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Abstract

This paper for the first time compares trends in minimum income protection for three different target groups: the working, the non-working (but able to work) of active age and the elderly. It aims to provide an inventory of recent changes in minimum income protection, while at the same time highlighting differences in policy treatment in the latest decennium, offering an exploration of the potential concerns and reasoning behind benefit setting for different target groups. We use new data tracking minimum income protection generosity for the period 2009-2018, with indicators carefully calibrated in order to reflect the legally guaranteed minimum situation in each EU Member State.

1 Introduction

Over the past decades, interest in minimum income protection has surged. Initially interest in minimum income protection stemmed from its importance as an indicator of the ultimate social right guaranteed by national welfare states (Leibfried, 1992). Yet as social insurance provisions became less tight-knit while non-standard careers became more common, the importance of the safety net of last resort grew beyond its indicative value of the generosity of social rights (Bahle, Hubl and Pfeifer, 2011; De Wilde et al., 2016). At the same time, the European Union has identified minimum income protection as one of the routes towards a more social Europe in its European Pillar of Social Rights, once again stressing the policy relevance of the last safety net (European Commission, 2016; Cantillon, 2019).

Clearly, there are therefore good reasons to take – once again - stock of the current state of minimum income protection in the EU Member States. This paper uses new data to track trends in the generosity of minimum income protection for three different target groups: the working, the non-working of active age and the elderly. We focus on the adequacy of these minimum income protection schemes, i.e. we assess to what extent these adhere to the prevailing living standards in society in the different EU Member States. For the working population, a minimum income level is usually guaranteed through the combination of the minimum wage and the workings of the tax benefit system (Marchal and Marx, 2018). The non-working, able-to-work population of active age in all EU Member States has access to a form of social assistance (Nelson, 2013; Bahle, Hubl and Pfeifer, 2011; Eardley et al., 1996; OECD, 2014), whereas also for the elderly different minimum income provisions exist. In some countries, the elderly may benefit from a (conditional) basic pension, whereas in others, they will have access to categorical social assistance for the elderly or the general social assistance scheme (Goedemé, 2013; Bahle, Hubl and Pfeifer, 2011).

This paper builds on a rich tradition of earlier work looking at (changes in) generosity of minimum income protection (Immervoll, 2012; Immervoll, 2007; Marx and Nelson, 2013; Bahle, Hubl and Pfeifer, 2011; Wang and van Vliet, 2016), but it adds to this existing work in three important ways. First, we use new data tracking minimum income protection generosity for the period 2009-2018, with indicators carefully calibrated in order to reflect the actual legally guaranteed minimum situation in each EU Member State. Second, these data allow to track trends in minimum income protection for three different target groups in a comparable way: the elderly, the working and the non-working able-bodied of active age. Assessing

trends for these three target groups in combination enables future research into possible links between deservingness assessments and social policy design, the nature and extent of intergenerational solidarity at the bottom of the welfare state and further research regarding the link between in-work and out-work income protection. Third, we focus on the underlying policy changes, highlighting individual country experiences in light of the broader trends of minimum income protection. In doing this, we provide a detailed inventory of policy changes in the field of minimum income protection for different target groups in the latest decennium.

We start with a short review of prior research looking into minimum income protection trends, and discuss the new data that we will be using throughout this paper. We then shortly present the different minimum income provisions that we will be assessing: minimum wages, social assistance and minimum income protection for the elderly. Next, we provide an inventory of recent changes to net disposable incomes in each of these situations. Finally, we compare the trends in minimum income protection for these different target groups vis-à-vis one another.

2 Literature review

Over the past decades, many researchers have looked into the adequacy and development of minimum income protection benefits. Most attention went to the trends in minimum income protection for the non-working active age population (see below). Minimum wages on the other hand have only rarely been studied from an adequacy perspective, although the societal relevance of this question has become more and more stringent (consider e.g. the living wage movement in the UK (<https://www.livingwage.org.uk/>)). The academic focus usually is on their comparative level (OECD, 2015; Schulten, 2014), economic impact (Card and Krueger, 1994; Dolado et al., 1996; Immervoll, 2007; Neumark and Wascher, 2007) and their relationship to the individual earnings distribution (Freeman, 1996; Dolado, Felgueroso and Jimeno, 2000) and (in-work) poverty (Sutherland, 2001; Formby, Bishop and Kim, 2005; Marx, Vanhille and Verbist, 2012), although there are of course some exceptions tracking the adequacy of net disposable income at the minimum wage (Bray, 2013; Marx, Marchal and Nolan, 2013; Marchal and Marx, 2018; OECD, 2015). These authors have found the adequacy of minimum wages to generally be sufficient for single persons, but to swiftly decline as soon as more people in the household depend on only one minimum wage income. In addition, these studies have identified an increase in the share of government benefits in the net

disposable income of minimum wage households (see also Cantillon, Marchal and Luigjes, 2019). This sustained government effort has led to net disposable incomes at minimum wage developing more favourably than minimum wages as such, allowing net disposable incomes at minimum wage to develop in line (or even to catch up) with average living standards in around half of EU Member States in the 2000s. Cantillon, Marchal and Luigjes (2019) highlight that this reflects a policy focus on boosting in-work income (and increasing or safeguarding financial incentives) in those countries.

The adequacy (and trends in the adequacy) of minimum income protection for the elderly has been studied in a comparative way by Goedemé (2012); Goedemé (2013) and by Goedemé and Marchal (2016), observing substantial variation in design and adequacy of minimum income protection for the elderly, yet at the same time noticing relatively positive trends compared to average living standards in the EU15 countries throughout the 1990s and 2000s.

In contrast, the (in)adequacy of minimum income protection for the non-working of active age has been studied extensively. Overall, it has been time and again demonstrated that minimum income protection generally does not suffice to protect non-working active age households against poverty: guaranteed net disposable incomes of hypothetical households are consistently found to be below the EU at-risk-of-poverty threshold (Van Mechelen and Marchal, 2013; Immervoll, 2012; Immervoll and Scarpetta, 2012; Nelson, 2013). Whereas benefit levels are usually increasing in real terms, most authors have noted general declines relative to living standards throughout the 1990s and 2000s, although individual country experiences differ (Nelson, 2013; Van Mechelen and Marchal, 2013). Various researchers have sought to explain trends in minimum income protection for those out of work. Pierson (1994) stated that minimum income benefits would be more immune to retrenchment, given their small budgetary impact. Nelson (2007b), in a comparison of the resilience of social insurance benefits and means-tested minimum benefits did not find evidence for this. He referred to the power resources theory in order to explain the higher resilience of social insurance benefits, as benefits that have larger and more powerful middle class coalitions benefiting from them, relative to minimum income benefits. Van Mechelen (2010) has highlighted the “less eligibility” principle in order to explain the hierarchy of social insurance benefits above minimum income benefits. Finally, Noël (2018) found a positive association between the overall generosity of the welfare state and minimum income protection adequacy, and a negative association with public debt.

Others have aimed to explain trends in minimum income benefits as such, independent of their relation to social insurance benefits. Van Mechelen and Marchal (2013), focusing on the variation between countries, have highlighted the importance of indexation mechanisms. Most countries have indexation mechanisms that protect minimum income benefit levels against inflation. These countries usually perform better than countries without statutory indexation. Countries with more generous indexation practices, for instance in line with average wage, generally did better, at least in the years prior to the crisis. Still, indexation mechanisms do not suffice to keep benefits in line with living standards, for which additional increases are necessary. Other scholars have focused more on the general or most common trends over countries. Nelson (2013) has related trends in minimum income benefits to active labour market spending, and showed that active labour market spending has a negative effect on minimum income protection generosity. Van Vliet and Wang (2019) have found indications that globalization and trade openness may have a negative impact on minimum income protection adequacy, whereas Scruggs and Hayes (2017) showed that increasing inequality at the top has an eroding effect on minimum income protection policies.

Recently, Cantillon, Parolin and Collado (2018) have assessed minimum income protection for the non-working and the working of active age in combination. They took a functionalist approach to minimum income benefit generosity for both target groups. They argue that exogenous, structural forces substantially limit the degrees of freedom governments have with regard to safeguarding the adequacy of their minimum income protection for those of active age. The standstill at inadequate minimum income protection packages in a large number of countries is hence no coincidence, but stems from the increase in wage inequality, and the practical and fiscal problems in trying to maintain a decent social floor with adequate work incentives in a more unequal and diverse society. The standstill of low gross wages (in an era of globalization and wage pressure) coupled to a desire to maintain work incentives for those out-of-work leads to a trilemma for social policy makers: they can only increase social assistance benefits if they also increase the net incomes of working families in a context of stagnating gross wages. This greatly amplifies the budgetary implications of raising out-of-work benefits (see also Collado et al., 2019). However, they also highlight that countries are able to make different decisions regarding the adequacy of the social floor (i.e. that some countries are willing to face the bill). Also, countries where work incentives are high, will be less confronted with this trilemma than others.

Similar perspectives that compare the development of minimum income protection for different target groups in tandem are rare. Bahle, Hubl and Pfeifer (2011) have in their assessment of the state of the last safety net indeed described the minimum income protection provisions for various non-working target groups, including the disabled, those of active age and the elderly, as have Marx and Nelson (2013), but these studies generally did not explicitly compare and interpret differences in trends across target groups. Goedemé and Marchal (2016), while only looking at minimum income protection for the elderly, have hinted at the possibility of more generous trends in minimum income protection for the elderly vis-à-vis those of active age because of reasons of deservingness and the smaller concerns regarding financial incentives to work for this group. However, they did not include an assessment of the generosity of minimum wage workers, nor did they check this hypothesis.

The aim of this paper is twofold. First, we want to update and extend the literature on trends in minimum income protection with a detailed inventory of recent changes in minimum income protection for three different target groups. We will focus in our discussion on individual country experiences, providing much needed background information for scholars of minimum income protection trends. Second, we expressly want to compare trends for these three different target groups to one another, in order to explore the different reasoning and policy focuses that may apply to the different target groups. We do not endeavour to provide an all-encompassing theory of minimum income protection trends for different target groups. Rather, we argue that additional insight can be gotten from comparing trends in minimum income protection for different target groups, with a specific focus on individual country experiences.

3 Data

We use hypothetical household simulations in order to comparatively assess the generosity of minimum income protection. Hypothetical household simulations are calculations of the legally guaranteed income of a hypothetical household in line with the applicable tax benefit rules. As the rules for combining means-tested minimum income support with other benefits, such as child benefits and housing allowances, may differ between countries, hypothetical household simulations are elementary in order to compare like with like, and to assess the generosity of minimum income protection *packages*: hypothetical household simulations allow to assess the generosity of actual policy rules in combination in a comparable fashion

over time and across countries, without confusing policies with the underlying demography or economy. In addition, they provide us with headline indicators of the generosity of social policy, taking account of the interaction between different policy rules. Finally, they allow to assess policies for specific groups – such as lone parents or minimum income beneficiaries – that may be theoretically interesting, but who may be underrepresented in surveys. Clearly, these indicators also have limits: they refer to the situation of very specific households, that may be more or less representative for individual country experiences. Seemingly small parameters of the household may have a large effect on overall assessments of generosity (see Van Mechelen et al., 2011). Still, they are a commonly accepted way to assess and compare the generosity of benefit systems (see e.g. Immervoll, 2012; Bahle, Hubl and Pfeifer, 2011; Bradshaw and Finch, 2002; Gough et al., 1996).

One of the first to adopt this approach in the comparative study of minimum income protection was the seminal study by Eardley et al. (1996). They described in detail the institutional design of out-of-work minimum income protection in the OECD countries. Their efforts were followed by the OECD Benefits and Wages model, that allows to assess the financial incentives when moving from out-of-work benefits to in-work income, by calculating the net disposable incomes for hypothetical households in different income and benefit situations in the OECD countries from 2001 onwards. At the University of Antwerp, Cantillon et al. (2004) and Van Mechelen et al. (2011) established the CSB MIPI dataset, that collected hypothetical household calculations made by national experts, and that allowed to assess the generosity of minimum income protection for the working, the non-working and the elderly at specific moments in time. This dataset focused on the minimally guaranteed income by functionally equivalent minimum income schemes selected through a risk-type approach. Specific risks were defined (such as being unemployed and uninsured but able to work), and indicators on the generosity of the applicable schemes in the different countries were gathered. Finally, Kenneth Nelson (2007a) established the SaMIP dataset that contains annual hypothetical household disposable incomes to monitor the generosity of minimum income protection for the non-working of active age. Previous research looking at the generosity of minimum income protection has in general benefited from these three important data sources especially with regard to minimum income protection for working and non-working active age households (see e.g. Van Vliet and Wang, 2019; Cantillon, Parolin and Collado, 2018). In Table 1, we summarize the information contained in these different datasets.

Table 1. Available datasets on minimum income protection for the working, non-working able-bodied of active age and the elderly.

| Dataset | Minima | Coverage |
|-------------|---|---------------------------------|
| CSB MIPI | Income guarantee elderly | 1992(EU15)/2001(EU27)/2009/2012 |
| | Minimum income active age | Five model families |
| | Minimum wage | |
| → MIPI-HHoT | Income guarantee elderly | EU28 |
| | Minimum income active age | four model families |
| | Minimum wage | 2009-2018 |
| OECD | Minimum income active age | 2001-2019 (OECD/EU) |
| | Wage incomes (full range of incomes and work hours) | Flexible model families |
| SaMIP/SPIN | Minimum income active age | 1992-2015 (OECD) |
| | | Three model families |

For this paper, we use the newly developed MIPI-HHoT database (<https://zenodo.org/record/2533898>), which is a continuation and improvement upon the CSB MIPI data. MIPI-HHoT is developed specifically to track trends in the generosity of the minimum guaranteed net incomes for different target groups, more specifically the working, the non-working of active age and the elderly. In the selection of applicable schemes, we again follow a risk-type approach, by first establishing the specific risk situation, and then assessing which schemes would be applicable in each country. Whereas each of the datasets mentioned here have their specific merits and advantages in terms of focus and time span (see e.g. Table 1), we use the MIPI-HHoT indicators for a number of reasons: first of all, we developed this dataset in order to reflect *minimal* situations, adopting carefully balanced and empirically grounded country-specific and general assumptions that allow to gauge a minimal situation while simultaneously including the full scope of rights-based benefits in a country (see Marchal, Siöland and Goedemé, 2018: for a full discussion). Second, this dataset is the only one that allows to look at three target groups to which minimum income protection may apply simultaneously.

The MIPI-HHoT indicators are developed using the hypothetical household function HHoT (Hypothetical Household Tool) of the EUROMOD microsimulation model (Hufkens et al., 2016). They reflect the minimally guaranteed incomes through the working of the tax benefit system of a family in three income situations: (i) with one-earner full-time working at the

minimum wage, (ii) as an uninsured active age family with no income from work nor other income, solely relying on benefits guaranteed through the tax benefit system, most commonly social assistance, and (iii) as an uninsured¹ elderly family with no income from work nor other income, solely relying on benefits guaranteed through the tax benefit system, most commonly a minimum income guarantee for elderly. Indicators are developed for these three income situations for four different family types: a single, a couple, a couple with two children and a lone parent with two children.² Adults are 35 years old, children are aged 14 and 7. The families are assumed to be tenants, and rent their accommodation at the median rent.

¹ Uninsured refers to their insurance status in the social insurance scheme.

² Note that the latter two households are not calculated for the elderly income situation.

Table 2 gives the key characteristics of these model households, which are further discussed in Marchal, Siöland and Goedemé (2019: 8-11).

For these 10 hypothetical households (4 working active age, 4 non-working active age, and 2 elderly, see Table 1), we record the households' net disposable incomes and its specific income components segmented into eight categories: wage income (or, for old-age households, minimum income guarantees for the elderly), social assistance, heating benefits, housing allowances, child benefits, income taxes and tax credits, social insurance contributions and 'other' income, incorporating income programmes which do not fit neatly into one of the other categories. The precise income categories are listed in Table 3.

Table 2. Characteristics of the hypothetical households considered in this paper.

| Household type | Children | Housing costs | Income situation specific assumptions | | | General assumption |
|----------------|--|---|--|--------------------------------------|-----------------------------------|---|
| | | | <i>Minimum wage case</i> | <i>Social assistance case</i> | <i>MIG elderly case</i> | |
| single | none | median market rent for 1 person household ^a | age 35 works full-time at minimum wage | | minimum pensionable age, inactive | |
| single | two, aged 7 and 14, regularly attending school | median market rent for 3 person households ^a | | adults are aged 35, looking for work | n.a. | full take-up of non-discretionary and non-contributory benefits |
| married couple | none | median market rent for 2 person households ^a | adults aged 35 one adult works full-time at minimum wage, spouse is inactive | | minimum pensionable age, inactive | no access to social insurance |
| married couple | two, aged 7 and 14, regularly attending school | median market rent for 4 person households ^a | | | n.a. | |

^a Based on 2015 EU SILC rents, up- or downrated to years of interest, see Marchal et al. (2019).

In order to track trends in the adequacy of minimum income protections, we compare the net disposable incomes obtained through the hypothetical household method to the EU at risk of poverty threshold. This is set at 60% of the national median equivalent household income (Eurostat, 2019; Atkinson et al., 2002). We use this measure as it is widely accepted as a poverty measure in both policy and academic circles, and is available for all EU Member States throughout the period 2009-2018. An obvious drawback is its arbitrary nature, both in the choice of the equivalence scales (modified OECD scale) as in the 60% cut-off rate.³ A study by Goedemé et al. (2019) compared the 60% at-risk-of-poverty thresholds to reference budgets for selected EU Member States. Reference budgets are based on an expert- and focus group- based list of prized goods and services, that are deemed to be necessary in order to participate with dignity in a society. According to this study, the 60% poverty line is in line with the minimally needed budget in the Western EU Member States. For the Eastern EU Member States, the 60% poverty line may be too low in order to protect against poverty. This means that we may overestimate the adequacy of the Eastern European Member States to some extent in this paper.

³ While the 60% cut-off rate is part of the official EU statistical apparatus, other international organisations, e.g. the OECD use 50% of the median income. Also the equivalence scales differ.

Table 3. Income components included in the hypothetical household calculation of net disposable income (if applicable according to national tax benefit legislation) in the three different income situations included in this paper.

| Income components | Description | Minimum wage case | Social assistance case | Minimum income guarantee elderly case |
|----------------------------------|--|-------------------|------------------------|--|
| Minimum wage | Statutory minimum wage ^a , full-time employment | x | | |
| Social assistance | Means-tested minimum income-protection, available to general population (some countries have categorical schemes for the active age population) | as a top-up | x | as a top-up, or if no MIG elderly exists |
| Minimum income guarantee elderly | Non-contributory benefit available to elderly ^b This category also includes smaller, income top-ups which are specific to the old-age population. | | | x |
| Income taxes | | x | x | x |
| Social insurance contributions | Employee-specific social insurance contributions. | x | x | x |
| Housing allowance | Benefits compensating for housing costs | x | x | x |
| Heating allowance | Benefits relating to energy costs and/or the heating of residences. | x | x | x |
| Child benefits | Benefits relating to compensating the cost of having children. The category combines universal and means-tested measures, and specific top-ups relating to e.g. lone parent households. | | | households with children only |
| Other income | Non-contributory and non-discretionary benefits for which the model family is eligible, but that do not fit into other categories, mostly in the form of tax credits for families or working households. ^c Also includes benefit for payment of health insurance in the Netherlands, and in some countries larger income replacements for lone-parent households (e.g. in Ireland and Malta). | x | x | x |

^a In some cases – as in Belgium, Austria and Greece before 2012 – quasi-statutory minimum wages are also considered. Countries without statutory or quasi-statutory minimum wages are not included in the minimum wage-earning case, with the exception of Austria. ^b For a more extensive discussion on the differences between social pension, guarantee pension and social assistance, cf. Goedemé (2013). ^c These are summarised in Marchal, Siöland and Goedemé (2019, Table A11).

4 Adequacy of European minimum income provisions

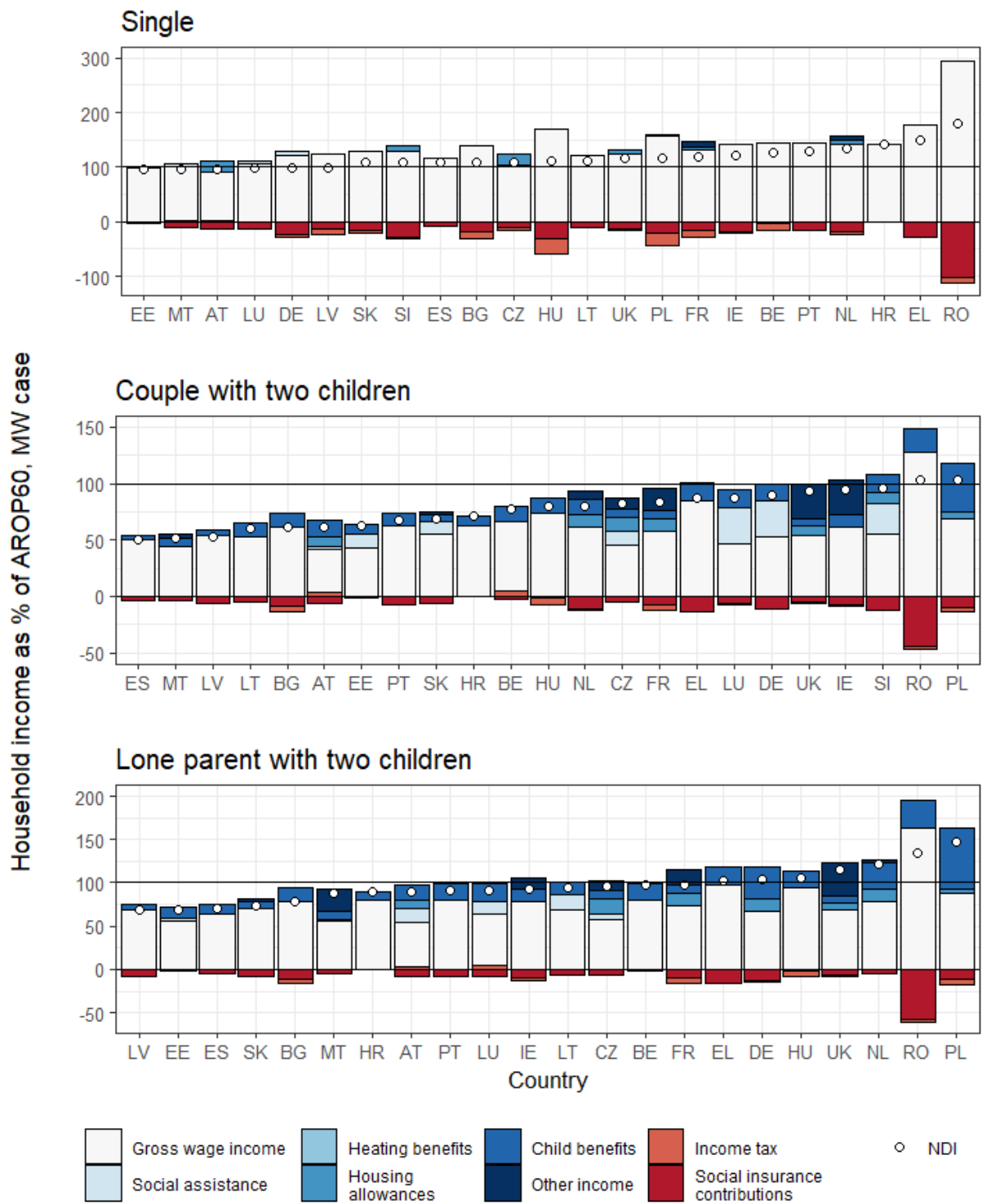
4.1 *Minimum-wage earning, active-age households*

MIP provisions for the *working population* are usually upheld through a combination of a minimum wage and tax benefit policies. While most EU Member States have a statutory minimum wage on the national level, either set by government or expert committees or through agreement by social partners which is subsequently ratified and extended by legislation, a few retain sectoral agreements with diverging minimum rates depending on industry or firm (see Table A1 in appendix). This is the case for Cyprus, Denmark, Finland, Italy and Sweden, although Cyprus has a separate, statutory minimum wage for a few sectors. In Figure 1, we show the adequacy of these MIP provisions for a single, a couple with 2 children and a lone parent with 2 children, all depending on one full-time minimum wage (see section 3, table 2 for the specific characteristics of these hypothetical families) . We focus on countries with a national (quasi)statutory minimum wage and Austria. In Austria, the social partners agreed upon a national minimum wage for the first time in 2009. Whereas this agreement did not get the same status as a quasi-statutory minimum wage, it applies to nearly the entire work force (OECD, 2012), warranting its inclusion in Figure 1.

A first observation from this graph is that gross minimum wages largely differ between countries. Full-time minimum wages are surprisingly high in Romania, Greece and Croatia (Eurofound, 2018).⁴ At the other end of the spectrum, they are comparatively low in Austria, Estonia, Malta, Luxembourg, and the Czech Republic, where gross minimum wages do not (or only very nearly) suffice to keep a single minimum wage earner out of poverty. In the three latter countries, single minimum wage earners do receive a small additional (social assistance or housing) benefit, bringing their net disposable income at – or, in the case of the Czech Republic, above – the at-risk-of-poverty threshold, in spite of low minimum wages and (limited) social insurance contributions.

⁴ A report from Eurofound (2018) estimates that 40% of Romanian employees received the minimum wage in 2018, tripling since 2011 due to successive increases in minimum wage rates. In Greece there is no available data, although the Ministry of Labour estimates that 33.7% of people earn up to 600 EUR per month – however, this estimate includes employees working part-time, fixed-term or in shifts. Coverage rates in Croatia are significantly lower, estimated at 3-13%, which appears at odds with its relatively high minimum wage rate.

Figure 1. Income components of active age households with one minimum wage-earner, expressed as percentage of 60% of median income poverty threshold, 2018.



Note: Only countries with statutory minimum wages – and Austria – included. Slovenia is excluded from the lone-parent case due to missing lone parent benefits in EUROMOD.

Source: AROP60 thresholds retrieved from Eurostat.

In spite of relatively low minimum wages in some countries, limited taxes do allow for single minimum wage earners to generally have a net disposable income at or above the 60% national at-risk-of-poverty threshold. Social insurance contributions, that are usually proportional rather than progressive (as is more likely in the case of taxes) do remain significant for minimum wage earners in most countries. In Luxembourg, Germany, Slovenia, the Czech Republic, France and the Netherlands, single minimum wage earners are eligible for (small) additional benefits. The households in Germany and Luxembourg receive social assistance top-ups due to their relatively low income, and in the Czech Republic and Slovenia housing allowance is granted due to high assumed housing costs (median rent, see Marchal et al., 2018) relative to the hypothetical household's income. In the Netherlands housing allowance and a benefit for the payment of compulsory health insurance are granted, whereas in France single minimum wage earners are eligible for a housing allowance together as well as for the Prime d'Activité, an in-work benefit for low earners.

For households with children, the situation is markedly bleaker. Net disposable incomes are clearly less sufficient, even with low levels of taxes in most countries and substantial additional benefits such as child benefits, housing allowances and even top-ups from the social assistance scheme. For breadwinner households with children, the poverty threshold is only exceeded or (almost) reached in the United Kingdom, Ireland, Slovenia, Romania and Poland. The available benefits clearly do not suffice. In some countries, means-tested social assistance may come into play when the hypothetical family's income is below the social assistance benefit (or slightly higher, as usually social assistance schemes apply limited disregards to earned incomes). However, as social assistance usually depends on a work willingness condition, it is not always clear whether such a top-up would be awarded to a breadwinner household, or whether a social worker would rule that the inactive spouse should start looking for work first. When only applying the income conditions, social assistance top-ups may be awarded in 2018 in Austria, Estonia, the Czech Republic, Germany, Luxembourg, Portugal, Slovakia and Slovenia.⁵

Yet, the work willingness criterion meant that national experts deemed it unlikely that a breadwinner couple would receive a social assistance top-up in Portugal, and that they would

⁵ Social assistance top-ups were also relevant in France prior to the introduction of the Prime d'Activité in 2016, when wage-earning households as well as non-working households could still receive the Revenu de Solidarité Active (RSA) and in Poland prior to 2018 – in 2018, incomes from other benefits are sufficiently high that the household does not pass the means-test.

receive a lower top-up due to the spouse's inactivity in Austria, the Czech Republic and Slovenia.⁶ These are all taken into consideration in Figure 1. For Slovakia, this correction was not possible (see Marchal et al., 2018). For Germany on the other hand, national experts did consider it likely that the social assistance top-up would be awarded, based on the clear effort of the working adult and the presence of children in the household.⁷ For Estonia and Luxembourg it is not clear which reasoning would dominate. For Estonia for instance it was noted that similar restrictions were likely to apply but with extensive variation between municipalities, which could not be predicted or readily assumed. Hence, for Estonia and Luxembourg, Figure 1 does include the social assistance top-up, possibly leading to an overestimation.

Incomes are slightly more sufficient to prevent against poverty in lone-parent households due to benefits that are often as high as for a couple with two children (and in some cases even higher, thanks to separate lone-parent benefits, and a social assistance top-up that does not depend on the work willingness of a spouse), whereas the equivalised poverty threshold is lower, due to only one adult being present.

In the countries that ensure net disposable incomes at or above the poverty threshold for families with children, child benefits play a particularly significant role in doing so in Poland and Romania for both households with children, and additionally in Belgium, Hungary, Luxembourg, the Netherlands, Slovenia, Greece and Germany for lone parents. In all these cases, the child benefits are equivalent to one fifth of the income required to pass the at-risk-of-poverty threshold. The Polish *Family 500+* childcare allowance is of particular note, providing a means-tested payment for the first child in a household and a universal, non-means tested payment for subsequent children. Since its implementation in 2016 it has contributed to a slight decrease in poverty, albeit also to a decrease in female labour force participation (Magda, Kielczewska and Brandt, 2018). Romania combines universal and means-tested child benefits to raise the incomes of households with children, as do the Netherlands and Belgium for lone-parent households. Luxembourg and Hungary see only – relatively generous – universal child benefits for lone parent families, while Greece has a means-tested benefit in place. Other relevant income components for working, low-income

⁶ In these cases, the wage-earning breadwinner earns little enough to qualify for a top-up on their own as their and their children's assessed needs exceed earnings – even with the spouse not considered in the calculation.

⁷ This is also the case in Poland for the years prior to 2018.

households with children are the aforementioned Prime d'Activité in France, the Working Tax Credit in the United Kingdom,⁸ and the Family Income Supplement in Ireland.

Please note that these estimates represent a 'best case' scenario, in which families are fully aware of all the benefits to which they are entitled, and take the necessary steps to apply for those. The graphs also show an annualized income, based on a full-year, full-time minimum wage, including holiday payment (if applicable) and assuming that all benefits are paid year-long. Given the often fluctuating incomes of low-wage earners, and the different application procedures for (means-tested) benefits, this is a rather strong assumption (Hills, 2014; Trlifajová and Hurrell, 2019).

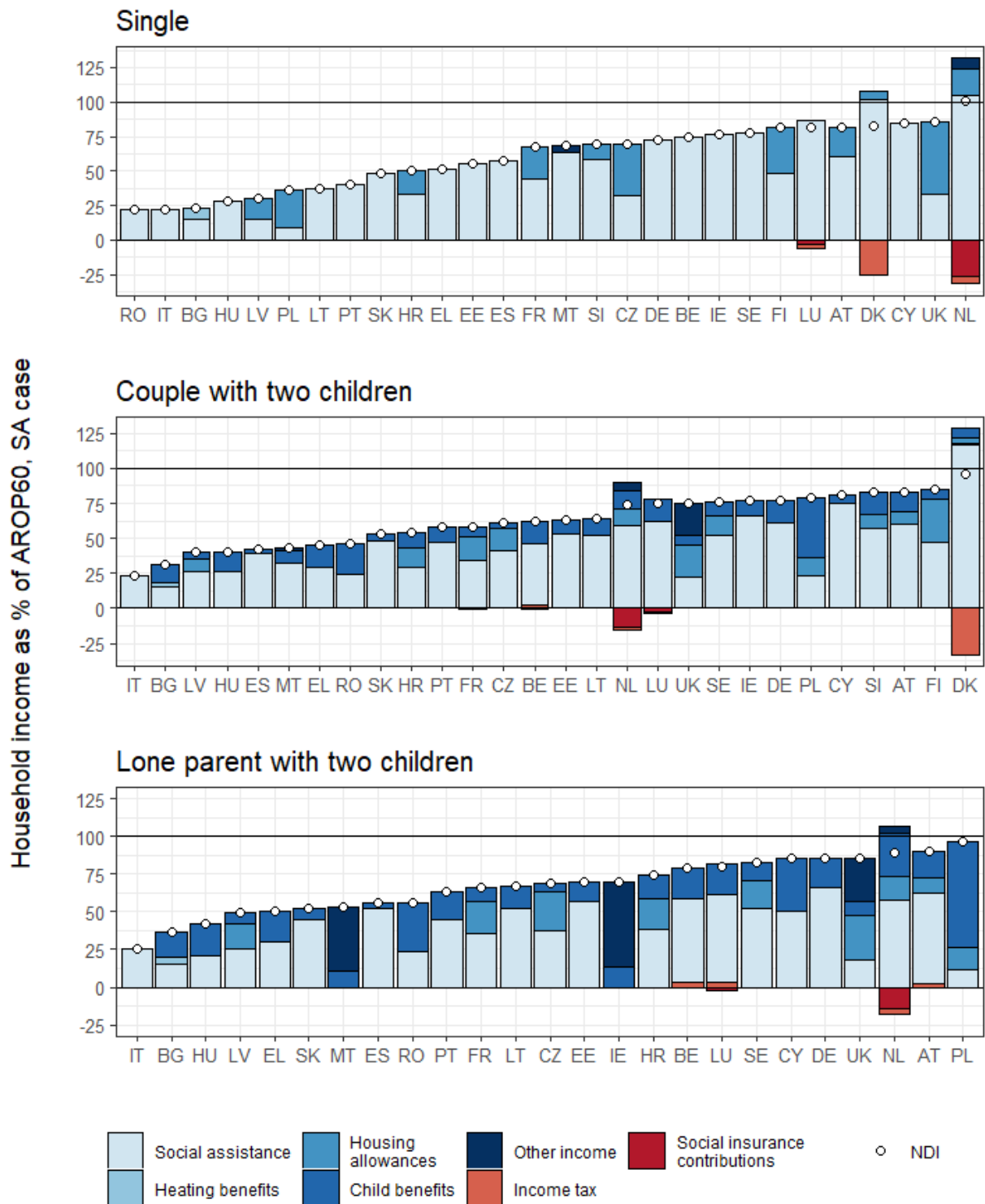
4.2 *Non-working active-age population*

We now move on to the non-contributory minimum income protection packages available to *non-working households of active age*. As both Greece and Italy have recently introduced minimum income schemes, this target group can now rely on some form of means-tested assistance in each EU Member State. In most countries, this target group has access to a general social assistance scheme. In a limited number of countries however, non-working of active age may rely on a categorical scheme catering specifically to those who are able to work. This is the case in Finland, Germany, Hungary, Ireland and the United Kingdom. In addition, in some countries minimum income protection for the non-working of active age is not organised nationally, but arranged at the regional or local level. This is currently the case in Austria (even after a centralization haul in 2010, regional differences remain) and Spain. Table A2 in appendix gives an overview of the specific schemes that are discussed in this paper. For countries where local differences in implementation and benefit levels may occur (which is for instance the case in Sweden and Poland), we focus on the nationally legislated base level.⁹

⁸ The UK government is currently rolling out the Universal Credit, which is set to replace many existing UK benefit programmes, including the child tax credit and the working tax credit. With the roll-out still underway at the time of writing, the programming of this is as of yet not present in EUROMOD version I1.0+, and hence not included in our data, but will be included in future versions. Graphs and discussions in this paper are based on the old system.

⁹ Please note that regional variation is also possible in related benefits, such as housing allowances. This is the case in e.g. Croatia, the Czech Republic, France and Latvia. The MIPI-HHoT households discussed in this paper are assumed to be located in the second-largest region (cf. Marchal et al. 2019 for more details on specific assumptions).

Figure 2. Income components of three non-working hypothetical households at active age, expressed as percentage of 60% of median income poverty threshold, 2018.



Note: Denmark, Finland and Slovenia excluded from lone parent case due to their lone-parent benefits not being simulated in EUROMOD.

Source: AROP60 thresholds retrieved from Eurostat.

Figure 2 shows the adequacy of the minimum income package for the non-working able-bodied of active age. The findings are in line with conclusions elsewhere: in most countries and situations, benefit levels for those of active age who are not in employment are not sufficient to protect against poverty (Van Mechelen and Marchal, 2013; Cantillon and Vandebroucke, 2015). Of the three model households, only the single person household in the Netherlands achieves a net disposable income which surpasses the at-risk-of-poverty threshold (although couples with children in Denmark and lone parents in Poland are close). Between-country variation is high: for instance, the newly-introduced MIP levels in Italy reaches only between 22-25% of the AROP threshold. In general, guaranteed minimum incomes are higher for households with children, and lone parent-households see the smallest relative gap to the poverty threshold.

What are the different income components that together make up the net disposable incomes of non-working active age households depending on social assistance? Single-person households usually solely rely on (general or categorical) social assistance, although in eleven countries housing allowances provide an important supplement to income. This is the case in Austria, the Czech Republic, Denmark, Finland, France, Croatia, Latvia, the Netherlands, Poland, Slovenia and the UK. Some of these countries reimburse all housing costs (that are here assumed to be the median rent for a single person in a country) below a certain ceiling, whereas others only reimburse a share of housing costs according to specific parameters (see Siöland, forthcoming; Marchal et al. 2018).¹⁰ Bulgaria also provides a contribution towards the costs of heating, and Danish households are eligible for a Green Cheque as compensation for costs associated with increases in energy taxes. In other categories, the Netherlands provides a top-up for the payment of mandatory health insurance, and in Malta a cash bonus is paid every half year to households in receipt of public benefits or pensions. Taxes and social insurance contributions are seldom relevant for social assistance beneficiaries. Child benefits on the other hand are of substantial importance for families with children. In around half of the EU MSs, child benefits are however included in the social assistance means-test, yet in those cases higher MIP base rates for families with children compensate for this.

¹⁰ Generally, where housing costs exceed given thresholds and ceilings, only the portion of costs within the specified limits is considered in benefit calculation. The exception is France and the Netherlands, where no benefit at all is awarded if rents are above the threshold (Bouvard and Tammik, 2018: 38; de Vos, De Agostini and De Poli, 2018: 22).

For lone parent households, additional benefits are sometimes available: Cyprus, Hungary, Ireland, Malta, the Netherlands, Poland, Portugal and Romania all have separate child benefits to this effect. This is reflected in **Error! Reference source not found.**, where total child benefits make up a larger part of the total household income for lone parents than for couples. In two cases, lone parents benefit from categorical benefits specific to their situation which are of sufficient scale to be considered as separate income components rather than as part of the child benefit package: this is the case in Ireland with the One-Parent Family payment and in Malta with the Social Assistance for single parents, presented above in the category of ‘other’ income components. Small child-related refundable tax credits are relevant for social assistance beneficiaries with children in Belgium, Luxembourg and Austria.

4.3 *Old-age, non-insured households*

Finally, we consider the adequacy of *minimum income protection provisions for the elderly*. As for the other MIP provisions discussed in this paper, wide variation exists in both the design and coverage of MIP provisions for this target group (see Table A3 in appendix for an overview). Two countries, Denmark and the Netherlands, have a basic pension as their main minimum income support scheme for the elderly. Such a provision is non-contributory, and also not means-tested.¹¹ Its level solely depends on the number of years one has resided in the country (and is decreased per year lacking from the residence record).¹² In Figure 3, where we show the adequacy of MIP provisions for the EU Member States, we show the basic pension for both countries, hence assuming that our typical families have full residence records. A different type of MIP provision for the elderly exists in Cyprus, Estonia, Finland and Sweden,¹³ where a conditional basic pension applies. This type of pension is pension-tested, but disregards other types of incomes or assets.

¹¹ Denmark’s public pension system also contains additional supplements (the Pensionstillæg and Ældrecheck) which are means-tested against assets and income. Here, we focus on the base component of the basic pension.

¹² Persons with insufficient residence records in the Netherlands, where 50 years of residence is required for full receipt of AOW pension, can buy retroactive AOW pension rights or voluntary insurance to increase pension payments (SVB, 2019). In Denmark where the residence period is 40 years, receive pro-rated lower pensions, but may apply for additional benefits like social assistance and housing allowances (OECD, 2017a).

¹³ Please note that, due to unavailability of MIPI HHoT indicators for the conditional basic pension for Sweden, Estonia and Cyprus, these schemes are not included in Figure 3. For Estonia, we present the social assistance level, since for most conditional basic pension beneficiaries, pension levels were additionally topped up by the social assistance benefit (see Marchal et al. 2019). For Sweden, we present the adequacy of the maintenance support for the elderly (*Äldreförsörjningsstöd*), a social pension at a less generous level than the guarantee pension (Pensionsmyndigheten, 2019). The maintenance support for elderly generally applies to (relatively) recently arrived, older migrants (Erhag, 2016: 213-219). Cyprus is not included.

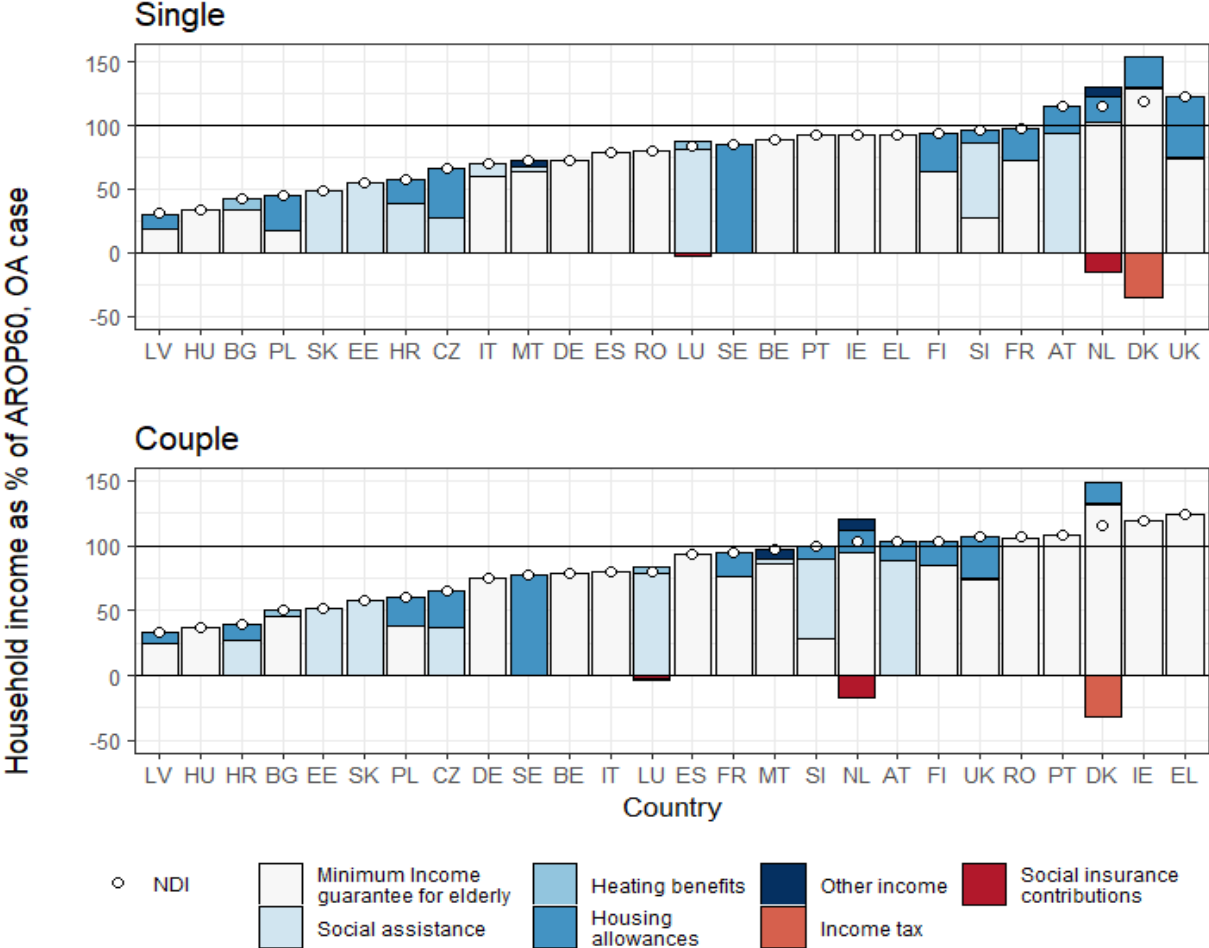
The most common form of minimum income protection for the elderly is however categorical means-tested support for the elderly, termed a “social pension” by Goedemé (2013). Usually, such a scheme also exists in the (conditional) basic pension countries, for residents who do not have a sufficient residence record (see also footnote 7). Finally, for a few countries, elderly rely on the same social assistance programmes as the population at large. Still, often, even when elderly fall administratively under the social assistance scheme, additional top-ups or benefit rates may apply. In Austria and Croatia old-age households with low income receive social assistance, but with slightly different rates and allowances from the working-age population. Slovakia has separate, additional components available for old-age recipients. In Poland the benefit is part of the social assistance system, but the *permanent* social assistance (*Zasilek stały*) is separate from the *temporary* received by those of working-age. This is similar to in Slovenia where the regular social assistance payment is combined with a top-up in the form of income support (*Varstveni dodatek*), which is made available for old-age households and others who are either incapable or permanently unemployable.¹⁴ Finally, in the Czech Republic and Luxembourg social assistance at substantively the same rate as for working-age households applies.

Figure 3 shows the adequacy of the minimum income guarantee for elderly without contribution records to the social insurance pension scheme for a single and a couple at pensionable age. This indicates a slightly more optimistic picture than for the non-working households at active age, with about a third of countries reaching or exceeding the poverty threshold. It is noteworthy that most countries only have one income component, being either the minimum income guarantee for elderly (MIGE) or social assistance. In Austria, Denmark, the United Kingdom, the Netherlands, Slovenia and Spain, housing and heating allowances contribute to a comparatively high income. However, the same benefits are received by households in the Czech Republic, Poland, Bulgaria, Croatia and Latvia, but here fail to prevent very low incomes. It is also worth noting that households in Italy and Malta combine MIGE and social assistance: the single Italian elderly household qualifies for the recently

¹⁴ This permanent social assistance benefit was introduced only in 2012, prior to which old-age, non-insured households relied on a state pension which has since been abolished. This pension payment was lower than social assistance, and other pension top-ups required previous contributions. As our simulated households have no contributions, they would have had their income topped up to the social assistance level. As the state pension is not present in EUROMOD, these households are categorised as only receiving social assistance prior to 2012.

introduced ReI,¹⁵ the Maltese households benefit from the same bonus payments for recipients of public benefits as does the working-age non-employed household.

Figure 3. Income components of old-age households without access to contributory pensions or benefits, expressed as percentage of 60% of median income poverty threshold, 2018.



Note: Cyprus and Lithuania not included due to social pension not simulated in EUROMOD.
 Source: AROP60 thresholds retrieved from Eurostat.

¹⁵ Old-age, low-income households in Italy may also benefit from the ‘social card’ (*Carta acquisti*) which gives discounts and a small contribution towards living costs (80 EUR every two months). This in-kind benefit is not included in Figure 3.

5 Trends

We now turn to a discussion of the trends in income packages for the 2009-2018 time period. Figures 4-6 display the percentage point change in net disposable incomes relative to the poverty threshold. To give a briefer overview, we focus on single and lone-parent households for active age households, and on single and couple households in the old age case. Graphs covering the full 2009-2018 period for all households are presented in Figures A1-A3 in Appendix.

5.1 *Minimum wage-earning households*

A first important development regarding the adequacy of legally guaranteed MIP for working families is the introduction of a minimum wage in Austria and Germany. First, Austria implemented its *Mindestlohn* in January 2009, constituting an agreement between trade unions and employers. More recently, Germany has become the latest EU country to implement a statutory minimum wage. Against a backdrop of increasing inequality and preponderance of low-paid jobs the social democratic SPD campaigned for a minimum wage in the 2013 federal election, and it formed a core demand in the coalition agreement with Christian democratic CDU. The previous system of sectoral, collectively bargained agreements had been weakened by decreasing trade union enrolment since the mid-90s, increasing inequality and in-work poverty and a significant growth of the low-wage sector in the form of e.g. ‘mini-jobs’¹⁶ (Marx, Marchal and Nolan, 2013; Carlin et al., 2017; Bosch, 2018). After its implementation, recent assessments indicate that the minimum wage has been successful in increasing earnings on the lower end of the wage distribution but that this often has come along with fewer working hours and lower work intensity, leaving monthly net earnings similar to pre-reform levels for many low-earners (Caliendo et al., 2017; Bruttel, Baumann and Dütsch, 2018). From Figure 4, it is apparent that the net disposable income a single minimum wage earner has eroded slightly in Germany since its introduction, whereas it eroded substantially in Austria where the non-statutory minimum wage has seen no nominal increases since its 2009 introduction.

¹⁶ ‘Mini-jobs’ increased in prevalence in Germany following the Hartz-IV reforms of the 2000s as a way of activating and reintegrating people far from the labour market, with employers incentivised by not having to pay social insurance taxes or provide employment protection (Brady and Biegert, 2017). Between 1995 and 2005 the number of ‘mini-job’ employed more than doubles, with many finding themselves in industries where employers had been given the ability to withdraw from collective agreements (Vaughan-Whitehead, 2010: 6; Bosch and Weinkopf, 2008).

Figure 4. Percentage point changes in NDI as a percentage of 60% poverty threshold for two minimum wage-earning households, 2009-2018.



Note: Only countries with statutory minimum wages (and Austria, as per discussion above) included in graph. Note that comparisons for Germany are 2015-2018 due to recent introduction of statutory minimum wage, and Croatia 2013-2018 for data availability reasons due to their late EU accession.
Source: AROP60 thresholds retrieved from Eurostat.

For over half of the countries included in Figure 4 however, the situation of a minimum wage household improved. In single-person households this trend is particularly notable in some Eastern European states, with both Romania and Bulgaria having significantly increased their minimum wages. The substantial increases of net disposable incomes of a lone parent working at a minimum wage in Poland, and to a lesser extent also in Spain and Estonia, are chiefly attributable to the new or increased child benefits rather than real increases in minimum wages. For both households, Greece presents a divergent case: minimum wages were cut by about 20% in 2012 following crisis measures in the Great Recession, and nominal minimum wages remain lower in 2018 than prior to the crisis. However, with decreases in general wages and living standards in Greece at the same time, the poverty threshold is also

lower. The increases in Greece are therefore not necessarily indicative of improved living conditions or an improved situation in the country as a whole.

The more modest increases in France, Latvia, the Czech Republic, the Netherlands and Hungary mainly follow increases in minimum wages. For France and the Netherlands minimum wages are generally set by indexation against other economic indicators to ensure steady increases (Visser, 2016; cf. Askenazy, 2014: 3 for France). Latvia has also seen steady increases in the minimum wage following successful tripartite negotiations (Eurofound, 2018). Hungary and the Czech Republic see less gradual but nevertheless significant minimum wage increases, increasing nominal minimum wages by 77% and 52.5% respectively in the 2009-2018 period.

Trends for households with children are broadly similar in France, where child benefits and social assistance payments increased over time, and in Hungary, where the impact of lower child benefits was compensated for by lower social insurance contributions. In the Netherlands, Latvia and the Czech Republic, households with children did fare differently. Whereas the hypothetical lone parent family did experience a relative increase similar to the single person household thanks to a means-tested ‘child-related budget’ benefit introduced in the Netherlands in 2015, the couple with children is not eligible for this benefit, causing their income to remain stagnant in relative terms. In Latvia child benefits remained stable throughout the period leading to small gains for the single household but decreases for households with children, whereas in the Czech Republic the 2011 abolition of a means-tested child benefit was only partially compensated by a higher social assistance top up, causing higher overall increases for the household without children. A smaller increase in Lithuania reflects the fact that social assistance rates for this household were progressively cut to 0 between 2009 to 2016. However, in 2018 the child allowance was taken out of the means-test, once again qualifying the household for additional social assistance payments. Portugal also sees increases in minimum wages, but families with children still experienced decreases in their net disposable income since 2009 – cuts of social assistance following the Great Recession have meant that benefit packages which made up a significant amount of household income in 2009 have not yet been recuperated in 2018, even amidst slow recovery.

In the United Kingdom minimum wages have risen but net incomes still decreased as base rates of Working Tax Credit have not increased since 2015, leading to a decrease in benefit incomes as wages rise. Decreases relative to the poverty threshold are caused by weak minimum wage development relative to other wages in Austria, Ireland, and Malta, as well as

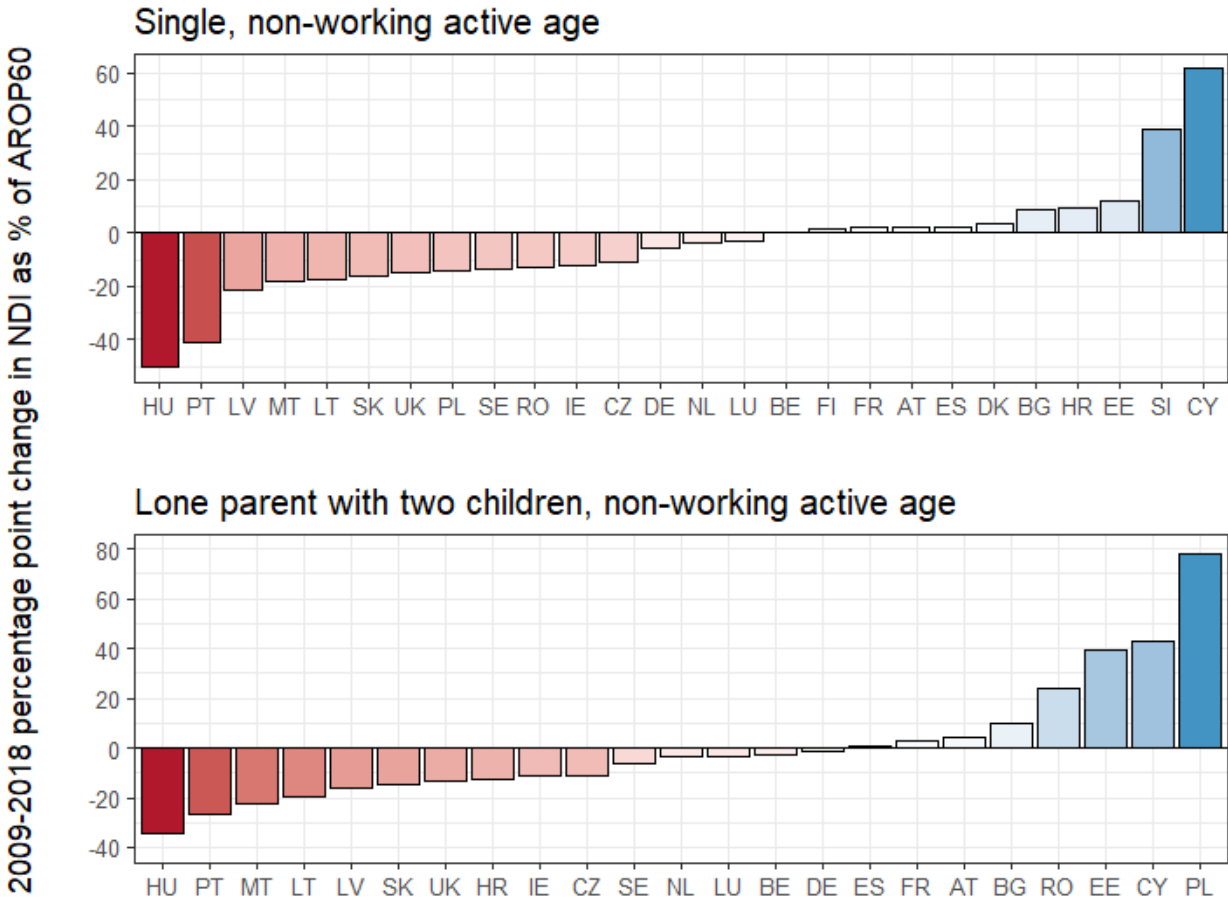
for single households in Croatia. Decreases for lone parents in the Czech Republic and Slovakia are due to social assistance not rising in line with minimum wages, thus being phased out as earnings increased and leaving net incomes relatively steady. Lone parents in Croatia also suffered from the weak wage development. Nevertheless, their household per capita income rises sufficiently in 2017 and 2018 to move them up one income band in the child benefit means-test, hence decreasing benefit payments, and causing the stark decrease in net disposable income evident in Figure 4.

Finally, from consulting Figure A1 in Appendix we find that trends for couples with two children diverge from those of lone parents in only a few cases (Austria, Lithuania, Malta, the Netherlands, Portugal and Spain), often related to less generous social assistance top-ups for this family type.

5.2 Non-working active-age households

Figure 5 shows a more concerning picture for the changes in MIP adequacy for non-working active age households. While levels remain steady in Belgium, Denmark, Finland, France, Luxembourg, the Netherlands and Spain, in more than half of the EU Member States single and lone parent households' income decreased in relation to the poverty threshold over time. In some cases this came as a response to external pressure. In Portugal, the generosity of social assistance programmes decreased drastically in 2011 following economic crisis and the requirement to reform and reduce government spending to access international lending (Karger, 2014). In Spain, despite crisis-driven cutbacks, non-working household incomes remain steady compared to the poverty threshold due to falling incomes in the wider economy and a comparatively generous regional benefit in the Spanish region of Catalonia, which may not be reflective of the wider country.

Figure 5. Percentage point changes in NDI as a percentage of 60% poverty threshold for two active-age, non-working households, 2009-2018.



Note: Italy excluded as no rights-based social assistance scheme was in place prior to 2018, preventing comparison over time. Greece excluded as national scheme only introduced in 2017, and then still bolstered by temporary, one-off benefits. Comparisons for Croatia are 2013-2018 due to later EU accession.
Source: AROP60 thresholds retrieved from Eurostat.

Latvia and Lithuania, both affected badly by the Great Recession, also saw a reduction in social spending and, in Lithuania’s case, retrenchment of government programmes (Aidukaite, 2013). In the United Kingdom the austerity reforms put forward by the Conservative-Liberal Democrat coalition in response to the Great Recession saw, among other measures, a benefit cap be put in place. As a result the extent to which social transfers protect against income poverty has decreased.¹⁷ In Croatia, Subsistence Support was replaced in 2014¹⁸ by the Guaranteed Minimum Benefit, a more restrictive programme which tightened

¹⁷ For a summary of the 2010-2016 reform agenda and its impact, see Beatty and Fothergill (2018).
¹⁸ Between 2007 and 2011 this benefit was called Permanent Support rather than Subsistence Support, but no significant changes to the benefit occurred from its implementation in 1998 to its replacement at the end of 2013 (Bejaković and Mrnjavac, 2016: 411).

asset tests, decreased the contribution of children to households' assessed need and increased conditionality for able-bodied, working-age individuals, while also incorporating separate, smaller programmes for long-term unemployed and for war veterans and their families (Bejaković and Mrnjavac, 2016).

Reforms in Hungary throughout the 2010s have similarly tightened access to their main social assistance programme. In particular, 2015 reforms saw the imposition of stricter behavioural conditions and, for those fit to work, to be available for participation in public employment programmes (Scharle and Szikra, 2015). This comes against a background of general cutbacks and moves towards a 'punitive workfare system' in Hungary in the 2010s (Vidra, 2018). However, for most countries which here see decreases, the cause can be found in benefit rates and programmes not increasing with wages and living costs, either because of inadequate statutory indexation, or because of the active skipping of indexation in the wake of the crisis (Van Mechelen and Marchal, 2013; Marchal, Marx and Van Mechelen, 2014). This is the case for a wide range of states, from established welfare states like Sweden, Germany, Luxembourg and the Netherlands, which all see minor decreases, to less-generous ones like the Czech Republic, Ireland, Slovakia and Malta.

Still, some countries improved the MIP arrangements for the non-working of active age throughout the 2009-2018 period. Most notably, Greece and Italy have both seen the introduction of general minimum income protection schemes. In Greece this process started with the trial of a Social Solidarity Income in 2015 which was expanded and revised in 2016, and rolled out on a national level in 2017 (Marini et al., 2019; Matsaganis, 2018). This reform followed a significant increase in poverty and deprivation in post-Recession Greece. The rationalization of benefits and introduction of a general social assistance scheme was also expressly asked by the 'troika' of the IMF, the European Union and the ECB (Perez and Matsaganis, 2017; International Monetary Fund, 2012). As the national-level Social Solidarity Income was only in place from 2017, in which year a one-off social dividend was also paid out, Greece is not included in Figure 5.

While Greek pilot minimum income protection programmes came relatively recently, Italy has a longer experience with such ventures. A main 'minimum insertion income' was introduced in 1998 by the centre-left Prodi government, and again abolished on national level due to the incoming, right-wing government's non-support of national social-assistance programmes (Natili, 2018). Some regions and municipalities retained their own schemes after

this reform, forming part of the regionally varied patchwork of social assistance benefits experienced by Italy in the 2000s (Madama, Jessoula and Natili, 2014). The government also introduced a heavily means-tested ‘social card’ for certain household purchases in the aftermath of the Great Recession in 2009 (Marchal, Marx and Van Mechelen, 2014). Nevertheless, a nationally present minimum income scheme remained missing until the 2018 implementation of the ‘Reddito di Inclusione’ (ReI), a means-tested, non-categorical social assistance scheme available in the whole country (Baldini et al., 2018). This benefit was in turn replaced by the ‘Reddito di Cittadinanza’, or ‘citizen’s income’¹⁹ in 2019. While more generous than the ReI it has some restrictions, being available only to Italian or European citizens and to those who seek work or otherwise participate in integration activities (Italy Ministry of Labour, 2019).

Elsewhere, in order to upgrade the effectiveness of the social protection system in a time of economic contraction, Cyprus replaced the public assistance benefit with a more generous guaranteed minimum income in 2014 (Koutsampelas, 2016), and the net disposable income of Polish households with children increased markedly following the 2017 introduction of the Family 500+ child care benefit. Increases relating to children in the household also occurred in Estonia and Romania following a rise in rates of the existing social assistance and means-tested family benefits, respectively. However, due to a weak development of social assistance rates, Poland and Romania see a decrease relative to the poverty threshold for single households. France introduced the RsA (*Revenue de Solidarité Active*) in 2009 to supplement the income of in-work poor, although the 2016 introduction of the *Prime d’Activité* activity allowance has largely taken its role, leaving the rSa for those not in work. In Slovenia, single households in particular saw an increase in net income following an increase in social assistance base rates in 2018.

Finally, reforms in Austria in 2010 and 2011 aimed to introduce a unified social assistance programme (the *Bedarfsorienterte Mindestsicherung*) to replace the regionally administered minimum income programmes, leading to steady rates or modest increases. However, concern has been raised in regional disparities in receipt – indicating lingering discrepancy in who receives the benefit – and non-take-up, with a disproportionately large number of recipients in Vienna compared to other *Länder* (Dimmel and Pratscher, 2014; Dimmel and Fuchs, 2014).

¹⁹ Despite its name, the benefit’s categorical elements and the risk of sanctions in cases of non-compliance with job-seeking criteria means that its character is more that of a guaranteed minimum income than of a universal basic income.

The development of MIP for the non-working is not as linear as it is for working households. Figure A2 in Appendix shows how, in both Lithuania and Portugal, the income decrease for families with children compared to 2009 was until recently larger than indicated in the 2009-2018 comparison. Subsequent reforms in 2017 and 2016 respectively raised the income levels of these households. Some divergences in the trajectories between couples with children and lone parents should also be noted. In Croatia both these households suffered a decrease in income in 2013 following more restrictive social assistance terms. For couples with children the rates recovered almost to their original level in 2016, whereas lone parents' incomes remain at the lower level. Similarly, the incomes for couples with children in Romania have increased more compared to the poverty threshold than those of lone parents in the 2009-2018 period.

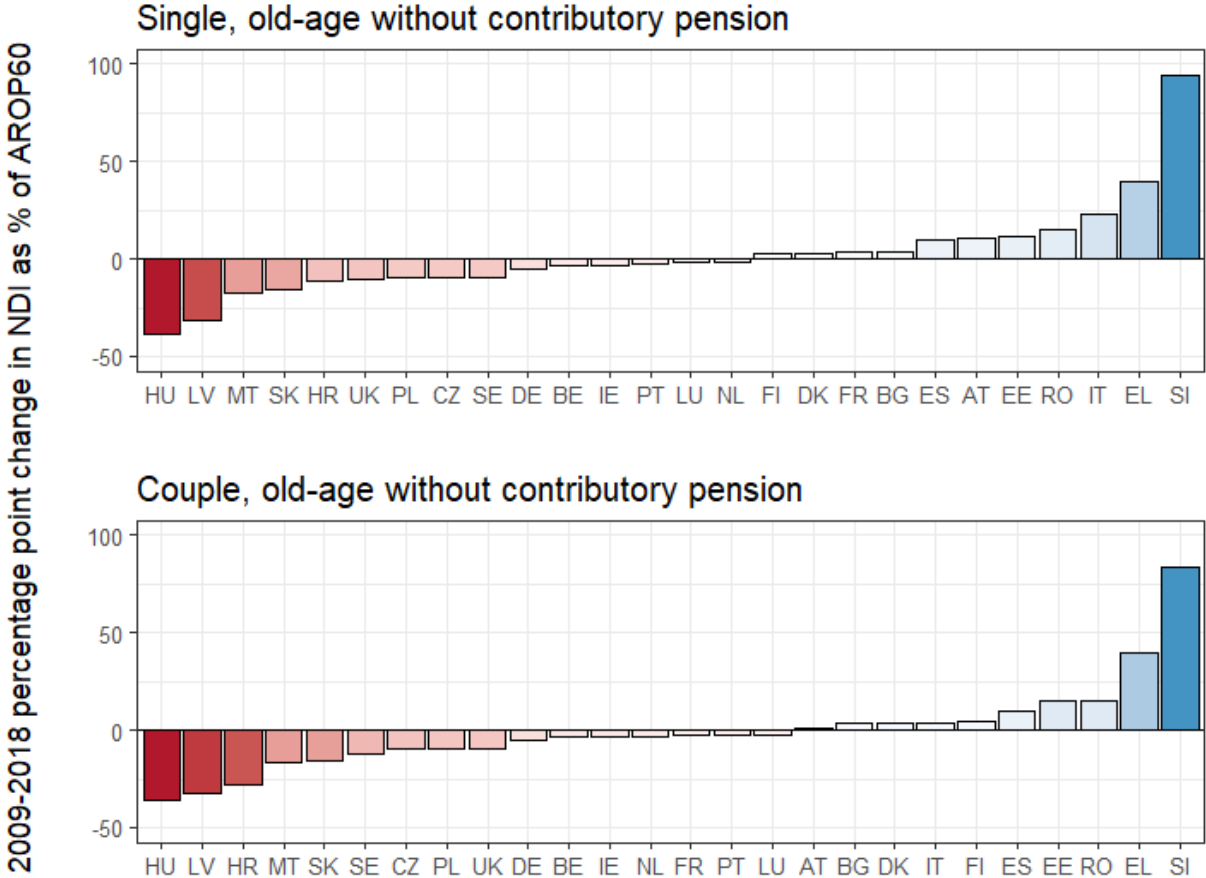
5.3 Old-age, non-insured households

Finally, we consider the old-age case for pensioners without access to contributory pensions or benefits. As in the non-working case of active age, the broad picture is concerning and shows a decrease relative to the poverty threshold in most countries, and significant increases only for a few. Decreases can be either due to cuts to or retrenchment of social programmes, or due to a lack of indexation increases in line with living standards. Hungary, where the most significant decrease is found, combines the two: the social pension rate has remained unchanged since 2009 and, additionally, the home maintenance allowance for housing costs was abolished in 2014. Croatia likewise sees no indexation in the social assistance programme received by the households, and couples saw a cut in its level in 2014.

For remaining countries with decreases, these are due to no or low increases in the benefit rates. In Latvia no cuts to existing benefits occurred, but the benefits received by the two households have remained largely static in nominal terms throughout 2009-2018. The Czech Republic, Germany, Malta, Poland, Slovakia, Sweden and the United Kingdom see small increases in nominal household income, but due to low indexation or weak increases they are outstripped by the growth in incomes elsewhere in the economy and decrease their position relative to the poverty line. A collection of chiefly continental welfare states remain on relatively steady levels throughout the period. For Austria, Belgium, Denmark, France, Luxembourg and the Netherlands, this is due to requisite increases in rates, whereas for Bulgaria, Ireland and Portugal increases are modest, but weak growth elsewhere in the

economy does not worsen their position relative to the poverty line. For Ireland and Portugal in particular, this is linked to the after effects of the Great Recession.

Figure 6. Percentage point changes in NDI as a percentage of 60% poverty threshold for two active-age, non-working households, 2009-2018.



Note: Old-age households defined as those who are of requisite age to access age-specific benefits (cf. Marchal, Siöland and Goedemé, 2019: 9, 42 for elaboration). Note that comparisons for Croatia are 2013-2018 and Finland 2011-2018.

Source: AROP60 thresholds retrieved from Eurostat.

Some of the increases are also less significant than they appear in

Old-age, non-insured households

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Increases elsewhere require less qualification. Slovenia sees the most significant increase following the introduction of a permanent social assistance scheme for the elderly and others in need of permanent support. The model households studied here had previously only had access to regular social assistance payments, and as can be seen in Figure A3 in the Appendix, the 2012 reform entails a major income increase. Romania's minimum social pension has increased markedly, increasing by over 70% while Estonia sees similar income increases relative to the poverty threshold after the introduction of new benefits in the form of a social

pension top-up for pensioners living alone was introduced in 2017.²⁰ Increases are also seen for single households in Italy as their household incomes are sufficiently low to benefit from the guaranteed minimum income implemented in 2018. Couples – which are better off relative to the poverty threshold throughout the time period due to receiving two pension incomes – do not receive that increase.

6 Discussion

In sum, over the latest decennium, we observe relatively positive trends in the adequacy of minimum income protection for the working population, which often increased in line with or even above living standards in the large majority of countries. Minimum income protection for the non-working population, both of active age and for the elderly, lagged in a substantial majority of countries behind the median equivalent disposable income.

In the next section, we look into these trends relative to one another. First, we compare the trends in out-of-work and in-work assistance. Cantillon, Marchal and Luigjes (2019) find large differences in active-age minimum income protection packages in the broad sense, i.e. in the combination of adequate minimum income protection in-work and out-of-work, and the underlying decision regarding financial incentives, statutory minimum wages and in-work benefits. They argue that these different policy packages reflect the implicit policy choices of policy makers. Moreover, they argue that roads towards more adequate incomes may be more easily achievable for countries where financial incentives are very high (but not that this will necessarily happen). Cantillon, Parolin and Collado on the other hand looked more specifically at *trends* in these broader minimum income protection packages. They find evidence for a social trilemma: Increasing pressure on low wages makes it ever harder (or more costly) for policy makers to simultaneously provide for adequate out-of-work benefits, adequate in-work incomes and substantial financial incentives. In their paper they argue (Cantillon et al., 2018, p. 5): *“there are indeed structural constraints on the increase of minimum incomes in rich welfare democracies which are likely linked to the inequality wave. However, the enormous differences across nations and welfare regimes suggest ample manoeuvring space for policy makers, especially in countries where the social floor is highly inadequate.”* Based on their analyses on the Western EU Member States and the US for the

²⁰ Social pensions for Estonia are not simulated in EUROMOD, for which reason the MIPI-HHoT estimates for old-age households instead include social assistance payments in addition to the top-up present from 2017 (Marchal, Siöland and Goedemé, 2019: 16).

period 1994 – 2014, they furthermore report that “*Since the 2000s there is also no evidence of a universal decrease of the generosity of social floors for jobless households. We find that most welfare states are “working harder” throughout the past decade, but tend to prioritize higher financial work incentives rather than more generous minimum income protections for jobless households. The story behind the data is that the persistent and almost general inadequacy of minimum income protection for the poor is structural in nature, i.e. related to the levels and trends of gross wages. However, the enormous differences across nations also points to the importance of political agency.*” In the following section, we will thus focus on the individual country choices regarding financial incentives in the period 2009-2018.

Second, we assess whether the elderly have seen more favorable trends than the non-working of active age, and, if they have, how this has impacted their relative position vis-à-vis the working part of the population. In their 2016 paper, Goedemé and Marchal looked into the country-specific trends in minimum income protection for the elderly in western EU MSs in the 1990s and 2000s and described the different reforms and policy choices at the basis of these trends. In the discussion they notice that the overall quite positive trends appeared to be at odds with the general image of eroding safety nets for the active age population, leading them to hypothesize that the elderly may enjoy a more favorable public opinion in terms of deservingness considerations, and that concerns regarding financial incentives to work are less pressing for this group. They did however not look into the precise relation between trends in minimum income protection for the elderly and those of active age, so it is not clear whether trends for the elderly are indeed generally more generous than for those of active age. Hence, here we look deeper into this relation for 2009-2018 and for a larger group of Member States.

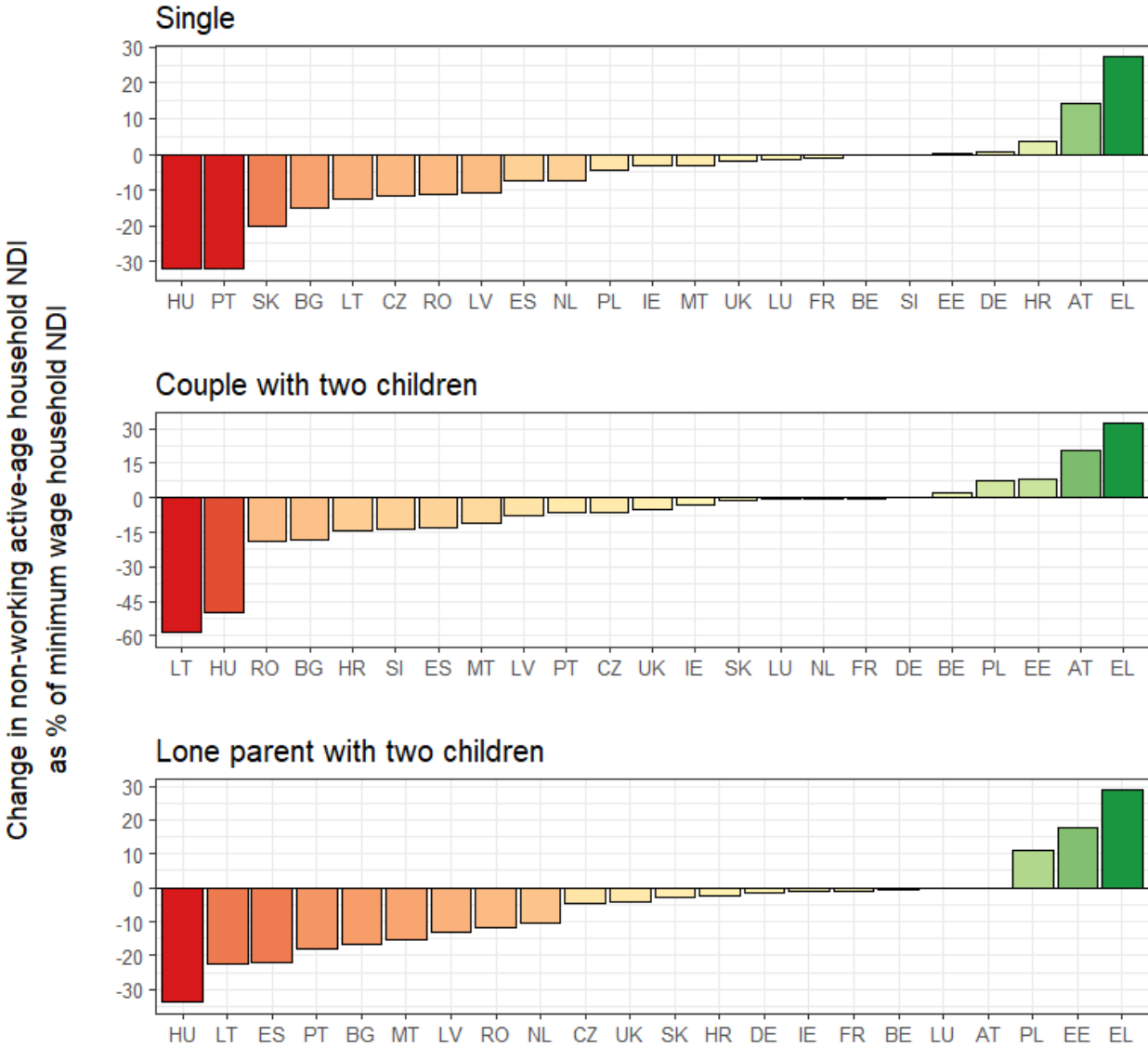
6.1 *Non-working households’ income in relation to working households*

Figure 7 shows the individual country trends in the ratio between net minimum income for the non-working and for the working population. As do Cantillon et al. (2018), we find a nearly universal increase in the gap between net disposable income at social assistance and net disposable income at a full time minimum wage (which could be seen as a very crude indicator of financial incentives).²¹ There are only a few exceptions: in Belgium, Slovenia, Estonia, Germany and Croatia the gap between social assistance and the net income at

²¹ Note that Cantillon et al. (2018) calculate financial incentives relative to the net disposable income at the 10th wage percentile rather than the statutory minimum wage.

minimum wage remains stable or decreases slightly for a single person household. Only in Greece and Austria does the gap between both decrease substantially. In both countries this is due to an atypical trend in minimum wages (the Greek minimum wage was cut in the aftermath of the crisis, whereas the Austrian quasi-minimum wage did not increase in nominal terms since 2009) in combination with a reform of the social assistance benefit: an introduction and further out roll of social assistance in Greece and a centralization of social assistance in Austria.

Figure 7. Change in NDI of non-working active-age households as a percentage of minimum wage-earning households' NDI, 2009-2018.



Note: Countries without statutory minimum wages – Cyprus, Denmark, Finland, Italy and Sweden – are not included in comparison. Comparison for Germany is 2015-2018 due to recent adoption of statutory minimum wage, 2014-2018 for Greece due to recent introduction of rights-based social assistance schemes, and 2013-2018 for Croatia due to their later EU accession.

For families with children, the gap between out-of-work and in-work assistance also decreased in Poland, where an increasing minimum wage made working families ineligible for the means-tested housing allowance whereas social assistance families benefited from a revalorization of the nominal benefits, and in Estonia, where social assistance benefits for families with children increased. In Austria, due to the low (and eroding) minimum wage, working families rely heavily on social assistance top-ups for a guaranteed minimum in-work income. Hence, net disposable income for lone parents is equal whether in-work or out-work throughout the entire period. For the breadwinner family, depending on the importance addressed to the work willingness of the spouse (cf. Section 4.1), in-work income may be even below out-of-work minimum income protection.

It is noteworthy that it is not the countries with initially the lowest financial incentives that predominantly aimed to increase the gap between out-of-work and in-work minimum income protection, at least not for single person households. If anything, it is rather the other way around, with countries that already initially had high financial incentives further pursuing increases in the income gap. (The correlation – excluding Greece – between the ratio in 2009 and the percentage point and percentage change in the period 2009-2018 amounts to respectively 0.27 and 0.44 for single person households).

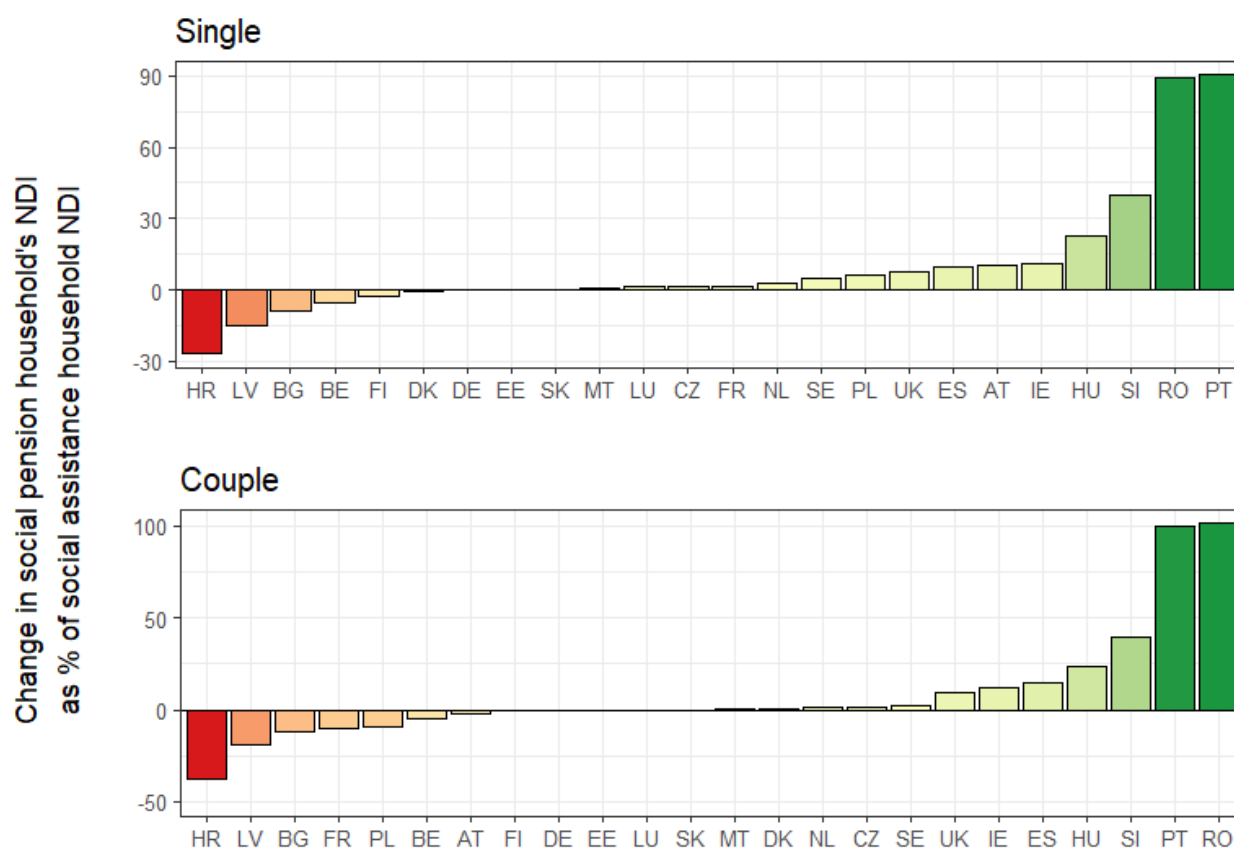
Households with children on the other hand do not show a clear association: with Greece excluded there is no correlation whatsoever for lone parent households, whereas for couple households we note a negative correlation, with generally higher decreases in the ratio social assistance – minimum wage in countries where this ratio was relatively high to begin with. It hence appears safe to say that there is a common trend towards higher financial incentives, but that the actual focus on this trend differs from country to country and family type to family type (see also Figure A4 in Appendix).

As discussed above it has been suggested that in principle, it should be easier for countries where the gap between social assistance and minimum wage income is high to increase their net social assistance benefits. We do indeed find a weak negative correlation (around -0.3) in the ratio between social assistance and minimum wage in 2009, and the subsequent trend in the adequacy of social assistance benefits, at least for the families with children included in our data. For a single person household, such a correlation is absent.

6.2 Old-age households' incomes in relation to non-working, active-age households

Figure 8 shows the trends in minimum income protection for the elderly relative to minimum income protection for the non-working of active age. In the previous section, we found minimum income protection to be decreasing in adequacy for both target groups in most countries. We ask here whether the decreases were more pronounced for active age minimum income beneficiaries than for the elderly.

Figure 8. Change in the NDI of old-age households not in receipt of contributory benefits as percentage of social assistance households' NDI, 2009-2018.



Note: Countries without social pension payments, or significant missing benefits in EUROMOD, not included. Additionally Italy is excluded as their social assistance scheme only has been in place since 2018, and no over-time comparison is possible. Comparison is 2011-2018 for Finland due to data availability in EUROMOD, and 2013-2018 in Croatia due to their later EU accession.

We can distinguish three groups: a group where minimum income protection for the elderly moves in tandem with minimum income protection for the non-working of active age, a group where the elderly saw their net minimum incomes increase faster than the non-working of active age did, and finally a group where minimum income protection for the elderly decreased relative to active age provisions. The first group includes Denmark, Germany,

Estonia, Slovakia, Malta, Luxembourg, France and the Czech Republic, and couples in Austria. With the exception of Denmark and France, where old age minimum income protection is higher than active age, the ratio between old age and active age minimum income protection was constant at 100 throughout the entire period (as shown by Figure A5 in Appendix).

A large number of countries saw minimum income protection for the elderly improve relative to MIP for active age. This was (though only to a very limited extent) the case in the Netherlands, Sweden and Poland, all three countries where minimum income protection for the elderly was over the entire period more generous for the elderly. Likely, the (minimally) increasing gap between both does not reflect a conscious policy change, but rather the impact of different indexation rules. The improvement of the relative position for the elderly was more outspoken in the United Kingdom, Spain, single households in Austria, Ireland, Hungary, Slovenia and – especially – in Romania and Portugal. In Hungary and the United Kingdom, this was surprisingly coupled with substantial decreases in social pension adequacy due to a nominal standstill in the former, and only limited indexation in the latter.

Minimum income protection for the non-working of active age fared however worse, in Hungary in line with a longer-term trend towards financial incentives and in the UK as a consequence of austerity measures. In Ireland, Spain and Portugal, social pension adequacy was relatively stable or saw small increases, which, relative to cutbacks in the adequacy of minimum income protection of the working age led to an improvement in the elderly's relative position. In Romania the relative improvement attributable to an actual increase in the minimum social pension, while for singles in Austria the MIGE has increased gradually at a higher pace than active-age social assistance. In Slovenia the improvement stems from the introduction of the permanent social assistance (income support) in 2012: in the years prior to this, households in the two income cases received the same social assistance income, whereas old-age households now receive more.

Finally, we saw a relative deterioration of MIP for the elderly in Croatia, Latvia, Bulgaria, Belgium and Finland (and, for couples, also for France and Poland). Croatia failed to index their MIP for the elderly throughout the period. Also in Latvia, benefit levels for the elderly remained virtually the same, whereas social assistance for active age persons became more generous: whereas there previously was a time limit on the number of months one could receive a benefit, this was abolished in 2010. Bulgaria and Finland, MIP for those of active

age increased (somewhat) more than MIP for the elderly did. After welfare adjustments in Belgium focused on minimum income protection for the elderly throughout the first decade of the 2000s, recent revalorizations focused on the minimum income protection for those of active age.

All in all, we do find that in a substantial number of EU MSs MIP for the elderly developed more favorably or in line with MIP for those of active age. Where the ratio between both decreased, this was often due to a revalorization of MIP for those of active age rather than a cut in benefit levels for the elderly (although there are exceptions, most notably Croatia and Latvia).

This assessment does not show why that is the case. Deservingness perceptions likely play a role. Also, concerns about financial incentives are less pressing for the target group of the elderly. Still, whereas MIP for the elderly is more generous than MIP for the non-working of active age, it only rarely is more generous than MIP for the working (see Figure A6 in appendix). Of the countries with a statutory minimum wage, only the UK has slightly more favorable MIP for the elderly for single person households. For couples, slightly more countries show a more generous position for the elderly. Overall, gaps between net disposable income for the elderly and the working are common, but they are also relatively small, and in most countries, this gap remained steady.

7 Conclusion

This paper provided an in-depth discussion of recent trends in minimum income protection for those of active age and the elderly, building on new data developed specifically to gauge the adequacy of minimum income protection for three different target groups. We found overall relative generous trends in MIP for the working population, through changes in minimum wages and additional benefits. These generous trends only rarely went hand in hand with more generous MIP for the non-working active age population. Rather, the focus of countries appears to have been on increasing the gap between MIP for the non-working and the working of active age. This confirms for a more recent period and a larger group of countries the findings of Cantillon et al. (2018). Exceptions to this rule are especially Austria and Greece, whereas also in Belgium, Slovenia, Estonia, Germany and Croatia (and Estonia and Poland for families with children) the gap remained stable or decreased slightly. It would be interesting to see why these countries did not follow this general trend. Some first

explorations already showed that there is no clear relation with the level of initial financial incentives or adequacy. We furthermore assessed how MIP for the elderly fared relative to provisions for those of active age. Whereas also for the elderly decreases occur in a substantial number of countries, these decreases are often less pronounced. MIP for the elderly overall fared better than MIP for those of active age. In line with our observations on the focus on financial incentives for those of active age, this could be because this consideration weighs less heavily for this target group.

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9 Appendix

Table A1. Overview of minimum wage schemes in EU28, 2018.

| | Minimum wage | % of working population^a | Minimum wage setting mechanism (ICTWSS, Visser, 2016)^b |
|----|--|--|---|
| AT | No statutory minimum wage | | National agreement between social partners in practice covers most of employees |
| BE | <i>Gewaarborgd Minimum Maandinkomen</i> | 3% | By agreement, made binding by law |
| BG | <i>Минимална работна заплата</i> | 17.7 | By government after (non-binding) consultations |
| CY | Minimum wage only for select few occupations | n.a. | By government, bound by fixed rule |
| CZ | <i>Minimální mzda</i> | 3.6% (2016) | By government with no fixed rule |
| DE | <i>Mindestlohn</i> , since 2015. | 3.5% ^c | By judges or expert committee |
| DK | No minimum wage | | Sectoral collective agreement |
| EE | <i>Riiklik alampalk</i> | 19-25% | By agreement, made binding by law |
| EL | National General Collective Labour Agreement | n.a. | By government with no fixed rule |
| ES | <i>Salario Mínimo Interprofesional</i> | 12.62% ^d | By government with no fixed rule |
| FI | No minimum wage. | | Sectoral collective agreement |
| FR | <i>Salaire minimum interprofessionnel de croissance</i> | 10.6% | By government with no fixed rule |
| HR | <i>Minimalnoj plaći</i> | 3-13% | n.a. |
| HU | <i>Teljes munkaidőben foglalkoztatottak minimálbére</i> | 14% | By government after (non-binding) consultations |
| IE | <i>National Minimum Wage</i> | ~10% (2016) | By judges or expert committee |
| IT | No minimum wage. | | Sectoral collective agreement |
| LT | <i>Minimali mėnesinė alga</i> | 20.2% (2016) ^d | By government after (non-binding) consultations |
| LU | <i>Salaire Social Minimum</i> | 12.3% | By government, bound by fixed rule |
| LV | <i>Minimālā mēneša darba alga</i> | 18% ^e | By government with no fixed rule |
| MT | <i>Paga Minima Nazzjonali</i> | 3.4% | By government, bound by fixed rule |
| NL | <i>Wettelijk minimumloon</i> | 6.6% (2016) | By government, bound by fixed rule |
| PL | <i>Placa minimalna</i> | ~10% (2015) | By government with no fixed rule |
| PT | <i>Retribuição Mínima Mensal Garantida</i> | 23% | By government with no fixed rule |
| RO | <i>Salariul minim pe economie</i> | ~40% | By government after non-binding consultations |
| SE | No minimum wage. | | Sectoral collective agreement |
| SI | <i>Minimalna plača</i> | 5.4% (2016) | By government, bound by fixed rule |
| SK | <i>Minimálna mzda</i> | 5-6% (2018) | By government with no fixed rule |
| UK | <i>National Minimum Wage</i> and (since 2016) <i>National Living Wage</i> ^e | 6.4% (NLW) 6.1% (NMW) | By judges or expert committee |

Note: ^a Estimates from Eurofound (2018: 21-22) and referring to 2017 unless otherwise indicated. This report aggregates national estimations which may have been made with different operationalisations of the minimum wage, and so caution should be noted when comparing the indicative levels for different countries. In some cases – e.g. Luxembourg – estimates include people who earn approximately minimum wages, or corrections for time worked were inadequate or non-existent. The report can be consulted for full information on the national differences and the source of estimates. ^b Information up to date for 2014, the latest version of ICTWSS at the time of writing. Adjustments have been made for countries where laws changed since then. ^c 2018 estimate by Statistisches Bundesamt (2018). ^d Estimate includes part-time workers and so overestimates actual amount of earners at minimum wage. ^e Legislation in 2016 introduced a National Living Wage to complement the existing National Minimum Wage. The National Living Wage applies to employees aged 25 and older and entails a higher rate of remuneration.

Table A2. Overview of social assistance schemes and their coverage in EU28, 2018.

| Country | Social assistance scheme(s), 2018 | Share in active-age population |
|-------------------------|---|--------------------------------|
| AT (<i>Vienna</i>) | Social assistance (<i>Bedarfsorientierte Mindestsicherung Wien</i>) | 2.69% |
| BE | Integration income (<i>Leefloon</i>) | 1.41% |
| BG | Guaranteed minimum income (<i>Гарантиран минимален доход</i>) | 1.04% ^b |
| CY | Social assistance benefit (<i>Δημόσιο</i>) – until 2014 | |
| | Guaranteed minimum income (<i>ελάχιστο εγγυημένο εισόδημα</i>) –2014 onwards | 5.76% ^c |
| CZ | Assistance in material need (<i>Hmotná nouze</i>) | 2.27% |
| DE | Unemployment benefit II (<i>Arbeitslosengeld II</i>) | 6.27% |
| DK | Social assistance (<i>Kontanthjælp</i>) | 3.17% |
| EE | Subsistence benefit (<i>Toimetulekutoetus</i>) | 0.97% |
| EL | Food stamps (<i>Επιδότηση σίτισης</i>) – pilot 2015-2016 | |
| | Social solidarity income (<i>Κοινωνικό εισόδημα αλληλεγγύης</i>) - 2017 | |
| ES (<i>Catalonia</i>) | Regional minimum income (<i>Renda minima de inserció</i>) | 0.87% |
| FI | Local authority income support (<i>Toimeentulotuki</i>) | 3.66% |
| | Labour market subsidy (<i>Työmarkkinatuki</i>) | 4.96% |
| FR | Solidarity labour income (<i>Revenu de solidarité active</i>) | 3.96% |
| HR | Permanent support/Subsistence benefit (<i>Stalna pomoć</i>) -until 2013 | |
| | Guaranteed minimum benefit (<i>Zajamčena minimalna naknada</i>) – 2014 onwards | |
| HU | Regular social benefit (<i>Rendszeres szociális segély</i>) | 0.57% |
| | Employment substituting support (<i>Foglalkoztatást helyettesítő támogatás</i>) | 2.44% |
| IE | Jobseekers Allowance | 8.83% |
| IT | Inclusion Income Support (<i>Reddito d’Inclusione Attiva</i>) | 6.99% ^e |
| LT | Social benefit (<i>Socialinė pašalpa</i>) | 7.14% |
| LU | Guaranteed Minimum Income (<i>Revenu Minimum Garanti</i>) | 2.80% |
| LV (<i>Riga</i>) | Guaranteed minimum income benefit (<i>Garantētā minimālā ienākuma pabalsts</i>) | 1.84% ^f |
| MT | Social assistance (<i>Għajnunha Socjali</i>) | 3.88% |
| | Supplementary allowance (<i>‘Allowance’ supplementari</i>) – annual benefit | 2.77% |
| NL | Social assistance (<i>Bijstand</i>) | 3.85% |
| PL | Temporary social assistance (<i>Zasiłek okresowy</i>) | 2.01% ^f |
| PT | Social integration income (<i>Rendimento Social de Inserção</i>) | 1.37% |
| RO | Minimum Guaranteed Income (<i>Venitului Minim Garantat</i>) | 1.78% |
| SE | Social assistance (<i>Ekonomiskt bistånd</i>) | 3.69% |
| SI | Social assistance (<i>Socialna pomoč</i>) | 3.61% |
| SK | Material need benefit (<i>Pomoc v hmotnej núdzi</i>) | 4.05% |
| UK | Income-based Jobseekers’ Allowance | 2.57% |

Notes: ^a Number of benefit recipients based on OECD SOCR database (OECD, 2017b). The rates refer to the national shares (also for AT and ES), unless otherwise indicated. Where benefits have both active- and old-age recipients, old-age recipients have been excluded from the calculation; ^b OECD SOCR only contains an estimate of recipients for the full year, likely leading to over-estimation. Rate here based on 2013 monthly average (Jeliazkova and Minev, 2014: 20); ^c Estimate includes local government income support scheme, monetary allowance to distressed persons and other means-tested social protection measures; ^d Early 2018 estimate for whole population (Marini et al., 2019). ^e Implemented in July 2018. Estimate refers to how many individuals will be reached by scheme on launch, assuming full take-up (Baldini et al., 2018: 120). From 2019, the Rel is replaced by the *Reddito di Cittadinanza*, a benefit available to those who actively seek work; ^f Delivered by municipalities. In Poland may be topped up further by central government, although this is in practice rare (Adamczyk et al., 2018: 31).

Table A3. Overview of old-age minimum income guarantee schemes and their coverage in EU28, 2018.

| Country | Minimum income guarantee for the elderly, 2017 | Share of old-age population, 2014 ^a |
|----------------|---|--|
| AT (Vienna) | Social assistance (<i>Bedarfsorientierte Mindestsicherung Wien</i>) ^b | |
| BE | Income support for the elderly (<i>Inkomensgarantie voor ouderen</i>) | 5.63% |
| BG | Social old-age pension (<i>Социална пенсия за старост</i>) | |
| CY | Social pension (<i>Κοινωνική σύνταξη</i>) ^c | 12.07% ^d |
| CZ | Assistance in material need (<i>Hmotná nouze</i>) ^b | |
| DE | <i>Grundsicherung im Alter</i> | 5.86% |
| DK | Old-age pension (<i>Folkepension</i>) | ~100% |
| | Old-age pension supplement (<i>Pensionstillæg</i>) | 86% ^e |
| | Old-age supplementary benefit (<i>Ældrecheck</i>) | 27% ^e |
| EE | National pension (<i>Rahvapension</i>) ^f | 2.73% |
| | Allowance for pensioners living alone (<i>Üksi elava pensionäri toetus</i>) 2016 onward | |
| EL | Social pension (<i>Σύνταξη ανασφάλιστων υπεργηλίκων</i>) | 2.50% ^d |
| ES | Non-contributory old-age pension (<i>Pension no contributia por vejez</i>) | 2.93% |
| FI | Guarantee pension (<i>Takuueläke</i>) – 2011 onwards | ~100% ^g |
| FR | Solidarity allowance for the elderly (<i>Allocation de solidarité aux personnes âgées</i>) | 4.67% |
| HR | Social assistance (<i>Zajamčena minimalna naknada</i>) ^b | |
| HU | Old-age allowance (<i>Időskorúak járadéka</i>) | 0.30% ^d |
| IE | State pension (non-contributory) | 15.95% |
| IT | Social pension (<i>Pensione/assegno sociale</i>) | 6.99% |
| LT | Social pension (<i>Valstybinės šalpos išmokos</i>) ^c | 2.29% |
| LU | Guaranteed Minimum Income (<i>Revenu Minimum Garanti</i>) ^b | |
| LV | Old-age state social security benefit (<i>Valsts sociālā nodrošinājuma pabalsts saistībā ar vecumu</i>) | |
| MT | Age pension (<i>Pensjoni tal-Eta</i>) | 5.31% |
| NL | State old-age pension (<i>Ouderdompensioen, AOW</i>) | ~100% |
| PL | Permanent social assistance (<i>Zasilek stały</i>) | |
| PT | Solidarity supplement for old persons (<i>Complemento Solidário para Idosos</i>) | |
| | Social pension (<i>Pensão social de velhice</i>) | 1.37% |
| RO | Minimum social pension (<i>Pensia minima garantata</i>) | 14.64% |
| SE | Maintenance support for the elderly (<i>Äldreförsörjningsstöd</i>) | 1.01% ^h |
| SI | Income support (<i>Varstveni dodatek</i>) – 2012 onwards | |
| SK | Means-tested social assistance (<i>Dávka v hmotnejn núdzi a príspevky k dávke</i>) ^a | |
| UK | Pension credit | 18.17% ⁱ |

Note: ^a Number of benefit recipients based on OECD SOCR database (OECD, 2017b) unless otherwise stated. ^b No separate minimum income guarantee for the elderly in place, instead accommodated via social assistance programme(s). ^c Country has a minimum income guarantee for the elderly which is not programmed in EUROMOD, and for which no equivalent social assistance programme is present, and is therefore excluded from the comparison. ^d 2018 estimate from (Pension Watch, 2018). ^e Share of old-age pension recipients (estimates from Ældre Sagen, 2014; 2016). ^f The Estonian national pension is not present in EUROMOD. MIPI-HHoT instead considers social assistance receipt, inclusive of old age-specific social assistance top-ups. Cf. Marchal, Siöland and Goedemé (2019: 16) for further discussion. ^g Estimate from Kela (2018: 96). Note that the Guarantee pension in its current form was introduced in 2011, and is only present in MIPI-HHoT data from this point onward. ^h Estimate from Pensionsmyndigheten (2019). ⁱ DWP (2016) estimate.

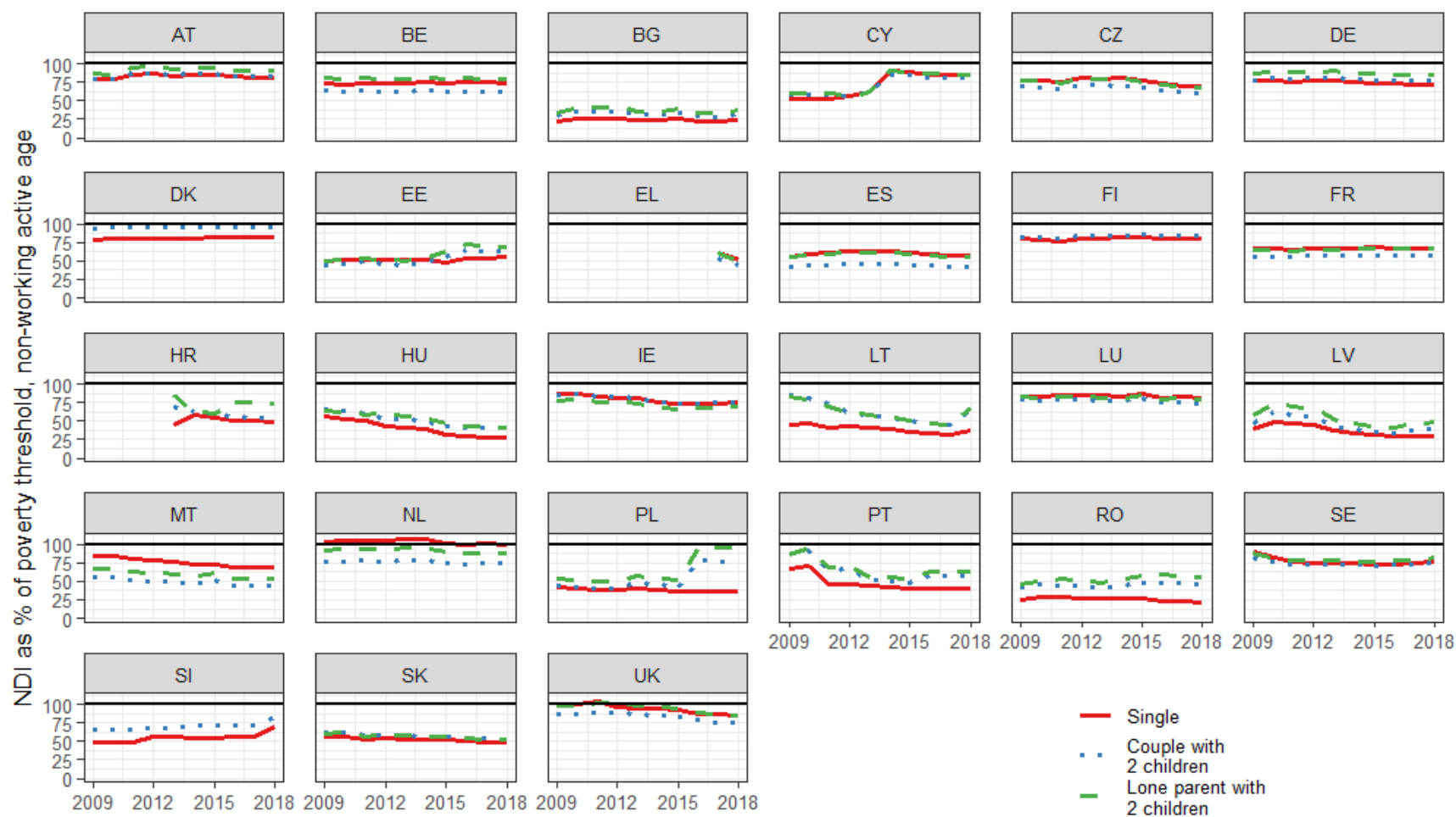
Figure A1. Adequacy of net disposable income for three households with one minimum wage-earner as percentage of Eurostat 60% equivalised poverty line, 2009-2018.



Note: Simulations in Croatia run from 2011 due to their later EU accession, and in Germany from 2015 onward due to later adoption of minimum wage. Lone-parent cases are not included for Slovenia due to missing lone-parent benefits in EUROMOD.

Source: Poverty thresholds retrieved from Eurostat.

Figure A2. Adequacy of net disposable income for three households at working age not earning wage income, as percentage of Eurostat 60% equivalised poverty line, 2009-2018.



Note: Simulations in Croatia run from 2011 due to their later EU accession, and in Greece from 2017 onward due to later introduction of minimum income schemes. Italy is omitted from comparison as their minimum income scheme was introduced only in 2018. Lone-parent cases are not included for Denmark, Finland and Slovenia due to missing lone-parent benefits in EUROMOD.

Source: Poverty thresholds from Eurostat.

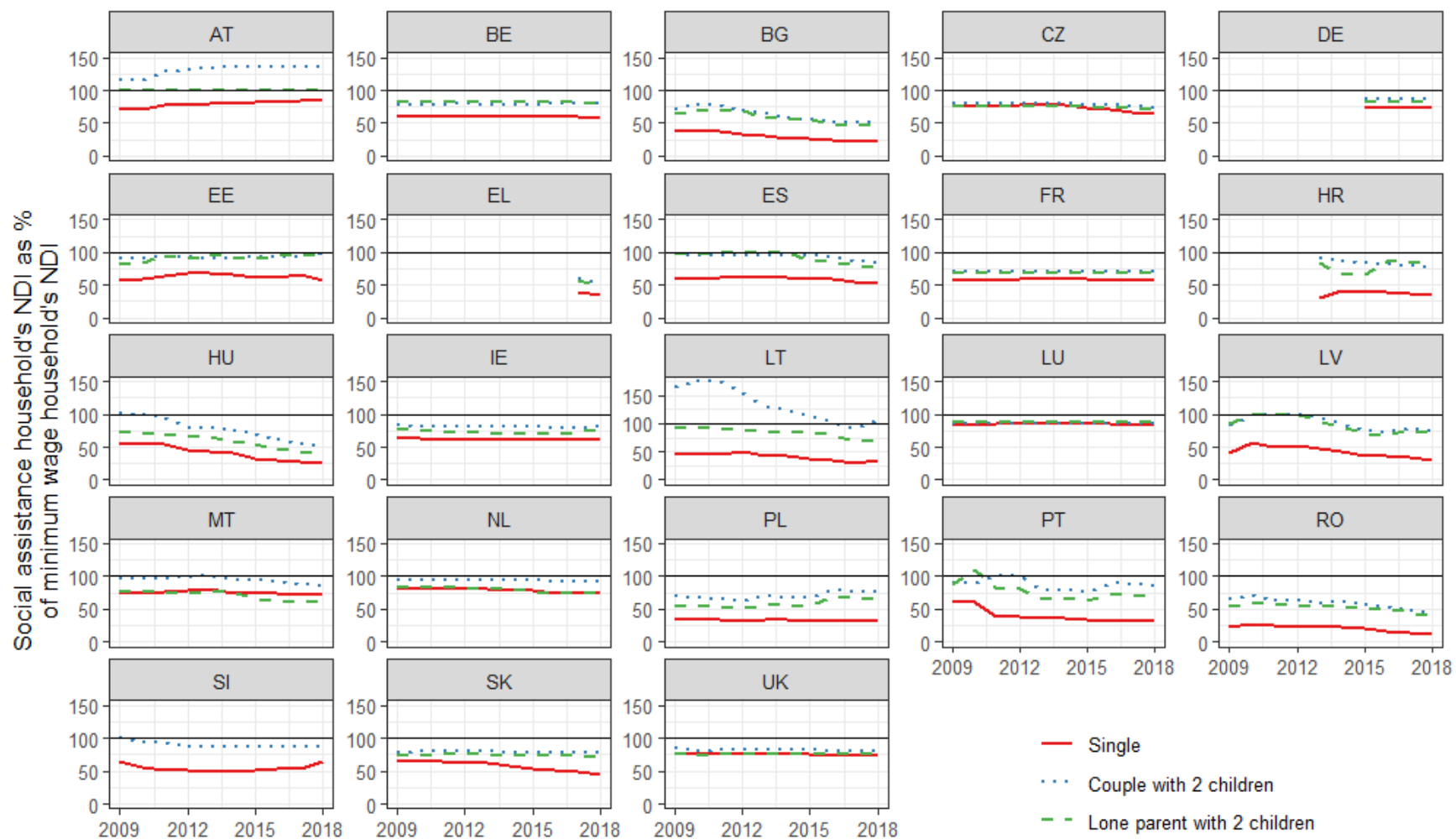
Figure A3. Adequacy of net disposable income for two old-age households relying on non-contributory pension or social assistance, as percentage of Eurostat 60% equivalised poverty line, 2009-2018.



Note: Simulations in Croatia run from 2011 due to their later EU accession, and in Finland due to the pre-2011 social pension system not being available in EUROMOD.

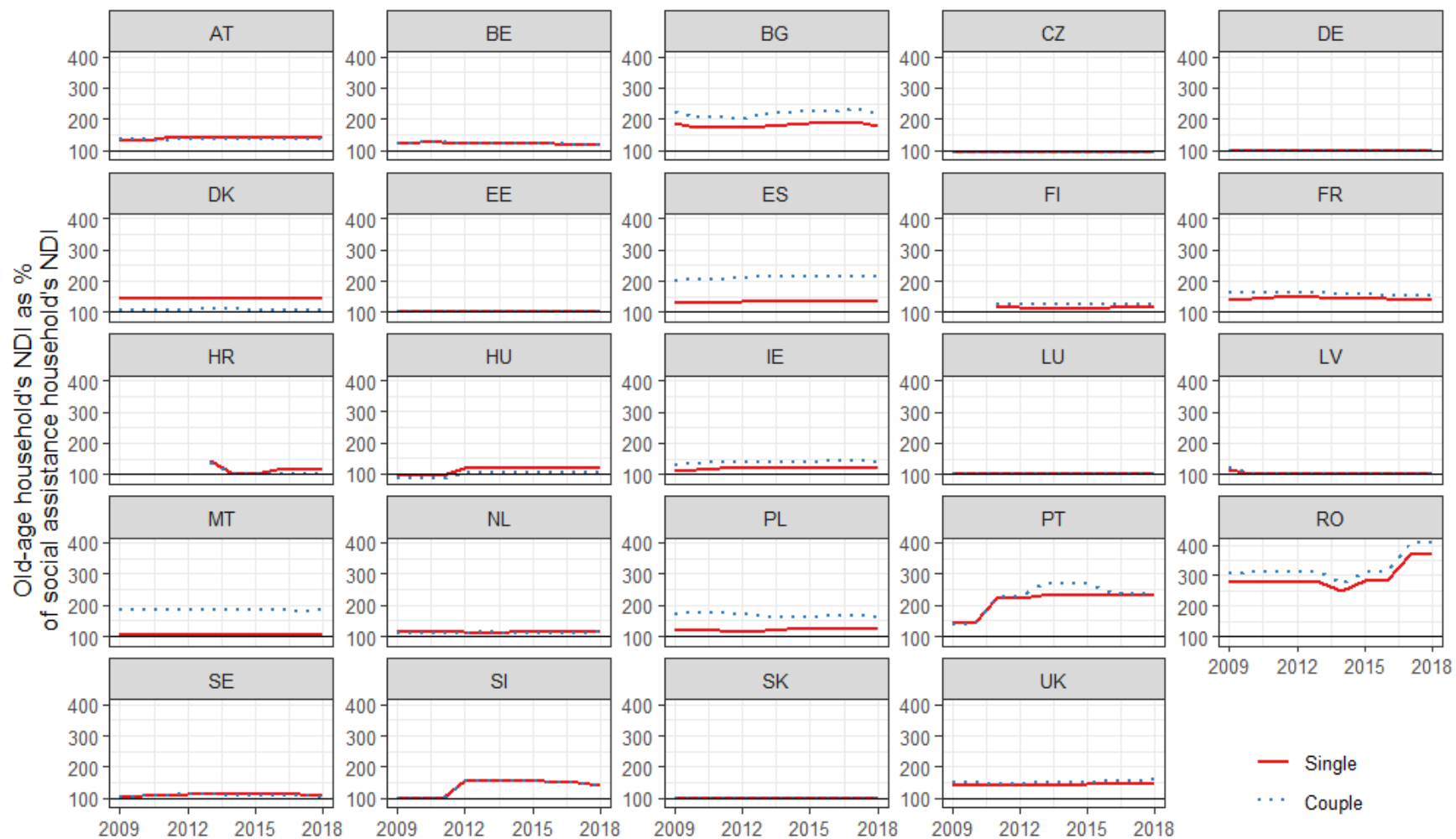
Source: Poverty thresholds from Eurostat.

Figure A4. Household income of non-working, active-age households as percent of minimum wage-earning, active-age household's NDI, 2009-2018.



Note: Croatia only included from 2013 due to later EU accession. Greece included from 2017 due to the later introduction of their national minimum income programme. Germany included from 2015 due to later introduction of statutory minimum wages. All countries without statutory minimum wages excluded. Slovenian lone-parent household excluded due to missing income components in EUROMOD.

Figure A5. Household income of old-age, non-insured households as percent of non-working active-age household's NDI, 2009-2018.



Note: Finland only included from 2011 onward as prior social pension programme not programmed in EUROMOD. Croatia only included from 2013 due to later EU accession.

Figure A6. Household income of old-age, non-insured households as percent of minimum wage-earning, active-age household's NDI, 2009-2018.



Note: Croatia only included from 2013 due to later EU accession. Greece included from 2017 due to the later introduction of their national minimum income programme. Germany included from 2015 due to later introduction of statutory minimum wages. All countries without statutory minimum wages excluded.