

EU-SILC methodological workshop (Helsinki): attempt of reconciliation between ESSPROS social protection statistics and EU-SILC

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Attempt of reconciliation between ESSPROS social protection statistics and EU-SILC

■ Statement

- Two Eurostat data collection, **ESSPROS** and **EU-SILC** provide information about social protection benefits received in the European countries
- The sources are based on two different tools: an accounting compilation and a household survey

■ Comparison exercise

- to compare the data that provide two different approaches of household income
- to attempt to explain the eventual differences

Attempt of reconciliation between ESSPROS social protection statistics and EU-SILC

■ The paper is structured into four parts:

1. Characteristics of the two data collections
2. Comparability
3. Data comparison
4. Conclusion

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- **Characteristics of the two data collections**
 - 1.1 ESSPROS data collection**

■ Collection unit

- The elementary unit of collection is the “scheme”
- The scheme is defined as “a distinct body of rules supported by one or more institutional units governing the provision of social protection benefits and their financing”
- Social protection schemes are concerned exclusively with redistribution and not with production
- They are supported by national institutional units and are not themselves institutional unit: social protection scheme can be the main activity of a institutional unit ore only it subsidiary activity

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- **Characteristics of the two data collections**
1.1 ESSPROS data collection

- **Data sources**

- Administrative sources are preponderant
- The administrative sources used can be registers or financial accounts
- In some cases, results of surveys are also used

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- **Characteristics of the two data collections**
1.1 ESSPROS data collection

- **Collected data (1)**

- Receipts and expenditure by schemes
 - The receipts of social protection schemes are classified by type and origin
 - The expenditure of social protection schemes is classified by type
- Detailed benefits (1)
 - Social protection benefits are the main category of expenditure
 - Social benefits are broken down by type: cash benefits (periodic versus lump sum) and benefits in kind
 - Social benefits are also broken between means-tested and non means- tested benefits

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- **Characteristics of the two data collections**

1.1 ESSPROS data collection

- Collected data (2)
- Detailed benefits (2)
 - Social benefits are **classified by function**, which refers to the primary purpose for which social protection is provided:
 1. Sickness/Health care
 2. Disability
 3. Old age
 4. Survivors
 5. Family/children
 6. Unemployment
 7. Housing
 8. Social exclusion not elsewhere classified (n.e.c.)
- Pension beneficiaries

This collection covers the schemes providing pension benefits (disability, old age and survivors' pensions as well as early retirement benefits)

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- **Characteristics of the two data collections**

1.2 EU-SILC data collection

- EU-SILC is an instrument aiming at collecting information on income and living conditions for a sample of household and individuals
- In most cases, the income information is collected through interview with household members. In some occasions the income information is gathered from administrative data about individuals
- For the transfer part of income, EU-SILC has used mainly the definition of ESSPROS benefits

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• **Comparability**
2.1 Reference population

■ **EU-SILC**
The reference population is constituted by the private resident **households** (with the exclusion of persons living in institutions)

■ **ESSPROS**
The reference population is constituted by **individuals**: contributors or beneficiaries of national (or resident) social protection schemes (including beneficiaries of benefits living abroad)

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• **Comparability**
2.2 Components of income

■ **Definition of benefits/variables**
There is a **general coherence** in the definitions between detailed ESSPROS social benefits and the corresponding income components (or variables) in EU-SILC

■ **Accounting rules**

➤ In **ESSPROS**, all transactions are recorded on an **accrual basis** that is at the time the events which create the related claims and liabilities occur. The transactions recorded in ESSPROS must refer to the calendar year (financial year for United Kingdom)

➤ In **EU-SILC**, data to record are the **income components received** by households **during the calendar year** (mid-year for Ireland)

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• Comparability

2.3 Correspondence table between ESSPROS benefits and EU-SILC variables

- For the comparison between the two data collection, common benefits were kept
- In **ESSPROS**, all cash benefits of the eight functions, plus one unemployment benefit in kind (mobility and resettlement)
- In **EU-SILC**, variables HY50G, HY70G, HY90G, PY100G, PY110G, PY120G, PY130G and PY160G

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• Comparability

2.3 Correspondence table between ESSPROS benefits and EU-SILC variables

Summarised correspondence table

ESSPROS		EU-SILC	
function	name of benefits	name	target variable and content
SICKNESS	paid sick leave (including paid leave in case of sickness or injury of a dependent child)	PY120G	Sickness benefits - paid sick leave - paid leave in case of sickness or injury of a dependent child - other cash benefits
	other cash benefits (periodic and lump-sum)		
DISABILITY	disability pension	PY130G	Disability benefits - disability pension - early retirement in the event of reduced ability to work - care allowance - economic integration of the handicapped - other cash benefits (periodic and lump-sum) - disability benefits to disabled children (periodic and lump sum)
	early retirement benefit due to reduced capacity of work		
	care allowance (periodic and lump-sum)		
	economic integration of the handicapped (periodic and lump-sum)		
	other cash benefits including disability benefits to disabled children (periodic and lump sum)		
OLD AGE	old-age pension (including survivors' and disability benefits paid after the standard retirement age)	PY100G	Old-age benefits - old-age pension - survivors' benefits paid after the standard retirement age - disability cash benefits paid after the standard retirement age - anticipated old-age pension - partial retirement pension - care allowance - other cash benefits (periodic and lump-sum) - (not included severance and termination payment - see PY090G)
	anticipated old-age pension		
	partial pension		
	care allowance		
	other cash benefits (periodic and lump-sum)		
	(included severance and termination payment)		
SURVIVORS	survivors' pension	PY110G	Survivors' benefits - survivors' pension - death grants (lump-sum) - other cash benefits (periodic and lump-sum)
	death grants (lump-sum)		
	other cash benefits (periodic and lump-sum)		

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• Comparability

2.3 Correspondence table between ESSPROS benefits and EU-SILC variables

Summarised correspondence table

ESSPROS		EU-SILC	
FAMILY CHILDREN	- income maintenance in the event of childbirth - birth grant (lump-sum) - parental leave benefit (periodic and lump-sum) - family or child allowance (periodic) - other cash benefits (periodic and lump-sum)	HY050G	Family/children related allowance - income maintenance benefit in the event of childbirth - birth grant (lump-sum) - parental leave benefit - family or child allowance (periodic) - other cash benefits (periodic and lump-sum)
UNEMPLOYMENT	- full unemployment benefits - partial unemployment benefits - early retirement benefit for labour market reasons - vocational training allowance (periodic and lump-sum) - redundancy compensation (lump-sum) - other cash benefits (periodic and lump-sum) - mobility and resettlement (benefit in kind) <i>(not included severance and termination payment - see old age)</i>	PY090G	Unemployment benefits - full unemployment benefits - partial unemployment benefits - early retirement benefit for labour market reasons - vocational training allowance - redundancy compensation (lump-sum) - other cash benefits - mobility and resettlement - severance and termination payments
HOUSING	- social housing - other rent benefits - benefit to owner-occupiers	HY070G	Housing allowances - rent benefits - benefit to owner-occupiers
SOCIAL EXCLUSION	- income support - other cash benefits (periodic and lump-sum)	HY060G	Social exclusion - income support - other cash benefits

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• Data comparison

3.1 Scope of the study

■ Geographical scope

Only countries providing gross data in EU-SILC datasets for all social benefits, i.e. Belgium, Denmark, Estonia, Ireland, Luxembourg, Austria, Finland, Sweden and Norway have been examined

■ Reference period

The comparison was made for the 2003 ESSPROS data, i.e. the EU-SILC 2004 data. As EU-SILC data for Ireland were related to mid-2003, a calculation was made for ESSPROS using 2003 and 2004 data

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• **Data comparison**
3.2 Main differences between ESPROS and EU-SILC

■ Differences due to the reference population (1)
 ➤ Households living in institutions

COUNTRIES	Total population	Institutional people		% of institutional people in the total of population
		Total	Including people after 65 years	
Belgium	10296350	140070	106333	1.36%
Denmark	5349212	71168	25741	1.33%
Estonia	1370052	12625	3508	0.92%
Ireland	3851905	60589	30386	1.57%
Luxembourg	439539	7502	3840	1.71%
Austria	8032926	89221	52384	1.11%
Finland	5181115	37116	24002	0.72%
Sweden	:	:	:	:
Norway	4520947	35002	27781	0.77%

Source: EUROSTAT - Census 2001

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• **Data comparison**
3.2 Main differences between ESPROS and EU-SILC

■ Differences due to the reference population (2)
 ➤ Benefits received from, paid to Rest of the world in 2003
 (Millions of national currency)

COUNTRIES	Received benefits	Paid benefits	Balance :paid minus received
Belgium	371	587	216
Denmark	850	941	91
Estonia	273	:	:
Ireland	8	172	164
Luxembourg *	:	943	:
Austria	206	255	49
Finland	149	205	56
Sweden	:	:	:
Norway	191	18	-173

Source: EUROSTAT - National accounts
 * Source: EUROSTAT - ESSPROS

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• Data comparison

3.2 Main differences between ESPROS and EU-SILC

■ Borderline problems

➤ Variable PY140: education related allowances

- In EU-SILC, this variable is defined as following: "*Education allowances refer to grants, scholarships and other education help received by student*"
- In ESSPROS, although the function "education" was not covered, some education benefits can be recorded "*where they are provided solely to indigent family, after a means-test*"
- Although a part of the EU-SILC variable PY140 can be recorded in the ESSPROS family benefits, the amounts of this variable are generally too small for explaining all the differences in the two databases for the family function

➤ Variable: PY080: pensions from individual private plans

Although EU-SILC define explicitly these pensions as "*regular pensions from private plans (other than those cover under ESSPROS)*", it is possible that this variable contains some pensions covered by ESSPROS

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• Data comparison

3.2 Main differences between ESPROS and EU-SILC

■ Problems of data coverage in EU-SILC (1)

➤ Coverage of paid sick leave benefits

- For all countries of the study, paid sick leave data are higher in ESSPROS than in EU-SILC and it is the function/variable for which the gap is maximum

paid sick leave benefits (Millions of national currency and %)

COUNTRIES	Belgium	Denmark	Estonia	Ireland	Luxembourg	Austria *	Finland	Sweden	Norway
ESSPROS data	3038.9	14130.7	823.6	996.6	221.6	2474.7	1794	60077	55114
EU-SILC data	624.2	11681.7	361.6	11.2	3.3	379	397.8	46376.8	13579.8
Gap in national currency	2414.7	2449	462	985.4	218.3	2095.7	1396.2	13700.2	41534.2
Gap in % of ESSPROS data	79.0%	17.3%	56.1%	98.9%	98.5%	84.7%	77.8%	22.8%	75.4%

- The ESSPROS definition is larger as the SILC definition, because it includes "*Paid leave in case of sickness or injury of a dependent child*"
- The other most probable cause is that it is difficult for the household to identify the paid sick leave benefits provided by their employer separately of the wages and salaries

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• Data comparison
3.2 Main differences between ESPROS and EU-SILC

- Problems of data coverage in EU-SILC (2)
 - Coverage of lump sum benefits in EU-SILC
 - EU-SILC definitions include sometimes explicitly lump-sum benefits and sometimes not; conversely, ESSPROS recorded always lump-sum benefits
 - In addition, since the beginning of SILC the treatment of lump sum has been extensively discussed. Several proposals have been made to adapt lump sum to the concept of standard of living. This discussion might have lead to some confusion in their treatment.

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• Data comparison
3.3 Countries specific differences

- ESSPROS: overlapping between benefits categories for some countries
 - Concerning pension benefits, several countries are not able to follow the rule: “to record disability pensions and survivors pensions paid to people over the standard retirement age as old age pensions”
 - For this reason, the gap between the two data base will be also analysed at the level of the sum of the three variables PY100, PY110 and PY130
- ESSPROS data coverage

Some countries are not able to provide a full ESSPROS data set

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• **Data comparison**
3.4 General comparison on total of social benefits

■ **Global differences in raw data**

Summarized table of countries' data comparison

COUNTRIES	ESSPROS gross data	EU-SILC gross data	Gap between ESSPROS data and SILC data	
			in national currency	in % of ESSPROS data
Belgium	55698	38582	17116	30.73%
Denmark	267787	244903	22883	8.55%
Estonia	11798	10309	1489	12.62%
Ireland	12939	12852	87	0.68%
Luxembourg	4046	2974	1072	26.49%
Austria	46528	39924	6604	14.19%
Finland	24706	22880	1827	7.39%
Sweden	480803	438636	42167	8.77%
Norway	262061	213423	48638	18.56%

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• **Data comparison**
3.4 General comparison on total of social benefits

■ **Further reconciliation (1)**

➤ **Correction for transaction with the rest of the world**

COUNTRIES	Gap before correction (in national currency)	Correction = balance (see table 3)	Gap after correction (in national currency)	Gap after correction (in % of ESSPROS data)
Belgium	17116	216	16900	30.34%
Denmark	22883	91	22792	8.51%
Estonia	1489	:	1489	12.62%
Ireland	87	164	-77	-0.60%
Luxembourg *	1072	682	390	9.63%
Austria	6604	49	6555	14.09%
Finland	1827	56	1771	7.17%
Sweden	42167	:	42167	8.77%
Norway	48638	-173	48811	18.63%

* As Luxembourg households generally do not receive social benefits from the rest of the world, the correction was made only with the benefits paid abroad for the benefits of the study (except sickness reimbursements).

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• Data comparison
3.4 General comparison on total of social benefits

■ Further reconciliation (2)
➤ Correction for households living in institution

COUNTRIES	Gap after correction for transactions	Correction for institutional people	Gap after correction for institutional people	Gap after correction (in % of ESSPROS data)
Belgium	16900	755	16145	28.99%
Denmark	22792	3562	19231	7.18%
Estonia	1489	109	1380	11.70%
Ireland	-77	201	-278	-2.15%
Luxembourg	390	53	337	8.33%
Austria	6555	516	6038	12.98%
Finland	1771	177	1650	6.68%
Sweden	42167	:	42167	8.77%
Norway	48811	2029	46610	17.79%

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• Data comparison
3.4 General comparison on total of social benefits

■ Further reconciliation (3)
➤ Correction for missing lump-sum benefits in EU-SILC

COUNTRIES	Gap after correction for institutional people	Correction for missing lump-sum benefits	Gap after correction for missing lump-sum benefits	Gap after correction (in % of ESSPROS data)
Belgium	16145	845	15300	27.47%
Denmark	19231	3785	15446	5.77%
Estonia	1380	233	1147	9.72%
Ireland	-278	186	-464	-3.58%
Luxembourg	337	17	320	7.91%
Austria	6038	511	5527	11.88%
Finland	1650	0	1650	6.68%
Sweden	42167	0	42167	8.77%
Norway	46610	982	45628	17.41%

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• Data comparison
3.4 General comparison on total of social benefits

- Further reconciliation (4)
 - Preliminary conclusion
 - In all the countries, paid sick leave benefits are higher in ESSPROS than in EU-SILC
 - In almost the countries (except Belgium), social exclusion benefits in EU- SILC are lower than income support (part of ESSPROS social exclusion benefits)
 - The successive corrections allowed to shorten the gap between the data of the two data sources, but not to eliminate it

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• Data comparison
3.4 General comparison on total of social benefits

- Gap ESSPROS/EU-SILC and EU-SILC confidence interval

COUNTRIES	Belgium	Denmark	Estonia	Ireland	Luxembourg	Austria	Finland	Sweden	Norway
Gap between ESSPROS data and SILC data	15300	15446	1147	-464	320	5527	1650	42167	45628
EU-SILC confidence interval	1233	5975	211	364	:	1302	152	9246	4901

This table shows that the gap between ESSPROS and EU-SILC data is never under the EU-SILC confidence interval and thus sampling variations cannot explain the observed differences

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• Data comparison
3.5 Country examples of detailed data comparison

■ Denmark

ESSPROS: 2003 data		EU-SILC 2004				
function	gross data	variable		gross data	gap between ESSPROS data and SILC data	
		name	target variable		in national currency	in % of ESSPROS data
SICKNESS	14130.75	PY120G	sickness benefits	11681.70	2449.05	17.3%
DISABILITY	38990.55	PY130G	disability benefits	43792.37	-4801.82	-12.3%
OLD AGE	130479.82	PY100G	old-age benefits	94800.13	35679.69	27.3%
SURVIVORS	1.01	PY110G	'survivors' benefits	2183.52	-2182.51	-215098.5%
OLD AGE and SURVIVORS	130480.83			96983.65	33497.18	25.7%
DISABILITY, OLD AGE and SURVIVORS	169471.38			140776.02	28695.36	16.9%
FAMILY CHILDREN	22794.37	HY050G	family/children related allowance	14971.36	7823.01	34.3%
UNEMPLOYMENT	39858.19	PY090G	unemployment benefits	69663.43	-29805.24	-74.8%
HOUSING	9747.14	HY070G	housing allowances	7810.90	1936.24	19.9%
SOCIAL EXCLUSION	11784.90	HY060G	social exclusion	.	11784.90	100.0%
UNEMPLOYMENT and SOCIAL EXCLUSION	51643.09			69663.43	-18020.34	-34.9%
TOTAL FUNCTIONS	267786.73	TOTAL VARIABLES		244903.41	22883.32	8.5%

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• Data comparison
3.5 Country examples of detailed data comparison

■ Luxembourg

ESSPROS: 2003 data		EU-SILC 2004				
function	gross data	variable		gross data	gap between ESSPROS data and SILC data	
		name	target variable		in national currency	in % of ESSPROS data
SICKNESS	221.63	PY120G	sickness benefits	3.31	218.32	98.5%
DISABILITY	535.67	PY130G	disability benefits	244.42	291.25	54.4%
OLD AGE	1464.91	PY100G	old-age benefits	1922.04	-457.13	-31.2%
SURVIVORS	608.97	PY110G	'survivors' benefits	137.98	470.99	77.3%
OLD AGE and SURVIVORS	2073.88			2073.88	13.86	0.7%
DISABILITY, OLD AGE and SURVIVORS	2609.55			2304.44	305.11	11.7%
FAMILY CHILDREN	848.18	HY050G	family/children related allowance	431.61	416.57	49.1%
UNEMPLOYMENT	241.66	PY090G	unemployment benefits	138.01	103.65	42.9%
HOUSING	30.76	HY070G	housing allowances	34.82	-4.06	-13.2%
SOCIAL EXCLUSION	94.16	HY060G	social exclusion	62.14	32.02	34.0%
TOTAL FUNCTIONS	4045.94	TOTAL VARIABLES		2974.33	1071.61	26.5%

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• Conclusion

- This paper does not aim to cover exhaustively the coherence between ESSPROS and SILC data. It rather aims to draw the attention to some methodological issues when comparing these data.
- In general, the coherence SILC and ESSPROS data is far from perfect. Some reasons are to be found in national specificities but the theoretical advantage of register country is not significant.
- The detailed comparison of both sources, country by country, is a rich source of learning of the weakness of the different sources. For SILC it should shed light on implementation difficulties.
- The systematic comparison is worth to be part of quality reports where detailed reason for discrepancies can be discussed.