ESTIMATING NON-TAKE-UP OF SOCIAL ASSISTANCE IN EUROPE USING EUROMOD
Technical Note

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1. INTRODUCTION[1]

The main goal of our research is to have a basic estimate of the non-take-up of Minimum Income Benefits (MIB), for as many European countries as possible. This is motivated by the fact that the delivery of MIBs are increasingly integrated with employment and social services. Thus, the ultimate objective of our project is to find out whether such an integration is associated with an increase in take-up – due to easier access – or rather lowering – due to more effective enforcement of behavioural conditions.

In this note, we will first highlight the difficulties encountered when trying to estimate non-take-up based on Euromod, highlighting the steps we took to verify existing issues, then we will estimate non-take-up for a handful of countries and the possible explanations of the insufficiencies in the simulations. Thus, in this note, we will not investigate whether non-take-up is correlated with service integration of MIB.

First, we carried out a thorough country selection among the EU28 to decrease the number of countries to those where one can assume that the simulation of MIB is the most accurate. Then we generated three groups (one for those who took up the MIB and were simulated eligible "*take-up*", one for those who did not take up but were simulated eligible "*non-take-up*" and one for those who took up, but were not simulated eligible "*leakage*") for each country for those years where the baseline EU SILC data was the same year as the simulations (2010, 2012, 2015 and 2016). The results of the simulations show a suspiciously high non-take-up and leakage rate even in the countries where we assumed that the simulations were as accurate as possible.

After the three groups were created, we tested how they differ from each other in characteristics that can be significant in either the simulation of eligibility of the MIB or in the actual benefit take-up. Our general idea was on the one hand is that those who are taking up the benefit but not simulated eligible (by Euromod) and those, who do not take up the benefit but simulated eligible are closer to the eligibility threshold than those who both take up and simulated eligible. On the other hand, we assumed that more complicated household structure might make it more difficult to simulate eligibility. Accordingly, we had the following four hypotheses:

1. Benefit amount
   a. The actual benefit amount should be higher in the take-up group than in the leakage
   b. The simulated benefit amount should be higher in the take-up group than in the non-take-up group.
2. Household size
   a. The average household size is bigger in all three groups than in the total population
   b. Average household size is smaller in the non-take-up than in the take-up
   c. Average household size is bigger in the leakage than in the take-up

3. Employment status
    a. The share of household members working full time for 12 months a year among the active-age members of the households is significantly smaller in all three groups then in the total population
    b. The share of full-time employed household members is higher both in non-take-up and in leakage than in the take-up
    c. The share of full-time employed household members is lower in the non-take-up than in the leakage
4. Household income
    a. Household income is significantly smaller in all three groups then in the total population
    b. Household income is higher both in non-take-up and in leakage than in the take-up

COUNTRY SELECTION

For selecting the countries with the most accurate MIB simulations we first had to map each country under which EU SILC variable the MIB is coded and with how many other benefits are coded under that same variable. We contacted all the national statistical offices and from most of them we got our answer. We found that in most cases the MIB was coded together with other benefits, thus it is not very easy to separate what is the actual benefit the specific household took up (even though in several cases the country experts attempted to). As we contacted the national statistical offices during the summer of 2019, we could not use Goedemé and Trindade (2020) collection that answers the exact same question. Then we checked the Euromod country reports to exclude those countries where the simulation needs too many simplifications. Finally, we checked the difference between actual MISSOC benefit amount and simulated amounts for the simplest unemployed single person households.

We checked all Euromod country reports to see whether social assistance was simulated in each country and what are the difficulties the country experts highlighted in the simulations (simultaneously to information collection from the national statistical offices). In most countries the benefits were simulated, however, there were several simplifications in each simulation that presumably lead to inaccurate non-take-up estimations. (table 1) (Benefit details are summarized in annex 1)

Table 1 – Summary of MIBs in EU countries as it appears in the Euromod country reports

Country	Social Assistance Benefit	Simulated (country report 2015-2018)
Austria	Minimum Income Benefit	Simulated
Belgium	Income Support	Simulated
Bulgaria	Monthly Social Assistance Allowance	Simulated
Croatia	Social Assistance Benefit	Simulated
Cyprus	Guaranteed Minimum Income	Simulated
Czech Republic	Allowance for Living	Simulated
Denmark	Social Assistance	Simulated
Estonia	Subsistence Benefit	Simulated
Finland	Local authority income support	Simulated

France	Solidarity Labour Income	Simulated
Germany	Social Benefits	Simulated but different data source
Greece	Guaranteed Minimum Income	Simulated (introduced in 2017)
Hungary	Out-of-work allowance	No info
Ireland	Social assistance benefit	Not simulated
Italy	Minimum income	Simulated (2018)
Latvia	Guaranteed minimum income benefit	Partially simulated
Lithuania	Social Assistance/Social Benefit	Partially simulated
Luxembourg	Social assistance	Simulated
Malta	Social assistance	Simulated
Netherlands	Social assistance	Simulated
Poland	Temporary Social Assistance	Simulated
Portugal	Social integration income	Partially simulated
Romania	Guaranteed min income	Simulated
Slovakia	Material need benefits	Simulated
Slovenia	Income support	Simulated
Spain	Unemployment assistance benefit	Partially simulated
Sweden	Social assistance	Simulated
United Kingdom	Income support	Simulated but different data source

Among those countries where the social assistance benefits were fully simulated, we checked for further details that might influence the accuracy of the simulation and we found that parts of eligibility criteria could not be simulated based on EU SILC data in each country as it can be seen in table 2.

We cannot assume that in cases where no difficulties were mentioned every eligibility criterion were successfully simulated, however it might mean that the country experts did not find certain difficulties significant in the accuracy of the simulation. For example, the lack of data on monthly income probably leads to relevant simplification in each country, however, based on the yearly income and the number of months one worked in a year a relatively good estimation can be calculated for the monthly income amount.

Table 2 – Simplifications in MIB simulations in EU countries as it appears in the Euromod country reports

Country	Lack in eligibility criteria
Austria	lack of information on previous working status differences between federal states
Belgium	Lack of information in foreign population
Bulgaria	Assumed that additional requirements are met
Cyprus	Regional differences Assets criteria Some special categories cannot be identified
Czech Republic	Individuals in material need assumed to be registered as job seekers

Denmark	Experience in exogenous shock and citizenship Assumed that everyone with less than 1 working month in the current year is subject to the benefit ceiling the reduced ceiling is not taken into account as it only affects the ceiling after the first year of receiving social assistance benefit
Estonia	Difference in municipality regulations Total monthly housing costs are sometimes smaller than monthly mortgage interest payments and in these cases the housing costs was scaled up to the level of mortgage interest payments No info on monthly income, average is used
Finland	No info on monthly income, annual income is used
France	No info on monthly income, annual income is used
Luxembourg	
Malta	Lack of information of assets
Netherlands	
Poland	Assessments by the Local Social Assistance Center is simulated with a wealth-
Romania	No info on monthly income, annual income is used
Slovakia	
Slovenia	Asset test is not simulated No info on monthly income, annual income is used
Sweden	

As a final accuracy test, we generated single unemployed person households with no work history and income in Euromod's Hypothetical household tool as we assumed that this household structure is the simplest to simulate social assistance benefit for. We simulated the social assistance on them and cross-checked the simulated benefit results with the exact benefit amount reported in MISSOC for single person households. (table 3)

In cases the simulated benefit for the unemployed single person households differ significantly from the actual benefit amount reported in MISSOC serious inaccuracy can be assumed in the simulations. One possible explanation is that the simulation not only simulates the benefit we are looking for but includes other allowances as well. That is either caused by the countries' eligibility regulations or the EU SILC data that in several cases merge different benefits into the same variables.

Table 3 – Average difference between the simulated benefit amount for single person households in Euromod and the reported MISSOC benefit amount for the same household type

Country	Simulated benefit amount for an unemployed single person on a Hhot database (average absolute difference from exact amount between 2010-2018)
Austria	5%
Belgium	**0%**
Bulgaria	63%
Cyprus	15%
Czech Republic	18%
Denmark	25%

Estonia	2%
Finland	26%
France	**0%**
Germany	19%
Greece	267%
Hungary	28%
Latvia	8%
Lithuania	0%
Luxembourg	2%
Malta	36%
Netherlands	7%
Poland	55%
Portugal	**0%**
Romania	1%
Slovakia	197%
Slovenia	**0%**
Spain	100%
Sweden	100%
Croatia	100%
Italy	100%
Ireland	
United Kingdom	

After scrutinizing both the data and the simulation methodology using the steps described above, we retained a sample of eight countries (the Netherlands, Portugal, Belgium, Estonia, France, Lithuania, Romania, Slovenia). Certain simplifications are present in these countries as well, but these seem to have no major effect on the simulation.

For Belgium, France, Lithuania, Portugal and Slovenia the simulations result match the exact benefit amount for unemployed single person households therefore these countries were selected to simulate non-take-up for, even though the social integration income is reported as partially simulated in Portugal because of the difficulty in matching the simulated family unit with the actual one and the difficulty in dealing with non-take up issue as no further difficulties were mentioned in the country report. Similarly, in Lithuania the simulation is reported partial because of the lack of information on assets while no further difficulties were mentioned in the country report. All selected countries unemployed single person household simulated benefit amount differs less than 10 percent from the exact amount and no major difficulties were mentioned in the country reports regarding the simulations.

Other countries with small differences between the actual and simulated benefit amounts had further issues with the simulations that assume their simulations are being less accurate. In Austria the benefit is regulated differently in federal states and the simulation only used the eligibility criteria in the Vienna region. In Latvia the simulation is reported partial as municipalities regulate the eligibility differently and the simulation only includes the general regulations and the regulations in Riga municipality. For Luxemburg we had no EU SILC background data and in the United Kingdom the database is slightly different that we did not use in the first round.

In the analysis we only used the data on those years where the EU SILC background data was from the same year as the simulation as the actual take-up can only be simulated based on these years' background data. These lead to using four years' data where we had the background data for all the selected countries: 2010, 2012 ,2015 and 2016.

TAKE-UP, NON-TAKE-UP AND LEAKAGE (BETA ERROR)

We defined the take-up rate, the non-take-up rate and the leakage (or beta error) rate as they are defined in most earlier studies (Harnisch 2019; Fuchs et all 2019). The Euromod simulation results contain both the actual take-up of social assistance and the simulated eligibility that leads to the matrix of table 4.

Table 4 – Matrix of actual and simulated benfit eliglbity

		Eligibility	
		Yes	No
Takeup	Yes	**Take-up**	**Leakage (Beta error)**
	No	**Non-take-up**	Not eligible

Based on the actual take-up (as it measured by EU SILC) and the Euromod simulation the rate of the three specified groups are calculated as follows:

$$Take-up\ rate = \frac{\text{Takeup} = Yes\ \&\ \text{Eligiblity} = Yes}{\text{Eligiblity} = Yes}$$

$$Non-take-up\ rate = \frac{\text{Takeup} = No\ \&\ \text{Eligiblity} = Yes}{\text{Eligiblity} = Yes}$$

$$Leakage\ (beta\ error)\ rate = \frac{\text{Takeup} = Yes\ \&\ \text{Eligiblity} = No}{\text{Takeup} = Yes}$$

As the results show even for the carefully selected countries the take-up, non-take-up and leakage rates seem suspicious. The non-take-up rates are more than 50% in all countries which either means that the actual take-up variable is not reliable or that the eligibility criteria is too permissive. (Table 5) It also worth to mention, that the rates vary quite a lot across the years but it can be caused by the relatively small sample size that is relevant for MIB (see annex 2), however the great increase (in case of Belgium and Lithuania) and decrease (in case of Estonia, Netherlands, Portugal and Romania) in the take-up rate might indicate some structural changes either in the simulations or in the EU-SILC methodology.

Table 5 – Take-up rate, non-take-up rate and leakage rate in the selected countries in 2010, 2012, 2015 and 2015.

Country		2010	2012	2015	2016
Belgium	Take-up	16,6%	27,8%	24,8%	23,3%
	Non-take-up	83,4%	72,2%	75,2%	76,7%
	Leakage	68,6%	62,6%	70,1%	70,1%
Estonia	Take-up	20,5%	16,4%	9,7%	10,9%
	Non-take-up	79,5%	83,6%	90,3%	89,1%
	Leakage	79,3%	73,4%	82,4%	71,8%
France	Take-up	22,7%	22,4%	29,5%	37,6%
	Non-take-up	77,3%	77,6%	70,5%	62,4%
	Leakage	82,3%	81,8%	76,8%	88,5%
Lithuania	Take-up	16,3%	37,2%	32,1%	33,3%
	Non-take-up	83,7%	62,8%	67,9%	66,7%
	Leakage	72,3%	76,2%	73,9%	74,1%
Netherlands	Take-up	48,7%	38,6%	44,4%	45,3%
	Non-take-up	51,3%	61,4%	55,6%	54,7%
	Leakage	27,0%	34,0%	30,4%	30,9%
Portugal	Take-up	25,4%	13,9%	24,2%	18,8%
	Non-take-up	74,6%	86,1%	75,8%	81,2%
	Leakage	35,9%	41,8%	68,3%	65,0%
Romania	Take-up	31,8%	18,5%	19,9%	20,1%
	Non-take-up	68,2%	81,5%	80,1%	79,9%
	Leakage	87,9%	87,6%	69,4%	69,1%
Slovenia	Take-up			28,6%	26,5%
	Non-take-up			71,4%	73,5%
	Leakage			74,9%	73,1%

2. CHARACTERISTICS OF THE SIMULATED GROUPS (TAKE-UP, NON-TAKE-UP, LEAKAGE)

The aim of our paper is to reveal what are the factors that might cause the discrepancies in the simulation therefore we analyzed various characteristics of the take-up, non-take-up and leakage population to see, what are those subpopulations that are overrepresented or underrepresented in each group. In the following chapter we take a closer look on the benefit amount, the household size, the employment status and the household income.

SIMULATED MIB AMOUNT

We analyzed the actual benefit amounts based as it is in EU SILC for the take-up group and the leakage group as they are those, who stated that they had taken up MIB and as we expected the results show that the benefit amount is higher in each country among the take-up group than in the leakage, the only exception is being Lithuania in 2010, but that difference in the benefit amount is not significant. (Table 6)

Table 6 - Average amount of social assistance by year and country (standard error)

	Belgium	Estonia	France	Lithuania	Netherlands	Portugal	Romania	Slovenia
2010								
TAKE-UP	677.67 (258.74)	56.11 (30.38)	318.83 (202.33)	111.18 (173.28)	1114.87 (282.01)	324.49 (158.14)	112.12 (116.86)	
LEAKAGE	588.28* (281.24)	34.68*** (38.09)	192.00*** (188.00)	160.51 (230.28)	566.16*** (378.22)	276.15** (228.31)	37.75*** (59.79)	
2012								
TAKE-UP	716.77 (255.23)	107.62 (47.75)	324.83 (209.38)	95.04 (74.98)	1070.12 (335.18)	282.64 (180.39)	96.62 (121.74)	
LEAKAGE	722.15 (446.79)	46.73*** (48.24)	198.35*** (194.21)	69.74*** (67.06)	623.47*** (485.07)	224.15 (224.56)	45.48*** (69.38)	
2015								
TAKE-UP	944.95 (404.01)	111.97 (133.19)	374.83 (245.98)	77.36 (73.46)	992.94 (396.55)	203.09 (101.28)	182.25 (153.69)	134.70 (50.23)
LEAKAGE	720.39*** (379.95)	42.77*** (42.48)	251.03*** (222.92)	61.07** (55.14)	659.24*** (457.61)	137.34*** (122.75)	79.91*** (143.28)	142.51 (76.63)
2016								
TAKE-UP	1002.37 (428.56)	85.60 (112.68)	473.82 (221.97)	79.47 (75.10)	993.27 (396.56)	213.91 (107.32)	218.60 (185.02)	148.27 (60.35)
LEAKAGE	764.16*** (403.04)	43.05*** (43.19)	261.29*** (230.46)	59.39*** (53.06)	667.38*** (461.23)	132.11*** (120.19)	96.29*** (172.90)	145.94 (78.53)

Level of significance: *** - 1%; ** - 5%; *- 10%

Similarly, we compared the simulated benefit amounts between the take-up group and the non-take up group and the results verified our hypothesis in a sense, that in most countries and years the simulated benefit amount of the take-up group was significantly higher than that was in the non-take-up group. (Table 7)

Table 7 - Average amount of simulated social assistance by year and country (standard error)

	Belgium	Estonia	France	Lithuania	Netherlands	Portugal	Romania	Slovenia
2010								
TAKE-UP	627.24 (216.72)	99.57 (60.28)	286.04 (167.59)	100.89 (83.2768)	930.03 (356.86)	427.73 (231.42)	133.77 (78.10)	
NON-TAKE-UP	418.45*** (167.77)	78.83** (48.34)	242.17** (194.79)	111.49* (90.54)	429.77*** (315.89)	192.18*** (194.04)	110.96* (66.017)	

	2012							
	Belgium	**Estonia**	**France**	**Lithuania**	**Netherlands**	**Portugal**	**Romania**	**Slovenia**
TAKE-UP	741.81 (191.53)	129.60 (62.65)	299.73 (179.77)	123.08 (71.33)	987.31 (399.02)	343.16 (230.11)	132.80 (86.09)	741.81 (191.53)
NON-TAKE-UP	492.45*** (177.59)	107.59 (67.35)	253.13** (203.42)	95.35** (69.02)	371.51*** (305.71)	173.11*** (155.16)	126.54 (67.21)	492.45*** (177.59)
	2015							
	Belgium	**Estonia**	**France**	**Lithuania**	**Netherlands**	**Portugal**	**Romania**	**Slovenia**
TAKE-UP	737.27 (216.79)	123.67 (106.35)	357.99 (203.84)	113.16 (87.58)	890.73 (365.81)	214.83 (126.22)	155.39 (75.71)	126.89 (54.44)
NON-TAKE-UP	491.48*** (200.09)	140.20 (83.03335)	277.74*** (206.88)	97.79*** (70.37)	462.07*** (335.00)	147.59*** (122.38)	139.18 (69.40)	123.69 (78.61)
	2016							
cc	**Belgium**	**Estonia**	**France**	**Lithuania**	**Netherlands**	**Portugal**	**Romania**	**Slovenia**
TAKE-UP	784.66 (227.99)	131.12 (144.71)	459.8159 (198.7873)	112.41 (88.26)	905.86 (367.08)	251.88 (169.84)	203.71 (107.02)	130.78 (51.62)
NON-TAKE-UP	515.03*** (212.24)	160.31 (122.01)	463.47 (182.06)	97.43*** (71.33)	449.95*** (318.94)	161.47*** (150.56)	159.00*** (86.81)	127.27 (74.89)

Level of significance: *** - 1%; ** - 5%; *- 10%


DIFFERENCES IN HOUSEHOLD SIZE

We hypothesized that the simulation works less successfully with more complicated household structures therefore we compared the household sizes among the three groups. We used the average household size in the total population as a baseline.

Based on the results[2] it is obvious that in all three groups the average household size is bigger than in the total population with some exceptions. In Belgium and in the Netherlands in all years the household size in the non-take-up group is much bigger than either in the take-up or in the leakage. That probably means that the eligibility criteria miss households that structure are more complicated. (Figure 1)

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[2] One would mean, that the average household size in a specific group is exactly the same as that is in the total population. In case the value is below one, it means that the average household size in the specific group is smaller than in the total population while if it is above one, than the average household size in that group is bigger than in the total population.

Figure 1 - Difference in household size among the three groups compared to the average household size in the total population
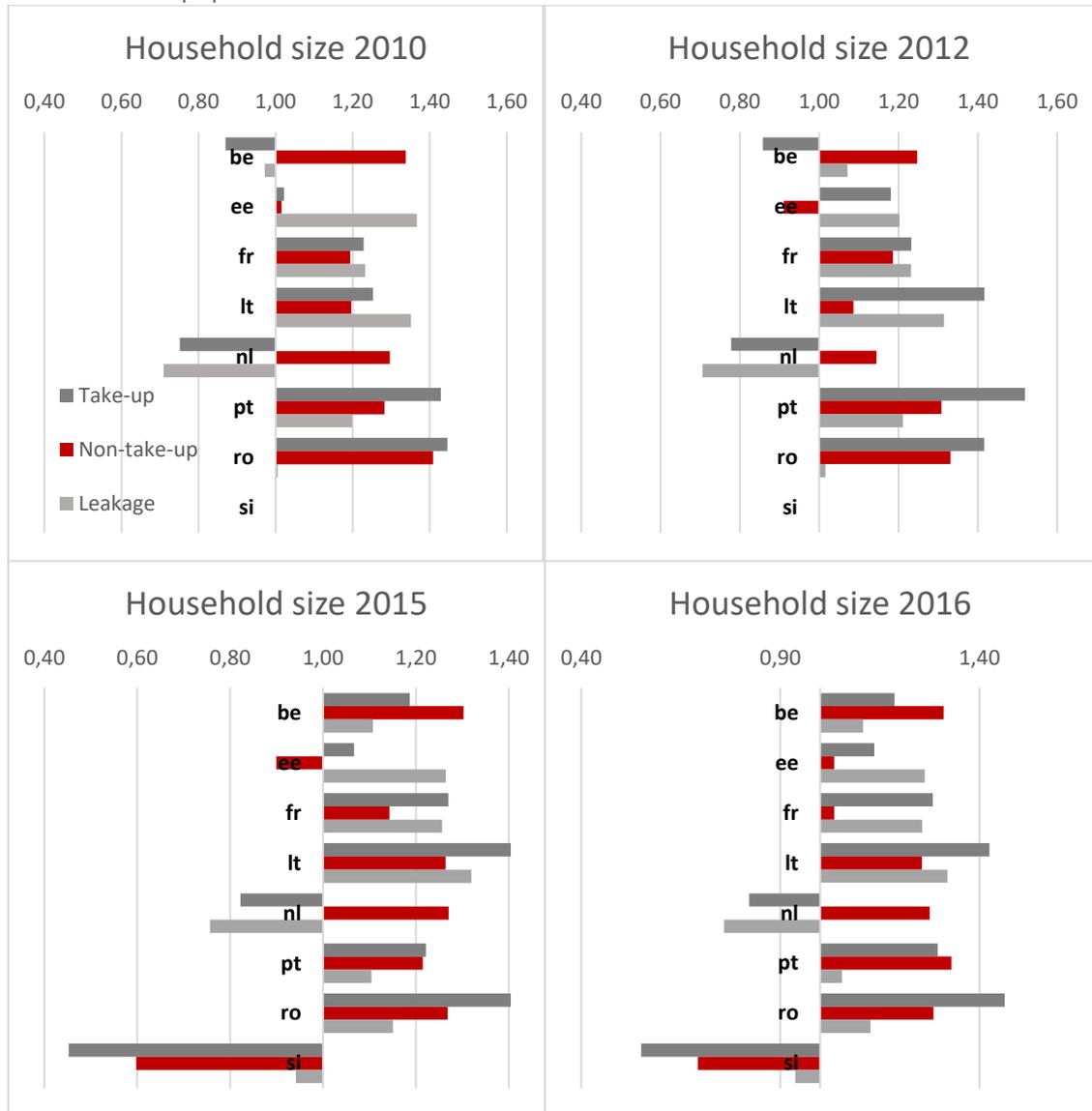
FULL TIME EMPLOYMENT

In all countries the share of those who have been working full time for 12 months among the active-aged household members is much lower in all three studied groups than in the total population. This is not a surprise, since eligibility for social assistance in most countries is restricted to the unemployed (Lithuania, Romania and France before 2016 were exceptions and in the results one can see that the employment rates in the take-up group compared to the total population are not that low as in other countries.). However, the results show that in each country the share of household members in full employment is much bigger in the non-take-up group than among those taking up the benefits as we assumed in our hypothesis. By contrast, their share in the leakage group is not fully consistent with our hypothesis. (Figure 2)

Figure 2 - Difference in the rate of household members in full time employment among the active age household members in the three groups compared to the that in the total population
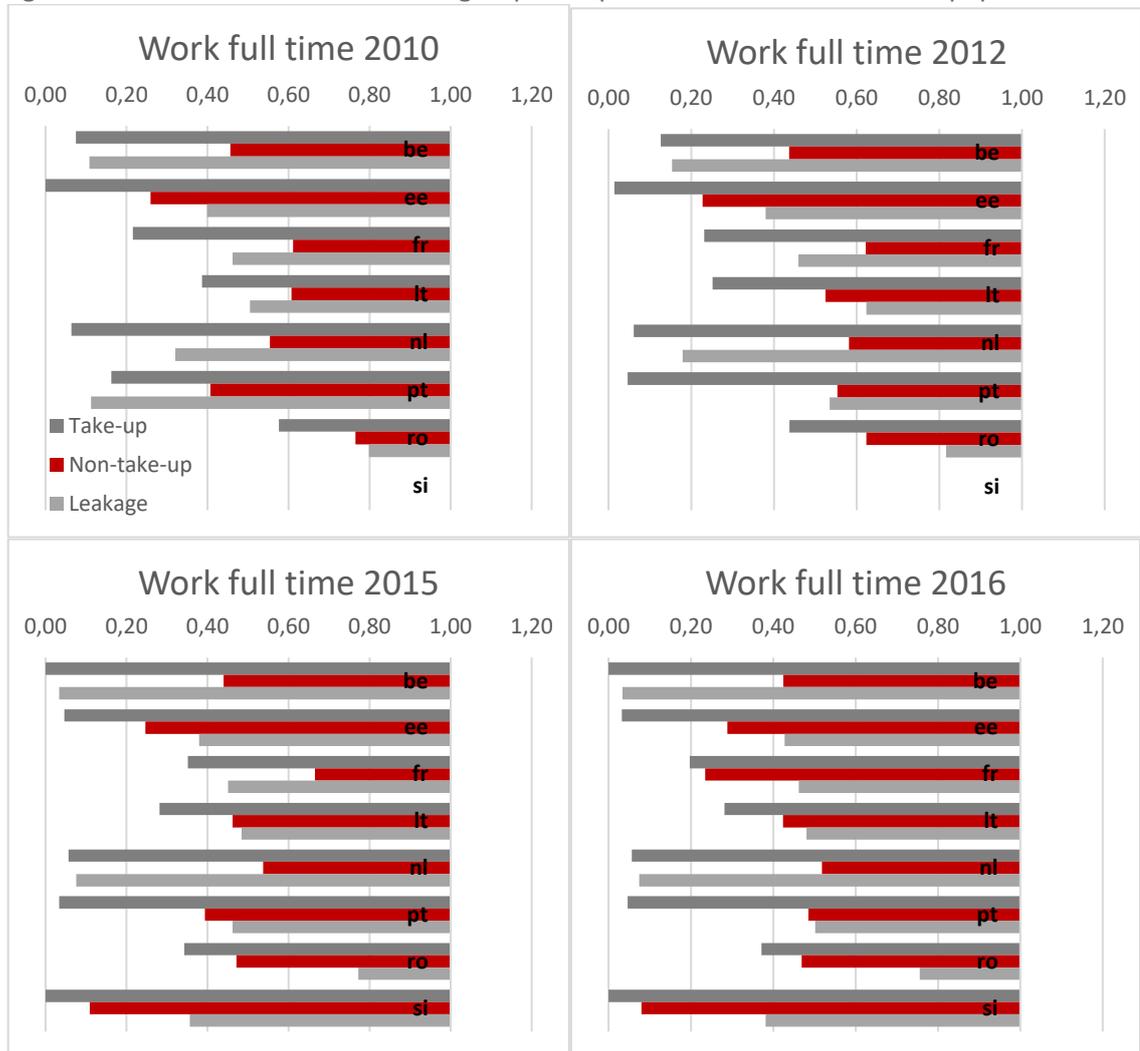
INCOME

For testing the relations between the household income we used the original income equivalized with the modified OECD equivalence scale. This income variable contains all incomes before any benefits (Euromod 2017):

• Earnings (+)
• Income from capital, e.g. dividends and interests (+)
• Income from occupational and private pensions (+)
• Income from property (+)
• Income received by children (+)
• Regular inter-household cash transfer received (+)
• Regular inter-household cash transfer paid (-)

 The differences among the household incomes underpinned both our hypotheses as in most countries both the non-take-up and the leakage groups' household income is significantly higher than in the take-up group (with the exceptions of the take-up group in Slovenia and the

Leakage in Belgium). It is worth to highlight that the order between the non-take-up and the leakage is not consistent, in Estonia and Lithuania leakage is higher, while in other countries the non-take-up. In France the household income in the non-take-up decreased relevantly thus the income level of the leakage became higher than that is of the non-take-up.

Table 8 - Average amount of equivalised original household income before transfers by year and country (standard error)

	Belgium	Estonia	France	Lithuania	Netherland	Portugal	Romania	Slovenia
2010								
TAKE-UP	142.40 (310.95)	9.77 (18.52)	378.20 (570.87)	64.85 (862.41)	218.80 (443.37)	53.47 (85.43)	108.06 (160.58)	
NON-TAKE-UP	927.95*** (1235.91)	28.45** (46.59)	802.08*** (929.89)	101.24*** (107.34)	1333.34*** (1024.96)	148.82*** (114.58)	226.49*** (296.13)	
LEAKAGE	241.71 (577.39)	164.84*** (187.01)	734.70*** (786.08)	165.53*** (277.27)	615.03*** (972.93)	100.64** (143.90)	226.09*** (307.54)	
2012								
TAKE-UP	232.14 (398.28)	25.846 (34.33)	408.78 (591.79)	75.076 (105.07)	295.62 (577.03)	43.33 (74.01)	86.00 (122.09)	
NON-TAKE-UP	922.21*** (1159.5)	35.45 (59.43)	849.59*** (945.28)	119.95*** (162.95)	1603.77*** (2399.82)	128.74*** (99.40)	176.73*** (290.10)	
LEAKAGE	193.20 (475.46)	210.06*** (254.52)	761.17*** (815.63)	183.58*** (176.28)	389.01 (521.16)	145.61*** (143.11)	218.34*** (305.54)	
2015								
TAKE-UP	83.90 (207.22)	19.68 (35.76)	466.58 (998.59)	73.107 (108.16)	277.12 (682.57)	29.60 (55.39)	90.41 (153.80)	7.58 (28.81)
NON-TAKE-UP	858.36*** (1225.63)	25.71 (67.47)	932.21*** (940.25)	157.63*** (222.89)	1449.56*** (1492.45)	79.64*** (78.49)	216.21*** (390.77)	19.81 (68.39)
LEAKAGE	142.75 (289.20)	232.54*** (251.95)	770.37*** (1200.20)	206.58*** (315.59)	372.60* (618.15)	235.28*** (427.62)	256.91*** (338.61)	262.82*** (408.80)
2016								
TAKE-UP	84.58 (208.43)	23.52 (39.09)	288.72 (1205.94)	77.49 (118.21)	277.18 (687.87)	38.73 (66.84)	95.59 (161.38)	6.33 (26.62)
NON-TAKE-UP	856.99*** (1216.40)	54.40** (84.08)	480.31* (933.97)	163.31*** (241.09)	1427.66*** (1490.76)	111.03*** (99.10)	238.26*** (432.04)	35.44* (106.55)
LEAKAGE	143.51 (290.71)	279.46*** (274.74)	765.04*** (1152.08)	220.35*** (337.43)	381.47* (628.06)	250.53*** (447.55)	284.10*** (373.59)	281.88*** (422.61)

Level of significance: *** - 1%; ** - 5%; *- 10% (between take-up and non-take-up and take-up and leakage)

3. CONCLUSION

In our technical note we have found that even though the take-up rates are suspiciously low and the non-take-up rates and the leakage rates are similarly high, the characteristics of each group partly underpin our assumptions that can cause inaccuracy in the simulations. The non-take-up rates we have found in most cases are even higher than those published in most earlier studies, the only exception being the Netherlands where the non-take-up level is below the one that was published in 2003 (Eurofund 2015).

Based on the results we can assume that both the non-take-up groups and the leakage groups are less vulnerable than those of the take-up. Thus they are presumably much closer to the eligibility threshold therefore not taking up the benefit (in case of the non-take-up groups), or falsely simulated eligible (in case of the non-take-up groups) or they falsely simulated non eligible (in case of the leakage).

Additionally, we have found that in most countries bigger households are more likely ending up in the non-take-up groups or in the leakage groups possibility because it is more difficult to simulate for structurally more complicated households. We assume that parts of these difficulties could be avoided with more precise knowledge on work history and having actual took up of the benefits in separate variables in the background data.

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ANNEXES 1

Details oft he MIBs in the selected countries as they are in the Euromod country reports 2015-18

Country	MIB	Details
BE	Income support (leefloon / revenu d'integration sociale)	**Brief description**: If the means of a person are less than a certain threshold, that person is eligible for income support up to the level of the minimum income. In order to receive income support, one needs to apply for it at the offices for public assistance (CPAS). These centres have some discretionary power over the acceptance. For example, the CPAS can demand an individualized project for social (re)integration that the applicant has to agree to and follow in order to get and/or keep income support. Here we assume full take-up (and acceptance of the application by the CPAS). **Definitions**: The benefit unit is the nuclear family – the couple (cohabiting or married) or single adu plus any dependent children. In the social assistance legislation three categories are distinguished: · category one: applicant living with partner and no dependent family - category two: single (no partner, no dependents) - category three: person with dependent family If the applicant falls under category one, the income of the partner is accounted for in the determination of the income suppo level for the part that exceeds the income support level. If the applicant falls under category three, all of the partner's income, if there is a partner, is taken into account for the calculation of income support. In this case the right for his/her spouse is automatically covered, i.e. (s)he cannot claim for income support, and each spouse/partner gets half of the income support amount. **Eligibility conditions**: Income support can be granted to all adult (>=18) residents living in Belgium. can be extended to minors if they no longer have a legal guardian following a marriage, if they are pregnant, or if they have dependent children. The focus here is on adults from 18 to 64 (from the age of 65 one is eligible for income support to the elderly). To become eligible, one has to apply for income support at the CPAS, which means the benefit is not automatically granted.
EE	Subsistence Benefit (toimetulekutoetus))	**Brief description**: Subsistence benefit (toimetulekutoetus) is a means-tested social assistance benefit that should guarantee a minimum income to all residents after paying for minimum housing costs. **Definitions**: The unit of analysis is a household. Households whose income after payment for housing expenses, calculated according to certain general criteria and specific rules set by municipalities, is below the subsistence level are entitled to these benefits. Duration is unlimited, but granted and renewed on a monthly basis. Municipalities have the right to refuse the payment of benefits to people in working age and capable for work, but who do not study or work, and who have repeatedly refused to accept suitable work. The means-testing is based on household net income in the previous month (or average in the last 6 months if not receiving income on regular basis). Certain types of income are disregarded, for example, family allowance for families with three or more children, social benefits for disabled persons, one-off benefits (e.g. birth grant, funeral grant), training stipends.
FR	Solidarity Labour Income ("Revenu de solidarité active", RSA)	**Brief description**: The RSA aims to ensure a minimum income per month. The amount of the benefi is equal to the difference between the maximum RSA (lump sum + 62% of net household income from work) and others household resources (including the package of housing assistance). Since 2016, this benefit is in principle given only to those out of work. For low-apid workers, a new benefi has been introduced-Prime d'activité (PN). The lump-sum is determined by the household composition and the number of dependent children The RSA is increased for those who meet the previous conditions for Mean-tested lone parents benefits (API). **Definitions**: Dependent Children: Children under 20. Children over 20 years and under 25 living at home may be considered dependent in the RSA sense provided their own income is very low (< 55% of SMIC). **Eligibility conditions**: Be over 25, or less than 25 with a dependent child or pregnant, and be aged under 65 (or not entitled to the Minimum Pension for Elderly). Youths 18-25 years of age and without children are eligible if they have worked for at least two years out of the last three years.

LT	Social Assistance/Social Benefit (socialinė pašalpa)	**Brief description:** This monthly benefit is granted to families or single persons in case of income maintenance need. Social assistance benefit is granted for three months. The application must be re-submitted upon benefit expiration, unless local authorities have granted the benefit for the period exceeding three months (i.e. if the composition and income of the family has not changed). **Definitions:** The unit of analysis is family, which consists of partners and their own dependent children. Dependent children are persons aged under 18 or under 24 if in full-time education or unemployed; they cannot be married, cohabiting with a partner nor parents themselves. Single persons are persons aged 18 and above: • who are not married and reside alone; • who are married childless persons, but residing alone by the court's judgement; • who are married persons residing alone, as their children are staying with their spouse by the court's judgement. Family definition for the purpose of granting social assistance includes the following persons: • spouses or cohabitating couples; • their children and adopted children under 18 years of age; • single persons (children) between the ages of 18 and 24 who are unemployed, unmarried and not cohabitating: if they are full-time pupils and students of general education schools and other institutions of formal education. **Eligibility conditions** are very detailed see country report Lithuania 2015-18 page 48.
NL	Social assistance (bijstand)	**Brief description**: A means tested benefit for benefit units lacking other sources of income. **Definitions:** Unit of analysis is the benefit unit consisting of the head, spouse or cohabitant partner and children under 16 or under 18 years if they are in education (at least 213 hours per quarter), or unemployed, or at least 45% disabled. Eligible children living in the household, but without parents (i.e. so called "loose children"), are also counted as dependent children. **Eligibility conditions:** A benefit unit (couple, single person, lone parent) is eligible for social assistance if: a) they are not a student and b) if single, assets are less than single asset limit of €5,920 c) if married/cohabiting/lone parent, assets are less than married asset limit of €11,840 d) aged 18 or over or e) a parent (Note: Even if a parent, persons below 18 are not generally entitled) Self-employed persons with (temporary) low incomes (which includes those in receipt of the separate social assistance benefit (Besluit Bijstandsverlening Zelfstandigen BBZ) for selfemployed) are not entitled to the regular social assistance benefit (algemene bijstand, as defined in the Participatiewet), indicated as BSA in this report.
PT	Social integration income ('Rendimento Social de Inserção')	**Definition:** The unit of analysis is the family. This unit comprises: a) The head of the family; b) His/her partner; c) All of his/her under-18 relatives; d) Other direct descendants of the head aged 18+ that are his dependents. Dependency is defined by having an income level up to 70% of the social pension. **Eligibility conditions:** Individuals of all ages. However, the head of the family must be an adult (aged 18 or older).
RO	Guaranteed min income (Venitul minim garantat)	**Definitions:** The unit of assessment is constructed for social assistance purposes; it consists of the head of the tax unit, the partner, their own dependent children and loose dependent children. To be considered a dependent child, an individual must be younger than 18 or younger than 26 and in education, not married and not a parent. **Eligibility conditions:** The benefit is given to the assessment unit if the monthly net income in the assessment unit is below a threshold, differentiated according to the number of persons in the assessment unit. There is also an asset test and a condition concerning community work for able bodied individuals o working age. The law establishes a list of goods of basic necessity that are taken into account in assessing the right to receive this benefit. When the family or single person own(s) only goods considered of basi necessity they are entitled to receive the benefit. When the family or single person own(s) goods which are not listed as basic necessity goods, they are not considered entitled to receive the benefit. If the family or single person own(s) basic necessity goods in an amount that exceeds the limit established by the law, the potential income obtained through their exploitation is considered in assessing the net monthly income. The list of basic necessity goods includes immobile goods (the family house and housing annexes) and mobile goods (gas cooker, refrigerator, washing machine, home heating system, computer, TV, furniture, and so on), land (differentiated according to the number of household members and to the type of crops that can be obtained), poultry and animals (in certain numbers) and other goods (clothing, personal hygiene and so on). Unemployed able bodied working age adults must register as unemployed at the local Employment Office and not refuse to take up any job offers. The local authorities may require working age able bodied adults who are unemployed to do community work in return for receiving the benefit.

Slovenia	Income support (varstveni dodatek)	**Definitions:** Income support is a social protection benefit, enacted from January 2012, and intended for persons who cannot ensure their financial security due to circumstances beyond their control. It replaces pension support for pensioners and state pension which have both been abolished. **Eligibility conditions:** Persons, who are permanently unemployable or permanently incapable for work or women older than 63 years or men older than 65 years, whose family income (defined in the same way as for social assistance) does not exceed the minimum income amount, are eligible for income support. Income support is also means tested in the same way as social assistance (social assistance included into family income). In case of the ownership of real estate, the rules were stricter, as the entitled recipient is prohibited to alienate and to burden the real estate, owner of which he or she is, to the benefit of the Republic of Slovenia by the decision of the entitlement to the income support. Since February 2017, the same rules as for social assistance apply also for income support considering the ownership of real estate.

ANNEXES 1

Weighted sample size (sum of take-up, Non-take-up AND LEAKAGE)

Sample size	**2010**	**2012**	**2015**	**2016**
be	370,84	373,57	363,43	378,43
ee	273,95	350,17	291,17	361,91
fr	1312,39	1334,98	1554,65	1190,08
lt	664,12	1018,59	590,33	578,43
nl	746,81	887,57	1148,34	1125,49
pt	292,55	358,26	529,03	666,41
ro	1840,94	1273,15	862,20	862,54
si			235,87	253,32