact of social housing in Belgium on the adequacy of income. Previous research (Penne, Cornelis & Storms, 2020) confirms these results and reveals a rather limited impact of other more common social benefits such as an increased reimbursement for health expenses and the social tariffs for public transport.

6. Conclusions

On 8 December 2022, the European Council reached a political agreement on the adoption of a Council Recommendation on adequate minimum income ensuring active inclusion. The Recommendation both aims to protect Europe's most vulnerable citizens lacking sufficient resources to live a dignified life and to provide incentives to reintegrate those who can work back in the labour market. Three benchmarks are put forward to assess minimum income adequacy, namely the national at-risk-of poverty threshold (AROP), the monetary value of necessary goods and services according to the national definitions and a freely definable measure of a comparable level as the previous two. In our view, all three benchmarks can be criticized because they do not sufficiently grasp the essence of what is meant by an adequate minimum income.

In line with earlier pan-European policy strategies and statistical infrastructure, we advise to continue using the AROP as a commonly agreed EU indicator to assess and monitor minimum income adequacy, insofar as its threshold level has been verified, ascertaining that an income at the level of the AROP enables European citizens to fully participate in the society in which they live. Nevertheless, the AROP is not sufficiently effective as a sole indicator for monitoring minimum income adequacy. Its relativistic income-based approach would benefit from an additional needs-based indicator that takes account of the necessary expenses that households face. The secondly proposed indicator can be seen as a first step in that direction, but lacks a concrete guiding framework that supports member states to operationalise this into a monetary benchmark that represents what is needed to live a dignified life in different living situations. We propose high-quality reference budgets as a well-suited indicator to operationalise, extend and refine this second indicator.

Departing from a solid theoretical and methodological framework, reference budgets aim at answering the highly normative question: what is the minimum amount of income that well-defined family types need to fully participate in the society in which they live? By building on a wide variety of information bases and many different types of stakeholders they have the ability to form an empirically-based, valid and acceptable instrument of consensus-building in society. In this paper, we argue that high-quality reference budgets can be used to develop multi-level policy indicators to assess the adequacy of (minimum) income protection and the affordability of essential goods and services, while clearly showing the link between both. They can guide European, national and local policy efforts aimed at increasing minimum income through the tax and benefit system or at enhancing affordability (e.g. by the provision of in kind benefits with a sufficiently high service and take-up rate) and thereby improving access to (public) goods and services.

In the paper we explain how the concepts of adequacy and affordability overlap: an income is adequate when essential goods and services are affordable, and vice versa, a good or service is affordable when the disposable household income is at an adequate level to consume a particular good or service without sacrificing consumption of other essential goods and services. The exercise in section 5 demonstrates that inadequate monitoring and misleading policy conclusions and personal assistance interventions can result when indicators of adequacy or affordability suffer from insufficient recognition of the link between the two concepts (see also Penne, 2020).

In order to be used as high-quality indicators, reference budgets should also allow for robust and reliable comparisons over time and between countries or regions. In this paper we show how we have taken some major steps forward within the EuSocialCit project in developing cross-nationally comparable food baskets. We improved the procedures to develop substantively comparable food baskets in terms of the content of the baskets as well as in terms of the pricing strategy. Moreover, we added the sustainability aspect to the reference budget approach, ensuring that an adequate standard of living is not only guaranteed for the present citizens but also safeguarded for the next generation.

These resulting cross-nationally comparable food budgets were used as an indicator to assess the affordability of a healthy and sustainable diet in the four countries for families dependent on minimum income. Although fully specified reference budgets, referring to the minimum cost of all necessary goods and services, are needed to make informed statements about affordability on the one hand and income adequacy on the other hand, this exercise shows that food is not affordable for a single adult receiving social assistance in Hungary. The level of minimum income is insufficient to purchase the products needed to access a healthy and sustainable diet, let alone to have access to other essential goods and services needed for social participation. In Belgium, a single adult with social assistance can buy healthy food, but has insufficient income left to meet all other needs, as the comparison with the level of fully specified reference budgets shows. Given the conceptual link between income adequacy and affordability, we argue that a healthy diet is not affordable in Belgium for a single person receiving social assistance. Affordability problems increase and income adequacy decreases, for households who rent their homes at the private housing market compared to those who can rent at the social housing market.

The aim of this papers was to illustrate how reference budgets are a useful additional indicator to assess and monitor policy efforts to ensure an adequate minimum income in a comprehensive way. Thanks to their concrete nature and normative underpinning, they are able to demonstrate in a tangible manner the difficult choices people face when living on an inadequate income. In addition they show the various interdependent policy options, that can be undertaken to improve this situation. They help to provide guidance for all policy efforts oriented at reducing poverty and social exclusion, rather than focusing separately on increasing household income directly through the tax and benefit system and wage schemes or on improving the affordability of essential goods and services. Moreover, reference budgets can also usefully serve to assess the extent to which sufficient financial incentives remain to participate in the labour market for persons on a minimum income who are able to work. Indeed, the methodology allows the additional expenditure related to working (e.g. higher childcare costs) to be included in the reference budgets and compared with the (possibly higher) income from work.

In addition, affordability of necessary goods and services is only one aspect of adequate minimum income. Other important aspects are: full take up of targeted cash or in kind benefits, optimal coverage, sound governance mechanisms, sufficient supply, knowledge and use of quality goods and services, and appropriate competences of citizens to manage their own budget carefully. All these aspects need sufficient attention when designing and monitoring adequate minimum income policies.

High-quality reference budgets can also provide an excellent source of inspiration for the last three. In the process of constructing them, these aspects are closely studied and transparently described. This is a prerequisite for reference budgets being an instrument to build a social consensus on what constitutes a decent standard of living. Moreover, when reference budgets are used in tools tailored to individual life situations to diagnose financial deprivation, the data collected can provide an important, often new source of information for public administrations at all policy levels to reduce and better avoid poverty and social exclusion.

For the future, as there is still a long way to go before reference budgets can be made transnationally comparable, mainly due the lack of sound data, we advise, to use in the short and median term national reference budgets constructed according to the building blocks for high-quality reference budgets as summarized in this paper. Nevertheless, in the short term, projects should be set up that are committed to improving the methodology and data availability such that the cross-national comparability of reference budgets can be increased. We recommend that the process of constructing comparable reference budgets is preferably coordinated by international teams of national experts and stakeholders as they can discuss and agree on the interpretation of European guidelines and have a good knowledge of local social expectations. These newly developed reference budgets should always be discussed by people in focus groups in order to assess their feasibility and acceptability, especially for those living on a limited budget. Additionally, further research is needed on the one hand to investigate the minimum cost of a sustainable living standard and its gap with current living contexts and social expectations and on the other hand to study the impact of the changing environment on the ability to participate in society. In this way reference budgets can be used for the purpose of reconciling sustainability and anti-poverty policies (see e.g. Gough 2017) and support a life in human dignity for present and future generations.

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