Moving towards fairer regional minimum income schemes in Spain

Adrián Hernández, Fidel Picos, Sara Riscado

Moving towards fairer regional minimum income schemes in Spain[*]

Adrián Hernández [a]

Fidel Picos

Sara Riscado

[a] Joint Research Centre, European Commission. Edificio EXPO, c/ Inca Garcilaso 3
E-41092 Sevilla

Abstract

Minimum income schemes are set to provide citizens with a minimum living standard. In Spain, these schemes consist of a heterogeneous and complex collection of regional benefits designed and implemented by the Autonomous Communities. This generates important regional discrepancies among the poorest individuals, undermining equal access, adequate social assistance and ultimately the fairness of these last resort safety nets. Following the recent initiative by the central government to introduce a national minimum income scheme complementing the regional ones, a better understanding of the performance of the existing regional minimum income schemes, in terms of their coverage and adequacy, is of the essence. We assess the budgetary, distributional and poverty effects of the current Spanish regional minimum income schemes, as well as the impact of increasing both coverage rates and adequacy levels. Using the European microsimulation model EUROMOD together with microdata from the European Union Statistics on Income and Living Conditions, we simulate a sequence of theoretical scenarios with different combinations of coverage and adequacy levels using national and regional poverty lines as references. Our results suggest that increasing adequacy would have a higher impact on poverty rates than increasing coverage, but would be less effective to reduce poverty intensity. Importantly, all scenarios imply significant expenditure increases, the more so for larger decreases in poverty intensity, as would be expected. Noticeably, results greatly differ among regions, and are sensitive to measuring poverty under a national or a regional criterion, reflecting Spanish regional disparities in terms of poverty.

Corresponding author:

Adrián Hernández

Email Adrian.HERNANDEZ-MARTIN@ec.europa.eu

---

1. Introduction

Minimum income (MI) schemes are set to provide citizens with a minimum living standard. They are widespread across European countries, being a key feature of the European welfare systems, and are established as a basic expenditure tool to fight poverty and social exclusion. As established by the European Pillar of Social Rights, "everyone lacking sufficient resources has the right to adequate minimum income benefits ensuring a life in dignity at all stages of life, and effective access to enabling goods and services"[1]. In the same vein, the European Social Charter recognizes the right to social assistance to "any person who is without adequate resources and who is unable to secure such resources either by his own efforts or from other sources, in particular by benefits under a social security scheme"[2]. In the presence of disruptive income shocks, these instruments take a renewed role in preventing fallout in extreme poverty and are at the centre of the social policy packages in a majority of European countries.

Although a proposal for a national MI scheme (*Ingreso Mínimo Vital*) complementary to the regional ones is on the table, currently the Spanish MI system comprises a fragmented collection of diverse regional schemes designed and implemented by the Autonomous Communities (regions hereinafter[3]). The first region to introduce a regional MI scheme was País Vasco in 1989, followed by the rest of regions over the 1990s. Throughout the years, the regional MI schemes have experienced several changes (Rodríguez Cabrero, 2009; Arriba and Ayala, 2013; and CES, 2017). However, the whole system still consists of an unconnected group of heterogeneous regional schemes in terms of coverage – actual beneficiaries vs. eligible or potential ones – and their adequacy (or protective intensity) – size of the benefit relatively to poverty lines (Rodríguez Cabrero et al., 2015; Ayala et al., 2016; Bergantiños et al., 2017; Noguera, 2019a).

The regional MI schemes are fundamentally non-contributory, means-tested, top-up benefits. Although they share common design components, the rules regarding the assessment unit, eligibility conditions, benefit amount, duration and conditionality vary significantly across regions. For instance, in 2018 the basic benefit amount in Castilla-La Mancha was 55% of the IPREM[4], while in País Vasco the amount was 88% of the minimum wage[5] (or 100% if the individual is a pensioner). Importantly, the way the right to access the

---

[1] Chapter III, point 14 (https://ec.europa.eu/commission/priorities/deeper-and-fairer-economic-and-monetary-union/european-pillar-social-rights/european-pillar-social-rights-20-principles_en).

[2] Article 13 (https://rm.coe.int/CoERMPublicCommonSearchServices/DisplayDCTMContent?documentId=090000168048b059)

[3] For the sake of simplicity, the generic word region will be used throughout the text to refer to the Autonomous Communties (*Comunidades Autónomas*). This level of government corresponds to the second level of the NUTS classification (NUTS2). The names used will be those used by Eurostat. Due to small sample sizes, we leave out of the analysis the Autonomous Cities of Ceuta and Melilla.

[4] IPREM stands for *Indicador Público de Renta de Efectos Multiples* and it's the index used by the Spanish Government as a reference to establish social benefit amounts. It is updated on a yearly basis by the budgetary law. In 2018 the monthly value was equal to 537.84 €.

[5] The minimum wage in Spain in 2018 was 735.90 €/month (14 instalments).

MI schemes is recognized in the Spanish law varies across regions. While in some regions the right to receive the benefit is guaranteed even if the regional budget provision has been exhausted, i.e. it is considered a subjective right (e.g., País Vasco), in others a "first come, first served" rule is in place (e.g., Castilla-La Mancha). This heterogeneity translates into differences between the poorest individuals of the country depending on their region of residence, undermining equal access, adequate social assistance and ultimately the fairness of these last resort safety nets.

According to the literature (see, for example, Hernanz et al., 2004), elements of the supply and demand of MI schemes are important to understand the degree of coverage and adequacy of these systems. Demand factors such as social stigma, absence of information, or administrative red tape costs, are usually pointed out as important determinants of coverage of this type of social benefit, leading to low take-up rates, even in presence of sufficient budgetary resources. However, the Spanish case stands out as an interesting example where also supply side factors, such as financial and bureaucratic restrictions, seem to play a relevant role reducing coverage rates and possibly the adequacy of the benefit amount. In this context, the decentralization of social policies, together with the heterogeneous capacity of regions to allocate financial resources to their social assistance programs, are particularly relevant to study the effectiveness of MI schemes in the Spanish case.

Despite the above, little is known about the budgetary, distributional and poverty effects of a potential increase of MI coverage and adequacy across Spanish regions. Even though there are some studies looking at the current effectiveness of MI schemes in some regions (see, for instance, Gorjón & Villar, 2019, for an extensive assessment of the poverty reducing impact of the MI scheme of País Vasco), the absence of harmonized rules and common procedures, alongside with the lack of data availability, challenges the assessment of the socio-economic impact of the regional MI schemes for Spain as a whole. In this way, this paper aims at contributing to the discussion on fairer regional MI schemes by comprehensively describing the regional MI schemes in terms of their coverage and adequacy, as well as by quantifying the costs and benefits of improving the effectiveness of MI in fighting poverty. To this end, we also assess the budgetary, distributional and poverty effects of increasing those two dimensions.

For these purposes, we use the tax-benefit microsimulation model EUROMOD and EU-SILC data to simulate a sequence of theoretical scenarios – *legal coverage*, *full adequacy* and *poverty elimination* – consisting of different combinations of coverage and adequacy levels and compare them to the status quo (and to a situation without social assistance). In particular, the *legal coverage* scenario implies that all potential recipients receive the regional MI benefits, while *full adequacy* changes the benefit amount so that the legal recipients reach a selected poverty line. Finally, the *poverty elimination* scenario would represent an ideal world where the regional MI schemes take every poor household out of poverty. These scenarios would cover all the potential household situations regarding MI support that would be relevant for policy purposes.

Our results suggest that the current system of regional MI schemes presents limitations in terms of coverage and adequacy. Increasing adequacy would have a higher impact on poverty rates than increasing coverage, but would be less effective in reducing poverty intensity. All scenarios imply significant expenditure increases, which become more substantial the higher the fall in poverty intensity. Importantly, results greatly differ among regions and are highly sensitive to the choice of the poverty thresholds. When results are assessed under a regional benchmark that accounts for regional differences in living conditions within Spain, the budgetary, distributional and poverty effects differ significantly from the impact that would be observed under a national benchmark. As expected, regions in which the regional poverty line is above (below) the national one, achieve better (worse) poverty reduction results from MI support.

The paper is organised as follows. Section 2 further characterises the Spanish regional MI schemes and analyse their level of adequacy and coverage. Section 3 reviews the literature looking at the measurement of coverage and adequacy of MI schemes, with a special focus to the Spanish case. Section 4 describes the methodology followed in this analysis, while Section 5 assesses the budgetary, distributional and poverty effects of sequentially approaching full coverage and adequacy. Section 6 concludes.

2. Characterization of the Spanish regional MI schemes

Despite the great heterogeneity in terms of policy parameters, the fundamental characteristics of Spanish regional MI schemes can be summarized as follows:

- The assessment unit of the benefit is the family, understood as individuals living together and linked by family relations up to a specific degree, which varies across regions. Spouse and children are included in the assessment unit for all regions.

- Eligibility conditions always include an income test, a wealth test, a minimum time of residence in the region prior to the application and the condition of having applied for all other benefits to which the claimants are entitled. Additionally, the family member claiming the benefit usually has to fulfil minimum and maximum age requirements.

- The income test usually comprises all kinds of market incomes, pensions and benefits received by all family members living in the same household, except child benefits and targeted social benefits. The wealth test usually includes financial and property assets other than the main residence, and, in some cases, assets used for economic activities.

- The minimum income amount corresponding to the family is usually computed as a basic amount for one-person units, increasing with each additional member up to a ceiling. Amounts are usually linked to the official minimum wage or to specific economic indexes, established by the Spanish law to fix social benefits. The final entitlement is the difference between the computed family income and the minimum income corresponding to the family (i.e. a top-up benefit).

– The reception of the benefit is conditional on the fulfilment of specific obligations regarding its use and the notification of changes in the personal situation and labour status.

Table A.1 in the annex shows the main design components of each regional MI scheme.

Figures 1 and 2 illustrate simultaneously regional discrepancies and the limited effectiveness of the Spanish regional MI schemes, considering their adequacy and coverage.

Figure 1. Adequacy (%) of regional MI schemes, 2018
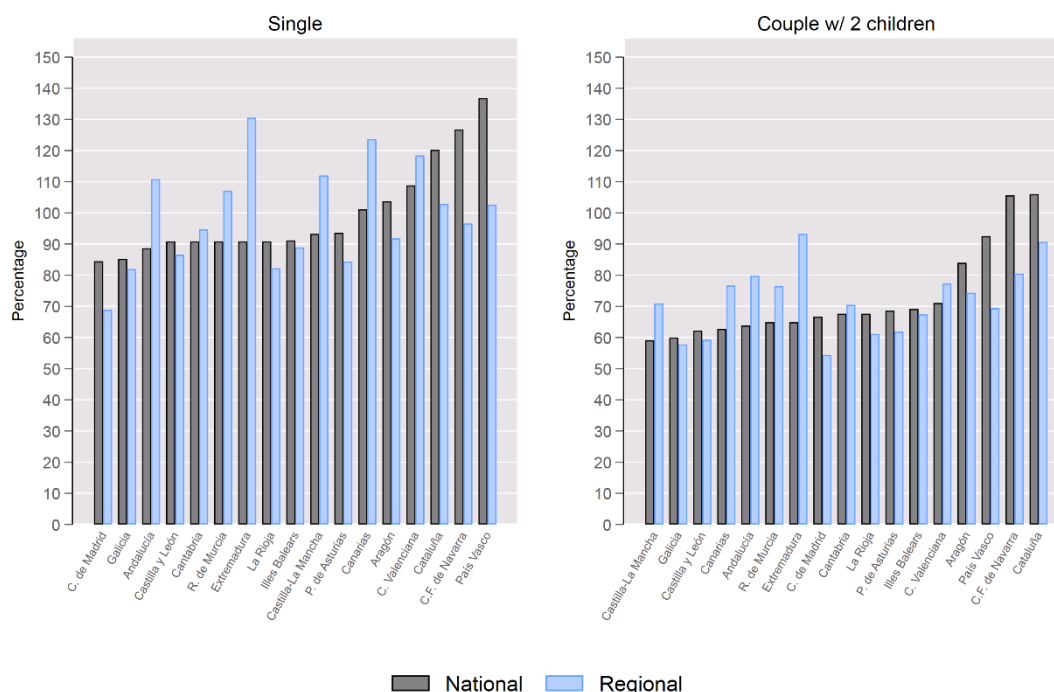
Notes: Adequacy is measured as the amount of the guaranteed minimum income of each scheme divided by the poverty line corresponding to 40% of the national (grey bars) and regional (blue bars) median equivalised disposable income. Source: own calculations based on EUROMOD I2.0+, applying 2018 policy rules to two types of households.

Figure 1 shows the adequacy of regional MI schemes measured as the ratio between the amount of the MI benefit and the poverty line, defined as 40% of the national (grey bars) and regional (blue bars) median equivalised household disposable income[6] [7]. Results are

---

[6] Income is equivalised by dividing total household income by the so-called modified OECD equivalence scale. This scale is calculated as the sum of 1 for the first member, 0.5 for second and subsequent person aged 14 and over, and 0.3 for each person under 14. For more details, see https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Equivalised_household_size.

[7] Unless otherwise stated, the poverty line used throughout the paper is the one corresponding to the 40% threshold, both for the national and the regional cases. Although relative measures of monetary poverty are usually derived by using the 50% or 60% threshold (see Chapter 3, UNECE, 2017), here we use a lower threshold which would correspond to the measurement of "extreme poverty". This decision was taken as most of regional MI schemes in Spain are rather aiming to alleviate extreme poverty (see, for the Spanish case, Noguera, 2019b; AIReF, 2019, among others referring to the same concept when assessing MI schemes in Spain).

provided for two types of households: a single-adult household and a household composed by 2 adults and two children below 14 years old. This indicator is computed using the European microsimulation model EUROMOD[8][9]. In terms of the national poverty line[10], single individuals without children show adequacy figures around 90% in most regions, and higher than 100% only in six. The adequacy levels are much lower for couples with two children, ranging between 60% and 70% for most regions, and higher than 100% only in two of them (C.F. de Navarra and Cataluña).[11]

However, a different ranking of regions emerges if regional poverty lines[12] are used instead of national poverty lines, which in turn may have different policy implications, especially at the budgetary level. Some regions for which the MI amounts are not fully adequate in relation to the national poverty line (such as Andalucía and Extremadura, for singles), would actually be above that threshold if their MI benefits would be assessed at the regional level. Other regions (such as País Vasco, Navarra and Cataluña) show sizeable reductions in adequacy when the corresponding regional poverty lines are considered. This result strikingly uncovers important discrepancies in income and poverty thresholds between Spanish regions (Ayala et al., 2014).[13]

Figure 2 shows the coverage rates calculated as the ratio between the number of actual beneficiaries coming from administrative sources[14] and the number of potential beneficiaries, computed using EUROMOD. Potential beneficiaries are defined as individuals that would be entitled to MI support according to three different policy criteria: (i) family units meeting the eligibility criteria simulated in EUROMOD[15], (ii) households with an equivalised household disposable income below the national poverty line and (iii) households with an equivalised household disposable income below the corresponding regional poverty lines.

---

[8] EUROMOD is the tax-benefit microsimulation model for the EU countries (Sutherland and Figari, 2013). This tool allows the simulation of tax-benefit reforms and the assessment of their first-round fiscal and distributional effects throughout the calculation of household disposable incomes after computing tax liabilities and benefit entitlements. The different tax-benefit rules are applied to the EU-SILC (European Union Statistics on Income and Living Conditions) microdata, which contains information on demographic and labour market characteristics, as well as gross market income and other incomes (pensions, cash benefits, monetary transfers from other households, etc).

[9] Simulations in this paper use EUROMOD I2.0+, applying 2018 policy rules to the last available input data, EU-SILC 2017 (2016 income reference period). Uprating factors are used to bring the income values from the income reference period up to 2018. The baseline scenario is modelled using the tax-benefit system as of June 30th. The simulation of regional MI schemes has been updated, improved and refined for this exercise.

[10] The national poverty line in 2018 is 5,669 €/year.

[11] This result might be contributing to the particularly high rates of child poverty in Spain.

[12] Regional poverty lines are available in Table 4.

[13] Figures A.1 and A.2 in the annex offer the same results for poverty lines computed with 50% and 60% of the median equivalised household disposable income.

[14] "*Informe de Rentas Mínimas de Inserción 2018*", published by the Ministry of Health, Consumer Affairs and Social Welfare (2019).

[15] Full take-up and no budgetary restrictions are assumed in EUROMOD for this purpose.

Figure 2. Coverage (%) of regional MI schemes by different criteria of potential beneficiaries, 2018
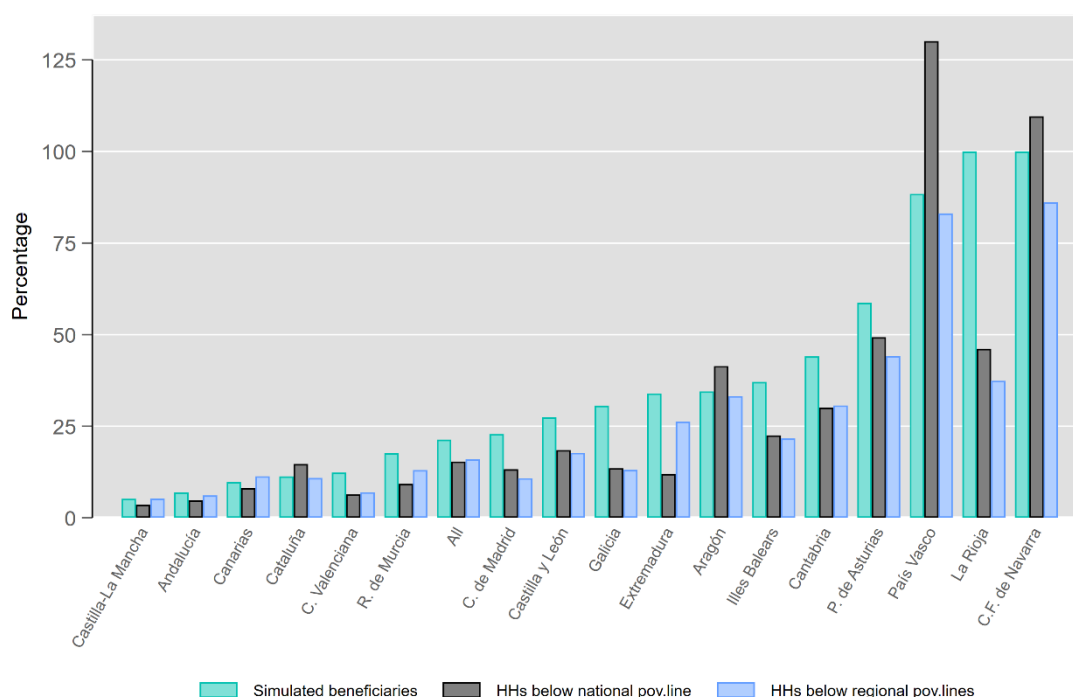
Notes: the poverty line corresponds to 40% of the national or regional median equivalised disposable income.
Source: own calculations based on EUROMOD I2.0+, applying 2018 policy rules to the last available input data, EU-SILC 2017 (2016 income reference period). Data on official beneficiaries come from "*Informe de Rentas Mínimas de Inserción 2018*" published by the Ministry of Health, Consumer Affairs and Social Welfare (2019).

In the first case, the coverage rates should be interpreted as effective coverage rates[16], while the two remaining cases would be "pseudo" coverage rates[17]. Overall, the figure shows that effective coverage rates are higher than "pseudo" coverage rates. This is, not surprisingly, the result of a smaller target population of potential MI beneficiaries in the former than in the latter, due to lower thresholds and additional non-income eligibility conditions. There are, however, some exceptions: in Cataluña, Aragón, País Vasco and Navarra, effective rates are lower than "pseudo" coverage rates using the national poverty line. This happens because the adequacy of their MI schemes is above the national poverty line, probably because they are designed to target (higher) regional poverty lines.

In any case, the figure shows that coverage rates are systematically below 100% in all regions except Navarra (EUROMOD simulations and national criterion) and País Vasco (only national criterion). Besides, very few regions display values above 50% for any of the criteria,

---

[16] Even though the effective coverage rates might be overestimated since some MI eligibility rules cannot be simulated in EUROMOD, due to the lack of some information in the microdata.

[17] Following Immervoll (2012, p27), the estimated coverage rates can be considered "pseudo" coverage rates "…in the sense that they express the relative sizes of two groups that may only be partially overlapping" since the denominator used is an approximated concept of the full population of eligible individuals, e.g. households below the poverty line.

and the majority of regions fall below it. Castilla-La Mancha stands out as the region with the lowest coverage rate, independently of the criterion considered.

3. Literature review

The concepts of coverage and adequacy are of special relevance in this paper. Both dimensions are key to assess the effectiveness of MI schemes to meet their goals, which usually embodies the provision of a MI to alleviate poverty and fight social exclusion. A number of caveats should be considered, however.

While assessing the adequacy of MI schemes may be relatively straightforward (as it can be defined against benchmarks, such as poverty lines), assessing their coverage may prove more difficult, due to both "supply" and "demand" limitations of welfare programs. In fact, the coverage is usually incomplete in most MI schemes, i.e., not all potential beneficiaries end up receiving the benefit to which they are entitled to (Figari, et al., 2013). In order to explain why MI schemes fail to cover the potential target population, the literature has mainly focused on the behaviour of eligible individuals when deciding whether to claim a benefit. Hernanz et al. (2004) refer to this dimension as the "demand" side of welfare programs. In this regard, several studies have estimated take-up rates for social assistance benefits across a different set of countries in Europe (Fuchs, 2009, in Austria; Bargain et al, 2012, in Finland; Terracol, 2002, in France, Matsaganis et al., 2008, for a compendium, etc.). Although the estimations vary widely depending on the social assistance program and the socio-economic context, there is a common consensus that take-up rates are significantly below 100%. For example, a study carried out by Eurofound (2015) for 10 EU countries found that in all of them, there is at least one benefit for which more than 33% of the entitled recipients do not actually receive it. The factors commonly invoked to explain why eligible individuals do not claim a social benefit vary from the awareness of being eligible, the complexity of the program and the self-stigma, to the benefit amount and transaction costs of claiming (Finn & Goodship, 2014). Complex rules, social stigma and high transaction costs, to point out some of the most relevant, are especially prevalent in MI schemes, in comparison to other type of benefits, such as child benefits, unemployment benefits, etc., possibly leading to higher non-take-up ratios.

Although fundamental, less attention has been given to the "supply" side of welfare programs, i.e., whether the reception of a benefit claimed by an eligible individual is denied by the corresponding welfare administration. As highlighted in Hernanz et al. (2004, p.7), "for the majority of welfare programmes, eligibility and access rights are defined by the law so that no one who is entitled to welfare benefits can be denied access to them on the ground of a resource-constraint confronting the administrative agency". This fact explains why the majority of the literature has relied on the assumption of non-budgetary constraints from the administration, shifting the attention to the "demand" side. Nevertheless, the mentioned assumption might not hold in every welfare program, and the degree of decentralization within a country might also play a significant role on the availability of financial resources across regions, eventually determining the performance of MI schemes (Immervoll, 2012).

In this context, the Spanish example stands out as a very interesting case study given the high level of decentralization of MI schemes, leading to heterogonous coverages across regions. Among others, Ayala et al. (2016), Ayala & Bárcena-Martín (2018) and Bergantiños et al. (2017) have shown how "pseudo" coverage rates widely vary across Spanish regions, motivated not only by the natural socio-economic differences among them, but also by the different budgetary capacities of each region. In this regard, Ayala (2016) demonstrates how regional coverage rates are positively correlated with the GDP per capita of each region, with the richest regions providing a better coverage. As a matter of fact, some regions in Spain have adjusted their MI rules to their expenditure potential and the guaranteed access to MI has not been granted (Rodríguez Cabrero et al., 2015; Ayala et al., 2016). As an example, throughout the Great Recession, Castilla-La Mancha, C. Valenciana, Illes Balears and Canarias clearly abandoned their guaranteed access due to budgetary constraints (Bergantiños et al., 2017). Furthermore, the complex bureaucratic procedures often lead to the application of several discretionary rules preventing the effective access to the benefit and, ultimately, leave the acceptance decision to the corresponding social worker (see Cortinas, 2012, for an applied example to the Catalonian MI scheme). All these factors tend to undermine the coverage of the regional MI schemes in Spain.

The decentralization of MI schemes in Spain makes also particularly interesting the study of the adequacy of the different regional schemes. The concept of adequacy compares the benefit amount of a specific entitled unit (e.g. a single-adult household) vis-à-vis a specific benchmark, which reflects the purpose of the policy. In the case of a MI, the purpose of which is mainly alleviating poverty, poverty lines are commonly used to evaluate generosity of the schemes (see Immervoll, 2012 for an analysis across OECD countries, or Nelson, 2013, for a more in-depth look at the European case). In the Spanish case, given that the benefit amounts vary across regions, the generosity of the benefit can be compared to a unique national poverty line or, alternatively, to regional poverty lines. The implications of using one or the others to assess poverty in the country have been already studied in the literature. Mogstad et al. (2007) show how regional poverty rates are sensitive to the choice of region-specific or country-specific thresholds. They show that, in Norway, the use of a single national poverty threshold skewed poverty rates downwards in urban areas, and upwards in rural areas. In Spain, Ayala et al., (2014) provided empirical evidence of a significant re-ranking of regions in terms of intensity and incidence of poverty when regional poverty lines are used instead of a single national threshold. Besides, the authors conclude that "[…] these results might also be relevant for the adequate design of equality policies embedded in decentralization processes […] A robust table of regional poverty rankings is necessary both to evaluate the results of decentralization in terms of social welfare, and to assure an adequate distribution of fiscal equalization transfers" (p. 330).

4. Methodology

The starting point for our analysis are the 2018 tax-benefit rules simulated in the most recent public version of EUROMOD (I2.0+). For the MI schemes, the rules have been updated and refined to better capture those in force in 2018. Additionally, the model has been calibrated to tackle the overestimation of regional MI benefits resulting from the (i) non-simulation in EUROMOD of some non-income conditions, due to the lack of information in EU-SILC[18], (ii) demand side factors (non-take-up), and (iii) supply side factors (regional budget constraints, administrative arrangements, etc.)[19]. The calibration aligns both the simulated number of beneficiaries and total expenditure by region with the figures obtained from official statistics.

Among the eligible beneficiaries, a number of them are chosen such that, in population terms, they represent the actual number of beneficiaries for each region. However, we have verified that a pure random assignment systematically underestimates the expenditure in most regions, which is probably due to a higher take-up for units with lower or zero market incomes (the lower the income, the higher the expenditure, since MI schemes work as a top up). In order to account for this, we assume that in the current system each unit has a probability of getting the benefit that depends on a deterministic component (which in turn depends negatively on the unit's income: the lower the income, the higher the probability) and a random component (that represents the non-observed determinants of getting the benefit). Formally for each unit:

$$P = w * DC + (1 - w) * RC$$

where

DC is the deterministic component, which takes a value between 0 and 1, computed as the ratio between the benefit received and the minimum income guaranteed to the unit by the regional MI scheme (the closer the income is to zero, the closer the index will be to 1);

RC is the random component, which takes a random value between 0 and 1;

w is the weight of the deterministic component ($1 - w$ that of the random component), which takes values between 0 and 1.

For each region, a value p is calculated so that the number of units whose $P > p$ represents the official number of beneficiaries in the region. The weight w is calibrated using an

---

[18] In particular, non-income conditions not taken into account include: some wealth conditions, specific time rules for establishing the family unit needed to be registered in the census, minimum required time of residence in the region, information on participation in activation programmes or the obligation to have applied for all other benefits to which the claimant is entitled.

[19] The non-simulation of non-income eligibility conditions leads to an overestimation of the number of potential beneficiaries, while the non-simulation of the non-take-up and the budgetary restrictions cause an overestimation of the number of actual beneficiaries (even if the potential beneficiaries were perfectly estimated). However, it is not possible to disentangle the impacts of each of these three aspects on the overestimation of the regional MI schemes.

algorithm, such that the simulated expenditure corresponding to those units matches the actual expenditure for each region. Detailed results of the calibration are shown in Table A.2 in the annex.

After the simulation of the current regional MI schemes (called hereafter *baseline*), we construct a series of sequential scenarios where coverage and adequacy (measured against a selected poverty line) are increased following a stepwise approach. This sequence ends up with a final scenario that brings to the selected poverty line all observations that are below it, thus reaching full adequacy and full coverage. In order to understand how the scenarios are constructed, Table 1 classifies the population into four groups of benefit units, according to their situation in the *baseline*.

Table 1. Units' status vis-à-vis the MI.

Group	Status	Description
1	Eligible beneficiaries	Fulfil all the eligibility conditions and are currently recipients of the benefit
2	Eligible non-beneficiaries	Fulfil all the eligibility conditions, but do not receive the benefit, due to non-take-up or budgetary restrictions
3	Income non-eligible poor	Income eligibility criteria not met, but are below a selected poverty line
4	Non-poor	Income eligibility criteria not met and above a selected poverty line

Table 2 describes all the scenarios used in the simulations, based on the groups defined in Table 1.

Table 2. Scenarios implemented in EUROMOD.

Scenario	Description
No MI	No one receives the benefit
Baseline	Only eligible beneficiaries (group 1) receive the benefit
Legal coverage	The benefit of the baseline is extended to eligible units, currently non-beneficiaries (group 2)
Full adequacy	Units in groups 1 and 2 – legal recipients – receive the adequate benefit to reach the selected poverty line
Poverty elimination	Legal recipients and units in group 3 receive the adequate benefit to reach the selected poverty line

Note: Full adequacy and Poverty elimination scenarios are computed for the two sets of poverty lines (national and regional).

The starting point is a counterfactual scenario with no MI, which serves as a benchmark for all the calculations carried out. Besides the *baseline scenario*, three additional scenarios are considered. The first one is *legal coverage*, where units in group 2 become beneficiaries together with those in group 1. This reflects the impact that the current legal framework would have if implemented at its full potential, i.e. every entitled recipient actually receives the benefit. The second one is *full adequacy*, where the beneficiaries are the same as in *legal coverage*, but

receive a benefit amount ("adequate benefit") that takes them to the selected poverty line. Finally, the *poverty elimination* scenario grants also an "adequate benefit" to those individuals that, in spite of not being legal recipients, are nevertheless below the selected poverty line (group 3).

It is important to note that, in theoretical terms, these scenarios do not necessarily lead to higher benefit entitlements, since this depends on the degree of coverage and adequacy achieved already in the *baseline* scenario. In some regions the *baseline* benefits for some units might be above the poverty line, depending on whether the national or the regional threshold is chosen. This means that the "adequate benefit" will be lower than the "legal benefit" for these units, leading to possible reductions in expenditure, which will be reflected on the indicators computed in the following section.

We compute the budgetary, distributional and poverty impact of each of these scenarios. Table 3 provides details of the indicators provided and the way they are computed.

<div align="center">

Table 3. Summary of indicators.

</div>

Indicators	Computation
Number of beneficiaries [a]	Number of households receiving the benefit
Mean equivalised disposable income [a]	Total disposable income of a household divided by its equivalence scale: 1 for the first member aged 14 and over, 0.5 for each additional member aged 14 and over, and 0.3 for each member below 14
Winners and losers [b]	Number of households whose equivalised disposable income increases (winners) or decreases (losers) when moving from one scenario to another
At-risk-of-poverty rate - FGT(0) [a]	Share of individuals whose equivalised disposable income is below 40% of the median equivalised disposable income
At-risk-of-poverty gap - FGT(1) [a c]	Intensity of poverty of the abovementioned individuals, measured as the sum of their relative distances to the poverty line, divided by the population size
Expenditure	Estimation of the cost by region

Notes:
a. Indicator calculated for all the scenarios in Table 2 and for the two sets of poverty lines (national and regional).
b. Indicator computed only for the move from *legal coverage* to *full adequacy*, for the two sets of poverty lines.
c. More details on the indicators and their properties in Foster, Greer & Thorbecke (1984).

5. Results

Table 4 shows the basic characterisation of the *baseline* scenario as simulated in EUROMOD, together with some basic regional statistics. It clearly shows the significant heterogeneity in the performance of regional MI schemes in Spain, as can be seen by looking at the number of beneficiary households and the total expenditure in each region in relation to the population. With a total of 297,000 households benefiting from MI, and total expenditure of €1,478 million, beneficiaries vary from barely 4,000 households in Castilla-La Mancha to around 75,000 in País Vasco, i.e. 18 times higher in the latter than in the former for a similar population size. The spectrum of results is extremely diverse and, strikingly, some of the

most populated regions, such as Andalucía, Cataluña or C. de Madrid, present very small numbers of beneficiaries. This cannot be explained by the presence of few potential beneficiaries in these regions, but rather by an extreme low coverage of MI: for instance, in Andalucía only around 7% of potential entitled beneficiaries end up benefiting from the MI scheme.

Table 4. Baseline characterization.

Region - NUTS2	Population (thous.)	GDP per capita (EUR)	Number of HH beneficiaries of MI (thous.)	Total expenditure in MI (EUR mil.)	MI simulated coverage (%)	National criterion		Regional criterion		
						At-risk-of-poverty rate (%)	At-risk-of-poverty gap (%)	Poverty lines (EUR/year)	At-risk-of-poverty rate (%)	At-risk-of-poverty gap (%)
Galicia ES11	2,699.0	23,183	15.77	54.15	30.59	9.92	3.75	5,895	10.29	4.00
P. de Asturias ES12	1,024.2	22,789	22.67	124.02	58.68	8.90	2.70	6,289	9.74	3.33
Cantabria ES13	580.9	23,757	5.04	26.00	44.08	5.46	1.29	5,441	4.97	1.11
País Vasco ES21	2,172.3	33,223	75.83	404.34	88.41	2.34	0.50	7,562	6.39	1.32
C.F. de Navarra ES22	646.2	31,389	14.13	115.71	100.00	0.77	0.09	7,442	6.11	1.10
La Rioja ES23	312.7	27,225	2.66	9.76	100.00	4.60	1.39	6,269	5.36	1.73
Aragón ES24	1,315.7	28,151	9.82	44.96	34.50	3.42	1.33	6,405	4.62	1.67
C. de Madrid ES30	6,586.5	35,041	32.89	156.90	22.86	9.52	4.15	6,957	12.27	5.42
Castilla y León ES41	2,410.4	24,031	13.25	69.23	27.44	6.30	1.95	5,952	6.73	2.17
Castilla-La Mancha ES42	2,030.4	20,363	3.85	6.39	5.19	13.87	4.53	4,719	8.66	3.15
Extremadura ES43	1,067.1	18,769	7.89	45.69	33.95	17.32	4.60	3,943	5.63	1.90
Cataluña ES51	7,516.0	30,426	27.72	227.72	11.29	6.30	2.18	6,627	8.46	2.92
C. Valenciana ES52	4,948.7	22,426	18.18	50.35	12.33	14.24	5.15	5,208	13.13	4.38
Illes Balears ES53	1,175.6	27,682	8.59	21.91	37.09	10.22	3.29	5,815	10.36	3.46
Andalucía ES61	8,406.4	19,107	20.51	54.77	6.91	13.91	6.32	4,530	10.57	4.86
R. de Murcia ES62	1,479.1	21,269	6.21	16.22	17.63	14.12	5.71	4,811	10.01	4.42
Canarias ES70	2,188.3	20,892	11.94	49.80	9.77	14.56	5.75	4,633	10.30	4.15
All	46,729.0	25,727	297.77	1,477.90	21.33	10.18	3.92	-	9.71	3.74

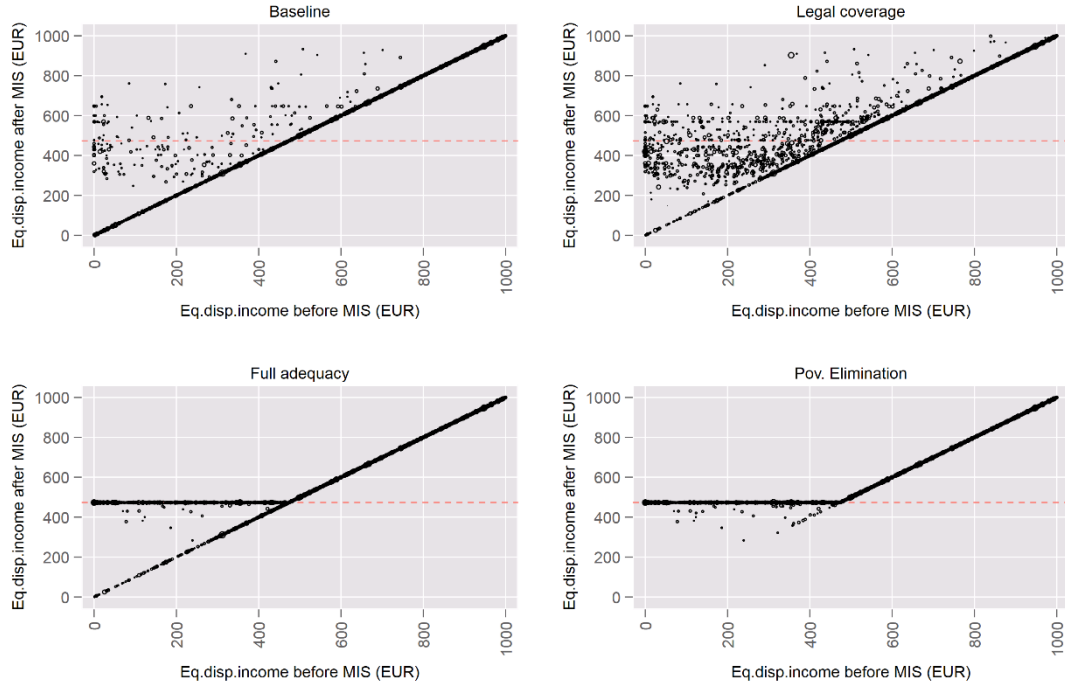*Note*: the poverty lines correspond to 40% of median equivalised disposable income.
Source: own calculations based on EUROMOD I2.0+, applying 2018 policy rules to the last available input data, EU-SILC 2017 (2016 income reference period). Numbers in terms of population and GDP per capita are obtained from the National Statistical Institute of Spain, 2018 regional accounts.

The simulated at-risk-of-poverty rates also vary greatly across regions. Moreover, the criterion used to measure poverty becomes especially relevant: the use of national or regional benchmarks yields very different results regarding the extent of poverty risks in each region and a different ranking of the regions emerges. For instance, sticking to the national criterion, at-risk-of-poverty rates in Spain vary between around 1% in C.F. de Navarra to 17% in Extremadura. However, accounting for regional differences in median equivalised disposable incomes, the at-risk-of-poverty rate would rise to 6.1% in C.F. de Navarra and decrease to 5.6% in Extremadura. A similar pattern can be observed when looking at the intensity of poverty (at-risk-of-poverty gaps). The re-ranking of poverty results depending on the criteria used will undoubtedly influence the assessment of the performance of the different regional MI schemes.

Departing from our *baseline* scenario, we then compute how households' disposable income changes across the different theoretical scenarios previously defined in Table 2. The four scatter-plots in Figure 3 compare the equivalised disposable income of households in presence and in absence of a MI, and illustrate the changes from extending coverage and increasing adequacy, by sequentially moving from the current MI scenario to the theoretical

scenarios of *legal coverage*, *full adequacy* and *poverty elimination*. The national poverty line is represented by the red dashed line.[20]

Figure 3. Effects on households' disposable income of the theoretical scenarios, national benchmark (EUR/month)

Notes: the poverty line corresponds to 40% of the national median equivalised disposable income. The graphs are restricted to households whose equivalised disposable income is below 1,000 EUR month.
Source: own calculations based on EUROMOD I2.0+, applying 2018 policy rules to the last available input data, EU-SILC 2017 (2016 income reference period).

The limited coverage of the current regional MI schemes in Spain can be observed from the few households that deviate from the main diagonal in the *baseline* scenario (graph on the top left side). This fact contrasts with the substantial impact that the regional MI systems would have if extended to all households entitled to MI, as shown in the *legal coverage* scenario (top right side). It is also interesting to note that both the *baseline* and the *legal coverage* scenarios produce a high dispersion around the national poverty line, reflecting the disparities in the degree of adequacy of the different regional MI schemes. The adequacy of MI is especially large in some regions, such as País Vasco or C.F. de Navarra, and MI beneficiaries might end up well above the national poverty line. The opposite occurs in regions for which the adequacy of MI is very limited (e.g. Castilla-La Mancha). Consequently, the *full adequacy* scenario (graph on the bottom left side), in which potential beneficiaries are moved to the poverty line, implies the emergence of winners and losers, as households could be either below or above the national poverty line before the reform[21].

---

[20] Figure A.3 in the annex depicts changes in disposable income for the same scenarios when adequacy is measured at the regional level and households are then moved according to the different regional poverty lines.

[21] Here it is also important to note that some losers might arise from the different definition of the family unit under the *legal coverage* and *full adequacy* scenarios. For the former, the family unit does not comprise

Finally, it is worth noting that even in the *full adequacy* scenario, there are still households that would remain below the poverty line. These households would only reach the poverty line under the *poverty elimination* scenario, reflecting a low effectiveness of the current regional MI systems to reduce poverty. This is likely due to two main reasons: (i) the relevance of non-income eligibility conditions, and (ii) the distance between the poverty line and the regional income threshold for being eligible to MI. On the one hand, most MI schemes set up different rules that households need to fulfil apart from the income means testing, such as age conditions, specific family units' compositions, incompatibilities with the reception of other incomes, assets testing and others. These conditions might in fact exclude some poor households from receiving MI support and are a consequence of the designs of regional schemes. On the other hand, the largest the difference between the poverty line and the income threshold to be eligible for MI, the greater the number of poor households excluded from MI. Those households would only be supported, in our case, under the *poverty elimination* scenario.

The distributional, poverty and budgetary implications of the simulated scenarios are analysed hereunder.

5.1. Number of beneficiaries

Table 5 presents the share of poor households[22] receiving MI schemes, in 2018, in each region. The national share in the *baseline* equals approximately 13% of the total number of poor households, accounting for, approximately, 252,000 households. This number is in practice below the real number of regional MI beneficiaries (of around 297,000 households, as shown in Table 4), because there are non-poor households entitled to MI, if the benchmark considered is the national one. Given that the focus of these policies is on reducing poverty, the numbers are strikingly small.

As expected, extending the coverage of regional MI schemes to all legally entitled produces a significant increase in the share of poor households benefiting from these schemes. At the national level, the share goes up to 61%, with some regions experiencing very substantial increases. These increases are particularly large in Cataluña (of around 81 p.p.), Canarias (65 p.p) and Castilla-La Mancha (62 p.p). Other regions, such as País Vasco or C.F. de Navarra, do not experience any change, as their coverage was already complete.[23]

---

all households' members but usually spouses and children while, for the latter, all individuals within the household are included. By adding up more members, such as grandparents with high pension' incomes, some households might not be entitled anymore to MI or might end up receiving a smaller benefit amount. Furthermore, it is also worth mentioning that households with negative income components (e.g. losses from self-employment) are not being compensated enough and, therefore, they do not reach the poverty line as shown by the few dots remaining below it in the bottom scatter-plots.

[22] For simplicity, in this section we refer to poor households as those being below the poverty line.

[23] Notice that the shares of poor households do not change under the *full adequacy* scenario, since we simply bring those legally entitled beneficiaries to the selected poverty line. Moreover, these shares are, by definition, 100% in the *poverty elimination* scenario.

Table 5. Shares of poor households covered by regional MI schemes

Region - NUTS2	National criterion			Regional criterion		
	N of poor households (thous.)	Share (%)	Legal coverage - Diff. w.r.t baseline (p.p)	N of poor households (thous.)	Share (%)	Legal coverage - Diff. w.r.t baseline (p.p)
Galicia ES11	116.51	13.53	+26.88 [14.92 ; 38.84]	120.58	13.08	+27.14 [15.43 ; 38.84]
P. de Asturias ES12	45.98	48.83	+31.82 [18.45 ; 45.18]	51.37	43.71	+29.40 [17.35 ; 41.45]
Cantabria ES13	16.76	21.85	+38.13 [14.97 ; 61.30]	16.43	22.29	+38.89 [15.32 ; 62.45]
País Vasco ES21	58.28	100.00	+.00 [- ; -]	91.27	78.81	+3.38 [-.26 ; 7.01]
C.F. de Navarra ES22	12.89	91.86	+.00 [- ; -]	16.41	81.00	+.00 [- ; -]
La Rioja ES23	5.76	46.12	+.00 [- ; -]	7.11	37.39	+.00 [- ; -]
Aragón ES24	23.71	32.10	+47.22 [23.90 ; 70.54]	29.56	28.67	+37.88 [17.86 ; 57.89]
C. de Madrid ES30	248.39	12.71	+43.62 [33.78 ; 53.45]	304.56	10.37	+36.45 [27.98 ; 44.92]
Castilla y León ES41	71.71	18.48	+48.87 [34.17 ; 63.57]	74.77	17.73	+46.87 [32.19 ; 61.55]
Castilla-La Mancha ES42	107.96	3.56	+62.25 [49.28 ; 75.21]	73.54	4.50	+64.62 [50.59 ; 78.65]
Extremadura ES43	65.94	11.97	+23.28 [13.67 ; 32.89]	30.07	26.25	+46.50 [25.48 ; 67.51]
Cataluña ES51	188.83	12.53	+81.61 [72.35 ; 90.87]	255.20	9.38	+79.26 [71.66 ; 86.87]
C. Valenciana ES52	284.55	5.10	+41.58 [28.59 ; 54.57]	260.74	5.56	+41.18 [27.19 ; 55.18]
Illes Balears ES53	38.19	22.50	+31.52 [4.32 ; 58.72]	39.68	21.65	+30.34 [4.04 ; 56.63]
Andalucía ES61	434.22	2.93	+54.39 [45.07 ; 63.70]	334.97	3.80	+62.27 [52.06 ; 72.48]
R. de Murcia ES62	67.14	9.25	+42.45 [25.15 ; 59.76]	47.67	11.87	+59.79 [45.09 ; 74.49]
Canarias ES70	146.76	4.89	+65.58 [50.08 ; 81.08]	105.52	6.81	+75.72 [60.02 ; 91.41]
All	1,933.58	13.02	+48.35 [44.22 ; 52.47]	1,859.45	14.35	+49.19 [45.05 ; 53.33]

Notes: the poverty line corresponds to 40% of the national or regional median equivalised disposable income. Statistically non-significant results are highlighted in light grey.

Source: own calculations based on EUROMOD I2.0+, applying 2018 policy rules to the last available input data, EU-SILC 2017 (2016 income reference period).

Once more, the choice of the benchmark used to evaluate the coverage of regional MI schemes in our theoretical scenarios is crucial. By counting the number of poor households under the different regional thresholds, the poorest (richest) regions[24] show a better (worse) performance than the one observed by using the national benchmark. In this regard, Extremadura stands out as a remarkable example since, by increasing the coverage of the current MI scheme of this region, the share of poor households covered by MI rises to 72%, by contrast to 35%, when measured by a national benchmark.[25] This can be explained by the fact that poorer regions show a lower poverty line threshold than the national benchmark, and less individuals are classified as "poor". In this way, the current MI schemes in place in these regions can cover a relatively higher proportion of the poor population if the regional benchmark is considered.

Table 6 illustrates the changes in disposable income resulting from our simulated scenarios. This table shows the average annual equivalised disposable income of poor households by region and its variation moving from the non-existence of MI, to a *poverty elimination* scenario. The yearly average equivalised disposable income (before MI) of the poorest households in Spain is only of around €3,000. Counting poor households as those below the national

---

[24] The Gross Domestic Product (GDP) per capita of each region is shown in table 4.

[25] The results for small regions in Table 5, and throughout the rest of the document, must be interpreted with caution: the confidence intervals of the differences between the baseline and the legal coverage scenario can be large, due to small sample sizes in the underlying data. Although the survey design of EU-SILC ensures representativeness at the regional level, we should keep in mind that in many regions we are going far beyond the regional sample size. Our population of interest are only households entitled to MI, which, given the extremely low coverage in some regions, represent a very small percentage of their sample size. Cantó et al. (2014) overcome this problem for a similar regional analysis of child-related policies in Spain by simulating all the regional rules over the entire Spanish population. Results are then interpreted as the potential impact of the simulations if extended over the whole territory. However, this is not the purpose of our paper, where we specifically aim to assess regional differences in MI schemes.

poverty line, the MI schemes increase their equivalised disposable income by €500 on average, with particular big increases in País Vasco (€4,500) and C.F. de Navarra (€5,300), and much smaller changes in Castilla-La Mancha or Andalucía. This is, not surprisingly, the result of combining very low adequacy and coverage levels in the latter two regions, compared to the former. When using a regional criterion instead, the effect of regional MI schemes on the disposable income of the poorest households are neither that large for the richest regions, nor that low for the poorest ones, as expected given "less demanding" poverty lines in poorer regions.

Table 6. Mean equivalised disposable income of poor households (EUR/year).

Region - NUTS2	National criterion					Regional criterion				
	Before MI (EUR)	Diff. (EUR) w.r.t previous reform				Before MI (EUR)	Diff. (EUR) w.r.t previous reform			
		Baseline	Legal coverage	Full adequacy	Poverty elimination		Baseline	Legal coverage	Full adequacy	Poverty elimination
Galicia ES11	3,082	+331	+650	+519	+1,086	3,164	+319	+653	+568	+1,183
P. de Asturias ES12	2,048	+2,088	+702	+730	+110	2,459	+1,869	+632	+1,102	+223
Cantabria ES13	4,182	+997	+348	-65	+218	4,153	+1,016	+355	-205	+134
País Vasco ES21	2,593	+4,484	0	-1397	0	4,101	+3,180	+19	+181	+92
C.F. de Navarra ES22	1,273	+5,375	0	-1055	+77	2,345	+4,297	0	+514	+290
La Rioja ES23	2,624	+1,065	0	+593	+1,302	3,261	+863	0	+705	+1,373
Aragón ES24	2,471	+1,326	+1,686	+20	+156	3,139	+1,212	+1,352	+345	+351
C. de Madrid ES30	3,072	+297	+1,129	+614	+541	3,649	+242	+923	+1,100	+1,020
Castilla y León ES41	2,941	+887	+965	+537	+320	3,060	+851	+926	+698	+400
Castilla-La Mancha ES42	3,319	+47	+1,490	+131	+686	2,440	+63	+1,846	-267	+639
Extremadura ES43	3,634	+430	+456	+320	+789	2,270	+944	+912	-516	+346
Cataluña ES51	3,105	+865	+2,415	-804	+27	3,907	+644	+1,926	+8	+91
C. Valenciana ES52	3,337	+130	+1,194	-116	+1,134	3,146	+142	+1,251	-298	+979
Illes Balears ES53	3,337	+321	+507	+560	+869	3,429	+309	+488	+615	+902
Andalucía ES61	2,786	+88	+1,524	+538	+737	2,077	+114	+1,860	+17	+464
R. de Murcia ES62	3,097	+111	+1,158	+707	+541	2,294	+153	+1,631	+375	+322
Canarias ES70	3,289	+153	+2,138	-281	+364	2,591	+212	+2,727	-1081	+172
All	3,051	+502	+1,325	+157	+621	3,079	+541	+1,343	+200	+587

Notes: the poverty line corresponds to 40% of the national or regional median equivalised disposable income. Statistically non-significant results are highlighted in light grey.
Source: own calculations based on EUROMOD I2.0+, applying 2018 policy rules to the last available input data, EU-SILC 2017 (2016 income reference period).

Broadening the coverage of regional MI schemes in order to reach the legal coverage level would result into an additional increase of around €1,300 of the yearly average equivalised disposable income of the poorest households. In this case, the largest increases would be observed in regions with particularly low coverage rates but that provide adequate benefit amounts, i.e. the MI guaranteed is enough to take households out of poverty. This is the case, for instance, of Cataluña and Canarias, where the additional increase in the average equivalised disposable income of the poorest households would be above €2,000. Regions providing already a complete coverage, such as País Vasco or C.F. de Navarra, would not see their average equivalised disposable incomes affected.

Adjusting MI schemes to provide adequate benefits to all legally entitled households would increase the average equivalised household disposable income of the poorest households by €157 (national poverty line) or €200 (regional poverty lines). However, values are negative for several regions in both cases, indicating that the adequacy of their MI schemes is above the corresponding poverty line. Highest reductions can be found in País Vasco and C.F. de Navarra with the national criterion and in Canarias with the regional one (although the latter is not statistically significant).

Finally, the move to the *poverty elimination* scenario further increases average equivalised disposable incomes in around €600 on average, under both the national and regional criteria. Highest values can be found in regions with low legal coverage, due to low adequacy and/or restrictive conditions to access the benefit.

As seen in Table 6, the move from *legal coverage* to *full adequacy* can reduce average disposable income in some regions. Additionally, even in regions where it is higher on average, it can be lower for some observations, depending on how the MI scheme treats different household types. In order to assess this, Figure 4 illustrates the share of winners and losers by region when moving towards an adequate benefit in every region in relation to the *legal coverage* scenario.

Figure 4. Share of winners and losers arising from the *full adequacy* scenario (%)
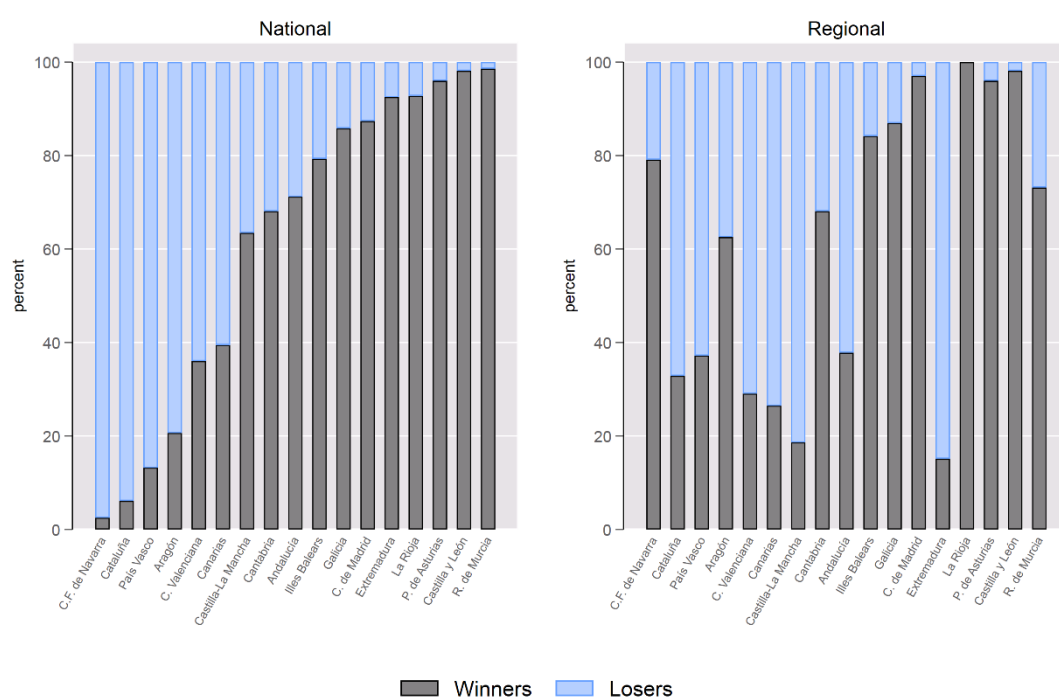
Notes: winners/losers are defined as households whose equivalised disposable income is higher/lower after the reform.
Source: own calculations based on the EUROMOD I2.0+, applying 2018 policy rules to the last available input data, EU-SILC 2017 (2016 income reference period).

Regions with the highest proportion of losers are generally those providing more adequate benefits, as in the cases of C.F. de Navarra, País Vasco or Cataluña. These results are, however, sensitive to measuring adequacy under a national or a regional criterion. In this sense, Figure 4 also depicts the shares of losers and winners after providing households with a benefit that allows them to reach their regional poverty lines. Unsurprisingly, the share of losers in the richest regions is not as large as the one depicted by using the national benchmark. The same happens for the share of winners in the poorest regions. For instance, more than 90% of the households in C.F. de Navarra would be worse off if the benefit would be set at the national poverty line, while this proportion would be reduced to 20% under a regional benchmark. Extremadura would face an opposite outcome: winners clearly outnumber losers in a national framework, but not in a regional one.

5.2. At-risk-of-poverty

Table 7 shows at-risk-of-poverty rates by region before MI and the reduction attained in all simulated scenarios, for both national and regional poverty lines. Using the national poverty lines, Extremadura and Canarias show the highest at-risk-of-poverty rates before MI, while Aragón and La Rioja display the lowest ones. Switching to regional poverty lines would lead to a re-ranking of regions, with some poorer regions (e.g. Extremadura and Castilla-La Mancha) reducing their at-risk-of-poverty rates, and some rich regions (e.g. C. de Madrid and País Vasco) increasing them.

Table 7. At-risk-of-poverty rate reduction by region (p.p.).

Region - NUTS2	Before MI (%)	Diff. (p.p) w.r.t previous reform				Before MI (%)	Diff. (p.p) w.r.t previous reform			
		Baseline	Legal coverage	Full adequacy	Poverty elimination		Baseline	Legal coverage	Full adequacy	Poverty elimination
Galicia ES11	9.96	-0.04	-0.44	-3.53	-5.43	10.33	-0.04	-0.38	-3.59	-5.79
P. de Asturias ES12	8.90	0.00	0.00	-6.61	-1.90	9.74	0.00	0.00	-6.61	-2.75
Cantabria ES13	5.91	-0.45	0.00	-3.08	-2.28	5.42	-0.45	0.00	-3.08	-1.88
País Vasco ES21	5.63	-3.29	0.00	-2.34	0.00	9.00	-2.61	0.00	-4.44	-1.95
C.F. de Navarra ES22	5.83	-5.07	0.00	0.49	-0.42	7.33	-1.22	0.00	-3.99	-1.30
La Rioja ES23	4.60	0.00	0.00	-1.92	-2.31	5.36	0.00	0.00	-1.92	-3.07
Aragón ES24	4.03	-0.61	-0.66	-1.02	-1.44	4.82	-0.20	0.00	-2.28	-2.03
C. de Madrid ES30	9.90	-0.37	-0.11	-5.52	-3.44	12.27	0.00	-0.05	-5.96	-5.82
Castilla y León ES41	6.30	0.00	0.00	-3.44	-2.32	6.73	0.00	0.00	-3.44	-2.75
Castilla-La Mancha ES42	13.90	-0.03	-2.87	-5.14	-4.15	8.96	-0.30	-3.80	-1.09	-2.06
Extremadura ES43	17.35	-0.03	-0.08	-5.43	-10.77	7.75	-2.12	-2.30	-1.04	-1.73
Cataluña ES51	6.66	-0.36	-4.45	-0.73	-0.71	8.76	-0.30	-2.62	-3.73	-1.55
C. Valenciana ES52	14.45	-0.21	-1.77	-3.76	-8.50	13.34	-0.21	-1.87	-3.29	-7.89
Illes Balears ES53	10.33	-0.10	-0.10	-3.18	-5.60	10.46	-0.10	0.00	-3.28	-5.73
Andalucía ES61	13.91	0.00	-0.84	-5.61	-6.78	10.68	-0.11	-1.90	-3.89	-4.36
R. de Murcia ES62	14.12	0.00	0.00	-6.22	-6.12	10.38	-0.37	-0.64	-5.17	-2.96
Canarias ES70	15.07	-0.51	-2.85	-6.21	-4.77	11.28	-0.99	-3.51	-3.78	-2.29
All	10.58	-0.41	-1.37	-3.93	-4.28	10.08	-0.36	-1.39	-3.89	-3.91

Notes: the poverty line corresponds to 40% of the national or regional median equivalised disposable income. Statistically non-significant results are highlighted in light grey.

Source: own calculations based on the EUROMOD I2.0+, applying 2018 policy rules to the last available input data, EU-SILC 2017 (2016 income reference period).

Figure 5 provides the poverty reduction attained by each scenario in relation to a situation without MI, as shown in Table 7, as a share of the total reduction. The figure helps to illustrate the relative importance of each scenario in terms of at-risk-of-poverty rate reduction.

When measuring poverty risks against the national benchmark (left side graph), it can be seen that the existing MI schemes (*baseline*) hardly reduce the risk of poverty in the majority of regions. For approximately half of the regions there is no impact at all (i.e., no one is taken out of poverty) and the large majority of them attain less than 20% reduction in the poverty risk with their MI. Only C.F. de Navarra fully eliminates poverty risk, while País Vasco manages to half the risk of poverty, with their respective MI schemes.

The *legal coverage* scenario has also a very low or zero impact in many regions. The reason for this is that the corresponding MI schemes are not, in most cases, designed to tackle the poverty line of 40%, but rather (slightly) lower poverty lines (see Figure 1). The most notable exception is Cataluña, where the generosity of the MI scheme would lead to a large reduction in the number of people at risk of poverty, if full coverage was achieved. In regions where this does not happen, the *full adequacy* scenario may have a big impact in reducing poverty

risk, as long as the non-income eligibility conditions are not very restrictive, or the distance between the poverty threshold and the MI threshold is not very large (e.g. Asturias). Otherwise, the *poverty elimination* scenario is in most cases the scenario that relatively achieves better results in tackling poverty risks (e.g. Extremadura).

Figure 5. At-risk-of-poverty rate reduction by region (relative shares by scenarios)
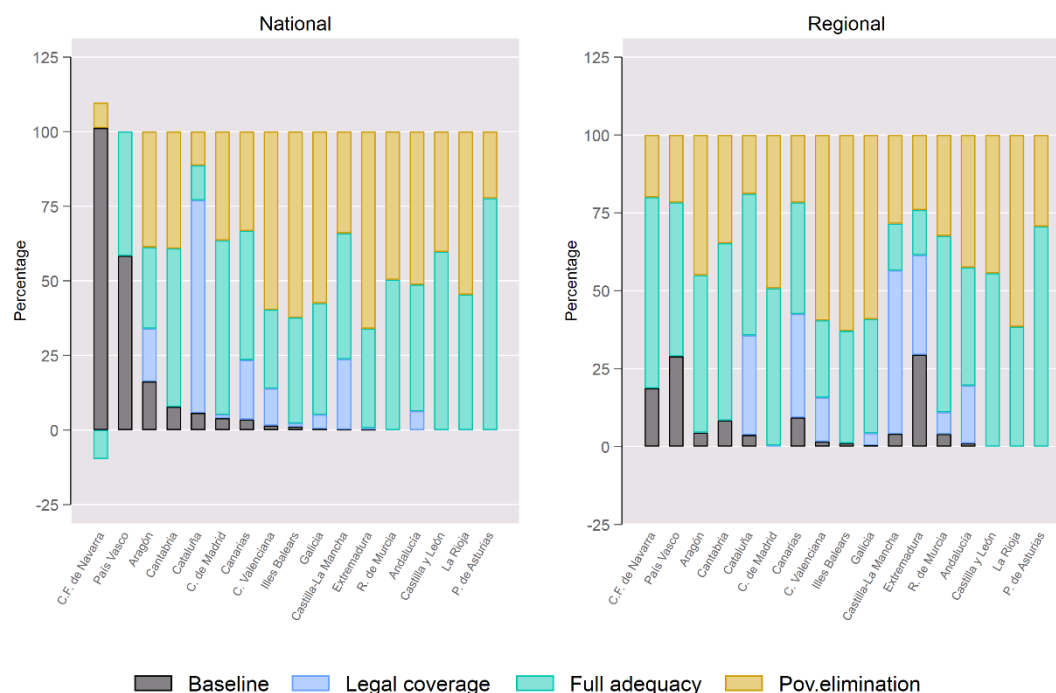
Notes: the poverty line corresponds to 40% of the national or regional median equivalised disposable income.
Source: own calculations based on the EUROMOD I2.0+, applying 2018 policy rules to the last available input data, EU-SILC 2017 (2016 income reference period).

Switching to regional poverty lines (right side graph) would lead to a reduction in the impact of the current systems, being (slightly) higher than 25% in only two regions, Extremadura and País Vasco. As expected, the impact of the current system is higher (lower) for poorer (richer) regions. However, the results undoubtedly show that existing MI schemes are not well designed to tackle regional poverty.

Besides the impact on the at-risk-of-poverty rates analysed above, it is important to examine to what extent each scenario impacts poverty intensity. Table 8 shows the at-risk-of-poverty gaps by region in the absence of MI schemes and the decreases attained by each simulated scenario, considering both the national and regional poverty lines.

Table 8. At-risk-of-poverty gap reduction by region (p.p.).

Region - NUTS2	National criterion					Regional criterion				
	Before MI (%)	Diff. (p.p) w.r.t previous reform				Before MI (%)	Diff. (p.p) w.r.t previous reform			
		Baseline	Legal coverage	Full adequacy	Poverty elimination		Baseline	Legal coverage	Full adequacy	Poverty elimination
Galicia ES11	4.24	-0.49	-0.97	-1.07	-1.65	4.47	-0.47	-0.94	-1.18	-1.81
P. de Asturias ES12	5.40	-2.70	-1.04	-1.41	-0.23	5.77	-2.43	-0.93	-1.93	-0.45
Cantabria ES13	1.95	-0.67	-0.34	-0.71	-0.23	1.79	-0.68	-0.36	-0.61	-0.14
País Vasco ES21	3.50	-3.00	0.00	-0.50	0.00	4.36	-3.04	-0.02	-1.18	-0.12
C.F. de Navarra ES22	4.26	-4.17	0.00	0.00	-0.08	4.87	-3.76	0.00	-0.82	-0.27
La Rioja ES23	2.18	-0.79	0.00	-0.51	-0.82	2.45	-0.72	0.00	-0.67	-1.00
Aragón ES24	1.76	-0.43	-1.06	-0.16	-0.09	2.08	-0.41	-0.98	-0.38	-0.30
C. de Madrid ES30	4.88	-0.73	-1.83	-1.48	-0.78	6.04	-0.62	-1.51	-2.35	-1.51
Castilla y León ES41	2.52	-0.57	-0.80	-0.64	-0.49	2.71	-0.54	-0.76	-0.78	-0.61
Castilla-La Mancha ES42	4.60	-0.07	-2.44	-1.01	-1.03	3.19	-0.04	-2.20	-0.33	-0.58
Extremadura ES43	5.70	-1.10	-1.13	-1.04	-2.31	2.81	-0.91	-1.29	-0.07	-0.50
Cataluña ES51	2.68	-0.50	-2.07	-0.01	-0.02	3.39	-0.47	-2.21	-0.46	-0.17
C. Valenciana ES52	5.31	-0.16	-1.80	-0.63	-2.70	4.54	-0.16	-1.79	-0.38	-2.21
Illes Balears ES53	3.86	-0.57	-0.75	-1.01	-1.38	4.02	-0.56	-0.74	-1.10	-1.49
Andalucía ES61	6.43	-0.11	-2.63	-1.60	-2.04	4.99	-0.13	-2.94	-0.73	-1.15
R. de Murcia ES62	6.07	-0.35	-2.37	-1.85	-1.24	4.82	-0.40	-2.77	-1.03	-0.47
Canarias ES70	6.25	-0.50	-3.06	-1.56	-1.10	4.60	-0.45	-3.05	-0.61	-0.45
All	4.56	-0.64	-1.78	-0.96	-1.13	4.34	-0.60	-1.81	-0.92	-0.96

Notes: the poverty line corresponds to 40% of the national or regional median equivalised disposable income. Statistically non-significant results are highlighted in light grey.
Source: own calculations based on the EUROMOD I2.0+, applying 2018 policy rules to the last available input data, EU-SILC 2017 (2016 income reference period).

Similarly to the analysis of at-risk-of-poverty rates, the relative shares of the values in Table 8 are depicted in Figure 6. Under the national criterion, only in two regions (País Vasco and C.F. de Navarra) the current MI schemes reduce clearly more than 50% of the total at-risk-of-poverty gap, and only three more are above 25% (Asturias, La Rioja and Cantabria).

Broadening the coverage of MI schemes to all legally entitled would result into substantial poverty intensity reductions for most regions. The most striking case is again Cataluña, where the at-risk-of-poverty gap would be almost fully offset. The opposite can be seen in regions like Extremadura or Illes Balears, where the *legal coverage* scenario would not have such high impact. Increasing the adequacy of the regional MI schemes would in general have a significant impact as well, although smaller in those cases where the starting point shows already high adequacy (like Cataluña and Aragón).

It is worth noting that the relative importance of the *legal coverage* and the *full adequacy* scenarios varies when analysing their impact on poverty incidence (Figure 5) or on poverty intensity (Figure 6). The *full adequacy* scenario is generally more effective to reduce the poverty risk, i.e. relatively small increases in the amounts received by those legally entitled to MIS in order to reach poverty lines allow moving many individuals out of poverty. In turn, the *legal coverage* scenario has relatively stronger effects on reducing the intensity of poverty, i.e. many individuals may reduce their distance to the poverty line with broader coverage, even if the MI is not big enough for getting them out of poverty.

Switching to regional poverty lines would lead to a reduction in the variance of the impact of the current systems, since richer (poorer) regions perform worse (better) because their poverty lines are now higher (lower). However, regions whose current MI systems reduced less than 25% of the total at-risk-of-poverty gap, remain still under that threshold when

regional poverty lines are being used (except Extremadura). The same pattern can be observed for the *legal coverage* scenario.

Figure 6. At-risk-of-poverty gap reduction by region (relative shares by scenarios)
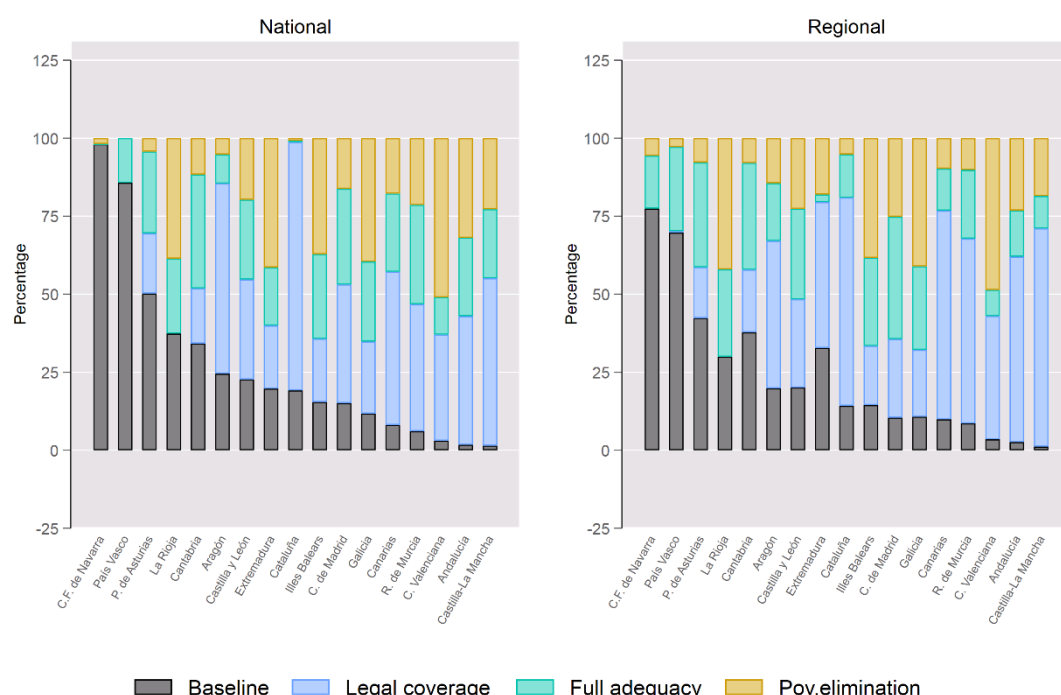
Notes: the poverty line corresponds to 40% of the national or regional median equivalised disposable income.
Source: own calculations based on the EUROMOD I2.0+, applying 2018 policy rules to the last available input data, EU-SILC 2017 (2016 income reference period).

5.3. Impact on public expenditure

Table 9 shows the total expenditure in MI schemes by region for each of our simulated scenarios. The total simulated expenditure in the baseline is around €1,478 million, very close to the actual expenditure of €1,516 million[26]. The highest costs are observed in País Vasco, Cataluña and C. de Madrid, whereas the lowest can be observed in Castilla-La Mancha, La Rioja and R. de Murcia. These numbers are the result of combining the intensity of poverty reduction of MI schemes and the poor population size of each region. For instance, the population size of País Vasco is considerably lower than the one of C. de Madrid (see Table 3), but the intensity of poverty reduction of the MI scheme is much higher in the former than in the latter (see Figure 6).

Moving towards the *legal coverage* scenario would cost additional €4,000 million in total (0.33% of GDP). This substantial budgetary impact is explained by the very low coverage of existing MI schemes in most regions. Besides, providing adequate benefits to those legally entitled would, in addition, increase expenditures by €480 million, while aiming to eradicate poverty would imply an additional cost of around €1,900 million.

---

[26] See Table A.2 in the annex for a full validation of the simulations.

Table 9. Expenditure in MI schemes by region (Mil. EUR).

Region - NUTS2		Baseline (mil. EUR)	Legal coverage	Diff. w.r.t. previous reform (mil. EUR)			
				National criterion		Regional criterion	
				Full adequacy	Poverty elimination	Full adequacy	Poverty elimination
Galicia	ES11	54.15	+130.57	+79.76	+182.74	+97.21	+207.14
P. de Asturias	ES12	124.02	+45.59	+52.93	+9.19	+84.55	+19.88
Cantabria	ES13	26.00	+08.36	+.66	+5.52	-2.59	+3.32
País Vasco	ES21	404.34	+04.40	-121.67	0.00	+67.26	+14.08
C.F. de Navarra	ES22	115.71	0.00	-23.71	+1.78	+15.90	+8.49
La Rioja	ES23	9.76	0.00	+5.89	+10.75	+8.60	+14.37
Aragón	ES24	44.96	+75.24	-27.92	+5.19	-9.21	+17.17
C. de Madrid	ES30	156.90	+443.17	+298.86	+203.50	+623.44	+474.23
Castilla y León	ES41	69.23	+85.52	+59.50	+41.70	+77.69	+54.31
Castilla-La Mancha	ES42	6.39	+255.90	+12.45	+94.26	-89.06	+50.72
Extremadura	ES43	45.69	+46.08	+39.31	+92.58	-27.35	+15.68
Cataluña	ES51	227.72	+789.34	-301.20	+7.05	-.20	+51.55
C. Valenciana	ES52	50.35	+437.33	+7.13	+509.47	-78.96	+389.89
Illes Balears	ES53	21.91	+46.45	+27.61	+56.20	+32.83	+61.50
Andalucía	ES61	54.77	+1,037.15	+326.18	+604.17	-91.21	+277.01
R. de Murcia	ES62	16.22	+130.67	+94.16	+67.70	+40.73	+23.98
Canarias	ES70	49.80	+443.65	-50.36	+90.60	-200.23	+30.54
All		1,477.90	+3,979.44	+480	+1,982	+549.38	+1,713.85

Note: Statistically non-significant results are highlighted in light grey.
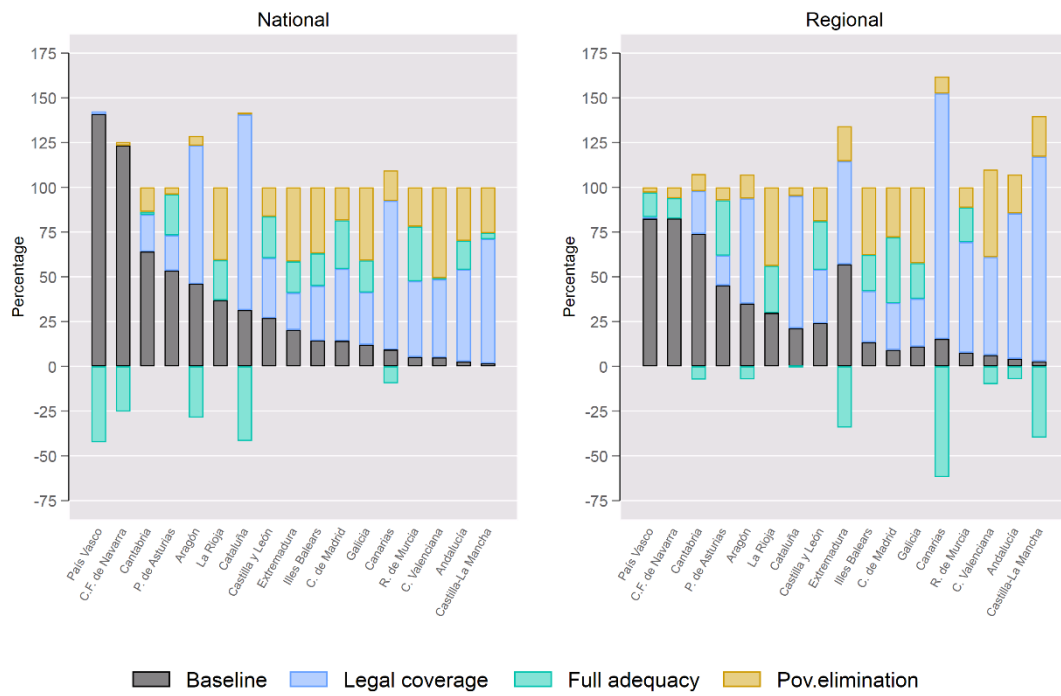
Source: own calculations based on the EUROMOD I2.0+, applying 2018 policy rules to the last available input data, EU-SILC 2017 (2016 income reference period).

Figure 7 depicts the relative shares of the costs presented in Table 9. Under the national benchmark, and taking the *baseline scenario* as a starting point, the additional expenditure needed to eradicate poverty in most regions would be higher than 40% of the total cost, being particularly large in regions such as Castilla-La Mancha or Andalucía (more than 90%). The current expenditure in MI schemes is therefore well below what would be needed to eradicate poverty excepting in País Vasco and C.F. de Navarra.

Enlarging the coverage would result in substantial expenditure increases for almost all regions. In some regions (e.g. Cataluña, Aragón), increasing the coverage (while keeping constant the rules that determine the amount of the benefits) is in fact the scenario with the highest budgetary increase. This occurs because some new beneficiaries now covered by the extension may be taken above the national poverty line, given the high level of benefits in those regions. The benefit level in the baseline scenario also explains why, in some regions (e.g. País Vasco or C.F de Navarra), providing an adequate benefit to those legally entitled to it (*full adequacy* scenario) might result in an expenditure reduction (see green bars with negative results).

It should be noted that the above results are sensitive to the choice of the national or regional poverty lines. For example, the current systems of País Vasco and C.F. de Navarra no longer reach 100% of the total cost needed to eradicate poverty, while for Extremadura this value would raise from less than 25% to more than 50%.

Figure 7. Expenditure in MI schemes by region (relative shares by scenarios)

Legend: ■ Baseline ■ Legal coverage ■ Full adequacy ■ Pov.elimination

Source: own calculations based on the EUROMOD I2.0+, applying 2018 policy rules to the last available input data, EU-SILC 2017 (2016 income reference period).

6. Conclusions

In this paper, we have shown that the disparity of regulations across regions in Spain regarding MI schemes translates into an unequal treatment of the poorest citizens depending on the region they belong to. In the current situation, the amounts of benefits granted by these schemes (in relation to poverty lines) vary widely across regions, and in most of them fall short to reduce poverty. Likewise, the current coverage of MI schemes shows great divergences across regions. This can be due to differences in the definition of the right to access these schemes, their budgetary constraints and the absence of consensus on what should be the standard protection level of those most in need.

Besides the great disparity across regions, another important conclusion is that the generally low coverage and adequacy of existing regional MI schemes hardly reduce the risk of poverty overall. This overall low effectiveness of the existing regional schemes becomes especially relevant when designing a national MI scheme, both for the already poor households, and for those that may fall into poverty as a result of income shocks. More specifically, the limitations of the regional MI schemes in terms of coverage and adequacy, which diminish their capacity to fight against poverty in the different regions, should be carefully taken into consideration when devising how the *Ingreso Mínimo Vital*, defined at the national level, should interact with the regional MI schemes already in place in the different regions.

Our simulations using the EUROMOD model reveal a large gap between the potential number of beneficiaries that would receive income support under the current regional MI schemes and the actual number of beneficiaries. This gap shows great heterogeneity across

regions, probably due to both demand and supply side factors. However, the sheer size of these discrepancies might indicate that the supply side, represented by the differences in regional capacity constraints, must be playing a relevant role, since the very low coverage ratios might not be due only to voluntary non-take-up. Demand type factors such as social stigma and absence of information should not have very heterogeneous incidence across regions, while financial constraints and administrative arrangements may vary greatly. A more thorough study on the determinants of MI coverage rates would be in this respect a natural follow-up of our analysis. Establishing causality relations is however outside the scope of this paper.

An important result of our analysis is that working on the full implementation of the current systems, without changing eligibility rules, would significantly alleviate poverty, but entails potentially substantial budgetary implications. Nevertheless, regional MI schemes working at its full potential would be still far from eradicating poverty. In order to check this, two hypothetical scenarios have been simulated taking the 40% poverty line as a benchmark: one in which all the legal eligible individuals under the current regional MI settings are taken to that poverty line, and a second one in which 40% poverty is fully removed. Our results show a great variety of outcomes across regions, indicating different levels of legal coverage and different levels of adequacy. Overall, each of these scenarios achieve a greater reduction of poverty rates than the full implementation of the current system, but reducing poverty intensity less. They would also require significant expenditure increases.

We show that the above results are conditioned by the way in which poverty is measured. In order to do so we use, alternatively, a national criterion, where a unique poverty line is defined for the whole Spanish territory, and a regional criterion, for which each region has its own poverty line. The main consequence of using either national or regional poverty lines is that, overall, regions with a regional poverty line higher (lower) than the national one, achieve better (worse) poverty reduction results from MI schemes. This methodological point also raises interesting policy implications. Our results suggest in particular that the budgetary and poverty-reducing impact of setting an adequate benefit at the national level would be substantially different as compared to a situation where the different living conditions existing across Spanish regions are taken into account.

Finally, the analysis carried out in this paper is static, disregarding possible second round effects, i.e. without considering for instance the feedback effects the regional MI schemes may have on the inclusion of poor households back in society, and more specifically in the labour market. Further research compiling both approaches might be explored in the future, as the activation strategies included within the regional MI systems are established as one of the key elements to ensure the inclusion of social assistance recipients in the labour market. Furthermore, the precision of the estimated results depends on the sample size. For regions with a relatively small population, confidence intervals may be relatively large, requiring some caution when interpreting the results. Availability of administrative data would be required to assess behavioural responses and to improve the accuracy of the estimations.

References

AIReF, (2019), "Los programas de rentas mínimas en España", Autoridad Independiente de Responsabilidad Fiscal (AIReF).

Arriba, A. & Ayala, L. (2013), "El sistema de garantía de ingresos: tendencias y factores de cambio". *Presupuesto y Gasto Público,* (71), 259-276.

Ayala, L. (2016), "El gasto público en programas de lucha contra la pobreza: tendencias, determinantes y necesidades de reforma". *Papeles de economía española*, (147), 145-166.

Ayala, L., & Bárcena-Martín, E. (2018), "A social welfare approach for measuring welfare protection". *The Journal of Economic Inequality*, 16(1), 41-59.

Ayala, L., García Serrano, C., Arranz, J. M., & Martínez Virto, L. (2016), "El sistema de garantía de ingresos en España: tendencias, resultados y necesidades de reforma". Ministerio de Sanidad, Servicios Sociales e Igualdad.

Ayala, L., Jurado, A., & Pérez-Mayo, J. (2014), "Drawing the poverty line: do regional thresholds and prices make a difference?". *Applied Economic Perspectives and Policy*, 36(2), 309-332.

Bargain, O., Immervoll, H., & Viitamäki, H. (2012), "No claim, no pain. Measuring the non-take-up of social assistance using register data". *The Journal of Economic Inequality*, 10(3), 375-395.

Bergantiños Franco, N., Font Quiles, R. y Bacigalupe de la Hera, A. (2017), "Las rentas mínimas de inserción en época de crisis: ¿Existen diferencias en la respuesta de las comunidades autónomas?". *Papers: revista de sociología*, 102(3), 399-420.

CES: Consejo Económico y Social (2017), "Políticas públicas para combatir la pobreza en España". Colección Informes, 01/2017.

Cantó, O., Adiego, M., Ayala, L., Levy, H., & Paniagua, M. (2014), "Going regional: The effectiveness of different tax-benefit policies in combating child poverty in Spain". *New Pathways in Microsimulation*, 183-202.

Cortinas, J. (2012), "La identidad profesional de los trabajadores sociales como elemento clave en el acceso a los programas de rentas mínimas: el caso de Catalunya". *Zerbitzuan: Gizarte zerbitzuetarako aldizkaria, Revista de servicios sociales*, (51), 95-105.

Eurofound (2015), "Access to social benefits: Reducing non-take-up", Publications Office of the European Union, Luxembourg.

Figari, F., Matsaganis, M., & Sutherland, H. (2013), "Are European social safety nets tight enough? Coverage and adequacy of minimum income schemes in 14 EU countries". *International Journal of Social Welfare*, 22(1), 3-14.

Finn, D., & Goodship, J. (2014), "Take-up of benefits and poverty: an evidence and policy review". London: CESI.

Foster, J., Greer, J., & Thorbecke, E. (1984), "A Class of Decomposable Poverty Measures". *Econometrica*, 52(3), 761-766.

Fuchs, M. (2009), "Social assistance - no, thanks? The non-take-up phenomenon and its patterns in Austria, Germany and Finland after 2000". European Centre Policy Brief September 2009. Vienna: European Centre.

Gorjón, L., & Villar, A. (2019), "The Minimum Income Scheme as a poverty reduction mechanism: the case of the Basque Country" (Vol. 1). ISEAK Working Paper 2019.

Hernanz, V., Malherbet F., & Pellizzari M. (2004), "Take-Up of Welfare Benefits in OECD Countries: A Review of the Evidence." Social, Employment and Migration Working Paper 17, OECD Directorate for Employment, Labour and Social Affairs, Paris.

Immervoll, H. (2012), "Minimum-income benefits in OECD countries: Policy design, effectiveness and challenges". In D. J. Besharov & K. Couch (Eds.), Counting the poor: New thinking about European poverty measures and lessons for the United States (pp. 171–210). New York: Oxford University Press.

Matsaganis, M., Paulus, A., & Sutherland, H. (2008), "The take up of social benefits". European Observatory on the Social Situation and Demography: Research Note, 2(2008).

Ministry of Health, Consumer Affairs and Social Welfare (2019), "Informe de rentas mínimas de inserción 2018". Madrid.

Mogstad, M., Langørgen, A., & Aaberge, R. (2007), "Region-specific versus country-specific poverty lines in analysis of poverty". *The Journal of Economic Inequality*, 5(1), 115-122.

Nelson, K. (2013), "Social assistance and EU poverty thresholds 1990–2008. Are European welfare systems providing just and fair protection against low income?." *European Sociological Review* 29.2: 386-401.

Noguera, J. A. (2019a), "The political debate on basic income and welfare reform in Spain. *Social Policy and Society*, 18(2), 289-299.

Noguera, J. A. (2019b), "Las rentas mínimas autonómicas en España: balance y retos de futuro", in J. SEVILLA (dir.) "Reforzar el bienestar social: del ingreso mínimo a la renta básica". Observatorio Social de La Caixa. Barcelona. 87–117.

Rodríguez Cabrero, G., (2009), "Assessment of Minimum Income Schemes in Spain". *Peer Review in Social Protection and Social Inclusion and Assessment in Social Inclusion*.

Rodríguez Cabrero, G., Arriba, A., Marbán, V., Montserrat, J., & Moreno-Fuentes, F. J. (2015), "ESPN Thematic Report on minimum income schemes". Spain 2015.

Sutherland, H., & Figari, F. (2013), "EUROMOD: the European Union tax-benefit microsimulation model". *International Journal of Microsimulation*, 6(1), 4-26.

Terracol, A. (2002), "Analyzing the take-up of means-tested benefits in France". Université de Paris, 1.

UNECE (2017), "Guide on Poverty Measurement", United Nations Economic Commission for Europe (UNECE).
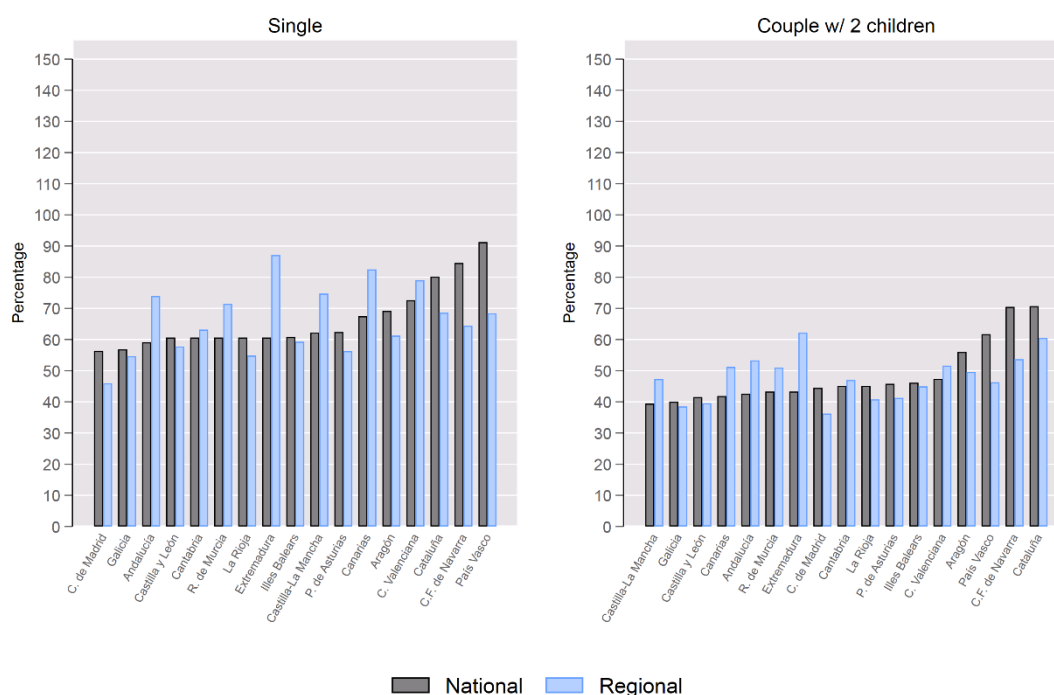
Annex

Figure A1. Adequacy (%) of regional MI schemes, 2018 (poverty line: 50% of median equivalised disposable income)
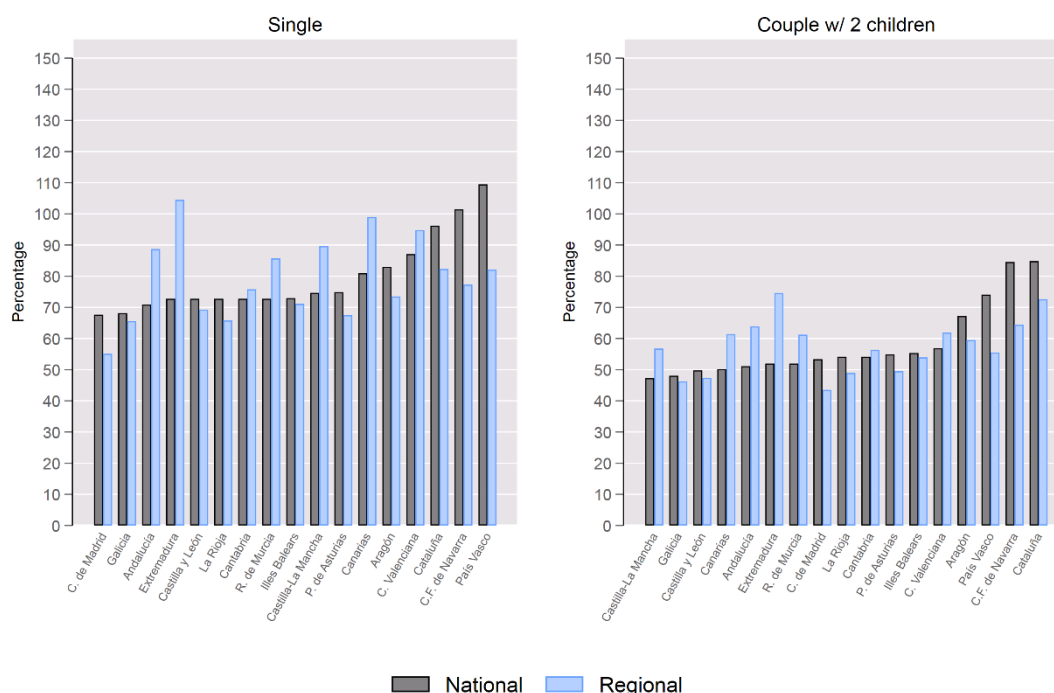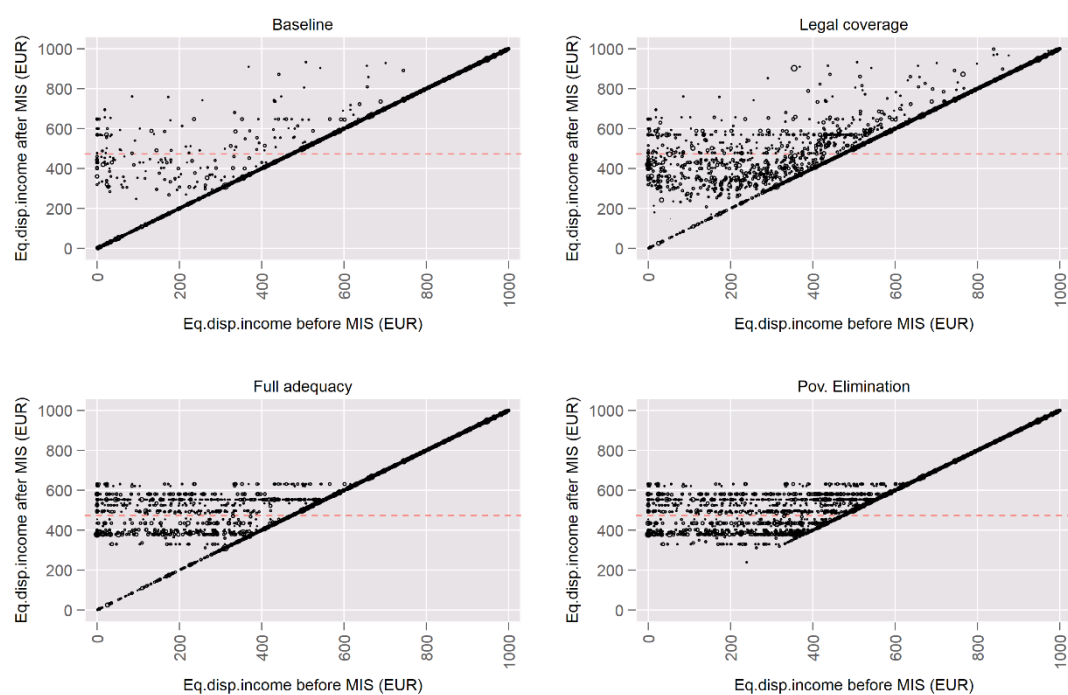

Source: own calculations based on EUROMOD I2.0+, applying 2018 policy rules to a set of hypothetical households.

Figure A2. Adequacy (%) of regional MI schemes, 2018 (poverty line: 60% of median equivalised disposable income)

Source: own calculations based on EUROMOD I2.0+, applying 2018 policy rules to a set of hypothetical households.

Figure A.3. Effects on household disposable income of the theoretical scenarios, regional benchmark

Notes: The graphs are restricted to households whose equivalised disposable income is below 1,000 EUR month.
Source: own calculations based on EUROMOD I2.0+, applying 2018 policy rules to the last available input data, EU-SILC 2017 (2016 income reference period).

Table A.1. Main characteristics of regional MI schemes, 2018.

Region - NUTS2		Non-income criteria		Income criteria		Wealth criteria		MI amount (a)				Duration (c)
		Residence	Age (e)	Income sources	Income test	Wealth sources	Wealth test	Basic	Min	Max	Extras	
Galicia	ES11	>= 6 months	[> 25 ; < 66] except if disabled or w/dependent children [>17]	Market incomes, benefits & pensions, except: child benefits & education allowances	Total family unit income < MI amount	Financial and property assets, except main residence	Financial assets < 2,151 € Property assets < 6,454 €	403.38 €	134.46 €	726.08 €	+53.78 € if living on rented property	12 months
P. de Asturias	ES12	>= 24 months	[> 25] except if disabled or married or w/dependent children [>17]	Market incomes, benefits & pensions, except: child benefits. Income taxes are deducted	Total family unit income < MI amount	Financial and property assets, except main residence	Not clearly defined	442.96 €	44.30 €	730.88 €	+5% per family unit in case of disability	Indefinite
Cantabria	ES13	>= 12 months	[> 23 ; < 65] except if parent of dependent children [>17]	Market incomes, benefits & pensions, except: child benefits, education & housing allowances	Total family unit income < MI amount	Financial and property assets	Not clearly defined	430.27 €	5.37 €	672.30 €	-	Indefinite
País Vasco	ES21	>= 36 months	[> 23] except if disabled or married or w/dependent children [>17]	Market incomes, benefits & pensions, except: child benefits, education & housing allowances. Income taxes are deducted. A specific % of employment income is excluded from the income test	Total family unit income < MI amount	Financial and property assets, except main residence	Financial assets < 31,084 € (b) Property assets = 0	647.59 €	-	993.47 €	+50.40 € if lone parent +larger amounts if pensioner	24 months
C.F. de Navarra	ES22	>= 24 months (12 if w/ dependent children)	[> 24] except if is not dependent child [>17] or w/ dependent children [any age]	Market incomes, benefits & pensions, except: child benefits, education & housing allowances Income taxes are deducted. A specific % of employment income is excluded from the income test	Total family unit income < MI amount	Financial and property assets, except main residence	Financial assets < 4,764 € Property assets < 73,296 €	610.80 €	60.00 €	1,221.60 €	-	12 months

Region - NUTS2		Non-income criteria		Income criteria		Wealth criteria			MI amount (a)				Duration (c)
		Residence	Age (e)	Income sources	Income test	Wealth sources	Wealth test	Basic	Min	Max	Extras		
La Rioja	ES23	>= 12 months	[> 23] except if is not dependent child or w/ dependent children [>16]	Market incomes, benefits & pensions, except: child benefits, education & housing allowances. Income taxes are deducted	Total family unit income < MI amount	Financial and property assets, except main residence	Financial assets < 14,844 € Property assets < 20,652 €	430.27 €	107.57 €	672.30 €	-		Indefinite
Aragón	ES24	>= 12 months	[>18] except if parent of dependent children [any age]	Market incomes, benefits & pensions, except: education allowances. Incomes of individuals below 25 years old are reduced in 25%	Total family unit income < MI amount	Financial and property assets, except main residence	Not clearly defined	491.00 €	-	736.00 €	+0.20*MI amount if living on rented property		12 months
C. de Madrid	ES30	>= 12 months	[>25; <65] except if parent of dependent children [any age] or older than 64 and living alone	Market incomes, benefits & pensions, except: child benefits, education & housing allowances. Income taxes are deducted	Total family unit income < MI amount	Financial and property assets, except main residence	Financial & property assets < 14,400 € (b)	400.00 €	-	735.90 €	+bonuses (education, housing, etc.)		Indefinite
Castilla y León	ES41	>= 12 months	[>25] except if parent of dependent children [any age]	Market incomes, benefits & pensions, except: child benefits & education allowances	Total family unit income < MI amount	Financial and property assets, except main residence	Financial & property assets < 5,163 € (b)	430.27 €	-	699.19 €	-		Indefinite
Castilla-La Mancha	ES42	>= 24 months	[>24] except if parent of dependent children [>17]	Market incomes, benefits & pensions, except: child benefits & education allowances	Total family unit income < MI amount	Financial and property assets, except main residence	Included in income test as: (financial assets + property assets)/12	446.45 €	76.40 €	786.43 € (d)	+education bonuses (fees exemptions)		6 months

Region - NUTS2	Non-income criteria		Income criteria		Wealth criteria		MI amount (a)				Duration (c)
	Residence	Age (e)	Income sources	Income test	Wealth sources	Wealth test	Basic	Min	Max	Extras	
Extremadura ES43	>= 12 months	[>25] except if parent of dependent children [>17]	Market incomes, benefits & pensions, except: child benefits & education allowances	Total family unit income < MI amount	Financial and property assets, except main residence	Imputed rents included in income test	430.27 €	100.00 €	726.08 €	-	12 months
Cataluña ES51	>= 24 months	[>23] except if parent of dependent children [>17]	Market incomes, benefits & pensions	Total family unit income < MI amount	Financial and property assets, except main residence	Not clearly defined	564.00 €	66.40 €	1,062.00 €	-	Indefinite
C. Valenciana ES52	>= 24 months	[>25] except if parent of dependent children [>16]	Market incomes, benefits & pensions, except: child benefits & education allowances	Total family unit income < MI amount	Financial and property assets, except main residence	Imputed rents included in income test	515.13 €	-	809.49 €	+housing bonuses	Indefinite
Illes Balears ES53	>= 6 months	[>25] except if parent of dependent children [>17]	Market incomes, benefits & pensions, except: child benefits, education & housing allowances	Total family unit income < MI amount	Financial and property assets, except main residence	Not clearly defined	431.53 €	108.00 €	776.58 €	-	12 months
Andalucía ES61	>= 12 months	[> 24 ; < 65] except if parent of ependent children [>17]	Market incomes, benefits & pensions, except: child benefits, alimonies, orphan's pension, education & housing allowances	Total family unit income < MI amount	Financial and property assets, except main residence	Financial assets < 5378 € Imputed rents included in income test	419.52 €	107.57 €	779.87 €	+53.78 € if lone parent or in case of disability	12 months
R. de Murcia ES62	>= 5 years	[> 24 ; < 65] except if disabled or w/dependent children [>17]	Market incomes, benefits & pensions, except: child benefits. Income taxes are deducted	Total family unit income < MI amount	Financial and property assets	Financial & property assets <25,816 €	430.27 €	69.92 €	806.76 €	+bonuses (education, public transport)	12 months
C.A. de Ceuta ES63	>= 12 months (24 for non-EU citizens)	[> 25 ; < 65] except if parent of dependent children [>17]	Market incomes, benefits & pensions, except: child benefits, alimonies, education & housing allowances	Total family unit income < MI amount	Financial and property assets	Financial & property assets <10,800 € (b)	300.00 €	-	420.00 €	-	12 months

Region - NUTS2		Non-income criteria		Income criteria		Wealth criteria			MI amount (a)				Duration (c)
		Residence	Age (e)	Income sources	Income test	Wealth sources	Wealth test	Basic	Min	Max	Extras	
C.A. de Melilla	ES64	>= 36 months	[> 25 ; < 65] except if disabled or lone parent [>17]	Market incomes, benefits & pensions	Total family unit income < MI amount	Financial and property assets, except main residence	Financial & property assets <15,744 € (b)	328.00 €	-	656.00 €	-	12 months
Canarias	ES70	>= 12 months	[> 25 ; < 65] except if disabled or w/dependent children [>17]	Market incomes, benefits & pensions, except: child benefits, education & housing allowances, (non-)contributory disability pensions	Total family unit income < MI amount	Financial and property assets, except main residence	Financial & property assets <17,235 € (b)	478.77 €	127.59 €	667.75 €	-	12 months

Notes:

(a) Benefit amounts increase with each additional member up to a maximum. Due to limited space here we only show the basic amount for a single-adult household, the minimum (if any) and the maximum

(b) Wealth-test corresponding to a single-adult household

(c) The benefit is usually renewable even if a specific duration is stated in the law, proved that the situation of vulnerability remains. There might be periods of interruption in between.

(d) Although there is no maximum benefit stated in the law, the amount stated corresponds to a family of 7 members.

(e) Apart from the exceptions stated in the table, age conditions are not required in many regions for individuals under exceptional circumstances (e.g. orphans).

Source: "Informe de Rentas Mínimas de Inserción 2018" published by the Ministry of Health, Consumer Affairs and Social Welfare (2019)

Table A.2. Validation of the simulations and calibration parameters.

Region - NUTS2		Official statistics		Simulation		Validation (Simulation/Official)		Parameters of the calibration	
		Beneficiaries (thousands)	Expenditure (million EUR)	Beneficiaries (thousands)	Expenditure (million EUR)	Beneficiaries	Expenditure	Weight of the random component (n)	Lowest threshold for being selected (p)
Galicia	ES11	14.24	55.32	15.77	54.15	1.11	0.98	1.00	0.79
Asturias	ES12	22.31	124.55	22.67	124.02	1.02	1.00	0.40	0.64
Cantabria	ES13	5.37	30.99	5.04	26.00	0.94	0.84	0.00	0.28
Pais Vasco	ES21	72.34	438.56	75.83	404.34	1.05	0.92	0.20	0.17
Navarra	ES22	16.08	103.52	14.13	115.71	0.88	1.12	-	0.00
Rioja	ES23	2.94	12.59	2.66	9.76	0.90	0.78	-	0.00
Aragón	ES24	9.89	48.50	9.82	44.96	0.99	0.93	0.60	0.56
Madrid	ES30	33.00	152.56	32.89	156.90	1.00	1.03	0.90	0.77
Castilla y León	ES41	14.54	71.88	13.25	69.23	0.91	0.96	0.40	0.60
Castilla-La Mancha	ES42	3.54	9.44	3.85	6.39	1.09	0.68	1.00	0.86
Extremadura	ES43	5.98	48.43	7.89	45.69	1.32	0.94	0.50	0.64
Cataluña	ES51	28.57	240.51	27.72	227.72	0.97	0.95	0.00	0.93
C. Valenciana	ES52	18.41	44.88	18.18	50.35	0.99	1.12	1.00	0.81
Illes Balears	ES53	9.71	21.33	8.59	21.91	0.88	1.03	0.90	0.61
Andalucía	ES61	17.88	53.71	20.51	54.77	1.15	1.02	1.00	0.93
Murcia	ES62	5.86	16.52	6.21	16.22	1.06	0.98	0.80	0.61
Canarias	ES70	11.59	42.62	11.94	49.80	1.03	1.17	0.30	0.99
All		292.25	1,515.92	296.95	1,477.90	1.02	0.97		

Source: Own elaboration and "Informe de Rentas Mínimas de Inserción 2018" published by the Ministry of Health, Consumer Affairs and Social Welfare (2019)