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Algorithms to compute Social Inclusion Indicators based on EU-SILC and adopted under the Open Method of Coordination (OMC)

Contents:

Background: the development of indicators of poverty and social exclusion under the Open Method of Coordination

Poverty and social exclusion is a topic of widespread and perennial interest.

Heads of Government at the European Council meeting in 1984 adopted the following definition of poverty and social exclusion, emphasizing the multidimensional, relative, dynamic nature of the concept:

> *"...those persons, families and groups of persons whose resources (material, cultural, social) are so limited as to exclude them from the minimum acceptable way of life in the Member State to which they belong..."*

The European Union set itself a strategic objective by 2010 of becoming the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion.

At the Nice European Council in December 2000, Heads of State and Government reconfirmed and implemented their decision taken during the Spring 2000 European Council in Lisbon that the fight against poverty and social exclusion would be best achieved by means of the Open Method of Coordination (OMC).

Similar approaches were subsequently adopted in many other areas, including economic policy, employment, education, sustainable development, social inclusion, social protection, etc.

During the mid-term review of the Lisbon Strategy, the link between social inclusion/social protection policy on the one hand and economic policy and employment policy on the other, came under intense scrutiny. It was eventually decided to continue in parallel, with each policy 'pair' feeding-in to the other.

Key elements of the Open Method of Coordination are the definition of commonly agreed objectives for the European Union (EU) as a whole (the "social policy agenda"), the development of appropriate national action plans to meet these objectives (e.g. 2001-03, 2003-05, 2006-08), and the periodic reporting and monitoring of progress made.

Common objectives

A first set of objectives in the fight against poverty and social exclusion was adopted at the Nice European Council. A slightly amended version was adopted by the Council in December 2002: see **Box #1** below.

Box #1

OBJECTIVES IN THE FIGHT AGAINST POVERTY AND SOCIAL EXCLUSION
(December 2002)

1. To facilitate participation in employment and access by all to resources, rights, goods and services.

1.1. Facilitating participation in employment
In the context of the European employment strategy, and the implementation of the guidelines in particular:

(a) To promote access to stable and quality employment for all women and men who are capable of working, in particular:
– by putting in place, for those in the most vulnerable groups in society, pathways towards employment and by mobilising training policies to that end;
– by developing policies to promote the reconciliation of work and family life, including the issue of child- and dependent care;
– by using the opportunities for integration and employment provided by the social economy.

(b) To prevent the exclusion of people from the world of work by improving employability, through human resource management, organisation of work and life-long learning.

1.2. Facilitating access to resources, rights, goods and services for all

(a) To organise social protection systems in such a way that they help, in particular, to:
– guarantee that everyone has the resources necessary to live in accordance with human dignity;
– overcome obstacles to employment by ensuring that the take-up of employment results in increased income and by promoting employability.

(b) To implement policies which aim to provide access for all to decent and sanitary housing, as well as the basic services necessary to live normally having regard to local circumstances (electricity, water, heating etc.).

(c) To put in place policies which aim to provide access for all to healthcare appropriate to their situation, including situations of dependency.

(d) To develop, for the benefit of people at risk of exclusion, services and accompanying measures which will allow them effective access to education, justice and other public and private services, such as culture, sport and leisure.

2. To prevent the risks of exclusion

(a) To exploit fully the potential of the knowledge-based society and of new information and communication technologies and ensure that no-one is excluded, taking particular account of the needs of people with disabilities.

(b) To put in place policies which seek to prevent life crises which can lead to situations of social exclusion, such as indebtedness, exclusion from school and becoming homeless.

(c) To implement action to preserve family solidarity in all its forms.

3. To help the most vulnerable

(a) To promote the social integration of women and men at risk of facing persistent poverty, for example because they have a disability or belong to a group experiencing particular integration problems such as those affecting immigrants.

(b) To move towards the elimination of social exclusion among children and give them every opportunity for social integration.

(c) To develop comprehensive actions in favour of areas marked by exclusion.
These objectives may be pursued by incorporating them in all the other objectives and/or through specific policies or actions.

4. To mobilise all relevant bodies

(a) To promote, according to national practice, the participation and self-expression of people suffering exclusion, in particular in regard to their situation and the policies and measures affecting them.

(b) To mainstream the fight against exclusion into overall policy, in particular:
– by mobilising the public authorities at national, regional and local level, according to their respective areas of competence;
– by developing appropriate coordination procedures and structures;
– by adapting administrative and social services to the needs of people suffering exclusion and ensuring that front-line staff are sensitive to these needs.

(c) To promote dialogue and partnership between all relevant bodies, public and private, for example:
– by involving the social partners, NGOs and social service providers, according to their respective areas of competence, in the fight against the various forms of exclusion;
– by encouraging the social responsibility and active engagement of all citizens in the fight against social exclusion;
– by fostering the social responsibility of business.

The Employment, Social Policy, Health and Consumer Affairs Council meeting in March 2006 adopted a new text, streamlining objectives across the separate policy areas covered by the Open Method of Coordination: see **Box #2** below.

Box #2

STREAMLINED OBJECTIVES UNDER THE OPEN METHOD OF COORDINATION (INCLUDING THE FIGHT AGAINST POVERTY AND SOCIAL EXCLUSION)
(March 2006)

The overarching objectives of the OMC for social protection and social inclusion are to promote:

(a) social cohesion, equality between men and women and equal opportunities for all through adequate, accessible, financially sustainable, adaptable and efficient social protection systems and social inclusion policies;

(b) effective and mutual interaction between the Lisbon objectives of greater economic growth, more and better jobs and greater social cohesion, and with the EU's Sustainable Development Strategy;

(c) good governance, transparency and the involvement of stakeholders in the design, implementation and monitoring of policy.

The following objectives apply to the different strands of work:

1. A decisive impact on the eradication of poverty and social exclusion by ensuring:

(d) access for all to the resources, rights and services needed for participation in society, preventing and addressing exclusion, and fighting all forms of discrimination leading to exclusion;

(e) the active social inclusion of all, both by promoting participation in the labour market and by fighting poverty and exclusion;

(f) that social inclusion policies are well-coordinated and involve all levels of government and relevant actors, including people experiencing poverty, that they are efficient and effective and mainstreamed into all relevant public policies, including economic, budgetary, education and training policies and structural fund (notably ESF) programmes.

2. Adequate and sustainable pensions by ensuring:

(g) adequate retirement incomes for all and access to pensions which allow people to maintain, to a reasonable degree, their living standard after retirement, in the spirit of solidarity and fairness between and within generations;

(h) the financial sustainability of public and private pension schemes, bearing in mind pressures on public finances and the ageing of populations, and in the context of the three-pronged strategy for tackling the budgetary implications of ageing, notably by: supporting longer working lives and active ageing; by balancing contributions and benefits in an appropriate and socially fair manner; and by promoting the affordability and the security of funded and private schemes;

(i) that pension systems are transparent, well adapted to the needs and aspirations of women and men and the requirements of modern societies, demographic ageing and structural change; that people receive the information they need to plan their retirement and that reforms are conducted on the basis of the broadest possible consensus.

3. Accessible, high-quality and sustainable healthcare and long-term care by ensuring:

(j) access for all to adequate health and long-term care and that the need for care does not lead to poverty and financial dependency; and that inequities in access to care and in health outcomes are addressed;

(k) quality in health and long-term care and by adapting care, including developing preventive care, to the changing needs and preferences of society and individuals, notably by developing quality standards reflecting best international practice and by strengthening the responsibility of health professionals and of patients and care recipients;

(l) that adequate and high quality health and long-term care remains affordable and financially sustainable by promoting a rational use of resources, notably through appropriate incentives for users and providers, good governance and coordination between care systems and public and private institutions. Long-term sustainability and quality require the promotion of healthy and active life styles and good human resources for the care sector.

Reporting and monitoring

A first set of national action plans presenting priorities for the period 2001-2003 to meet the common objectives was submitted by EU-15 member states in June 2001, following which a first Joint Inclusion Report of the Commission and the Council was adopted in 2002. A

second round of plans was submitted for 2003-2005 during 2003, and again followed by a Joint Report which was adopted in 2004.

Building on earlier Joint Inclusion Memoranda, the ten new Member States submitted their first National Action Plans against poverty and social exclusion in July 2004, covering the period 2004-2006. A synthesizing Joint Report was published in 2005.

Linked with the mid-term review of the Lisbon Strategy, efforts have been made since 2003 to enhance the visibility of social cohesion issues (pensions, social inclusion, healthcare and making work pay) by creating better links with other coordinating processes such as the Broad Economic Policy Guidelines and the European Employment Strategy; and to create better internal synergies between the work on the different aspects of social protection.

A first combined Joint Report on Social Protection and Social Inclusion was published in 2005. The Commission services continued to publish separate and more in-depth reports focusing on the underlying National Action Plans and a detailed Statistical Annex. The Joint Report on Social Protection and Social Inclusion became an annual publication as of 2005, with a view to streamline the Open Method of Coordination.

The Commission broadly reviews all indicators during the full reporting years (odd years) and draws on the relevant indicators in each portfolio to support more detailed analysis during the thematic years (even years).

Common indicators

Building on the prior work of Eurostat (Statistical Programming Committee guidelines, 1998) and academic research on behalf of DG Employment and Social Affairs (Atkinson Report, 2001), it is within the reporting and monitoring context of the Open Method of Coordination that the Laeken European Council in December 2001 endorsed some best practice criteria for indicator design, and a first set of 18 common statistical indicators for social inclusion which allowed monitoring in a comparable way of Member States' progress towards the agreed EU objectives.

The indicators were intended to be considered as a consistent whole reflecting a balanced representation of EU social concerns. They covered four important dimensions of social inclusion (financial poverty, employment, health and education), which highlight the "multidimensionality" of the phenomenon of social exclusion.

They were organized in a two-tier structure of primary indicators – consisting of 10 lead indicators covering the broad fields that have been considered the most important elements in leading to social exclusion – and 8 secondary indicators – intended to support the lead indicators and describe other dimensions of the problem.

Refinement…

After the Laeken European Council, the Indicators Sub-Group continued working with a view to refining and consolidating the original list of indicators. It highlighted the need to give children a special focus and, to this purpose, to have a standard breakdown by age of all the Laeken indicators, whenever relevant and meaningful (and conditional upon statistical reliability); a gender breakdown was applied to all the indicators wherever relevant and meaningful (e.g. poverty risk for adult population); it redefined the indicator of population

living in jobless households and added a new indicator of in-work poverty; pending the adoption of common indicators it recommended the inclusion of tertiary indicators on housing and homelessness; it recommended that incidence measures were complemented with distribution measures. A revised list of commonly agreed indicators was subsequently approved by the Social Protection Committee in July 2003

During this time the Indicators Sub-Group also developed related statistics under the Open Method of Coordination (e.g. indicators relating to pensions).

Streamlining…

In May 2006, the Social Protection Committee endorsed new best practice criteria for indicator design (see **Box #3**), and adopted proposals for a portfolio of Overarching Indicators and for streamlining the social inclusion, pensions and health portfolios, to adapt monitoring to reflect the strategic reports for 2006-2008 to be prepared in line with the March 2006 EPSCO council objectives. This list was updated in September 2009.

Box #3

GUIDING PRINCIPLES FOR THE SELECTION OF INDICATORS AND STATISTICS
(May 2006)

The indicator portfolio:

(1) it should be comprehensive and cover all key dimensions of the common objectives;

(2) it should be balanced across the different dimensions;

(3) it should enable a synthetic and transparent assessment of a country's situation in relation to the common objectives.

The selection of individual indicators:

(a) an indicator should capture the essence of the problem and have a clear and accepted normative interpretation;

(b) an indicator should be robust and statistically validated;

(c) an indicator should provide a sufficient level of cross country comparability, as far as practicable with the use of internationally applied definitions and data collection standards;

(d) an indicator should be built on available underlying data, and be timely and susceptible to revision;

(e) an indicator should be responsive to policy interventions but not subject to manipulation.

Each strand portfolio will therefore contain

- Commonly agreed EU indicators contributing to a comparative assessment of MS progress towards the common objectives. These indicators might refer to social outcomes, intermediate social outcomes or outputs.

- Commonly agreed National indicators based on commonly agreed definitions and assumptions that provide key information to assess the progress of MS in relation to certain objectives, while not allowing for a direct cross-country comparison, or not necessarily having a clear normative interpretation. These indicators are especially suited to measure the scale and nature of policy intervention. These indicators should be interpreted jointly with the relevant background information (exact definition, assumptions, representativeness).

- Context information: each portfolio will have to be assessed in the light of key context information, and by referring to past, and where relevant, future trends. The list of context information proposed is indicative and leaves room to other background information that would be most relevant to better frame and understand the national context.

The new agreed list describing the Social Inclusion portfolio contains 11 primary indicators, 6 secondary indicators (with various breakdowns) and 13 context indicators. In practice, the primary list has been refocused to contain only the most important indicators that describe the various dimensions of poverty and social exclusion. A few indicators that were in the primary list became secondary indicators. Others are now included in the Overarching Portfolio and treated as context information for the Social Inclusion portfolio. Some indicators are considered as crucial both to monitor Social Inclusion and to monitor the interaction with employment and growth, so are included in both the Overarching portfolio and the Social

Inclusion portfolio. A few indicators were considered redundant and were dropped (e.g. persistent-at-risk-of-poverty rate with a 50% at-risk-of-poverty threshold; long term unemployment share; very long term unemployment rate). Age breakdowns now focus on the population aged 18+ (instead of the previous focus for many indicators on persons aged 16+). In practice this requires some additional calculations to the ones described in this document by Eurostat and by interested NSI in order to avoid breaks in series due to non-compatible age breakdowns.

Table #1 contains the agreed definitions from the SPC text (September 2009 update), with clarifications added for the context indicators and certain other indicators.

Table #1 Streamlined Social Inclusion Portfolio

Definitions: the primary indicators

	Commonly agreed EU indicator (EU) **Commonly agreed national indicators (NAT)**[1]	**Definition**	**Age break-down**	**Gender breakdown**	**Comments**
SI-P1	EU: At-risk-of-poverty rate	Share of persons with an equivalised disposable income below 60% of the national median equivalised disposable income. Median equivalised disposable income is defined as the household's total disposable income divided by its "equivalent size", to take account of the size and composition of the household, and attributed to each household member. Equivalization is made on the basis of the modified OECD scale. Source: SILC	Age groups: total; 0-17; 18-64; 65+	Yes, applying to people aged 18+	The full range of age breakdowns originally agreed upon for this indicator could be contained in the secondary list, as well as in the pension indicators' list for what concerns the older age group. This indicator is also included in the Overarching portfolio.
+ SI-P1	+ illustrative threshold values (At-risk-of-poverty threshold)	Complemented by the value of the at-risk-of-poverty threshold (60% of national median equivalised disposable income) in PPS for two illustrative household types: a single-person household and a household consisting of two adults and two children under 14 years old. Source: SILC	No	No	For each country, the poverty risk indicator must be assessed by looking at both the number of people whose income is below the threshold and the comparative level (in PPS) of this threshold.
SI-P2	EU: Persistent-at-risk-of-poverty rate	Share of persons with an equivalised disposable income below the at-risk-of-poverty threshold in the current year and in at least two of the preceding three years. Source: SILC	Age groups: total; 0-17; 18-64; 65+	Yes, applying to people aged 18+	This indicator can be computed when four years of longitudinal data from EU-SILC are available. It should be computed for the EU-25 as from 2010 and for the EU-27 as from 2012.

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[1] **Commonly agreed national indicators based on commonly agreed definitions and assumptions** that provide key information to assess the progress of MS in relation to certain objectives, while not allowing for a direct cross-country comparison, and not necessarily having a clear normative interpretation. These indicators/statistics should be interpreted jointly with the relevant background information (exact definition, assumptions, representativeness).

	Commonly agreed EU indicator (<u>EU</u>) Commonly agreed national indicators (<u>NAT</u>)[1]	Definition	Age break-down	Gender breakdown	Comments
SI-P3	<u>EU</u>: Relative median at-risk-of-poverty gap	Difference between the at-risk-of-poverty threshold (60% of national median equivalised disposable income) and median equivalised disposable income of persons below the at-risk-of poverty threshold, expressed as a percentage of the at-risk-of poverty threshold. Source: SILC	Age groups: total; 0-17; 18-64; 65+	Yes, applying to people aged 18+	This indicator is also included in the Overarching portfolio.
SI-P4	<u>EU</u>: Long term unemployment rate	Total long-term unemployed population (≥12 months' unemployment; ILO definition) as a proportion of total active population aged 15 years or over. Source: LFS	No.	Yes.	The long term unemployment rate needs to be interpreted in the light of information on the activity/inactivity rate of the population.
SI-P5	<u>EU</u>: Population living in jobless households	Proportion of people living in jobless households, expressed as a share of all people in the same age group. Students aged 18-24 years who live in households composed solely of students are counted neither in the numerator nor in the denominator. Source: LFS	Age groups: 0-17; 18-59.	Yes (for 18-59 only)	This indicator is also proposed as an indicator to monitor the overarching objectives. It sheds light on an important aspect of social exclusion as it reflects the lack of contact of children and working-age adults with the world of work. It also reflects polarization of employment across households. This indicator is also included in the Overarching portfolio. This indicator should be analysed in the light of context indicator SI-C7: Jobless households by main household types
SI-P6	<u>EU</u>: Early school leavers not in education or training	Share of persons aged 18 to 24 who have only lower secondary education (their highest level of education or training attained is 0, 1 or 2 according to the 1997 International Standard Classification of Education – ISCED 97) and have not received education or training in the four weeks preceding the survey. Source: LFS	No	Yes	This indicator is also included in the Overarching Portfolio.

	Commonly agreed EU indicator (**EU**) Commonly agreed national indicators (**NAT**)[1]	Definition	Age break-down	Gender breakdown	Comments
SI-P7	NAT: Employment gap of immigrants	Percentage point difference between the employment rate for non-immigrants and that for immigrants. Immigrants are defined on the basis of the variable "born abroad" (and it is up to each Country to decide whether to include nationals born abroad or not, as appropriate) Source: national data/ LFS	No	Yes	This indicator needs to be supplemented by relevant national data covering other key aspects of inclusion of immigrants.
SI-P8	EU: Material deprivation rate	Share of persons facing severe financial constraints, defined as the proportion of people lacking at least 3 items among the 9 following: The household could not afford: i) to face unexpected expenses, ii) one week annual holiday away from home, iii) to pay for arrears (mortgage or rent, utility bills or hire purchase instalments), iv) a meal with meat, chicken or fish every second day, v) to keep home adequately warm, or could not afford (even if wanted to): vi) a washing machine, vii) a colour TV, viii) a telephone, ix) a personal car. Source: SILC	Age groups: 0-17; 18-64; 65+	Yes	Other breakdowns: poverty status, degree of urbanisation, household type.
SI-P9	EU: Housing	In July 2009, 2 secondary indicators and 2 context information were adopted in the field of housing, but further work, including further improvement of the quality of the data is needed before a primary indicator can be identified. Source: SILC	Age groups: 0-17; 18-64; 65+	Yes	The secondary and context indicators will be used together with national information in the context of the 2010 Joint Report focusing on homelessness and housing exclusion.

	Commonly agreed EU indicator (<u>EU</u>) Commonly agreed national indicators (<u>NAT</u>)[1]	Definition	Age break-down	Gender breakdown	Comments
SI-P10	<u>EU/ NAT</u>: Unmet need for care by income quintiles – Inequalities in access to health care	Total self-reported unmet need for medical care for the following three reasons: financial barriers + waiting times + too far too travel. By income quintiles. Source: SILC available annually subject to adjustment of SILC in the future.	Age groups: 18-44; 45-54; 55-64; 65+; 75+	Yes	The responsibility for the calculation of this indicator is with Eurostat unit F-5, where a definition has been developed and data published. Future developments. Resolve discrepancies in SILC translation between countries. For 2008 and to look at care utilisation the number of physician's consultations per capita based on OECD health data and national sources for non-OECD members can be used. For future reporting SILC data (module 2009) is to be used. This indicator is also included in the Overarching portfolio
+SI-P10	+ <u>NAT</u>: Care utilisation	+ To be analysed together with care utilisation defined as the number of visits to a doctor (GP or specialist) during the last 12 months. Source: national data	Age groups: 18-44; 45-54; 55-64; 65+; 75+	Yes	For 2008 and to look at care utilisation the number of physician's consultations per capita based on OECD health data and national sources for non-OECD members can be used. For future reporting SILC data (module 2009) is to be used.
SI-P11	Child well-being	To be developed Source: SILC			Not currently calculated. Indicator to be developed based on information available in SILC.

Definitions: the secondary indicators

	Commonly agreed EU indicator (EU) Commonly agreed national indicators (NAT)[2]	Definition	Age break-down	Gender break-down	Comments
SI-S1	EU: At-risk-of poverty rate	Share of persons with an equivalised disposable income below 60% of the national median equivalised disposable income. Source: SILC	Full age breakdown: total, 0-17; 18-24; 25-54; 55-64; 65+	Yes, applying to people aged 18+	Fuller range of age breakdowns For each country, the poverty risk indicator must be assessed by looking at both the number of people whose income is below the threshold and the comparative level (in PPS) of this threshold.
SI-S1a	EU: At-risk-of-poverty rate by household type	At-risk-of-poverty rate by household type for the total population aged 0+ in the following household types: Households with no dependent children: - Single person, under 65 years old - Single person, 65 years and over - Single women - Single men - Two adults, at least one person 65 years and over - Two adults, both under 65 years - Other households (in practice three or more adults) Households with dependent children3: - Single parent, 1 or more dependent children - Two adults, one dependent child - Two adults, two dependent children - Two adults, three or more dependent children - Three or more adults with dependent children Source: SILC	As specified in the typology of households.	As specified in the typology of households.	

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[2] **Commonly agreed national indicators based on commonly agreed definitions and assumptions** that provide key information to assess the progress of MS in relation to certain objectives, while not allowing for a direct cross-country comparison, and not necessarily having a clear normative interpretation. These indicators/statistics should be interpreted jointly with the relevant background information (exact definition, assumptions, representativeness).

[3] Dependent children are defined as all individuals aged 0 – 17 years as well as individuals aged 18 – 24 years if economically inactive and living with at least one parent.

	Commonly agreed EU indicator (EU) Commonly agreed national indicators (NAT)[2]	Definition	Age break-down	Gender break-down	Comments
SI-S1b	EU: At-risk-of-poverty rate by work intensity of the households	At-risk-of-poverty rate for the total population in different work intensity categories and broad household types. The work intensity of the household refers to the number of months that all working age household members have been working during the income reference year as a proportion of the total number of months that could theoretically be worked within the household. Individuals are classified into five work intensity categories that range from WI=0 (jobless household), 0<WI<1, 0<WI<0.5 and 0.5≤WI<1 to WI=1 (full work intensity). Source: SILC	Age groups: total, 0-17; 18-64; 65+	Yes, applying to people aged 18 +.	Additional breakdown by broad household types: - Households with dependent children. - Households without dependent children.
SI-S1c	EU: At-risk-of-poverty rate by most frequent activity status	At-risk-of-poverty rate for the adult population (aged 18 years and over) in the following most frequent activity status groups: total, employment; non-employment, unemployment; retirement; other inactivity. The most frequent activity status is defined as the status that individuals declare to have occupied for more than half the number of months in the calendar year for which information on occupational status is available. Source: SILC		Yes (applying to people aged 18 +).	This indicator is related to the indicator on in work at-risk-of-poverty rate (SI-C8).
SI-S1d	EU: At-risk-of-poverty rate by accommodation tenure status	Poverty risk for the total population in the following accommodation tenure categories: - Owner-occupied or rent free - Rented Source: SILC	Age groups: total, 0-17; 18-64; 65+	Yes, applying to people aged 18 +	This breakdown may have to be reconsidered once imputed rent can be taken into account in indicator 1.

	Commonly agreed EU indicator (<u>EU</u>) Commonly agreed national indicators (<u>NAT</u>)[2]	Definition	Age break-down	Gender break-down	Comments
SI-S1e	<u>EU</u>: Dispersion around the at-risk-of-poverty threshold	Share of persons with an equivalised disposable income below 40%, 50% and 70% of the national median equivalised disposable income. Source: SILC	Age groups: total, 0-17; 18-64; 65+	Yes, applying to people aged 18 +	
SI-S2	<u>EU</u>: Persons with low educational attainment	Share of the adult population (aged 25 years and over) whose highest level of education or training is ISCED 0, 1 or 2. Definition subject to change following current Eurostat work on this indicator Source: LFS	Age groups: 25-34; 35-54; 55-64; 65+; 25-64.	Yes	
SI-S3	<u>EU</u>: Low reading literacy performance of pupils	Share of 15 years old pupils who are at level 1 or below of the PISA combined reading literacy scale Source: OECD/ PISA	None	Yes	Available every three years. Benchmark indicator of the education and training OMC.
SI-S4	<u>EU</u>: Intensity of material deprivation	Mean (unweighted) number of items lacked by the population deprived defined as follows. It consists of people lacking at least 3 items among the 9 following: The household could not afford: i) to face unexpected expenses, ii) one week annual holiday away from home, iii) to pay for arrears (mortgage or rent, utility bills or hire purchase instalments), iv) a meal with meat, chicken or fish every second day, v) to keep home adequately warm, or could not afford (even if wanted to): vi) a washing machine, vii) a colour TV, viii) a telephone, ix) a personal car. Source: SILC	Age groups: total, 0-17; 18-64; 65+	Yes	Other breakdowns: poverty status, deprived/not deprived

	Commonly agreed EU indicator (EU) Commonly agreed national indicators (NAT)[2]	Definition	Age break-down	Gender break-down	Comments
SI-S5	EU: Housing cost overburden rate	Percentage of population living in a household where total housing costs (net of housing allowances) represent more than 40% of the total disposable household income (net of housing allowances). Housing costs include mortgage interest payments (net of any tax relief) for owners and rent payments, gross of housing benefits. They also include structural insurance, mandatory services and charges (sewage removal, refuse removal, etc.), regular maintenance and repairs, taxes and the cost utilities (water, electricity, gas and heating). They do not include capital repayment for mortgage holders. Housing allowances include rent benefits and benefits to owner-occupiers.	Age groups: total, 0-17; 18-64; 65+	Yes	Other breakdowns: income quintiles, poverty status, tenure status (outright owner, owner with mortgage, tenant – market price, tenant – reduced price or free), degree of urbanisation, household type.

	Commonly agreed EU indicator (EU) Commonly agreed national indicators (NAT)[2]	Definition	Age break-down	Gender break-down	Comments
SI-S6	EU: Overcrowding rate	Percentage of population living in an overcrowded household: - Total population[4] - Population without single-person households. A person is considered as living in an overcrowded household if the household does not have at its disposal a minimum of rooms equal to: - one room for the household; - one room for each couple; - one room for each single person aged 18+; - one room for two single people of the same sex between 12 and 17 years of age; - one room for each single person of different sex between 12 and 17 years of age; - one room for two people under 12 years of age.	Age groups: total, 0-17; 18-64; 65+	Yes	Other breakdowns: For the total population: poverty status, tenure status (outright owner, owner with mortgage, tenant – market price, tenant – reduced price or free), degree of urbanisation, household type. For the population without single-person households: poverty status

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[4] The calculation includes single-person households and considers them as deprived if they live in a studio with bedroom not separated from the living room. This calculation based on the total population should systematically be used if the overcrowding criteria are analysed together with other housing quality criteria.

Definitions: the context indicators

	Commonly agreed EU indicator (**EU**) Commonly agreed national indicators (**NAT**)[5]	Definition	Age break-down	Gender break-down	Comments
SI-C1	EU: S80/S20 income quintile share ratio	Ratio of total equivalised disposable income received by the 20% of the country's population with the highest income (top quintile) to that received by the 20% of the country's population with the lowest income (bottom quintile). Income must be understood as equivalised disposable income. Source: SILC	None	None	This indicator is also included in the Overarching portfolio.
SI-C2	EU: Gini coefficient	Summary measure of the cumulative share of equivalised disposable income accounted for by the cumulative percentages of the number of individuals. Its value ranges from 0 (complete equality) to 100 (complete inequality). Source: SILC	None	None	
SI-C3	NAT: Regional cohesion: dispersion in regional employment rates	The coefficient of variation of employment rates at NUTS (Nomenclature of Territorial Units for Statistics) level 2, calculated as the standard deviation of regional employment rates divided by the weighted national average. Employment rates are calculated as the share of the population aged 15-64 who are in employment (ILO definition). Source: LFS	None	Yes	This indicator is also included in the Overarching portfolio.

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[5] **Commonly agreed national indicators based on commonly agreed definitions and assumptions** that provide key information to assess the progress of MS in relation to certain objectives, while not allowing for a direct cross-country comparison, and not necessarily having a clear normative interpretation. These indicators/statistics should be interpreted jointly with the relevant background information (exact definition, assumptions, representativeness).

	Commonly agreed EU indicator (EU) Commonly agreed national indicators (NAT)[5]	Definition	Age break-down	Gender break-down	Comments
SI-C4	NAT: Healthy Life expectancy and Life expectancy at birth, and at age 65, *(by Socio-Economic Status when available)*	Number of years that a person at birth and at age 65 is still expected to live in a healthy condition (also called disability-free life expectancy). Number of years that a person at birth and at age 65 is still expected to live. Source: Eurostat	Birth, 65	Yes	These indicator is also included in the Overarching portfolio.
SI-C5	EU: At-risk-of-poverty rate anchored at a fixed moment in time (2005)	Share of persons with an equivalised disposable income below the at-risk-of-poverty threshold calculated in the year 2005, adjusted for inflation over the years. Source: SILC	Age groups: Total, 0-17; 18-64; 65+	Yes (applying to people aged 18 +).	This indicator is also included in the Overarching portfolio.
SI-C6	EU: At-risk-of-poverty rate before social transfers (other than pensions)	At-risk-of-poverty rate where equivalised income is calculated including retirement and survivors pensions but excluding all other social cash transfers. The same at-risk-of-poverty threshold is used as for the at-risk-of-poverty rate after social transfers, set at 60% of the national median equivalised disposable income (after social transfers). Source: SILC	Age groups: total, 0-17; 18-64; 65+	Yes (applying to people aged 18 +).	This indicator is meant to compare the observed risk of poverty with a hypothetical measure of a risk of poverty in absence of all social transfers (other than pensions) all things being kept equal. In particular, household and labour market structure are kept unchanged. This measure does not take into account other types of transfers that have an impact on household disposable income such as transfers in kind and tax rebates.

	Commonly agreed EU indicator (EU) Commonly agreed national indicators (NAT)[5]	Definition	Age break-down	Gender break-down	Comments
SI-C7	EU: Jobless households by main household types	Proportion of people living in jobless households, expressed as a share of all people in the same age group, for the following household types: Households with no dependent children: - Single person, under 65 years old - Single person, 65 years and over - Single women - Single men - Two adults, at least one person 65 years and over - Two adults, both under 65 years - Other households Households with dependent children: - Single parent, 1 or more dependent children - Two adults, one dependent child - Two adults, two dependent children - Two adults, three or more dependent children - Three or more adults with dependent children Dependent children are all individuals aged 0-17 years as well as individuals aged 18-24 years if inactive and living with at least one parent. Students aged 18-24 years who live in households composed solely of students are counted neither in the numerator nor in the denominator. Source: LFS	Already specified in the typology of households.	Already specified in the typology of households.	This indicator is also included in the overarching portfolio (context indicator no.8) see breakdown of secondary indicator 1a)

	Commonly agreed EU indicator (EU) **Commonly agreed national indicators (NAT)**[5]	**Definition**	**Age break-down**	**Gender break-down**	**Comments**
SI-C8	EU: In-work at-risk-of-poverty rate	Individuals aged 18+ who are classified as employed according to the definition of most frequent activity status and who are at risk of poverty. This indicator needs to be analysed according to personal, job and household characteristics. It should also be analysed according in comparison with the poverty risk faced by the unemployed and the inactive. The indicator is broken down by full-time/ part time work. Source: SILC			This indicator is also included in the Overarching portfolio.

	Commonly agreed EU indicator (<u>EU</u>) Commonly agreed national indicators (<u>NAT</u>)[5]	Definition	Age break-down	Gender break-down	Comments
SI-C9	Making work pay indicators (unemployment trap, inactivity trap (esp. second earner case), low-wage trap.	Unemployment trap: Marginal effective tax rate (METR) on labour income taking account of the combined effect of increased taxes and benefits withdrawal as one takes up a job. Calculated as the ratio of change in gross income minus (net in work income minus net out of work income) divided by change in gross income for a single person moving from unemployment to a job with a wage level of full-time low-wage job (67% of APW). Inactivity trap: METR on labour income taking account of the combined effect of increased taxes and benefits withdrawal as one takes up a job while previously inactive. Calculated as the ratio of change in gross income minus (net in work income minus net out of work income) divided by change in gross income for a single person moving from inactivity to a job with a wage level of 67% of APW. Low wage trap: METR on labour income taking account of the combined effect of increased taxes on labour and in-work benefits withdrawal as one increases the work effort (increased working hours or moving to a better job). Calculated as the ratio of change in personal income tax and employee contributions plus change (reductions) in benefits, divided by increases in gross earnings, using the "discrete" income changes from 34-66% of APW. Breakdown by family types: one-earner couple with two children and single parent with two children. Source: Joint Commission-OECD project using tax-benefit models			This indicator is also included in the Overarching portfolio.

	Commonly agreed EU indicator (EU) Commonly agreed national indicators (NAT)[5]	Definition	Age break-down	Gender break-down	Comments
SI-C10	EU/NAT: Net income of social assistance recipients as a % of the at-risk-of-poverty threshold for 3 jobless household types.	This indicator refers to the income of people living in households that only rely on "last resort" social assistance benefits (including related housing benefits) and for which no other income stream is available (from other social protection benefits – e.g. unemployment or disability schemes – or from work). The aim of such an indicator is to evaluate if the safety nets provided to those households most excluded from the labour market are sufficient to lift people out of poverty. Source: Joint Commission-OECD project using tax-benefit models and Eurostat.			This indicator is only calculated for countries where non-categorical social benefits are in place and for 3 jobless household types: single, lone parent, 2 children and couple with 2 children. This indicator is especially relevant when analysing making work pay (MWP) indicators.
SI-C11	EU: Self-perceived limitations in daily activities	Broken down by income quintiles. Source: SILC	Age groups: total, 0-17; 18-64; 65+	Yes	The responsibility for the calculation of this indicator is with Eurostat unit F-5, where a definition has been developed and data published.

SI-C12	EU: Housing deprivation by item	Percentage of the population deprived of each housing deprivation item, and by number of items.
		The items considered are:
		  - Leaking roof, damp walls/floors/foundation, or rot in window frames or floor;
		  - Bath or shower in the dwelling;
		  - Indoor flushing toilet for sole use of the household;
		  - Problems with the dwelling: too dark, not enough light.
			Age groups: total, 0-17; 18-64; 65+	Yes	Other breakdowns for each housing deprivation item: poverty status

SI-C13	EU: Median share of housing cost	Median of the housing cost burden distribution, i.e. the distribution among individuals of the share of the total housing costs (net of housing allowances) in the total disposable household income (net of housing allowances).	Age groups: total, 0-17; 18-64; 65+	Yes	Other breakdowns: poverty status, degree of urbanisation

In order to maximise the cross-country comparability of the common indicators, it was necessary in addition to defining their calculation algorithms, common harmonised data sources are also required for their computation.

The *EU Labour Force Survey* (LFS) has been explicitly recognised as the data source for the construction of all the employment-related commonly agreed indicators. A detailed description of this survey and the definitions used is presented in the Eurostat publications "Labour Force Survey – Methods and definitions, 2001" and "Labour Force Survey in Central and Eastern European countries – Methods and definitions, 2000" both published by the European Commission.

When the Open Method of Coordination was launched, many income-based and other indicators were initially specified to be calculated on the basis of the *European Community Household Panel* (ECHP). However, this pioneering survey only covered the EU15 member states and expired in 2001.

It has been replaced by data collection under the *Community Statistics on Income and Living Conditions* (SILC) framework regulation (EC no.1177/2003 of 16th June 2003) and its associated implementing regulations. A list of the relevant regulations issued to date and their references in the Official Journal is included as an appendix (see **Appendix I**).

SILC is the EU reference source for income and social exclusion statistics, and for the commonly agreed indicators of social cohesion in particular. SILC was launched in 2003 for six Member States. Coverage expanded to fifteen countries in 2004 and to 25 EU Member States together with Iceland and Norway in 2005. Bulgaria launched SILC in 2006 while Romania, Turkey and Switzerland began in 2007.

Details concerning SILC can be found at the following address:
http://epp.eurostat.ec.europa.eu/portal/page/portal/living_conditions_and_social_protection/introduction/income_social_inclusion_living_conditions

During the transition between ECHP and SILC, indicators have been/are compiled by Eurostat on the basis of national sources. A table of the alternatives sources used is included in **Appendix II**. Whilst every effort has been made to maximise the consistency of definitions and concepts, the resulting indicators cannot be considered to be fully comparable to the SILC based indicators.

Some limitations of the indicators due to the data sources

EU-SILC concepts and definitions keep as closely as possible to the international recommendations of the UN 'Canberra Manual'.

Typically, coverage of the SILC and national data sources is restricted to private households and excludes persons living in institutions. Certain hard-to-reach groups of the population such as persons who are homeless or nomadic are also de facto not covered. The exclusions

may distort comparisons between countries where certain traditions favour caring for vulnerable people within their families, whilst others favour institutional care arrangements.

Whilst it is considered to be the best basis for poverty and social exclusion analysis (for example it avoids the moral hazard of actual expenditure choices), income is acknowledged to be an imperfect measure of welfare and consumption capabilities. Amongst other things it does not reflect access to credit, access to accumulated savings or ability to liquidate accumulated assets, informal community support arrangements, aspects of non-monetary deprivation, differential pricing and other aspects. These factors may be of particular relevance for persons at the lower extreme of the income distribution. The bottom 10 per cent of the income distribution should not, therefore, necessarily be interpreted as having the bottom 10 per cent of living standards.

Income definition

In SILC, the household total disposable income is taken to be all net monetary income received by the household and its members during the income reference year – namely all income from work (employee wages and self-employment earnings), private income from investment and property[6], transfers between households plus all social transfers received in cash including old-age pensions, net of any taxes and social contributions paid. No account is taken of in kind social transfers. Until the 2007 operation, no account had to be taken of income-in-kind (with the exception of company car) and imputed rent (i.e. the money that one saves on full (market) rent by living in one's own accommodation or in accommodation rented at a price that is lower than the market rent), mortgage loan interest payments, etc.

Although certain countries (e.g. DK) are already able to supply income figures including imputed rent, until this becomes mandatory for all countries (2007 data), for reasons of comparability, the income definition underlying the calculation of indicators currently excludes imputed rent. This could have a distorting effect in comparisons between countries, or between population sub-groups, when the distribution of accommodation tenure status varies. This impact may be particularly apparent for the elderly who may have been able to accumulate wealth in the form of housing assets.

> Pending a decision of the ISG when alternative calculations are presented by Eurostat, the income definition for the calculation of indicators remains unchanged for the time being.

For some of the new EU member countries, income-in-kind is considered to be a more widespread and more substantial component of household disposable income than for EU15 Member States and EFTA countries. 'Income-in-kind' describes the value of goods produced directly by the household through either a private or a professional activity and consumed by them (or donated to others).
Some income-in-kind is covered in SILC (e.g. the variable PY070 covers own production of food by households). By contrast other items are not included in SILC (e.g. value of services provided by self-employed persons free of charge to members of their own household or to others, own production of non-food products like wood).

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[6] Regular income from private pension plans is not included in HY020.

Since 2003, the use of company vehicles is included in the SILC definition (variable PY020). From the 2007 data collection onwards, this variable will also collect a range of other services obtained free of charge by employees as part of a professional activity are also classified as 'non-cash employee income' (e.g. accommodation provided free or at reduced rent by the employer, free or subsidised meals at work, crèche facilities for young children, school fees of older children, subsidised loans, other goods and services provided free or at reduced price).

The former content of PY020 will, from the 2007 operation onwards, be contained in the variable PY021. That means that for the calculation of indicators PY021 needs to be used in place of PY020 for 2007 operation onwards. Calculations for previous years should still use PY020.

Income from the rental of property or land which is received in kind rather than in cash should be valued and treated as imputed rent (SILC variable HY030).
It is worth emphasising that collecting information regarding 'income-in-kind' involves overcoming a number of practical difficulties, due to the different methods of identifying it and estimating 'income-in-kind' values, and due to the different relative importance of this income in the different countries (and different population groups within countries). However, a harmonisation process is in progress.

A key objective of SILC is to deliver robust and comparable data on total disposable household income, total disposable household income before transfers (other than old-age and survivors' benefits; including old-age and survivors' benefits), total gross income and gross income at component level.

A derogation has been granted to Greece, Spain, France, Italy and Portugal not to deliver any gross income data as from the first year of launching SILC. These countries have to deliver these data from the 2007 data collection onwards at the latest. Where these countries are unable to deliver a gross income data component, the corresponding net income component is required instead.

Where national sources are used, there is an attempt to approximate as closely as possible to the SILC income concept by performing some adjustments to the standard information collected from national sources. The impact of these on reported values can sometimes be significant.

Given the sensitivity of the topics covered by the different sources, care is needed when interpreting results; in particular, trends obtained by combining two different sources should be regarded as unreliable. In countries using surveys, the limited sample size and the fact that the data on disposable income are based on information provided by respondents can hamper the comparability with countries using administrative registers or other sources. This is particularly the case for information on income at the two extremes of the income distribution. It is also the case for certain components of income, namely income from self-employment, capital income or income from the hidden economy. It is universally acknowledged that self-employment income is one of the most problematic elements of household income to define and measure accurately. Moreover, there is evidence that self-employment is becoming more prevalent in the EU and more heterogeneous in nature.

Equivalisation

Household income is equivalised (adjusted) in order to reflect differences in household size and composition. The equivalised income is then given per equivalent adult. In other words, the total household income is divided by its equivalent size using the so-called "modified OECD" equivalence scale. This equivalence scale gives a weight of 1.0 to the first adult, 0.5 to any other household member aged 14 and over and 0.3 to each child below 14. The resulting figure is attributed to each member of the household, whether adult or children. The equivalent size of a household that consists of 2 adults and 2 children below the age of 14 is therefore:

$1.0 + 0.5 + (2 \cdot 0.3) = 2.1$

Income reference period

Surveys can have different income reference periods (e.g. monthly vs. yearly, last 12 months vs. previous calendar year, etc.), which may have an impact on the reported values and their comparability between countries. In SILC, the reference period for collecting income is a year. However, the income variable may not be fully comparable between sub-samples when the survey is conducted at different periods of the year (i.e. in continuous surveys for which the income reference period is the last twelve month or the current year in case current income is annualised). In this case, if the above mentioned facts are not taken into account, the income distribution (and the results in terms of poverty risk) can be biased by the variability of seasonal income components (such as income from agriculture, self-employment, thirteenth and fourteenth month payment). The remark goes particularly for the Household Budget Survey for which the period of collecting income varies over the year.

In EU-SILC the income reference period is the preceding year for all countries but Ireland (moving income reference period) and the UK (survey year).

Prior to the launch of SILC, the income reference period of the national sources used was the same as the survey year for the national data sources in Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Netherlands, Poland, Slovenia and Sweden. For ECHP participant countries it was the preceding year.

During the transition period, the relevant data for Czech Republic, Cyprus, Malta and Slovakia was drawn from periodic sources rather than annual sources.

EU averages

In line with policy needs under the Open Method of Coordination, statistics have typically focused on the situation of individuals within each member state, relative to the prevailing situation in that country. However, there is a wide public interest in some sort of common reference against which national figures should be compared, and an aggregate figure for the European Union as a whole.

Different approaches for calculating aggregates are possible, including:
- Summing the base information for all participant countries and proceeding as if they relate to a single entity for the calculation of indicators.

- Computing indicators separately for participant countries and calculating an average value. This raises practical questions about what measure of central tendency to adopt and whether weightings should be used (and if so, whether they should be the same for all sub-populations and breakdowns).
- Computing indicators separately for participant countries, but applying a common reference threshold, where applicable.

In line with 1998 Statistical Programming Committee guidelines, prior to the availability of SILC microdata for a majority of countries, group-of-country averages were calculated as population-weighted averages of the available national values, with a single value (the official total population value for the number of persons living in private households) being applied to weight all the calculations: indicators are not presented for any given year when data is not available for countries representing 25% or more of the population of the group concerned. This approach has the merit of simplicity and transparency. However, there is a clear risk that population sub groups within each country do not follow a standard proportion across any given group – with consequent implications for the information value of an indicator assuming such a standard proportion did apply. With the availability of SILC microdata, a more refined approach is possible: each indicator can be weighted using the specific weights for the population group concerned.

Weighting scheme for the calculation of EU averages

(a) <u>Old method</u> (where validated indicators are available but validated microdata is not):

Group-of-country averages are to be calculated as a weighted average of the available national values for the income reference year in question.

Indicators are not presented for any given year when data is not available for countries representing 25% or more of the population of the group concerned.

The weighting is done according to the number of persons living in private households in each country.

Thus, for a given year:

$$\text{EU average (Indicator 'X')} = \frac{\sum_{i \in c} value \ of \ indicator \ X_i \cdot POPTOT_i}{\sum_{i \in c} POPTOT_i} \ ,$$

where i = country i and
c = set of countries c and
$value \ of \ indicator \ X_i$ = value of the relevant indicator X for country i and
$POPTOT_i$ = official number of persons in private households in country i.

> **Note:**
> Official annual average population estimates (number of persons living in private households) can be found on the Eurostat 'free data' website (http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home).

(b) Currently implemented method (where validated SILC microdata are available):

EU average for proportion on population subgroups

If the relevant indicator can be expressed as a proportion of the total subset of interest in each country, then the EU average can be calculated as a weighted average of the value of the indicator in each country *i*.

> **Note on cross-sectional weights:**
> SILC microdata contains four different types of cross-sectional weights:
> - *Household cross-sectional weights (target variable DB090)*, useful to draw inference on the population of private households at national and European levels;
> - *Personal cross-sectional weights for household members of all ages (target variable RB050)*, useful to draw inferences on the population of all individuals living in private households;
> - *Personal cross-sectional weights for household members aged 16 and over (target variable PB040)*, useful to draw inferences on variables included in the personal questionnaire, for the population of individuals aged 16 and over living in private households;
> - Personal cross-sectional weights for selected respondents (target variable PB060), useful to draw inferences about certain variables in countries where a sample of persons is used for non-income questions but income data is collected from registers, for the population of individuals aged 16 and over living in private households.
>
> Most indicators will use the personal cross-sectional weight (RB050) because poverty status is assigned at individual level and the target group concerned is the whole population living in private households. However, for indicators focusing on the population aged 16+ (e.g. in work at-risk-of-poverty rate) the appropriate would be the SILC variable PB040. The target variable DB090 is never used for indicators, as those are computed at individual level. The target variable PB060 is not used as it is only relevant for selected respondents.
>
> In Eurostat programmes, the weights are corrected by applying a scaling factor to RB050 obtained as the ratio of the sum of RB050 on all cases and the sum of RB050 on valid (non missing) cases. This procedure can be generalised to take into account some stratification (homogeneous missing group)

Thus:

$$\text{EU average (Indicator 'X')} = \frac{\sum_{i \in c} value\ of\ indicator\ X_i \cdot POPB_i}{\sum_{i \in c} POPB_i},$$

<u>where</u>

value of indicator X_i =value of the relevant indicator X for country i and

c=set of countries c and

$POPB_i$ is the number of people in population subgroup B in country i

$POPB_i$ is estimated using EU-SILC calibrated weights.

EU average for other indicators

Other indicators than the different poverty rates like the Gini coefficient, the S80/S20 income quintile share ratio and the aggregate replacement ratio cannot be decomposed as a weighted average of the national indicators.

In this case, the EU average aims to provide a benchmark value against which national values can be compared.

The ad-hoc EU average is then computed according to the formula, i.e.

$$\text{EU average (Indicator 'X')} = \frac{\sum_{i \in c} value\ of\ indicator\ X_i \cdot POPTOT_i}{\sum_{i \in c} POPTOT_i},$$

It was not considered worthwhile to introduce sub-population counts. However for consistency purposes, $POPTOT_i$ are estimated here using EU-SILC calibrated weights variables.

Streamlined Social Inclusion Portfolio:

The list of income and living conditions indicators

Table #2 below presents the subset of indicators from the full list (see **Table #1** above) which are to be calculated from EU-SILC.
NB. This list only includes the monetary and other indicators which can be computed from EU-SILC (or national sources during the transition period). Additional indicators derived from other sources (e.g. LFS) are not shown.

Table #2

Seq. no.	Social Inclusion indicators calculated from EU-SILC	no. of indicator
Primary Indicators		
2	At-risk-of-poverty rate, by gender and selected age groups	SI-P1
	(breakdowns: by sex and by age: total, 0-17, 18-64, 65+)	
1	At-risk-of-poverty threshold, illustrative values	SI-P1
	(illustrative household types: single person household, household consisting of two adults and two dependent children, units: PPS, Euro, national currency)	
3	Persistent-at-risk-of-poverty rate, by gender and selected age groups	SI-P2
	(breakdowns: by sex and by age: total, 0-17, 18-64, 65+)	
4	Relative median at-risk-of-poverty gap, by age and gender	SI-P3
	(breakdowns: by sex and by age: total, 0-17, 18-64, 65+)	
5	Material deprivation rate	SI-P8
	(by poverty status: below and over poverty threshold, breakdowns: by sex and by age: total, 0-17, 18-64, 65+)	
*	*Housing*	*SI-P9*
+	Unmet need for care – Inequalities in access to health care	SI-P10
*	*Child well-being*	*SI-P11*
Secondary Indicators		
6	At-risk-of-poverty rate, by age and gender	SI-S1
	(breakdowns: by sex and by age: total, 0-17, 18-24, 25-54, 55-64, 65+)	
7	At-risk-of-poverty rate, by household type	SI-S1a
	(breakdowns: total, households with no dependent children: single person under 65, single person over 65, single women, single men, two adults with at least one being 65 and over, two adults both under 65, other households with no dependent children; households with dependent children, single parent with one or more dependent children, two adults with one dependent child, two adults with tow dependent children, two adults with three or more dependent children, three or more adults with dependent children)	
8	At-risk-of-poverty rate, by work intensity of the household and by gender and selected age groups	SI-S1b
	(work intensity: WI=0, 0<WI<1, 0<WI<0.5, 0.5≤WI<1, WI=1; breakdowns: by sex and by age: total, 0-17, 18-64, 65+)	
9	At-risk-of-poverty rate, by most frequent activity status and by gender	SI-S1c
	(activity status: in work, not in work, unemployed, retired, other inactive; breakdown by sex)	
10	At-risk-of-poverty rate, by accommodation tenure status and by gender and selected age groups	SI-S1d
	(by tenure status: owner-occupied, rent-free and rented accommodation, breakdowns: by sex and by age: total, 0-17, 18-64, 65+)	
11	Dispersion around the at-risk-of-poverty threshold [by gender and selected age group]	SI-S1e
	(threshold: at 40%, 50% and at 70%, breakdowns: by sex and by age: total, 0-17, 18-64, 65+)	
12	Intensity of material deprivation (mean number of deprived items)	SI-S4
	(by poverty status: below and over poverty threshold, breakdowns: by sex and by age: total, 0-17, 18-64, 65+)	

13	Housing cost overburden rate (by age, gender, poverty status, income quintiles, tenure status, degree of urbanisation, household type)	SI-S5
14	Overcrowding rate (for the total population by: age, gender, poverty status, tenure status, degree of urbanisation, household type; for the population without single-person households by age, gender, poverty status)	SI-S6

Context Indicators

15	Inequality of income distribution S80/S20 income quintile share ratio	SI-C1
16	Inequality of income distribution Gini coefficient	SI-C2
+	Healthy Life expectancy and Life expectancy at birth	SI-C4
17	At-risk-of-poverty rate anchored at a fixed moment in time (2005), by gender and selected age groups	SI-C5
	(breakdowns: by sex and by age: total, 0-17, 18-64, 65+)	
18	At-risk-of-poverty rate before social transfers, by gender and selected age groups	SI-C6
	(except pensions, breakdowns: by sex and by age: total, 0-17, 18-64, 65+)	
19	In-work at-risk-of-poverty rate	SI-C8
	(breakdown: full-time, part-time)	
+	Self-perceived limitations in daily activities by income quintiles, by age and gender	SI-C11
20a	Housing deprivation rate by item (by age, gender, poverty status)	SI-C12
20b	Housing deprivation rate by number of items (by age, gender)	SI-C12
21	Median of housing cost burden distribution (by age, gender, degree of urbanisation)	SI-C13

* The conceptual work on these indicators has not been finalised and thus no definition was available at the time of the revision of this document. These indicators will not be required for the 2009 data transmission at least.
+ The methodology and calculation of these indicators is in the hands of Eurostat unit F-5 Health and food safety statistics, which will also provide a methodology document for these indicators.

In practice, Eurostat also calculates a more expanded list of complementary indicators (e.g. at-risk-of-poverty rates with different age breakdowns, distribution of the population by different breakdowns, alternative at-risk-of-poverty thresholds, breakdowns by additional cross-variables; income values and distributions) and there are plans to develop a more extensive range of indicators (e.g. child poverty; income dynamics and income transitions; inter-generational transmission of poverty and exclusion; non-monetary deprivation; housing cost; regional breakdowns; citizenship and ethnic origin; persons on high incomes).

Related data collection requests

See also the similar, separate requests for Overarching and Pensions indicators adopted under the Open Method of Coordination.

Validation process of the indicators

These national indicators should be calculated using the microdata from the cross-sectional N survey year of SILC and transmitted (via EDAMIS) to Eurostat only when the microdata have been successfully complied with all applied validation rules set by Eurostat. Recommended SAS programs are available for the members belonging to the group on CIRCA. The present document will act as a guiding rule in order to allow Member States to design their own calculations in accordance to the official recommendations.

Eurostat will work in parallel to calculate and compare both sets of derived results. When full consistency is achieved, the whole set of indicators will be computed by Eurostat. Plausibility

will be dealt with during the second phase based on comparisons over time and exogenous (external) information available to Eurostat.

Before indicators are released, multilateral validations will be performed.

Target dates for the reception of verified/ finalised data by Eurostat will vary from country to country, but anticipated date for the dissemination of indicators on Eurostat website is mid-December of the year N+1 at the latest.

Publications and income reference year

Publications for dissemination to be prepared during the year N+2 using the Social Inclusion Indicators will include: Joint Report on Social Inclusion and Social Protection; Structural Indicators ("shortlist" and "social cohesion" theme); Sustainable Development Indicators ("Social inclusion" theme and "Demographic changes" theme); the Treaty-based Social Situation in the European Union Report and Eurostat's Yearbook. For the above mentioned publications, indicators relating to survey year N are to be used.

Indicators on social exclusion will be labelled using the survey year N as reference. Despite that income refers in most cases to the year N-1, it can be considered as the best available proxy for the living standard at the time of interview (year N). Also most other information such as household composition needed for the calculation of the indicators in EU-SILC refers to the time of the interview.

Publication rules

The standard SILC publication rules will be applied.

The minimum precision requirement concerning publication of data collected shall be expressed in terms of number of sample observations on which statistics is based and the level of item non-response (additional to total non-response at unit level). This is set down in the Regulation and is used for publication of data on New Cronos.
- An estimate should not be published if it is based on fewer than 20 sample observations or if the non-response for the item concerned exceeds 50%.
- An estimate should be published with a flag if it is based on 20 to 49 sample observations or if non-response for the item concerned exceeds 20% and is lower or equal to 50%..
- An estimate shall be published in the normal way when based on 50 or more sample observations and the item's non-response does not exceed 20%.

The following flags will be used:
- i   see explanatory text (metadata in New Cronos)
- b   break in series (i.e. change of source or change of methodology from that used in preceding year)
- s   Eurostat estimate
- u   unreliable (i.e. due to small sample size)
- p   provisional

Detailed methodological notes

Calculation of age

In the EU-SILC regulations, age is defined as the age calculated at the end of the income reference period. However, data collection often occurs a few months after the end of the income reference period, so household composition is captured at the time of interview. Consequently, household members who have died between the end of the income reference period and the time of the survey data collection are not registered and babies born in this interval will be recorded with negative age if age at the end of the income reference period is reconstructed.

If the age to be used in analysis and indicator calculation is to be the age at the end of the income reference period, some practical problems are to be solved for the calculation of equivalised household size and indicators.

In this case, it is suggested to
- Include these newborn babies in the lowest age group (by setting age to 0) for the calculation of equivalised household size.
- Include such persons for the calculation of indicators for the total population and for the appropriate age breakdowns.
- Include such persons for the calculation of dependent children.

In the future, the use of age at the time of interview in analysis will be considered. Indeed the structure of the population is probably better captured at the time of the interview. As long the gap between income collection and recording of household status is not too wide, it is expected that the inconsistency in socio economic analysis will remain minor. On the contrary, it is expected to obtain better coherence between treatment of age and the socio economic situation. This reasoning is not valid when income distribution/ information in relation with age (as for instance, the aggregate replacement ratio or people aged 16) is considered.

Potentially relevant SILC variables are DB010 (year of the survey – in D-file), RB010 (year of the survey), RB080 (year of birth), RB070 (month of birth), HB050 (month of household interview), HB060 (year of household interview), PB100 (month of the personal interview), PB110 (year of the personal interview). SILC does not collect the actual date of birth.

The month of interview and the month of birth is taken into account when calculating the age. If either is missing, the relevant variables are set to the middle of the year (6).
If RB070_F=-1 then RB070=6
If RB050_F=-1 then HB050=6

If the year of birth is missing, age is considered to be missing
If RB080_F=-1 then age=missing

(a) For SILC countries where the income reference period is the previous calendar year:

- $\text{AGE} = \dfrac{\big((DB010-1)\cdot 100+12\big)-\big(RB080\cdot 100+RB070\big)}{100}$

  Note: if RB080=DB010, then AGE=-1.

(b) For SILC countries where the income reference period is not the previous calendar year:

- $\text{AGE} = \dfrac{\big(irp\_yyyy\cdot 100+irp\_mm\big)-\big(RB080\cdot 100+RB070\big)}{100}$

  (where irp_yyyy=year of end of income reference period and
  irp_mm=month of end of income reference period).

Treatment of babies born after the end of the income reference period:
Where the income reference period is (a) or (b), babies born after the income reference period will be assigned AGE=-1 by the algorithm describe above.
For the calculation of equivalised household size and for the calculation of the indicators **if AGE=-1 age is set to AGE=0**, i.e. they are included in all calculations.

(c) For SILC countries where the income reference period changes:

- $\text{AGE} = \dfrac{\big(HB050\cdot 100+HB060\big)-\big(RB080\cdot 100+RB070\big)}{100}$

Equivalised disposable income

Definition

For each person, equivalised disposable income (EQ_INC_i) is defined as the household's total disposable income divided by its "equivalent size", to take account of the size and composition of the household, and is attributed to each household member.

Notes:
- The total disposable income of a household is calculated by adding together the personal income received by all of household members plus income received at household level.
- The equivalised household size is defined according to the modified OECD scale (which gives a weight of 1.0 to the first adult, 0.5 to other household members aged 14 or over and 0.3 to household members aged less than 14).

Algorithm for the calculation of disposable income

Calculation of total disposable income

To ensure maximum comparability with the detailed definitions adopted in EU-SILC (Commission Regulation No 1980/2003), the total disposable household income should be computed as follows:

	name	SILC-Reference
total disposable household income corrected for individual non response		HY020 HY025[7]
total disposable household income recorded		HY020
=		
the sum for all household members of **gross** personal income components:		
	gross cash or near-cash employee income;	PY010G
+	gross non-cash employee income;	PY020G
+	*employers' social insurance contributions[8];*	*PY030G*
+	gross cash profits or losses from self-employment (including royalties);	PY050G
+	*value of goods produced for own consumption[9];*	*PY070G*
+	pension from individual private plans[10]	PY080G
+	unemployment benefits;	PY090G
+	old-age benefits;	PY100G
+	survivors' benefits;	PY110G
+	sickness benefits;	PY120G
+	disability benefits	PY130G
+	education-related allowances	PY140G
gross income components at household level:		
+	income from rental of a property or land;	HY040G
+	*imputed rent;*	*HY030G*
+	family/children-related allowances;	HY050G
+	social exclusion not elsewhere classified;	HY060G
+	housing allowances;	HY070G
+	regular inter-household cash transfers received;	HY080G
+	interests, dividends, profit from capital investments in unincorporated business;	HY090G
+	income received by people aged under 16;	HY110G
deductions:		
–	*employers' social insurance contributions;*	*PY030G*
–	*mortgage interest;*	*HY100G*

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[7] Until 2007, the recommendation is to collect the recorded total disposable income in HY020. From 2007 onwards, following a new recommendation concerning treatment of missing individuals, it was decided to gather the estimated value of the total disposable income corrected for individual non response in HY020.

[8] According to Canberra recommendations, employers' social contributions are to be included in the gross calculation.

[9] Income components, which are only mandatory from 2007 onwards but not yet included in HY020, are in *italics*.

[10] Not yet included in HY020.

–	regular taxes on wealth;	HY120G
–	regular inter-household cash transfer paid;	HY130G
–	tax on income and social insurance contributions. (The variable the 'tax on income and social insurance contributions' includes tax adjustments-repayment/receipt on income, income tax at source and social insurance contributions (if applicable).)	HY140G
All multiplied by		
	within-household non-response inflation factor	HY025

$$
\begin{aligned}
HY020 \cdot HY025 = \quad & HY025 \cdot ((HY030G + HY040G + HY050G + HY060G + HY070G + HY080G \\
& + HY090G + HY110G - HY120G - HY130G - HY140G) \\
& + (PY010G + PY020G + PY030G + PY050G + PY070G + PY090G + PY100G \\
& + PY110G + PY120G + PY130G + PY140G - PY030G))
\end{aligned}
$$

Or equivalently (for net income data collection)

name	SILC-Reference
total disposable household income corrected for individual non response	HY020 HY025
total disposable household income	HY020
=	
the sum for all household members of **net** (of income tax at source and of social contributions) personal income components:	
cash or near-cash employee income;	PY010N
+ non-cash employee income;	PY020N
+ cash profits or losses from self-employment;	PY050N
+ *value of goods produced for own consumption;*	*PY070N*
+ pension from individual private plans[11]	PY080N
+ unemployment benefits;	PY090N
+ old-age benefits;	PY100N
+ survivors' benefits;	PY110N
+ sickness benefits;	PY120N
+ disability benefits;	PY130N
+ education-related allowances;	PY140N
net (of income tax at source and of social contributions) income components at household level:	
+ income from rental of a property or land;	HY040N
+ *imputed rent;*	*HY030N*
+ family/children-related allowances;	HY050N
+ social exclusion not elsewhere classified;	HY060N
+ housing allowances;	HY070N
+ inter-household cash transfers received;	HY080N
+ interests, dividends, profit from capital investments in unincorporated business;	HY090N
+ income received by people aged under 16;	HY110N
deductions	
– *mortgage interest*	*HY100N*
– regular taxes on wealth	HY120N

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[11] Not yet included in HY020.

–	regular inter-household cash transfer paid	HY130N
–	repayment/receipt for tax adjustments on income	HY145N
All multiplied by		
	within-household non-response inflation factor	HY025

$$
\begin{aligned}
HY020 \cdot HY025 = \quad & HY025 \cdot ((HY030N + HY040N + HY050N + HY060N + HY070N \\
& + HY080N + HY090N + HY110N - HY100N - HY120N - HY130N \\
& - HY145N) + (PY010N + PY020N + PY050N + PY070N + PY090N \\
& + PY100N + PY110N + PY120N + PY130N + PY140N))
\end{aligned}
$$

Or as:

The sum for all household members of personal income components plus income components at household level,

- of which some are **net** (net of income tax, net of social contributions or net of both) and others **gross**,
- or all of them net but some of them net of tax at source, others net of social contributions or net of both, once the tax on income and social insurance contributions (HY140N), the regular taxes on wealth, the regular inter-household cash transfer paid and the employers' social insurance contributions are deducted.

In this case, the variable 'tax on income and social insurance contributions' (HY140) includes repayment/receipt for tax adjustments, income tax at source and social insurance contributions for some income components;

It is difficult to generalise this case, which occurs only for a minor number of households in a few countries. The objective is to retrieve total disposable household income as in the previous two cases.

Modification of the standard income definition

Some of the income components are mandatory in SILC only from the 2007 data collection:
- Imputed rent (HY030G/HY030N)
- Interest paid on mortgage (HY100G/HY100N)
- Value of goods from own consumption (PY070G/PY070N)
- Employer's social insurance contributions (PY030G)
- Non cash employee income other than a company car contributing to PY020G/ PY020N. (Company cars have been included in PY020G/PY020N from the launch of SILC.)

Until the 2007 exercise, the indicators for all countries will be based on the definition of income not including these variables. From 2007, the impact of these new components has been closely monitored.

Pending a decision of the ISG when alternative calculations are presented by Eurostat, the income definition for the calculation of indicators remains unchanged.
The former content of PY020 will, from the 2007 operation onwards, be contained in the variable PY021. That means that for the calculation of indicators PY021 needs to be used in place of PY020 for 2007 operation onwards. Calculations for previous years should still use PY020.

Equivalisation of disposable income

Calculation of equivalised household size

Let
HM_{14+}=number of household members aged 14 and over;
HM_{13-}=number of household members aged 13 or less.

If AGE ≤ 13 then $HM_{14+}=1$
If AGE ≥ 14 then $HM_{13-}=1$

If AGE is missing and $\begin{cases} \text{if RB245}=1,2 \text{ or } 3 \text{ then } HM_{14+}=1 \\ \text{if RB245}=4 \text{ then } HM_{13-}=1 \end{cases}$

where RB245 is 'respondent status'.

Otherwise $\begin{cases} HM_{14+}=0 \\ HM_{13-}=0 \end{cases}$.

According to the "modified-OECD" scale adopted in 1994, the equivalised household size (EQ_SS) is defined as:
$EQ\_SS = 1 + (0.5 \cdot (HM_{14+} - 1)) + (0.3 \cdot HM_{13-})$.

Calculation of equivalised disposable income (EQ_INCᵢ)

Let   *TDHI*=total disposable household income
                  (i.e. for SILC countries, $TDHI = HY020 \cdot HY025$)

        EQ_SS=equivalised household size

The equivalised income of person i (EQ_INC_i) is then defined as:

$$EQ\_INC_i = \frac{TDHI}{EQ\_SS}$$

Note:
- The population consists of all persons (household members) living in private households of a country, whose household interview is accepted for the database (DB135=1).
- Households with missing 'equivalised disposable income' (i.e. persons with missing 'total household disposable income' (HY020=-1 or HY025=-1) are excluded.
- Households with missing composition details are also excluded.

Primary indicators

1. At-risk-of-poverty threshold, illustrative values

Definition

The at-risk-of poverty threshold is set at 60% of the national median equivalised disposable income.
The value of the at-risk-of-poverty threshold shall be expressed in PPS (purchasing power standards), Euro and national currency for two illustrative household types:
- Single person household (EQ_SS=1)
- Household with 2 adults, two dependent children under 14 years. (EQ_SS=2.1)

Algorithm for the calculation

Calculation of national median equivalised disposable income

Persons have to be sorted according to their 'equivalised disposable income' (sorting order: lowest to highest value, household identification number and personal identification number).

The median is then calculated as:

$$EQ\_INC_{MEDIAN} = \begin{cases} \dfrac{1}{2}(EQ\_INC_j + EQ\_INC_{j+1}) & if \ \sum_{i=1}^{j} weight'i = \dfrac{1}{2}W \\[2em] EQ\_INC_{j+1} & if \ \sum_{i=1}^{j} weight'i < \dfrac{1}{2}W < \sum_{i=1}^{j+1} weight'i \end{cases}$$

where:

EQ_INC_i = equivalised disposable income of person i
$weight_i$ = RB050i weight of the person i
$weight'_i$ = corrected weight for the effect of missing values, for person i[12]

$W = \sum_{i=1}^{n} weight'i$

n = number of household members in the sample

Notes:
- Households (and persons therein) with missing equivalised disposable income (*EQ_INC*) or any missing individual age are excluded. The median is calculated on the level of the individuals in the sample.

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[12] The weights can be corrected within the same strata when applicable, i.e. for each strata the sum of weights of all household members in households for which DB135 = 1 divided by the sum in that strata of weights of all household members used in the calculation of equivalised disposable income will multiply RB050 in order to get *weight'i*. See also Note on cross-sectional weights.

Calculation of at-risk-of-poverty threshold

Finally, the 'at-risk-of-poverty threshold' is calculated as 60% of the calculated median value, i.e.:

$$ARPT = At\text{-}risk\text{-}of\text{-}poverty\ threshold = 60\% \cdot EQ\_INC_{MEDIAN}$$

Conversion into PPS and Euro

The value of the 'at-risk-of-poverty threshold' in national currency will be converted into EURO (for countries not in the Eurozone) and into PPS. Incomes cannot be made directly comparable by using currency exchanges rates, as the difference in purchasing power of a particular monetary unit in the different countries will not be taken into account by it. The conversion rates that take both rates of exchange and differences in purchasing power into account are called Purchasing Power Parities (PPP). They convert every national monetary unit into a common reference unit, the PPS (Purchasing Power Standard).

Note:
The EUR/NAC exchange rates come from New Cronos table:
> Economy and finance
> ... Exchange rates
> ..…. Exchange rates
> …..… Bilateral exchange rates
> ………... Euro/ECU exchange rates
> …………... Euro/ECU exchange rates - Annual data
> ……………… UNIT: NAC
> ……………… OTP: Average

The PPP/NAC conversion factors come from New Cronos table:
> Economy and finance
> ... Prices
> ..…. Purchasing power parities
> …..… Purchasing power parities (PPP) and comparative price level indices for the ESA95
>   aggregates
> ………… AGGREG95: EO11 Household final consumption expenditure
> ………… INDIC_NA: PPP_25 i.e. EU25=1

Exchange rates and PPP corresponding to the income reference period should be used. In many cases this will mean applying the conversion factors for the year preceding the survey year. For almost all countries, the rate for N-1 (survey year – 1) published on new Cronos in December of year N+1 (survey year +1) should be applied. This will be the final publication of PPP: For IE, there is an agreement to apply an arithmetic average of the rates published in N+1 corresponding to the years N – 1 and N. For N the published PPS data will be preliminary.

Calculation of illustrative value for the illustrative household types

To illustrate the threshold values for the one person household and the two adults and two dependent children household, the 'at-risk-of-poverty threshold' in PPS, Euro and national

currency will be multiplied by '1' or by '2.1' respectively (in line with the modified OECD-equivalence scale).

Presentation table

At-risk-of-poverty threshold (illustrative values)			
No		Currency	Rounded value
1	One-person household	NAT	:
2		EUR	:
3		PPS	:
4	2 adults, 2 dependent children under 14 years	NAT	:
5		EUR	:
6		PPS	:

2. At-risk-of-poverty rate, by gender and selected age groups

Definition

The percentage of persons in the total population and in the relevant age and gender breakdowns, over the total population or over the relevant age or gender subset, with an equivalised disposable income below the 'at-risk-of-poverty threshold'.
The at-risk-of poverty threshold is set at 60% of the national median equivalised disposable income.
For this indicator a total and breakdowns by gender and selected age groups have to be calculated.

Algorithm for the calculation

Calculation of at-risk-of-poverty threshold

See algorithm for the calculation of 'at-risk-of-poverty threshold, illustrative values' (=indicator 1).

List of age-gender breakdowns

Each person is classified in the following categories according to his/her age at the end of the income reference period and their gender (=SILC variable RB090):

Total	Males	Females
AGE ≥ 0 (TOTAL)	AGE ≥ 0	AGE ≥ 0
0 ≤ AGE ≤ 17		
18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64
AGE ≥ 65	AGE ≥ 65	AGE ≥ 65

Calculation of at-risk-of-poverty rate by age and gender

The 'at-risk-of poverty rate broken down by age and gender' (*ARPR*$_{at\text{-}age/gender}$) is calculated as the percentage of persons in each age and gender group with an equivalised disposable income below the at-risk-of-poverty threshold over the total population in the same age and gender group (i.e. for each breakdown, the equivalised disposable income of each person is compared to the at-risk-of-poverty threshold calculated for the total population. The cumulated weights of persons whose equivalised disposable income, for a given breakdown, is below the at-risk-of-poverty threshold are divided by the cumulated weights of persons who belong to the same breakdown).

$$ARPR_{at\_age/gender} = \frac{\sum\limits_{\forall i \ in \ the \ relevant \ age/gender \ breakdown \ with \ EQ\_INC \ < \ ARPT} weight'i}{\sum\limits_{\forall i \ in \ the \ same \ breakdown} weight'i} \cdot 100$$

where:
weight i = RB050i weight of the person *i* and
weight' i = corrected weight of the person *i*.[13]

Note:
- In accordance with the SPC.ISG recommendation, the 0-17 age group is not broken down by gender as it is not considered that any normative interpretation can be made of gender differences in the poverty risk of children. In practise, for the calculation of the indicators with statistical packages and for publication on the New Cronos database, it is not possible to exclude gender breakdowns for the 0-17 age group. However these breakdowns will not be used for printed publications.
- Persons with missing equivalised disposable income (*EQ_INC*) or missing age or missing gender information are excluded from the calculation.

Presentation tables

No.	Age	Gender	(%)
	At-risk-of-poverty rate by gender and selected age groups		
1	Total (AGE ≥ 0)	T	:
2		M	:
3		F	:
4	(0 ≤ AGE ≤ 17)	T	:
5	(18 ≤ AGE ≤ 64)	T	:
6		M	:
7		F	:
8	(AGE ≥ 65)	T	:
9		M	:
10		F	:

---

[13] see footnote no. 12.

3. Persistent-at-risk-of-poverty rate, by gender and selected age groups

<u>Comment</u>

The calculation of this indicator requires a longitudinal instrument, through which individuals are followed over four years. SILC provides this instrument for all EU-25 Member States and Iceland and Norway from 2010 onwards (i.e. using 2005, 2006, 2007 and 2008 waves). For Bulgaria this indicator should become available in 2011 and for Romania, Turkey and Switzerland from 2012 onwards (i.e. using 2007, 2008, 2009 and 2010 waves).
This indicator was previously calculated from the ECHP survey, but suspended during the transition to SILC. Nevertheless, for countries having launched the SILC earlier than in 2005, this indicator is computed each time a four-year trajectory is available.

<u>Definition</u>

The 'persistent-at-risk-of-poverty rate by age and gender' shows the percentage of the population – in each gender and age category – living in households where the equivalised disposable income was below the 'at-risk-of-poverty threshold' (taken from cross-sectional calculations – external threshold) for the current year and at least 2 out of the preceding 3 years.
The population consists of all the persons in the age-gender categories, which have been living for four years in private households and which have been in the panel for all the four relevant years.

<u>Algorithm for the calculation</u>

Linking information for four years

For each person a file should contain his/her equivalised disposable income (*EQ_INC*) for the four years.
Only persons that have been in the panel for all four waves should be included in the analysis. Therefore, all persons with missing values for at least one of the four *EQ_INC* variables are to be excluded.

Calculation of 'at-risk-of-poverty thresholds' for each year

For each of the four years, the 'at-risk-of-poverty threshold' from cross-sectional calculations (external threshold) is used. See algorithm for the calculation of 'at-risk-of-poverty threshold (illustrative values)' (=indicator 1).

Calculation of age-gender breakdowns

Each person is classified in the following categories according to his/her sex and age (in year '*T*'):

Total	Males	Females
AGE ≥ 0 (TOTAL)	AGE ≥ 0	AGE ≥ 0
0 ≤ AGE ≤ 17		
18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64
AGE ≥ 65	AGE ≥ 65	AGE ≥ 65

Note:

- In accordance with the SPC.ISG recommendation, the 0-17 age group is not broken down by gender as it is not considered that any normative interpretation can be made of gender differences in the poverty risk of children.

- Persons with missing equivalised disposable income (*EQ_INC*) for any relevant wave or missing age or missing sex information are excluded from the calculation. Age at end of income reference period is used.

Calculation of the 'persistent-at-risk-of-poverty rate', by age and gender

The 'persistent-at-risk-of-poverty rate by age and gender' is calculated – for each gender and age category – as the percentage of persons with an 'equivalised disposable income' below the respective 'at-risk-of-poverty threshold' (taken from cross-sectional calculations – external threshold) for the current year and at least 2 of the preceding 3 years.

Similar to the calculation of the total, the persons who are concerned by one of the following four cases have to be taken into account:

	T	T-1	T-2	T-3
1.	At risk of poverty	At risk of poverty	At risk of poverty	At risk of poverty
2.	At risk of poverty	At risk of poverty	**NOT** at risk of poverty	At risk of poverty
3.	At risk of poverty	At risk of poverty	At risk of poverty	**NOT** at risk of poverty
4.	At risk of poverty	**NOT** at risk of poverty	At risk of poverty	At risk of poverty

Thus:

$$\text{Persistent-at-risk-of-poverty rate} = \frac{\sum_{i \in L' \wedge (i \in case1 \vee i \in case2 \vee i \in case3 \vee i \in case4)} weights}{\sum_{i \in L'} weights},$$

Where:
L' is the subgroup of persons, which have been in the panel for four years and for whom EQ_INC is not missing for any of the years, and who are a member of the relevant age/sex breakdown
where:
for person *i*, $i \in$ case1 if
$(EC\_INC_i^{T-3} < APRT^{T-3}) \wedge (EC\_INC_i^{T-2} < APRT^{T-2}) \wedge (EC\_INC_i^{T-1} < APRT^{T-1}) \wedge (EC\_INC_i^{T} < APRT^{T})$
for person *i*, $i \in$ case2 if
$(EC\_INC_i^{T-3} < APRT^{T-3}) \wedge (EC\_INC_i^{T-2} \geq APRT^{T-2}) \wedge (EC\_INC_i^{T-1} < APRT^{T-1}) \wedge (EC\_INC_i^{T} < APRT^{T})$
for person *i*, $i \in$ case3 if

$(EC\_INC_i^{T-3} \geq APRT^{T-3}) \wedge (EC\_INC_i^{T-2} < APRT^{T-2}) \wedge (EC\_INC_i^{T-1} < APRT^{T-1}) \wedge (EC\_INC_i^{T} < APRT^{T})$
for person i, $i \in$ case4 if
$(EC\_INC_i^{T-3} < APRT^{T-3}) \wedge (EC\_INC_i^{T-2} < APRT^{T-2}) \wedge (EC\_INC_i^{T-1} \geq APRT^{T-1}) \wedge (EC\_INC_i^{T} < APRT^{T})$
where:

$EC\_INC_i^T$ is the equivalised disposable income for person i at time T and

$APRT^T$ is the at-risk-of-poverty threshold taken from cross-sectional calculations in year T

weights = RB064$_i$ weight of the person i (which is the longitudinal weight specific for studying the 4-year trajectories)

Note: As long as the weight RB064 is not available in the micro-data file transmitted to Eurostat by countries, Eurostat, uses a "fictive" weight RB064 based on weights RB060 and RB063. The value of these two weights is combined in the following way:

For each person coming into the computation of the persistent-at-risk-of-poverty (that means for which we have income information for the 4 years), the value of the weight RB060 is taken and then rescaled using RB063, so that the sum of this "fictive" weight RB064 equals the sum of the weight RB063 (which correspond to the total population of the country who was in the country during the 3 last years, which should normally be close to the total population of the country who was in the country during the 4 years of interest).

Presentation table

No.	Age	Sex	(%)
Persistent-at-risk-of poverty rate			
1	Total (AGE $\geq$ 0)	T	:
2		M	:
3		F	:
4	(0 $\leq$ AGE $\leq$ 17)	T	:
5	(18 $\leq$ AGE $\leq$ 64)	T	:
6		M	:
7		F	:
8	(AGE $\geq$ 65)	T	:
9		M	:
10		F	:

4. Relative median at-risk-of-poverty gap, by age and gender

Definition

The 'relative median at-risk-of-poverty gap by age and gender' is the difference for each age group and gender between the at-risk-of-poverty threshold for the total population and the

median equivalised disposable income of persons (in the relevant breakdown) below the same at-risk-of-poverty threshold, expressed as a percentage of the at-risk-of-poverty threshold.

For this indicator a total and breakdowns by gender and selected age groups have to be calculated.

<u>Algorithm for the calculation</u>

Calculation of age-gender breakdowns

Each person is classified in the following categories according to his/her age and gender:

Total	Males	Females
AGE ≥ 0 (TOTAL)	AGE ≥ 0	AGE ≥ 0
0 ≤ AGE ≤ 17		
18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64
AGE ≥ 65	AGE ≥ 65	AGE ≥ 65

Note:
- In accordance with the SPC.ISG recommendation, the 0-17 age group is not broken down by gender as it is not considered that any normative interpretation can be made of gender differences in the poverty risk of children. In practise, for the calculation of the indicators with statistical packages and for publication on the New Cronos database, it is not possible to exclude gender breakdowns for the 0-17 age group. However these breakdowns will not be used for printed publications.

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- Persons with missing equivalised disposable income (*EQ_INC*) or missing age or missing gender information are excluded from the calculation. Age at end of income reference period is used.

Calculation of the at-risk-of-poverty threshold

See algorithm for the calculation of 'at-risk-of-poverty threshold' (=indicator 1.).

Calculation of the median equivalised total disposable of persons at-risk-of-poverty, by age and gender

Let $EQ\_INC_{Mpoor\_age/gender}$=the median value of equivalised disposable income for people below the 'at-risk-of-poverty-threshold' in each age and gender category.

For each subgroup, the median is calculated following a similar approach as for the national median equivalised disposable income. See algorithm for the calculation of 'at-risk-of-poverty threshold' (=indicator 1).

Calculation of relative median at-risk-of-poverty gap, by age and gender

The relative median at-risk-of-poverty gap for each age and gender category ($RRPG_{age/gender}$) will be:

$$RRPG_{age/gender} = \frac{(ARPT - EQ\_INC_{Mpoor\_age/sex})}{ARPT} \cdot 100$$

Note:
Persons with missing 'equivalised disposable income' (EQ_INC) or gender or age are excluded.

Presentation table

No.	Age	Gender	(%)
	Relative median at-risk-of poverty gap		
1	Total (AGE ≥ 0)	T	:
2		M	:
3		F	:
4	(0 ≤ AGE ≤ 17)	T	:
5	(18 ≤ AGE ≤ 64)	T	:
6		M	:
7		F	:
8	(AGE ≥ 65)	T	:
9		M	:
10		F	:

5. Material deprivation rate by age, gender and at-risk-of-poverty status

Definition

This indicator is defined as the percentage of population with an enforced lack of at least three out of nine material deprivation items in the 'economic strain and durables' dimension.

The nine items considered are 1) arrears on mortgage or rent payments, utility bills, hire purchase instalments or other loan payments; 2) capacity to afford paying for one week's annual holiday away from home; 3) capacity to afford a meal with meat, chicken, fish (or vegetarian equivalent) every second day; 4) capacity to face unexpected financial expenses [set amount corresponding to the monthly national at-risk-of-poverty threshold of the previous year]; 5) household cannot afford a telephone (including mobile phone); 6) household cannot afford a colour TV; 7) household cannot afford a washing machine; 8) household cannot afford a car and 9) ability of the household to pay for keeping its home adequately warm. Although the material deprivation information refers to the household level, this indicator is defined at individual level; i.e. has to be calculated by individual and not by household.

For this indicator a total and breakdowns by whether the person was on or above or below the at-risk-of-poverty threshold as well as gender and selected age groups have to be calculated. For the purpose of this indicator, the at-risk-of-poverty threshold is defined at 60% of national median equivalised disposable income.

<u>Algorithm for the calculation</u>

Calculation of the at-risk-of-poverty threshold

See algorithm for the calculation of 'at-risk-of-poverty threshold' defined at 60% of national median equivalised disposable income (=indicator 1).

Calculation of breakdowns

Each person is classified in the following categories according to his/her age and gender and whether she/he is considered to be at-risk-of-poverty according to the at-risk-of-poverty threshold calculated at 60% of national median equivalised disposable income:

Total		Males		Females	
EQ_INC<ARPT	EQ_INC≥ARPT	EQ_INC<ARPT	EQ_INC≥ARPT	EQ_INC<ARPT	EQ_INC≥ARPT
AGE ≥ 0 (TOTAL)	AGE ≥ 0 (TOTAL)	AGE ≥ 0	AGE ≥ 0	AGE ≥ 0	AGE ≥ 0
0 ≤ AGE ≤ 17	0 ≤ AGE ≤ 17				
18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64
AGE ≥ 65	AGE ≥ 65	AGE ≥ 65	AGE ≥ 65	AGE ≥ 65	AGE ≥ 65

Note:
- In accordance with the SPC.ISG recommendation, the 0-17 age group is not broken down by gender as it is not considered that any normative interpretation can be made of gender differences in the poverty risk of children. However, for publication in electronic databases, such as New Cronos, there are technical limitations which prevent not showing this breakdown.

- Households and individuals therein with missing equivalised disposable income (*EQ_INC*) or missing age or missing gender information are excluded from the calculation. Age at end of income reference period is used.

- Households with missing values (flag variable equal to -1 only) in at least one of the relevant material deprivation items are also excluded from the calculation; the items are HH050, HS010 (or HS011), HS020 (or HS021), HS030 (or HS031), HS040, HS050, HS060, HS070, HS080, HS100 and HS110.

Calculation of the number of items an individual is deprived of

The nine items considered are

item	corresponding EU-SILC	value of variable and	value of variable and

		variables	flag variable if individual is deprived of this item	flag variable if individual is not deprived of this item
1	arrears on mortgage or rent payments, utility bills, hire purchase instalments or other loan payments;	HS010 HS020 HS030	HS010=1 $\vee$ HS020=1 $\vee$ HS030=1	(HS010=2 $\vee$ HS010_F=-2) $\wedge$ (HS020=2 $\vee$ HS020_F=-2) $\wedge$ (HS030=2 $\vee$ HS030_F=-2)
		or HS011 HS021 HS031	or HS011=1 $\vee$ 2 $\vee$ HS021=1 $\vee$ 2 $\vee$ HS031=1 $\vee$ 2 $\vee$	or (HS011=3 $\vee$ HS011_F=-2) $\wedge$ (HS021=3 $\vee$ HS021_F=-2) $\wedge$ (HS031=3 $\vee$ HS031_F=-2)
2	capacity to afford paying for one week's annual holiday away from home;	HS040	HS040=2	HS040=1
3	capacity to afford a meal with meat, chicken, fish (or vegetarian equivalent) every second day;	HS050	HS050=2	HS050=1
4	capacity to face unexpected financial expenses [set amount corresponding to the monthly national at-risk-of-poverty threshold of the previous year];	HS060	HS060=2	HS060=1
5	household cannot afford a telephone (including mobile phone);	HS070	HS070=2	HS070=1 $\vee$ HS070=3
6	household cannot afford a colour TV;	HS080	HS080=2	HS080=1 $\vee$ HS080=3
7	household cannot afford a washing machine;	HS100	HS100=2	HS100=1 $\vee$ HS100=3
8	household cannot afford a car;	HS110	HS110=2	HS110=1 $\vee$ HS110=3
9	ability of the household to pay for keeping its home adequately warm.	HH050	HH050=2	HH050=1

If a household or individual therein has a missing value for at least one of the items, the household and the individuals therein are excluded from the calculation:

HS010_F=-1 ∨ HS020_F=-1 ∨ HS030_F=-1 ∨ HS040_F=-1 ∨ HS050_F=-1 ∨   HS060_F=-1 ∨
HS070_F=-1 ∨ HS080_F=-1 ∨ HS100_F=-1 ∨ HS110_F=-1 ∨ HH050_F=-1 ∨

Or:
HS011_F=-1 ∨ HS021_F=-1 ∨ HS031_F=-1 ∨ HS040_F=-1 ∨ HS050_F=-1 ∨   HS060_F=-1 ∨
HS070_F=-1 ∨ HS080_F=-1 ∨ HS100_F=-1 ∨ HS110_F=-1 ∨ HH050_F=-1 ∨
⇒ household and all individuals within the household are excluded from the calculation.

Now, for each individual, the number of items the individual is deprived of has to be calculated.

For this calculation, information from the R-file and the H-file has to be merged in such a way as to keep all rows from the R-file. It is irrelevant whether the number of items individuals/ households are deprived of are summed up before or after merging this information.

There are certainly a number of different methods (also depending on the possibilities of the statistical software used) to sum up the information from the nine items.

Below just one possibility is described.

Corresponding to each of the items a new variable is created

For item 1, the new variable MATDEP_item1.
MATDEP_item1=1 if (HS010=1 ∨ HS020=1 ∨ HS030=1)
MATDEP_item1=0   if   [(HS010=2 ∨ HS010_F=-2) ∧ (HS020=2 ∨ HS020_F=-2)
∧ (HS030=2 ∨ HS030_F=-2)]

Or:
MATDEP_item1=1 if (HS011=1 ∨ 2 ∨ HS021=1 ∨ 2 ∨ HS031=1 ∨ 2)
MATDEP_item1=0   if   [(HS011=3 ∨ HS011_F=-2) ∧ (HS021=3 ∨ HS021_F=-2)
∧ (HS031=3 ∨ HS031_F=-2)]

For item 2, the new variable MATDEP_item2.
MATDEP_item2=1 if HS040=2
MATDEP_item2=0 if HS040=1

For item 3, the new variable MATDEP_item3.
MATDEP_item3=1 if HS050=2
MATDEP_item3=0 if HS050=1

For item 4, the new variable MATDEP_item4.
MATDEP_item4=1 if HS060=2
MATDEP_item4=0 if HS060=1

For item 5, the new variable MATDEP_item5.
MATDEP_item5=1 if HS070=2
MATDEP_item5=0 if (HS070=1 ∨ HS070=3)
For item 6 the new variable MATDEP_item6.
MATDEP_item6=1 if HS080=2

MATDEP_item6=0 if (HS080=1 ∨ HS080=3)

For item 7 the new variable MATDEP_item7.
MATDEP_item7=1 if HS100=2
MATDEP_item7=0 if (HS100=1 ∨ HS100=3)

For item 8 the new variable MATDEP_item8.
MATDEP_item8=1 if HS110=2
MATDEP_item8=0 if (HS110=1 ∨ HS110=3)

For item 9 the new variable MATDEP_item9.
MATDEP_item9=1 if HH050=2
MATDEP_item9=0 if HH050=1.

Then, to calculate the number of items an individual or household i is deprived of (in the economic strain and durables dimension) – *MATDEP_ED*

$$MATDEP\_ED_i = \sum_{j=1}^{9} MATDEP\_itemj_i$$

Another new variable can then be created to divide the sample into those which lack at least three items ($MATDEP\_ED_i \geq 3$) and those which lack less than three items.

Calculation of the proportion of population lacking at least three items

As this indicator is calculated at individual level, individual weights have to be used; here the appropriate weight is based on RB050.

The indicator is then calculated as

$$MATDEP\_ED3_{ARPT,age,gender} = \frac{\sum_{\forall i \ in \ the \ relevant \ breakdown \ with \ MATDEP\_ED \geq 3} weight'i}{\sum_{\forall i \ in \ the \ same \ breakdown} weight'i} \cdot 100$$

where
weight i = RB050i weight of the person *i* and
weight' i = corrected weight of the person *i*.[14]

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[14] see footnote no. 12.

Presentation table

No.	Age	Gender	At-risk-of-poverty	(%)
	Proportion of population lacking at least three items in the 'economic strain and durables' dimension of the material deprivation items			
1	Total (AGE ≥ 0)	T	total	:
2		T	yes	:
3		T	no	:
4		M	total	:
5		M	yes	:
6		M	no	:
7		F	total	:
8		F	yes	:
9		F	no	:
10	(0 ≤ AGE ≤ 17)	T	total	:
11		T	yes	:
12		T	no	:
13	(18 ≤ AGE ≤ 64)	T	total	:
14		T	yes	:
15		T	no	:
16		M	total	:
17		M	yes	:
18		M	no	:
19		F	total	:
20		F	yes	:
21		F	no	:
22	(AGE ≥ 65)	T	total	:
23		T	yes	:
24		T	no	:
25		M	total	:
26		M	yes	:
27		M	no	:
28		F	total	:
29		F	yes	:
30		F	no	:

Secondary indicators

6. At-risk-of-poverty rate, by age and gender

<u>Definition</u>

The percentage of persons in the total population and in the relevant age and gender breakdowns, over the total population or over the relevant age or gender subset, with an equivalised disposable income below the 'at-risk-of-poverty threshold'.
The at-risk-of poverty threshold is set at 60% of the national median equivalised disposable income.
For this indicator a total and breakdowns by gender and age groups have to be calculated.

<u>Algorithm for the calculation</u>

Calculation of at-risk-of-poverty threshold

See algorithm for the calculation of 'at-risk-of-poverty threshold, illustrative values' (=indicator 1).

List of age-gender breakdowns

Each person is classified in the following categories according to his/her age at the end of the income reference period and their gender (=SILC variable RB090):

<u>Total</u>	<u>Males</u>	<u>Females</u>
AGE ≥ 0	AGE ≥ 0	AGE ≥ 0
0 ≤ AGE ≤ 17		
18 ≤ AGE ≤ 24	18 ≤ AGE ≤ 24	18 ≤ AGE ≤ 24
25 ≤ AGE ≤ 54	25 ≤ AGE ≤ 54	25 ≤ AGE ≤ 54
55 ≤ AGE ≤ 64	55 ≤ AGE ≤ 64	55 ≤ AGE ≤ 64
AGE ≥ 65	AGE ≥ 65	AGE ≥ 65

Calculation of at-risk-of-poverty rate by age and gender

The 'at-risk-of poverty rate broken down by age and gender' ($ARPR_{at\text{-}age/gender}$) is calculated as the percentage of persons in each age group and gender with an equivalised disposable income below the at-risk-of-poverty threshold over the total population in the same age group and gender (i.e. for each breakdown, the equivalised disposable income of each person is compared to the at-risk-of-poverty threshold calculated for the total population. The cumulated weights of persons whose equivalised disposable income, for a given breakdown, is below the at-risk-of-poverty threshold are divided by the cumulated weights of persons who belong to the same breakdown).

$$ARPR_{at\_age/gender} = \frac{\sum\limits_{\forall i \ in \ the \ relevant \ age/gender \ breakdown \ with \ EQ\_INC \ < \ ARPT} weight'i}{\sum\limits_{\forall i \ in \ the \ same \ breakdown} weight'i} \cdot 100$$

where:
weight i = RB050i weight of the person *i* and
weight' i = corrected weight of the person *i.*[15]

Note:
- In accordance with the SPC.ISG recommendation, the 0-17 age group is not broken down by gender as it is not considered that any normative interpretation can be made of gender differences in the poverty risk of children. In practise, for the calculation of the indicators with statistical packages and for publication on the New Cronos database, it is not possible to exclude gender breakdowns for the 0-17 age group. However these breakdowns will not be used for printed publications.
- Persons with missing equivalised disposable income (*EQ_INC*) or missing age or missing gender information are excluded from the calculation.

Presentation tables

No.	Age	Sex	(%)
	At-risk-of-poverty rate, by age and gender		
1	Total (AGE ≥ 0)	T	
2		M	
3		F	
4	(0 ≤ AGE ≤ 17)	T	
5	(18 ≤ AGE ≤ 24)	T	
6		M	
7		F	
8	(25 ≤ AGE ≤ 54)	T	
9		M	
10		F	
11	(55 ≤ AGE ≤ 64)	T	
12		M	
13		F	
14	(AGE ≥ 65)	T	
15		M	
16		F	

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[15] see footnote no. 12.

7. At-risk-of-poverty rate, by household type

<u>Definition</u>

The 'at-risk-of poverty rate (after social transfers) broken down by household type (HT) is calculated as the percentage of persons in each breakdown (over the total population in the same breakdown) with an equivalised disposable income below the 'at-risk-of-poverty threshold'.

The following 16 household types will be considered:

14	Household without dependent children (HH_NDCH)
5	…. One person household, total (single person) (A1)
3	…. …. One person household, male (A1M)
4	…. …. One person household, female (A1F)
1	…. …. One person household, aged less than 65 years (A1_LT64)
2	…. …. One person household, aged 65 years or more (A1_GE65)
6	…. 2 adults, no dependent children, both aged less than 65 year (A2_2LT65)s
7	…. 2 adults, no dependent children, at least one aged 65 years or more (A2_GE1_GE65)
8	…. Other households without dependent children (three or more adults) (A_GE3)
15	Household with dependent children (HH_DCH)
9	…. Single parent household, one or more dependent children (A1_DCH)
10	…. 2 adults, one dependent child (A2_1DCH)
11	…. 2 adults, two dependent children (A2_2DCH)
12	…. 2 adults, three or more dependent children (A2_GE3DCH)
13	…. Other households with one or more dependent children (A_GE3_DCH)
16.	Others (not possible to determine type)

Where "dependent children" are defined as:
- Household members aged less than18
- Household members aged 18 to 24, economically inactive and living with at least one parent

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Note:
- An expanded version of this breakdown is used for the related collection of Pensions indicators adopted under the Open Method of Coordination.
- The classification is not mutually exclusive.

<u>Algorithm for the calculation</u>

To calculate this indicator, information on age at the end of the income reference period, gender, family relations and activity status is required. Persons with missing data of this type are excluded.

Division of persons in dependent children and adults

- If age information is missing then household members are neither classified as dependent children (HT_D) nor as adults (HT_D).

- If $AGE < 18 \Rightarrow$ person is a dependent child HT_D=1

- If $AGE > 24 \Rightarrow$ person is not a dependent child HT_A=1.

- If $18 \le AGE \le 24 \wedge (RB220\_F=1 \vee RB230\_F=1) \wedge PL030) = 1,2 \Rightarrow$ person is not a dependent child HT_A=1 (person lives with at least one parent and is economically active).

- If $18 \le AGE \le 24$
$\wedge (RB220\_F=1 \vee RB230\_F=1) \wedge PL030) = 3,4,5,6,7,8,9 \wedge (PL020=1 \wedge PL025=1) \Rightarrow$
person is a dependent child HT_D=1 (person lives with at least one parent and is economically inactive).

- If $18 \le AGE \le 24$
$\wedge (RB220\_F=1 \vee RB230\_F=1) \wedge PL030) = 3,4,5,6,7,8,9 \wedge (PL020 \ne 1 \vee PL025 \ne 1) \Rightarrow$
person is a dependent child HT_D=1 (person lives with at least one parent and is economically inactive).

- If $18 \le AGE \le 24 \wedge (RB220\_F=1 \vee RB230\_F=1) \wedge PL030) = 3,4,5,6,7,8,9 \Rightarrow$ person is a dependent child HT_D=1 (person lives with at least one parent and is economically inactive).

- If $18 \le AGE \le 24 \wedge (RB220\_F \ne 1 \wedge RB230\_F \ne 1) \Rightarrow$ person is not a dependent child HT_A=1 (not living with parents).

- Otherwise if $18 \le AGE \le 24 \Rightarrow$ person is not a dependent child HT_A=1.

Calculation of household type breakdowns

In each household the derived variables 'number of adults' (N_ADU) and 'number of dependent children' (N_DCH) will then be calculated.

If N_ADU+N_DCH $\ne$ household size (determined with RB030) $\Rightarrow$ household type cannot be determined (HT=16).

Households without dependent children:
If N_ADU=1 $\wedge$ N_DCH=0 $\Rightarrow$ HT=5 (where they still need to be split up into HT=1,2,3,4 depending on which breakdown should be calculated).
If N_ADU=1 $\wedge$ N_DCH>0 $\Rightarrow$ HT=9.
If N_ADU=2 $\wedge$ N_DCH=0 $\wedge$ (maximum age in household<65) $\Rightarrow$ HT=6.
If N_ADU=2 $\wedge$ N_DCH=0 $\wedge$ (maximum age in household $\ge$ 65) $\Rightarrow$ HT=7.
If N_ADU $\ge$ 3 $\wedge$ N_DCH=0 $\Rightarrow$ HT=8.

Households with dependent children:
If N_ADU=2 $\wedge$ N_DCH=1 $\Rightarrow$ HT=10.
If N_ADU=2 $\wedge$ N_DCH=2 $\Rightarrow$ HT=11.
If N_ADU=2 $\wedge$ N_DCH $\ge$ 3 $\Rightarrow$ HT=12.
If N_ADU $\ge$ 3 $\wedge$ N_DCH>0 $\Rightarrow$ HT=13.

Calculation of at-risk-of-poverty rate by household type

The 'at-risk-of poverty rate (after social transfers) broken down by household type (ARPR$_{at\text{-}HT}$) is calculated as the percentage of persons in each household type with an equivalised disposable income below the '**at-risk-of-poverty threshold**' over the total population in the same household type (i.e. for each breakdown, the equivalised disposable income of each person is compared with the at-risk-of-poverty threshold calculated for the total population. The cumulated weights of persons whose equivalised disposable income, for a given breakdown, is below the at-risk-of-poverty threshold are divided by the cumulated weights of persons who belong to the same breakdown).

$$ARPR_{at\_household\ type} = \frac{\sum\limits_{\forall i\ in\ the\ relevant\ household\ type\ breakdown\ with\ EQ\_INC\ <\ ARPT} weight'i}{\sum\limits_{\forall i\ in\ the\ same\ breakdown} weight'i} \cdot 100$$

where:
weight i = RB050i weight of the person *i* and
weight' i = corrected weight of the person *i*.[16]

Note:
• Persons with missing 'equivalised disposable income' or missing household type (e.g. because of missing age) are excluded.

Presentation table

At-risk-of poverty rate by household type				
Household type				**(%)**
14	No dependent children	Total		:
5		1 person household	Total	:
3			Male	:
4			Female	:
1			Age < 65	:
2			Age ≥ 65	:
6		2 person household,	Both age < 65	:
7			At least one age ≥ 65	:
8		Other households		:
15	With dependent children	Total		:
9		Single parent		:
10		Two adults	1 dependent child	:
11			2 dependent children	:
12			3 or more dependent children	:
13		Other households		:

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[16] see footnote no. 12.

8. At-risk-of-poverty rate by work intensity of the household and by gender and selected age groups

<u>Definition</u>

The 'at-risk-of poverty rate (after social transfers) broken down by different work intensity categories and broad household types is calculated as the percentage of persons in work intensity and household type (over the total population in the same group) with an equivalised disposable income below the 'at-risk-of-poverty threshold'.

The work intensity of the household refers to the number of months that all working age household members have been working during the income reference year as a proportion of the total number of months that could theoretically be worked within the household.

<u>Algorithm for the calculation</u>

To calculate this indicator, information on age at the end of the income reference period, family relations and activity status is required. Persons with missing data of this type are excluded.

Calculation of the work intensity of the household

A working age person is defined as a person aged 18-64, not being a dependent child. 'Dependent children' includes all persons aged below 18 as well as persons aged 18 to 24 years, living with at least one parent and economically inactive (see indicator '*at-risk-of-poverty rate by household type*').

For each working age person, two figures are computed, using the calendar of activities of the previous year (see indicator '*at-risk-of-poverty rate by most frequent activity status*'):
- the number of months in the previous year for which the person has given information about her/his activity status – the "workable" months - and:
- the number of months in the previous year for which the person has been classified as 'at work'.

By 'at work' we mean:
- in paid employment, whether full-time or part-time
- including paid apprenticeship or training under special schemes related to employment
- in self-employment (with or without employees)
- including unpaid work in family enterprise

If the person is under 18 or over 64 or a dependant child (aged 18-24 years, living with at least one parent and inactive), we put both figures to 0.

Households composed solely of students are excluded from the calculations: if the number of people aged 18-24 with a current activity status of 'student' is equal to the total number of persons in the household, then the household is dropped.

We then sum up for each household the number of "workable" months of all working age members (NWAM). We also sum up, for each household, the number of months spent by

each working age member as 'at work', according to the definition above. This value is the number of worked months (NWDM).

We finally compute the work intensity of the household by dividing the number of worked months by the number of workable months.

$$WI \quad = \quad \frac{NWDM}{NWAM}$$

Classification by household type

'Dependent children' includes all persons aged below 18 as well as persons aged 18 to 24 years, living with at least one parent and economically inactive (see indicator '*at-risk-of-poverty rate by household type*').

The following categories of households are defined:

       Households without dependent children
          1   WI = 0
          2   0 < WI < 1
          5   WI =1
       Households with dependent children
          1   WI = 0
          3   0 < WI < 0.5
          4   0.5 ≤ WI < 1
          5   WI =1

Calculation of at-risk-of-poverty-rate by work intensity of the household

The 'at-risk-of poverty rate (after social transfers) broken down by the work intensity of the household is calculated as the percentage of persons in each category (over the total population in the same category) with an equivalised disposable income below the 'at-risk-of-poverty threshold' (i.e. for each breakdown the equivalised disposable income of each person is compared with the at-risk-of-poverty threshold calculated for the total population. The cumulated weights of persons whose equivalised disposable income, for a given breakdown, is below the at-risk-of-poverty threshold are divided by the cumulated weights of persons who belong to the same breakdown).

$$ARPR_{at\_WI} = \frac{\displaystyle\sum_{\forall i \ in \ the \ relevant \ WI \ breakdown \ with \ EQ\_INC \ < \ ARPT} weight\,'i}{\displaystyle\sum_{\forall i \ in \ the \ same \ WI \ breakdown} weight\,'i} \cdot 100$$

where:
weight i = RB050i weight of the person *i* and
weight' i = corrected weight of the person *i*.[17]

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[17] see footnote no. 12.

Presentation table

At-risk-of poverty rate by work intensity of the household			
	Household type #1 (dch 18)	**WI**	**(%)**
1	No dependent children	WI = 0	:
2		(0 < WI < 1)	:
3		WI = 1	:
4	With dependent children	WI = 0	:
5		(0 < WI < 0.5)	:
6		(0.5 ≤ WI ≤ 1)	:
7		WI = 1	:

---

9. At-risk-of-poverty rate by most frequent activity status and, by gender and selected age groups

Definition

The 'at-risk-of poverty rate (after social transfers) broken down by most frequent activity status during the income reference period as well as gender and selected age groups is calculated as the percentage of persons in each breakdown (over the total population in the same breakdown) with an equivalised disposable income below the 'at-risk-of-poverty threshold' .

The variable 'most frequent activity status' was initially defined in 2001, but was subsequently revised.
The most frequent activity status is defined as the status that individuals declare themselves to have occupied for more than half the total number of months for which information on any status is available (from the cross-sectional variables). Consequently, where an individual provides information on his activity status over 12 months, his most frequent activity status will be the status he declares to have occupied for at least 7 months.
Individuals who have spent only half or less than the total number of declared months in any activity status are excluded from the computation. People with less than 7 months declared in the calendar of activities are excluded.

The following activity statuses are considered by gender and total:

1. Total population
2. In work
3. Not at work
   3.1 Unemployed
   3.2 Retired
   3.3 Other inactive

Note:

The activity statuses cannot be considered as a perfectly hierarchical structure.

Due to the construction of the activity statuses the subset of the total population 'in work' will contain more than the sum of 'wage/ salary employees' and 'self-employed'. The same holds for the subset 'not at work'. That is, the breakdowns of 'in work' and 'not at work' are not exhaustive.

This is the case because persons who spend less than half of the reported time in two or more breakdowns of 'in work' or 'not at work' may qualify as being 'in work' or 'not at work' but nor any of the breakdowns.

Algorithm for the calculation

Calculation of age-gender breakdowns

Each household member is classified in the following categories according to his/her age and sex:

Total	Males	Females
1 = AGE ≥ 18	4 = AGE ≥ 18	7 = AGE ≥ 18
2 = 18 ≤ AGE ≤ 64	5 = 18 ≤ AGE ≤ 64	8 = 18 ≤ AGE ≤ 64
3 = AGE ≥ 65	6 = AGE ≥ 65	9 = AGE ≥ 65

Note:
- Under EU-SILC activity status information is only collected from persons aged 16 and over. This indicator is only considered relevant for persons other than children, i.e. aged 18+ (or 16+ under old methodology). Children aged 0-17 (or 0-15 under old methodology) are therefore excluded from the calculation.
- Persons with missing age or sex information are excluded from the calculation. Age at end of income reference period is used.

Calculation of most frequent activity status breakdowns

For each household member aged 18+ (16+), the number of months spent in each status during the income reference period is counted.

TOT POP	Total number of months spent in any status during the income reference period
WRK	Number of months spent 'in work'
NOT	Number of months spent as 'not at work'
UNP	Number of months spent in unemployment
RET	Number of months spent in retirement
OIN	Number of months spent as 'other inactive' (in education or training; doing housework, looking after children or other persons; in community or military service; other economically inactive)

Notes:
- The activity statuses correspond to the following SILC target variables:
    WRK = sum of PL070 (full-time) and PL072 (part-time)
    NOT= sum of PL080, PL085, PL087 and PL090

Calculation of most frequent activity status ratios

For each household member for which RB250 = 11, 12 or 13 the following variables will be selected: PL070, PL072, PL080, PL085, PL087, PL090 (or PL073, PL074, PL075, PL076, PL080, PL085, PL086, PL087, PL088, PL089, PL090).
The following derived variables will be constructed:

TOT= PL070 + PL072 + PL080 + PL085 + PL087 + PL090
WRK= PL070 + PL072
NOT= PL080 + PL085 + PL087 + PL090
      UNP = PL080
      RET = PL085
      OIN = PL087 + PL090

Or:
TOT= PL073 + PL074 + PL075 + PL076 + PL080 + PL085 + PL086 + PL087 + PL088 + PL089 + PL090
WRK= PL073 + PL074 + PL075 + PL076
NOT= PL080 + PL085 + PL086 + PL087 + PL088 + PL089 + PL090
      UNP = PL080
      RET = PL085
      OIN = PL086 + PL087 + PL088 + PL089 + PL090

If $TOT < 7$, then exclude the individual.
(Only persons, which have reported for more than 7 months are considered.)

If $TOT \geq 7$

$$Ratio1 = \frac{WRK}{TOT}, \ Ratio\,2 = \frac{NOT}{TOT}, \ Ratio3 = \frac{UNP}{TOT}, \ Ratio\,4 = \frac{RET}{TOT}, \ Ratio\,5 = \frac{OIN}{TOT}$$

(The calculations above determine, what ratio of time was spent in different activity statuses for each person.)

(Here it is determined whether the person has spent more than half the reported time in any activity status)

Let Max-ratio = max $\{$ Ratio 1, Ratio 2, Ratio 3, Ratio 4, Ratio 5 $\}$

If Max-ratio $\leq 0.5 \Rightarrow$ *Activity status = -9* (missing)

Otherwise: - if Ratio1 > 0.5 $\Rightarrow$ *Activity status = 1*
  - if Ratio2 > 0.5 $\Rightarrow$ *Activity status = 2*
  - if Ratio3 > 0.5 $\Rightarrow$ *Activity status = 3*
  - if Ratio4 > 0.5 $\Rightarrow$ *Activity status = 4*
  - if Ratio5 > 0.5 $\Rightarrow$ *Activity status = 5*

Calculation of at-risk-of-poverty rate by most frequent activity status and by gender and selected age group

The 'at-risk-of poverty rate (after social transfers) broken down by most frequent activity status ($ARPR_{as}$) is calculated – for each age-gender category – as the percentage of persons in each activity status with an equivalised disposable income below the '**at-risk-of-poverty threshold**' over the total population in the same activity status (i.e. for each breakdown, the equivalised disposable income of each person is compared with the at-risk-of-poverty threshold calculated for the total population. The cumulated weights of persons whose equivalised disposable income, for a given breakdown, is below the at-risk-of-poverty threshold are divided by the cumulated weights of persons who belong to the same breakdown).

$$ARPR_{at-mfas} = \frac{\displaystyle\sum_{\forall i \text{ in each } activity\ status \wedge EQ\_INC<ARPR \wedge gender} weight\ i}{\displaystyle\sum_{\forall i \text{ in this } activity\ status \wedge gender} weight\ i} \cdot 100$$

where *weight i* = personal weight of the person *i* on the basis of PB040 and
weight' i = adjusted weight of person *i* on the basis of PB040[18].

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[18] see the corresponding calculation for RB050: footnote no. 12

Presentation table

No.	Age	Activity status	Sex	(%)
At-risk-of poverty rate by most frequent activity status				
1	(AGE ≥ 18)	Total at-work	T	:
2			M	:
3			F	:
4		Total not at-work	T	:
5			M	:
6			F	:
7		UNP	T	:
8			M	:
9			F	:
10		RET	T	:
11			M	:
12			F	:
13		OIN	T	:
14			M	:
15			F	:
16	(18 ≤ AGE ≤ 64)	Total at-work	T	:
17			M	:
18			F	:
19		Total not at-work	T	:
20			M	:
21			F	:
22		UNP	T	:
23			M	:
24			F	:
25		RET	T	:
26			M	:
27			F	:
28		OIN	T	:
29			M	:
30			F	:
31	(AGE ≥ 65)	Total at-work	T	:
32			M	:
33			F	:
34		Total not at-work	T	:
35			M	:
36			F	:
37		UNP	T	:
38			M	:
39			F	:
40		RET	T	:
41			M	:
42			F	:
43		OIN	T	:
44			M	:
45			F	:

10. At-risk-of-poverty rate by accommodation tenure status and by gender and selected age groups

<u>Definition</u>

The 'at-risk-of poverty rate (after social transfers) broken down by accommodation tenure status and by gender and selected age groups is calculated as the percentage of persons in each modified accommodation tenure status and in the relevant age and gender breakdown (over the total population with the same accommodation tenure status and in the same age and gender breakdown) with an equivalised disposable income below the 'at-risk-of-poverty threshold'.

<u>Algorithm for the calculation</u>

Calculation of accommodation tenure status

The variable accommodation tenure status' is defined as follow:

Tenure status
$$\begin{cases} \text{1 (owner or occupied rent-free)} \\ \text{2 (tenant at prevailing market rent or at reduced rate)} \\ \text{. (missing)} \end{cases}$$

The accommodation tenure status is assigned to each household member.

<u>Note:</u>
Under EU-SILC, the relevant target variable is HH020 (or HH021).

Calculation of age-gender breakdowns

Each person with an accommodation tenure status is classified in the following categories according to his/her age and sex:

Total	Males	Females
AGE ≥ 0	AGE ≥ 0	AGE ≥ 0
0 ≤ AGE ≤ 17		
AGE ≥ 18	AGE ≥ 18	AGE ≥ 18
18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64
AGE ≥ 65	AGE ≥ 65	AGE ≥ 65

- In accordance with the SPC.ISG recommendation, the 0-17 age group is not broken down by gender as it is not considered that any normative interpretation can be made of gender differences in the poverty risk for children. In practise, for the calculation of the indicators

with statistical packages and for publication on the New Cronos database, it is not possible to exclude gender breakdowns for the 0-17 age group. However these breakdowns will not be used for printed publications.

- Households or persons therein with missing age, EQ_INC, tenure status or sex information are excluded from the calculation. Age at end of income reference period is used.

Calculation of at-risk-of-poverty-rate by accommodation tenure status by gender and selected age group

The 'at-risk-of poverty rate (after social transfers) broken down by accommodation tenure status by gender and selected age group is calculated – for each age-gender category – as the percentage of persons in each modified accommodation tenure status (over the total population with the same modified accommodation tenure status) with an equivalised disposable income below the 'at-risk-of-poverty threshold' (i.e. for each breakdown the equivalised disposable income of each person is compared with the at-risk-of-poverty threshold calculated for the total population. The cumulated weights of persons whose equivalised disposable income, for a given breakdown, is below the at-risk-of-poverty threshold are divided by the cumulated weights of persons who belong to the same breakdown).

$$ARPR_{at\_ts} = \frac{\sum\limits_{\forall i \ in \ the \ relevant \ tenure \ status \ with \ EQ\_INC \ < \ ARPT} weight'i}{\sum\limits_{\forall i \ in \ the \ same \ breakdown} weight'i} \cdot 100$$

where:
weight i = RB050i weight of the person *i* and
weight' i = corrected weight of the person *i*.[19]

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[19] see footnote no. 12.

Presentation table

		At-risk-of poverty rate by accommodation tenure status		
No.	**Age**	**Accommodation tenure status**	**Sex**	**(%)**
1	Total (AGE ≥ 0)	Owner or rent free	T	:
2			M	:
3			F	:
4		Tenant	T	:
5			M	:
6			F	:
7	(0 ≤ AGE ≤ 17)	Owner or rent free	T	:
8		Tenant	T	:
9	(AGE ≥ 18)	Owner or rent free	T	:
10			M	:
11			F	:
12		Tenant	T	:
13			M	:
14			F	:
15	(18 ≤ AGE ≤ 64)	Owner or rent free	T	:
16			M	:
17			F	:
18		Tenant	T	:
19			M	:
20			F	:
21	(AGE ≥ 65)	Owner or rent free	T	:
22			M	:
23			F	:
24		Tenant	T	:
25			M	:
26			F	:

11. Dispersion around the at-risk-of-poverty threshold by gender and selected age groups

NB. See also similar indicator 1 'At-risk-of-poverty rate'.

Definition

This indicator is defined as the percentage of persons, over the total population, with an equivalised disposable income below 40%, 50% and 70% of the national median equivalised disposable income.
So for this indicator different 'at-risk-of-poverty rates' (after social transfers) broken down by age and gender are calculated with alternative 'at-risk-of-poverty thresholds'.

Algorithm for the calculation

Calculation of age-gender breakdowns

Each person is classified in the following categories according to his/her age and gender:

Total	Males	Females
AGE ≥ 0	AGE ≥ 0	AGE ≥ 0
0 ≤ AGE ≤ 17		
AGE ≥ 18	AGE ≥ 18	AGE ≥ 18
18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64
AGE ≥ 65	AGE ≥ 65	AGE ≥ 65

Calculation of 'at-risk-of-poverty thresholds'

Let EQ_INC_{Median} the national median equivalised disposable income
then

$ARPT_{40\%} = 40\%\ At\text{-}risk\text{-}of\text{-}poverty\ threshold = 40\% \cdot EQ\_INC_{MEDIAN}$

$ARPT_{50\%} = 50\%\ At\text{-}risk\text{-}of\text{-}poverty\ threshold = 50\% \cdot EQ\_INC_{MEDIAN}$

$ARPT_{70\%} = 70\%\ At\text{-}risk\text{-}of\text{-}poverty\ threshold = 70\% \cdot EQ\_INC_{MEDIAN}$

Calculation of at-risk-of poverty rate after transfers using the 40%, 50% and 70% threshold

For each of the specified age-gender breakdowns, the 'at-risk-of poverty rate (after social transfers)' using the x% (median equivalised disposable income) at-risk-of-poverty threshold (where x% = 40%, 50%, 70%) will be calculated as the percentage of persons (over the total population) with an equivalised disposable income below the x% at-risk-of-poverty threshold (i.e. the equivalised disposable income of each person is compared with the x% at-risk-of-poverty threshold. The cumulated weights of persons whose equivalised disposable income is below the x% at-risk-of-poverty threshold are divided by the weight of the total population in the relevant breakdown (sum of all the personal weights)).

$$ARPR_{40\%\ at\_age/gender} = \frac{\sum\limits_{\forall i\ in\ the\ relevant\ age/gender\ breakdown\ with\ EQ\_INC\ <\ ARPT_{40\%}} weight'i}{\sum\limits_{\forall i\ in\ the\ same\ breakdown} weight'i} \cdot 100$$

$$ARPR_{50\%\ at\_age/gender} = \frac{\displaystyle\sum_{\forall i\ in\ the\ relevant\ age/gender\ breakdown\ with\ EQ\_INC\ <\ ARPT_{50\%}} weight'i}{\displaystyle\sum_{\forall i\ in\ the\ same\ breakdown} weight'i} \cdot 100$$

$$ARPR_{70\%\ at\_age/gender} = \frac{\displaystyle\sum_{\forall i\ in\ the\ relevant\ age/gender\ breakdown\ with\ EQ\_INC\ <\ ARPT_{70\%}} weight'i}{\displaystyle\sum_{\forall i\ in\ the\ same\ breakdown} weight'i} \cdot 100$$

where:
$weight\ i =$ RB050i weight of the person i and
$weight'\ i =$ corrected weight of the person i.[20]

Note:
- Household and individuals therein with missing 'equivalised disposable income' or age (year of birth only) or gender are excluded. Age at the end of the income reference period is used.

Presentation table

Dispersion around the at-risk-of-poverty threshold (at-risk-of-poverty rates)								
40% of median			**50% of median**			**70% of median**		
Age	**Sex**	**risk-of-poverty (%)**	**Age**	**Sex**	**risk-of-poverty (%)**	**Age**	**Sex**	**risk-of-poverty (%)**
(AGE ≥ 0)	T		(AGE ≥ 0)	T		(AGE ≥ 0)	T	
	M			M			M	
	F			F			F	
(0 ≤ AGE ≤ 17)	T		(0 ≤ AGE ≤ 17)	T		(0 ≤ AGE ≤ 17)	T	
(AGE ≥ 18)	T		(AGE ≥ 18)	T		(AGE ≥ 18)	T	
	M			M			M	
	F			F			F	
(18 ≤ AGE ≤ 64)	T		(18 ≤ AGE ≤ 64)	T		(18 ≤ AGE ≤ 64)	T	
	M			M			M	
	F			F			F	
(AGE ≥ 65)	T		(AGE ≥ 65)	T		(AGE ≥ 65)	T	
	M			M			M	
	F			F			F	

12. Intensity of material deprivation by age, gender and at-risk-of-poverty status

Comment

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[20] see footnote no. 12.

Due to the number and nature of breakdowns agreed by the ISG– fourteen, not taking into account aggregations of breakdowns – EU-SILC publication rules might oblige the flagging/ scratching of some breakdowns in countries with comparatively smaller sample sizes.

<u>Definition</u>

This indicator is defined as the mean number of items lacked by persons considered as deprived in the 'economic strain and durables' dimension.

Individuals are considered as deprived if they have an enforced lack of at least three out of nine material deprivation items in the 'economic strain and durables' dimension.

The nine items considered are 1) arrears on mortgage or rent payments, utility bills, hire purchase instalments or other loan payments; 2) capacity to afford paying for one week's annual holiday away from home; 3) capacity to afford a meal with meat, chicken, fish (or vegetarian equivalent) every second day; 4) capacity to face unexpected financial expenses [set amount corresponding to the monthly national at-risk-of-poverty threshold of the previous year]; 5) household cannot afford a telephone (including mobile phone); 6) household cannot afford a colour TV; 7) household cannot afford a washing machine; 8) household cannot afford a car and 9) ability of the household to pay for keeping its home adequately warm.

Although the material deprivation information refers to the household level, this indicator is defined at individual level; i.e. has to be calculated by individual and not by household.

For this indicator a total and breakdowns by whether the person was on or above or below the at-risk-of-poverty threshold as well as gender and selected age groups have to be calculated. For the purpose of this indicator, the at-risk-of-poverty threshold is defined at 60% of national median equivalised disposable income

<u>Algorithm for the calculation</u>

Calculation of the individuals considered as deprived

For this indicator, only individuals which have an enforced lack of at least three out of nine material deprivation items in the 'economic strain and durables' dimension are considered.

(See calculation of indicator 5- Material deprivation rate)

Thus individuals or households i are only used if $MATDEP\_ED_i \geq 3$.

Calculation of the at-risk-of-poverty threshold

See algorithm for the calculation of 'at-risk-of-poverty threshold' defined at 60% of national median equivalised disposable income (=indicator 1).

Calculation of breakdowns

Each person is classified in the following categories according to his/her age and gender and whether she/he is considered to be at-risk-of-poverty according to the at-risk-of-poverty threshold calculated at 60% of national median equivalised disposable income:

Total		Males		Females	
EQ_INC<ARPT	EQ_INC≥ARPT	EQ_INC<ARPT	EQ_INC≥ARPT	EQ_INC<ARPT	EQ_INC≥ARPT
AGE ≥ 0 (TOTAL)	AGE ≥ 0 (TOTAL)	AGE ≥ 0	AGE ≥ 0	AGE ≥ 0	AGE ≥ 0
0 ≤ AGE ≤ 17	0 ≤ AGE ≤ 17				
18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64
AGE ≥ 65	AGE ≥ 65	AGE ≥ 65	AGE ≥ 65	AGE ≥ 65	AGE ≥ 65

Note:
- In accordance with the SPC.ISG recommendation, the 0-17 age group is not broken down by gender as it is not considered that any normative interpretation can be made of gender differences in the poverty risk of children. However, for publication in electronic databases, such as New Cronos, there are technical limitations which prevent not showing this breakdown.

- Households and individuals therein with missing equivalised disposable income (*EQ_INC*) or missing age or missing gender information are excluded from the calculation. Age at end of income reference period is used.

- Households with missing values (flag variable equal to -1 only) in at least one of the relevant material deprivation items or the constructed variable MATDEP_ED are also excluded from the calculation; the items are HH050, HS010 (or HS011), HS020 (or HS021), HS030 (or HS031), HS040, HS050, HS060, HS070, HS080, HS100 and HS110.

Calculation of the mean number of items

As this indicator is calculated at individual level, individual weights have to be used; here the appropriate weight is based on RB050.

The indicator is then calculated as

$$MEAN\_MATDEP\_ED3_{ARPT,age,gender} = \frac{\sum\limits_{\forall i \text{ in the relevant breakdown with } MATDEP\_ED_i \geq 3} MATDEP\_ED_i \cdot weight'i}{\sum\limits_{\forall i \text{ in the relevant breakdown with } MATDEP\_ED \geq 3} weight'i}$$

where
weight i = RB050i weight of the person *i* and
weight' i = corrected weight of the person *i*.

Presentation table

No.	Age	Gender	At-risk-of-poverty	(one digit after comma)
1			total	:
2		T	yes	:
3			no	:
4			total	:
5	Total (AGE ≥ 0)	M	yes	:
6			no	:
7			total	:
8		F	yes	:
9			no	:
10			total	:
11	(0 ≤ AGE ≤ 17)	T	yes	:
12			no	:
13			total	:
14		T	yes	:
15			no	:
16			total	:
17	(18 ≤ AGE ≤ 64)	M	yes	:
18			no	:
19			total	:
20		F	yes	:
21			no	:
22			total	:
23		T	yes	:
24			no	:
25			total	:
26	(AGE ≥ 65)	M	yes	:
27			no	:
28			total	:
29		F	yes	:
30			no	:

The table header: Mean number of items lacked by persons considered as deprived in the 'economic strain and durables' dimension by age, gender and at-risk-of-poverty status

13. Housing cost overburden rate

Definition

This indicator is defined as the percentage of the population living in a household where the total housing costs (net of housing allowances) represent more than 40% of the total disposable household income (net of housing allowances).

Algorithm for the calculation

The first step is to compute the housing cost burden (HCB). HCB is defined as the ratio between the monthly total housing costs (HH070) multiplied by 12 and diminished by gross housing allowances (HY070G), and the annual total disposable household income (HY020) diminished by gross housing allowances following the formula:

$$\text{HCB} = \frac{(HH070x12) - HY070G}{HY020 - HY070G} \bullet 100$$

The following conditions should be checked and applied:

1. (HH070x12) – HY070G ≤ 0 then HCB = 0

2. HY020 – HY070G ≤ 0 then HCB = 100

3. HY020 – HY070G < (HH070x12) – HY070G then HCB = 100

The HCB threshold was set at 40 % of the total disposable household income.

Although all information used for its calculation refers to the household level, this indicator is defined at individual level, i.e. has to be calculated by individual and not by household. Therefore individual weights based on RB050 have to be used.

The indicator is calculated as

$$\text{Housing cost overburden rate} = \frac{\displaystyle\sum_{\forall\,i\,\text{in the relevant breakdown with HCB}>40\%} weight'i}{\displaystyle\sum_{\forall\,i\,\text{in the same breakdown}} weight'i} \bullet 100$$

where
weight i = RB050i weight of the person *i* and
weight' i = weight corrected for missing values of the person *i*

Breakdowns

For this indicator the totals and breakdowns by whether the person was above or below the at-risk-of-poverty threshold as well as gender, selected age groups, tenure status, degree of urbanisation, income quintiles and type of household have to be calculated.

Note:
- In accordance with the SPC.ISG recommendation, the 0-17 age group is not broken down by gender as it is not considered that any normative interpretation can be made of gender

differences in the poverty risk of children. However, for publication in electronic databases, there are technical limitations which prevent not showing this breakdown.

- Households and individuals therein with missing equivalised disposable income (*EQ_INC*) or missing housing costs or missing gross housing allowances or missing age or missing gender information are excluded from the calculation. Age at the end of income reference period is used.

Calculation of the at-risk-of-poverty threshold
See algorithm of the calculation of 'at-risk-of-poverty threshold' defined at 60% of national median equivalised disposable income.

Calculation of and poverty status and age breakdowns
Each person is classified in the following categories according to his/her age and whether she/he is considered to be at-risk-of-poverty according to the at-risk-of-poverty threshold calculated at 60% of national median equivalised disposable income:

TOTAL	EQ_INC<ARPT	EQ_INC>ARPT
AGE ≥ 0 (TOTAL)	AGE ≥ 0 (TOTAL)	AGE ≥ 0 (TOTAL)
0 ≤ AGE ≤ 17	0 ≤ AGE ≤ 17	0 ≤ AGE ≤ 17
18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64
AGE ≥ 65	AGE ≥ 65	AGE ≥ 65

Calculation of age and gender breakdowns
Each person is classified in the following categories according to his/her age and gender.

Total	Males	Females
AGE ≥ 0 (TOTAL)	AGE ≥ 0 (TOTAL)	AGE ≥ 0 (TOTAL)
0 ≤ AGE ≤ 17		
18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64
AGE ≥ 65	AGE ≥ 65	AGE ≥ 65

Calculation of tenure status (FROM 2007 operation ONLY)
To calculate the tenure status the variables interest repayments on mortgage (HY100G) and tenure status (HH020 or HH021) have to be used:

Tenure status
$\begin{cases} \end{cases}$
1 Outright owner: if HH020 = 1 and HY100G = 0 (or HY100G_F = 0)
2 Owner with mortgage: if HH020 = 1 and HY100G > 0
3 Tenant – market price: if HH020 = 2
4 Tenant – reduced price or free: if HH020 = 3 or 4

Or

Tenure status
$\begin{cases} \end{cases}$
1 Outright owner: if HH021 = 1
2 Owner with mortgage: if HH021 = 2
3 Tenant – market price: if HH021 = 3
4 Tenant – reduced price or free: if HH021 = 4 or 5

Households and individuals therein with missing HH020 (or HH021) or HY100G variables are excluded from the calculation of this breakdown.

The tenure status is assigned to each household member.

Calculation of degree of urbanisation
The variable degree of urbanisation (DB100) is defined as follow:

$$\text{Degree of urbanisation} \begin{cases} 1 \text{ Densely populated area} \\ 2 \text{ Intermediate area} \\ 3 \text{ Thinly populated area} \end{cases}$$

Households and individuals therein with missing DB100 are excluded from the calculation of this breakdown.

The degree of urbanisation status is assigned to each household member.

Calculation of the inter-quintile interval (quintile) which the person belongs to
A person belongs to 'quintile 1' if his/her equivalised disposable income is less than or equal to the equivalised disposable income of the person with the highest equivalised disposable income within the 20% of people which have the least income.

A person belongs to 'quintile q'(q= 2, 3 or 4) if his/her equivalised disposable income is:

- less than or equal to the equivalised disposable income of the person with the highest equivalised disposable income within the $q \cdot 20\%$ of people which have the least income, and

- higher than the equivalised disposable income of people in $(q-1) \cdot 20\%$ of the population with the lowest equivalised income.

A person belongs to quintile 5 if his/her equivalised disposable income is higher than the equivalised disposable income of people in the 80% of the population with the least equivalised income.

The derived variable 'quintile which a person belongs to' (QPB) is defined as:

$$\text{QPB} = \begin{cases} 1 \text{ if person belongs to the 1st quintile ('bottom')} \\ 2 \text{ if person belongs to the 2nd quintile} \\ 3 \text{ if person belongs to the 3rd quintile} \\ 4 \text{ if the person belongs to the 4th quintile} \\ 5 \text{ if the person belongs to the 5th quintile ('top')} \end{cases}$$

How to calculate QPB?

The procedure is broadly similar to the procedure applied for the calculation of the median (i.e. persons will be sorted according to their equivalised disposable income (sorting order: lowest to the highest value), but here the cut-off points will be:

$$\text{Cut-off-point}_q = q \cdot 20\% \cdot \sum_{i=1}^{n} weight'i \,,$$

where:

q = 1 to 5
n = number of persons (household members)
$weight'i$ = is the corrected weight of person i.

$$W = \sum_{i=1}^{n} weight'i$$

$$EQ\_INC_{q\_quintile} \begin{cases} \frac{1}{2}\left(EQ\_INC_j + EQ\_INC_{j+1}\right) & if \sum_{i=1}^{j} weight'i = q \cdot 20\% \cdot W \\[3mm] EQ\_INC_{j+1} & if \sum_{i=1}^{j} weight'i < q \cdot 20\% \cdot W < \sum_{i=1}^{j+1} weight'i \end{cases}$$

Note:
- Persons with missing 'equivalised disposable income' are excluded.
- The first sorting variable is the equivalised disposable income, the second sorting variable is the household identification number and the third sorting variable is the personal identification number.
- The quintiles are calculated on the level of the individuals in the sample.

Calculation of household type breakdown
The following 16 household types will be considered:

14	Household without dependent children (HH_NDCH)		
5	….	One person household, total (single person) (A1)	
3	….	….	One person household, male (A1M)
4	….	….	One person household, female (A1F)
1	….	….	One person household, aged less than 65 years (A1_LT64)
2	….	….	One person household, aged 65 years or more (A1_GE65)
6	….	2 adults, no dependent children, both aged less than 65 year (A2_2LT65)	
7	….	2 adults, no dependent children, at least one aged 65 years or more (A2_GE1_GE65)	
8	….	Other households without dependent children (three or more adults) (A_GE3)	
15	Household with dependent children (HH_DCH)		
9	….	Single parent household, one or more dependent children (A1_DCH)	
10	….	2 adults, one dependent child (A2_1DCH)	
11	….	2 adults, two dependent children (A2_2DCH)	
12	….	2 adults, three or more dependent children (A2_GE3DCH)	
13	….	Other households with one or more dependent children (A_GE3_DCH)	
16	Others (not possible to determine type)		

Where "dependent children" are defined as:
- Household members aged less than 18
- Household members aged 18 to 24, economically inactive and living with at least one parent

<u>Algorithm for the calculation</u>

To calculate this indicator, information on age at the end of the income reference period, gender, family relations and activity status is required. Persons with missing data of this type are excluded.

<u>Division of persons in dependent children and adults</u>

- If age information is missing then household members are neither classified as dependent children (HT_D) nor as adults (HT_D).

- If $AGE < 18 \Rightarrow$ person is a dependent child HT_D=1

- If $AGE > 24 \Rightarrow$ person is not a dependent child HT_A=1.

- If $18 \le AGE \le 24 \wedge (RB220\_F = 1 \vee RB230\_F = 1) \wedge PL030) = 1, 2 \Rightarrow$ person is not a dependent child HT_A=1 (person lives with at least one parent and is economically active).

- If $18 \le AGE \le 24$ $\wedge (RB220\_F = 1 \vee RB230\_F = 1) \wedge PL030) = 3, 4, 5, 6, 7, 8, 9 \wedge (PL020 = 1 \wedge PL025 = 1) \Rightarrow$ person is a dependent child HT_D=1 (person lives with at least one parent and is economically inactive).

- If $18 \le AGE \le 24$ $\wedge (RB220\_F = 1 \vee RB230\_F = 1) \wedge PL030) = 3, 4, 5, 6, 7, 8, 9 \wedge (PL020 \neq 1 \vee PL025 \neq 1) \Rightarrow$ person is a dependent child HT_D=1 (person lives with at least one parent and is economically inactive).

- If $18 \le AGE \le 24 \wedge (RB220\_F = 1 \vee RB230\_F = 1) \wedge PL030) = 3, 4, 5, 6, 7, 8, 9 \Rightarrow$ person is a dependent child HT_D=1 (person lives with at least one parent and is economically inactive).

- If $18 \le AGE \le 24 \wedge (RB220\_F \neq 1 \wedge RB230\_F \neq 1) \Rightarrow$ person is not a dependent child HT_A=1 (not living with parents).

- Otherwise if $18 \le AGE \le 24 \Rightarrow$ person is not a dependent child HT_A=1.

In each household the derived variables 'number of adults' (N_ADU) and 'number of dependent children' (N_DCH) will then be calculated.

If N_ADU+N_DCH $\neq$ household size (determined with RB030) $\Rightarrow$ household type cannot be determined (HT=16).

Households without dependent children:
If N_ADU=1 $\wedge$ N_DCH=0 $\Rightarrow$ HT=5 (where they still need to be split up into HT=1,2,3,4 depending on which breakdown should be calculated).
If N_ADU=1 $\wedge$ N_DCH>0 $\Rightarrow$ HT=9.
If N_ADU=2 $\wedge$ N_DCH=0 $\wedge$ (maximum age in household<65) $\Rightarrow$ HT=6.
If N_ADU=2 $\wedge$ N_DCH=0 $\wedge$ (maximum age in household $\ge$ 65) $\Rightarrow$ HT=7.
If N_ADU $\ge$ 3 $\wedge$ N_DCH=0 $\Rightarrow$ HT=8.

Households with dependent children:
If N_ADU=2 $\wedge$ N_DCH=1 $\Rightarrow$ HT=10.
If N_ADU=2 $\wedge$ N_DCH=2 $\Rightarrow$ HT=11.
If N_ADU=2 $\wedge$ N_DCH$\geq$3 $\Rightarrow$ HT=12.
If N_ADU$\geq$3 $\wedge$ N_DCH>0 $\Rightarrow$ HT=13.

Presentation tables

Housing cost overburden rate			
No.	**Age**	**At-risk-of-poverty**	**(%)**
1	Total (AGE $\geq$ 0)	total	:
2		yes	:
3		no	:
4	(0 $\leq$ AGE $\leq$ 17)	total	:
5		yes	
6		no	
7	(18 $\leq$ AGE $\leq$ 64)	total	:
8		yes	:
9		no	:
10	(AGE $\geq$ 65)	total	:
11		yes	:
12		no	:

Housing cost overburden rate			
No.	**Age**	**Gender**	**(%)**
1	Total (AGE $\geq$ 0)	T	:
2		M	:
3		F	:
4	(0 $\leq$ AGE $\leq$ 17)	T	:
5	(18 $\leq$ AGE $\leq$ 64)	T	:
6		M	:
7		F	:
8	(AGE $\geq$ 65)	T	:
9		M	:
10		F	:

Housing cost overburden rate		
No.	**Tenure status**	**(%)**
1	Outright owner	:
2	Owner with mortgage	:
3	Tenant – market price	:
4	Tenant – reduced price or free	:

Housing cost overburden rate		
No.	Degree of urbanisation	(%)
1	Densely populated area	:
2	Intermediate area	:
3	Thinly populated area	:

Housing cost overburden rate		
No.	Income quintiles	(%)
1	1 quintile	:
2	2 quintile	:
3	3 quintile	:
4	4 quintile	:
5	5 quintile	:

Housing cost overburden rate				
	Household type			(%)
14	No dependent children	Total		:
5		1 person household	Total	:
3			Male	:
4			Female	:
1			Age < 65	:
2			Age ≥ 65	:
6		2 person household,	Both age < 65	:
7			At least one age ≥ 65	:
8		Other households		:
15	With dependent children	Total		:
9		Single parent		:
10		Two adults	1 dependent child	:
11			2 dependent children	:
12			3 or more dependent children	:
13		Other households		:

14. Overcrowding rate

Definition

The indicator is defined as the percentage of the population living in an overcrowded household. A person is considered as living in an overcrowded household if the household does not have at its disposal a minimum of rooms equal to:
- one room for the household;
- one room for each couple;
- one room for each single person aged 18+;
- one room for two single people of the same sex between 12 and 17 years of age;
- one room for each single person of different sex between 12 and 17 years of age;
- one room for two people under 12 years of age.

Algorithm for the calculation

The first step is to calculate the minimum number of rooms needed for each household, for which the following numbers should be computed:

- number of persons living in a couple;
- number of adults not living in a couple;
- number of children at the age of 0-11;
- respective number of girls and boys at the age of 12-17.

New variable COUPLE ROOM

Variable PB180 (Spouse/partner ID) is used in order to calculate the number of persons living in a couple. To identify couples, only people at the age of 18 and more are taken into account.

The number of persons living in a couple and the number of rooms necessary for the couple(s) are as follows:

$$Ncouple = \sum_i (PB180\_F = 1)i \quad \wedge \quad AGEi \geq 18$$

$$\text{COUPLE ROOM} = \text{ROUND UP (Ncouple / 2)}$$

New variable ADULT ROOM

Variable PB180 is also used in order to calculate the number of adults not living in a couple. The number of other adults (i.e. not living in a couple) and the number of rooms necessary for them are as follows:

$$Nadult = \sum_i (PB180\_F \neq 1)i \quad \wedge \quad AGEi \geq 18$$

$$\text{ADULT ROOM} = \text{N adult}$$

New variable CHILD 0-11 ROOM

The number of children aged below 12 and the number of necessary rooms are as follows:

$$Nchild\ 0-11 = \sum_i AGEi < 12$$

$$\text{CHILD 0-11 ROOM} = \text{ROUND UP (Nchild 0-11 / 2)}$$

New variable CHILD 12-17 ROOM

To calculate the number of rooms needed for children at the age of 12-17, the number of girls and boys at that age should be calculated.

$$Nboy\ 12-17 = \sum_i GENDERi = 1 \quad \wedge \quad 11 < AGEi < 18$$

$$Ngirl\ 12-17 = \sum_i GENDERi = 2 \quad \wedge \quad 11 < AGEi < 18$$

$$\text{CHILD 12-17 ROOM} = \text{ROUND UP (Nboy 12-17/ 2)} + \text{ROUND UP (Ngirl 12-17 / 2)}$$

For each individual living in a given household the minimum number of rooms needed is computed as:

NUMBER OF ROOMS NEEDED = 1 + COUPLE ROOM + ADULT ROOM + CHILD 0-11 ROOM + CHILD 12-17 ROOM

Although the information on the dwelling refers to the household level, this indicator is defined at individual level, i.e. it has to be calculated by individual and not by household. Therefore individual weights based on RB050 have to be used.

Eventually the indicator is computed by comparing for each individual the total number of rooms available to the household (HH030) with this minimum number of rooms needed for the household:

$$\text{Overcrowding rate} = \frac{\sum_{\forall i \text{ in the relevant breakdown with HH030} < \text{Number of rooms needed}} weight'i}{\sum_{\forall i \text{ in the same breakdwon}} weight'i} \bullet 100$$

where
$weight\ i =$ RB050i weight of the person i and
$weight'\ i =$ weight corrected for the effect of missing values of the person i

Breakdowns

This indicator should be calculated for the total population and for the population without single-person households.
For the total population the totals and breakdowns by whether the person was above or below the at-risk-of-poverty threshold as well as gender, selected age groups, tenure status, degree of urbanisation and type of household have to be calculated.
For the population without single-person households the totals and breakdowns by whether the person was above or below the at-risk-of-poverty threshold as well as gender and selected age groups have to be calculated.

Note:
- In accordance with the SPC.ISG recommendation, the 0-17 age group is not broken down by gender as it is not considered that any normative interpretation can be made of gender differences in the poverty risk of children. However, for publication in electronic databases, there are technical limitations which prevent not showing this breakdown.

- Households and individuals therein with missing equivalised disposable income (*EQ_INC*) or missing age or missing gender information are excluded from the calculation. Age at the end of income reference period is used.

- Households with missing values for HH030 are also excluded from the calculation.

Calculation of the at-risk-of-poverty threshold
See algorithm of the calculation of 'at-risk-of-poverty threshold' defined at 60% of national median equivalised disposable income.

Calculation of poverty status and age breakdowns

Each person is classified in the following categories according to his/her age and whether she/he is considered to be at-risk-of-poverty according to the at-risk-of-poverty threshold calculated at 60% of national median equivalised disposable income:

TOTAL	EQ_INC<ARPT	EQ_INC≥ARPT
AGE ≥ 0 (TOTAL)	AGE ≥ 0 (TOTAL)	AGE ≥ 0 (TOTAL)
0 ≤ AGE ≤ 17	0 ≤ AGE ≤ 17	0 ≤ AGE ≤ 17
18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64
AGE ≥ 65	AGE ≥ 65	AGE ≥ 65

Calculation of age and gender breakdowns
Each person is classified in the following categories according to his/her age and gender.

Total	Males	Females
AGE ≥ 0 (TOTAL)	AGE ≥ 0 (TOTAL)	AGE ≥ 0 (TOTAL)
0 ≤ AGE ≤ 17		
18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64
AGE ≥ 65	AGE ≥ 65	AGE ≥ 65

Calculation of tenure status (FROM 2007 operation ONLY)
To calculate the tenure status, the variables interest repayments on mortgage (HY100G) and tenure status (HH020 or HH021) have to be used:

Tenure status
1 Outright owner: if HH020 = 1 and HY100G = 0 (or HY100G_F = 0)
2 Owner with mortgage: if HH020 = 1 and HY100G > 0
3 Tenant – market price: if HH020 = 2
4 Tenant – reduced price or free: if HH020 = 3 or 4

Or

Tenure status
1 Outright owner: if HH021 = 1
2 Owner with mortgage: if HH021 = 2
3 Tenant – market price: if HH021 = 3
4 Tenant – reduced price or free: if HH021 = 4 or 5

Households and individuals therein with missing HH020 (orHH021) or HY100G variables are excluded from the calculation of this breakdown.

The tenure status is assigned to each household member.

Calculation of degree of urbanisation
The variable degree of urbanisation (DB100) is defined as follow:

Degree of urbanisation
1 Densely populated area
2 Intermediate area
3 Thinly populated area

Households and individuals therein with missing DB100 are excluded from the calculation of this breakdown.

The degree of urbanisation status is assigned to each household member.

Calculation of household type breakdown
The following 16 household types will be considered:

14   Household without dependent children (HH_NDCH)
5   ….   One person household, total (single person) (A1)
3   ….   ….   One person household, male (A1M)
4   ….   ….   One person household, female (A1F)
1   ….   ….   One person household, aged less than 65 years (A1_LT64)
2   ….   ….   One person household, aged 65 years or more (A1_GE65)
6   ….   2 adults, no dependent children, both aged less than 65 year (A2_2LT65)
7   ….   2 adults, no dependent children, at least one aged 65 years or more (A2_GE1_GE65)
8   ….   Other households without dependent children (three or more adults) (A_GE3)
15   Household with dependent children (HH_DCH)
9   ….   Single parent household, one or more dependent children (A1_DCH)
10   ….   2 adults, one dependent child (A2_1DCH)
11   ….   2 adults, two dependent children (A2_2DCH)
12   ….   2 adults, three or more dependent children (A2_GE3DCH)
13   ….   Other households with one or more dependent children (A_GE3_DCH)
16   Others (not possible to determine type)

Where "dependent children" are defined as:
- Household members aged less than18
- Household members aged 18 to 24, economically inactive and living with at least one parent

<u>Algorithm for the calculation</u>

To calculate this indicator, information on age at the end of the income reference period, gender, family relations and economic status (PL030) are required. Persons with missing data of this type are excluded.

<u>Division of persons in dependent children and adults</u>

- If age information is missing then household members are neither classified as dependent children (HT_D) nor as adults (HT_A).

- If $AGE < 18 \Rightarrow$ person is a dependent child HT_D=1

- If $AGE > 24 \Rightarrow$ person is not a dependent child HT_A=1.

- If $18 \leq AGE \leq 24 \wedge (RB220\_F = 1 \vee RB230\_F = 1) \wedge PL030) = 1,2 \Rightarrow$ person is not a dependent child HT_A=1 (person lives with at least one parent and is economically active).
- If $18 \leq AGE \leq 24$
$\wedge (RB220\_F = 1 \vee RB230\_F = 1) \wedge PL030) = 3,4,5,6,7,8,9 \wedge (PL020 = 1 \wedge PL025 = 1) \Rightarrow$
person is a dependent child HT_D=1 (person lives with at least one parent and is economically inactive).

- If $18 \leq AGE \leq 24$

$\wedge \left(RB220\_F = 1 \vee RB230\_F = 1 \right) \wedge PL030) = 3, 4, 5, 6, 7, 8, 9 \wedge \left(PL020 \neq 1 \vee PL025 \neq 1 \right) \Rightarrow$

person is a dependent child HT_D=1 (person lives with at least one parent and is economically inactive).

- If $18 \leq AGE \leq 24 \wedge \left(RB220\_F = 1 \vee RB230\_F = 1 \right) \wedge PL030) = 3, 4, 5, 6, 7, 8, 9 \Rightarrow$ person

is a dependent child HT_D=1 (person lives with at least one parent and is economically inactive).

- If $18 \leq AGE \leq 24 \wedge \left(RB220\_F \neq 1 \wedge RB230\_F \neq 1 \right) \Rightarrow$ person is not a dependent child

HT_A=1 (not living with parents).

- Otherwise if $18 \leq AGE \leq 24 \Rightarrow$ person is not a dependent child HT_A=1.

In each household the derived variables 'number of adults' (N_ADU) and 'number of dependent children' (N_DCH) will then be calculated.

If N_ADU+N_DCH $\neq$ household size (determined with RB030) $\Rightarrow$ household type cannot be determined (HT=16).

Households without dependent children:
If N_ADU=1 $\wedge$ N_DCH=0 $\Rightarrow$ HT=5 (where they still need to be split up into HT=1,2,3,4 depending on which breakdown should be calculated).
If N_ADU=1 $\wedge$ N_DCH>0 $\Rightarrow$ HT=9.
If N_ADU=2 $\wedge$ N_DCH=0 $\wedge$ (maximum age in household<65) $\Rightarrow$ HT=6.
If N_ADU=2 $\wedge$ N_DCH=0 $\wedge$ (maximum age in household $\geq$ 65) $\Rightarrow$ HT=7.
If N_ADU $\geq$ 3 $\wedge$ N_DCH=0 $\Rightarrow$ HT=8.

Households with dependent children:
If N_ADU=2 $\wedge$ N_DCH=1 $\Rightarrow$ HT=10.
If N_ADU=2 $\wedge$ N_DCH=2 $\Rightarrow$ HT=11.
If N_ADU=2 $\wedge$ N_DCH $\geq$ 3 $\Rightarrow$ HT=12.
If N_ADU $\geq$ 3 $\wedge$ N_DCH>0 $\Rightarrow$ HT=13.

Presentation tables

No.	Age	At-risk-of-poverty	(%)
	Overcrowding rate – total population		
1		total	:
2	Total (AGE ≥ 0)	yes	:
3		no	:
4		total	:
5	(0 ≤ AGE ≤ 17)	yes	
6		no	
7		total	:
8	(18 ≤ AGE ≤ 64)	yes	:
9		no	:
10		total	:
11	(AGE ≥ 65)	yes	:
12		no	:

No.	Age	Gender	(%)
	Overcrowding rate – total population		
1		T	:
2	Total (AGE ≥ 0)	M	:
3		F	:
4	(0 ≤ AGE ≤ 17)	T	:
5		T	:
6	(18 ≤ AGE ≤ 64)	M	:
7		F	:
8		T	:
9	(AGE ≥ 65)	M	:
10		F	:

No.	Tenure status	(%)
	Overcrowding rate – total population	
1	Outright owner	:
2	Owner with mortgage	:
3	Tenant – market price	:
4	Tenant – reduced price or free	:

No.	Degree of urbanisation	(%)
	Overcrowding rate - -total population	
1	Densely populated area	:
2	Intermediate area	:
3	Thinly populated area	:

	Overcrowding rate – total population			
	Household type			**(%)**
14	No dependent children	Total		:
5		1 person household	Total	:
3			Male	:
4			Female	:
1			Age < 65	:
2			Age ≥ 65	:
6		2 person household,	Both age < 65	:
7			At least one age ≥ 65	:
8		Other households		:
15	With dependent children	Total		:
9		Single parent		:
10		Two adults	1 dependent child	:
11			2 dependent children	:
12			3 or more dependent children	:
13		Other households		:

No.	Age	At-risk-of-poverty	(%)
	Overcrowding rate – population without single-person households		
1		total	:
2	Total (AGE ≥ 0)	yes	:
3		no	:
4		total	:
5	(0 ≤ AGE ≤ 17)	yes	
6		no	
7		total	:
8	(18 ≤ AGE ≤ 64)	yes	:
9		no	:
10		total	:
11	(AGE ≥ 65)	yes	:
12		no	:

No.	Age	Gender	(%)
	Overcrowding rate – population without single-person households		
1		T	:
2	Total (AGE ≥ 0)	M	:
3		F	:
4	(0 ≤ AGE ≤ 17)	T	:
5		T	:
6	(18 ≤ AGE ≤ 64)	M	:
7		F	:
8		T	:
9	(AGE ≥ 65)	M	:
10		F	:

Context indicators

15. Inequality of income distribution S80/S20 income quintile share ratio

Definition

The 'S80/S20 income quintile share ratio' is the ratio of the sum of equivalised disposable income received by the 20% of the country's population with the highest equivalised disposable income (top inter-quintile interval) to that received by the 20% of the country's population with the lowest equivalised disposable income (lowest inter-quintile interval).

Algorithm for the calculation

This Laeken indicator is only required at the level of the total population and is not required to be broken down by age or by gender.

NB. The similar Pensions indicator adopted under the Open Method of Coordination is required to be broken down by various age-gender groups.

Calculation of the inter-quintile interval (quintile) which the person belongs to

A person belongs to 'quintile 1' if his/her equivalised disposable income is less than or equal to the equivalised disposable income of the person with the highest equivalised disposable income within the 20% of people which have the least income.

A person belongs to 'quintile q'(q= 2, 3 or 4) if his/her equivalised disposable income is:
- less than or equal to the equivalised disposable income of the person with the highest equivalised disposable income within the $q \cdot 20\%$ of people which have the least income, and
- higher than the equivalised disposable income of people in $(q-1) \cdot 20\%$ of the population with the lowest equivalised income.

A person belongs to quintile 5 if his/her equivalised disposable income is higher than the equivalised disposable income of people in the 80% of the population with the least equivalised income.

The derived variable 'quintile which a person belongs to' (QPB) is defined as:

$$QPB = \begin{cases} 1 \text{ if person belongs to the 1st quintile ('bottom')} \\ 2 \text{ if person belongs to the 2nd quintile} \\ 3 \text{ if person belongs to the 3rd quintile} \\ 4 \text{ if the person belongs to the 4th quintile} \\ 5 \text{ if the person belongs to the 5th quintile ('top')} \end{cases}$$

How to calculate QPB?

The procedure is broadly similar to the procedure applied for the calculation of the median (i.e. persons will be sorted according to their equivalised disposable income (sorting order: lowest to the highest value), but here the cut-off points will be:

$$Cut\text{-}off\text{-}point_q = q \cdot 20\% \cdot \sum_{i=1}^{n} weight'i \,,$$

where:

$q = 1$ to 5

$n =$ number of persons (household members)

weight'i = is the corrected weight of person *i*.

$$W = \sum_{i=1}^{n} weight'i$$

$$EQ\_INC_{q\_quintile} \begin{cases} \dfrac{1}{2}\left(EQ\_INC_j + EQ\_INC_{j+1}\right) & if \displaystyle\sum_{i=1}^{j} weight'i = q \cdot 20\% \cdot W \\[4mm] EQ\_INC_{j+1} & if \displaystyle\sum_{i=1}^{j} weight'i < q \cdot 20\% \cdot W < \sum_{i=1}^{j+1} weight'i \end{cases}$$

Note:
- Persons with missing 'equivalised disposable income' are excluded.
- The first sorting variable is the equivalised disposable income, the second sorting variable is the household identification number and the third sorting variable is the personal identification number.
- The quintiles are calculated on the level of the individuals in the sample.
- The cut-off point values should be provided to Eurostat.

Calculation of the S80/S20 income quintile share ratio

The S80/S20 income quintile share ratio should be the ratio of the sum of equivalised disposable income received by the 20% of the country's population with the highest equivalised disposable income (top inter-quintile interval) to that received by the 20% of the country's population with the lowest equivalised disposable income (lowest inter-quintile interval), i.e.

$$S80/S20 = \frac{\displaystyle\sum_{i \in QPB=5} weight'i \cdot EQ\_INC_i}{\displaystyle\sum_{i \in QPB=1} weight'i \cdot EQ\_INC_i}$$

where:
weight i=RB050i weight of the person *i* and

weight' i=corrected weight of the person *i*.[21]

Presentation table

S80/S20 income quintile share ratio	
	Ratio
Total population	:

---

16. Inequality of income distribution: Gini coefficient

<u>Definition</u>

The Gini coefficient is defined as the relationship of cumulative shares of the population arranged according to the level of equivalised disposable income, to the cumulative share of the equivalised total disposable income received by them.
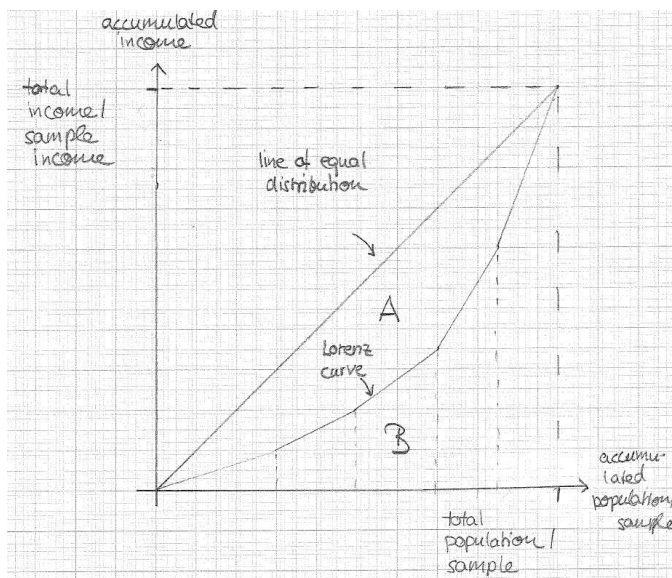
Then the formula for the Gini coefficient can be written as:

$$G_c = \frac{A}{A+B} = \frac{A+B-B}{A+B} = 1 - \frac{B}{A+B}$$

<u>Algorithm for the calculation</u>

Calculation of the Gini coefficient

Note:
This method for computing the Gini coefficient treats the Lorenz curve as a piecewise linear function. Then the trapeziums which form the integral can be calculated exactly.

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[21] see footnote no. 12.

Let,

EQ-INC$_i$ = the equivalised disposable income of person i.

weight'i = the weight for person i.

Persons have to be sorted according to EQ_INC (sorting order: lowest to highest value), then by household identification number and personal identification number in order to obtain a unique ordering.

As each individual *weight' i* of person *i* in the sample represents the number of persons in the population with identical (income) characteristics, our method needs to be neutral to be the number of actual sample observations with a particular income, i.e. the slope of each of the linear functions the Lorenz curve is composed of should be indifferent to the amount of observations on each of these linear functions.

Thus, although we need to order incomes in increasing order and not multiply by weights, because no matter what type of aggregation we deal with and what proportions of the population are represented with each observation, should not affect the fact that the Lorenz curve should non-decreasing in slope with increasing proportion of the population represented by *weight'i*.

So, on the y-axis, we need to multiply for each observation the corresponding income observation with its weight, so that on the y-axis we do not have accumulated sample income but $\sum_{i=1}^{n} EQ\_INC_i \cdot weight'i$.

On the y-axis, proportions of income of the population should be represented. This is given by $\sum_{j=1}^{i} EQ\_INC_j \cdot weight'j$ and not by $\sum_{j=1}^{i} EQ\_INC_j$. On the x-axis coordinates are represented by $\sum_{j=1}^{i} weight'j$

The area *A+B* (triangle below the line of equal distribution) will be given by

$$A+B = \frac{\sum_{i=1}^{n} \left(EQ\_INC_i \cdot weight'i \right) \cdot \sum_{i=1}^{n} weight'i}{2}$$

and the area under the Lorenz curve *B* will be given by

$$B = \sum_{i=1}^{n} \left[\left(\sum_{j=1}^{i} EQ\_INC_i \cdot weight'i - 0.5 \cdot EQ\_INC_i \cdot weight'i \right) \cdot weight'i \right]$$

The Gini coefficient will be calculated as:

$$G_c = 100 \cdot \left(1 - \frac{\sum_{i=1}^{n} \left[\left(2 \cdot \sum_{j=1}^{i} EQ\_INC_i \cdot weight'i - EQ\_INC_i \cdot weight'i \right) \cdot weight'i \right]}{\sum_{i=1}^{n} \left(EQ\_INC_i \cdot weight'i \right) \cdot \sum_{i=1}^{n} weight'i} \right)$$

Or equivalently as implemented in the SAS programmes:

$$Gc = 100 * \left[\frac{2 * \sum_{i=first\ person}^{last\ person} \left(weight'i * EQ\_INCi * \sum_{first\ person}^{person\ i} weight'i \right) - \sum_{i=first person}^{last\ person} \left(weight'i \right)^2 * EQ\_INCi}{\left(\sum_{i=first\ person}^{last\ person} weight'i \right) * \sum_{i=first\ person}^{last\ person} \left(weight'i * EQ\_INCi \right)} - 1 \right]$$

Note:
Households or persons therein with missing 'equivalised disposable income' (EQ_INC), age (year of birth only) or gender are excluded.

Presentation table

Gini coefficient	
	(%)
Total population	

17. At-risk-of-poverty rate anchored at a fixed moment in time (2005), by gender and selected age groups

Comment

A similar indicator was previously calculated from the ECHP survey, but suspended during the transition to SILC. Because of concerns about the complexity of the indicator previously calculated the definition and focus of this indicator has been slightly changed in the ISG. Instead of a moving anchor, the reference threshold is now a fixed anchor. As before, the focus is on whether general improvements in living standards are successful in lifting people out of poverty (or at least increasing their real income). The current definition is tentative and not yet agreed at the level of the ISG. Some refining can be envisaged. The base or reference year (currently 2005) is meant to change in regular intervals. Specific attention needs to be paid to the adjustment for inflation.

Definition

For a given year 'T', the 'at-risk-of-poverty rate anchored at a fixed moment in time (2005)' is defined as the percentage of the population whose equivalised total disposable income in that given year is below the 'at-risk-of-poverty threshold' calculated in the standard way for the reference year or base year, currently 2005, and then adjusted for inflation.

The population consists of all the persons that have been living in private households for the current year T for the calculation of the 'at-risk-of-poverty rate anchored at a fixed moment in time (2005)'. For the calculation of the 'at-risk-of-poverty threshold' in the base year (2005) the population consists of the persons that lived in private households during the base year (2005).

For this indicator a total and breakdowns by gender and selected age groups have to be calculated.

Note:
The inflation rate to be applied should correspond to the survey years both for the base year (2005) and the current year.

There are two reasons for choosing the survey year and not the income reference period as a point of reference for the inflation adjustment.

a) the income reference period is assumed to be the best possible measure for current income. Also, the household composition is taken at the time of the survey. Taking the income reference period as a starting point would contradict this assumption.

b) on a practical level, this definition allows for a uniform mode of calculation across all countries.

Algorithm for the calculation

Calculation of age-gender breakdowns

For the current survey year T each individual is classified in the following categories according to his/her gender and age:

Total	Males	Females
AGE ≥ 0 (TOTAL)	AGE ≥ 0	AGE ≥ 0
0 ≤ AGE ≤ 17		
18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64
AGE ≥ 65	AGE ≥ 65	AGE ≥ 65

Note:
- In accordance with the SPC.ISG recommendation, the 0-17 age group is not broken down by gender as it is not considered that any normative interpretation can be made of gender differences in the poverty risk of children. However, for publication in electronic databases, such as New Cronos, there are technical limitations which prevent not showing this breakdown.

- Hosueholds or persons with missing equivalised disposable income (*EQ_INC*) for year *T* or missing age (year of birth only) or missing gender information are excluded from the respective calculations. Age at the end of the current income reference period is used.

Calculation of the at-risk-of-poverty threshold for the base year (2005)

For the base year(s), the 'at-risk-of-poverty threshold' is calculated.
See algorithm for the calculation of 'at-risk-of-poverty threshold (illustrative values)' (=indicator 1).
The at-risk of poverty threshold for the base year (e.g. year 2005) will then be adjusted from 2005 to *T*.
The reference threshold adjusted for inflation for year '*T*' will be defined as:

$$ARPT_{'2005"T'} = ARPT_{'2005'} \cdot \frac{idx_{'2005"T'}}{100},$$

where $\frac{idx_{'2005"T'}}{100}$ is the official inflation rate between '2005' and '*T*' and $ARPT_{'2005'}$ denotes the at-risk-of-poverty threshold .

Note:
- Where possible, the calculation of inflation factors should be done using official figures published by Eurostat (i.e. annual harmonised indices of consumer prices (HICP) at the level of total consumption).

- The calculated value of the 'risk-of-poverty threshold' in the reference year (2005) should be supplied to Eurostat if SILC data are not available for the reference year.

The HICP rates come from New Cronos table:
>   Economy and finance
>   ...Prices
>   ..….Harmonised indices of consumer prices
>   …...…Harmonised indices of consumer prices (2005=100) – Annual data
>   ………...COICOP: CP00
>   ………...INFOTYPE: AVX

Calculation of the 'at-risk-of-poverty rate anchored at a fixed moment in time (2005)', by age and gender

The 'at-risk-of poverty rate' anchored at a fixed moment in time (2005)' ($ARPRa_{age/sex}$) should be calculated – for the total and each age and gender category – as the percentage of persons in the relevant age/gender breakdown with an equivalised disposable income below the 'at-risk-of-poverty threshold' calculated in 2005 and adjusted for inflation $ARPT_{'2005"T'}$.

$$ARPRa_{age/sex} = \frac{\displaystyle\sum_{\forall i \text{ in relevant age/sex breakdown in } T \text{ with } EQ\_INC < ARPT_{2005'T}} weight'i}{\displaystyle\sum_{\forall i \text{ in relevant age/sex breakdown in } T} weight'i} \cdot 100$$

where:
weight i=RB050i weight of the person *i* and
weight' i=corrected weight of the person *i*.[22]

Presentation table

No.	Age	Gender	(%)
At-risk-of-poverty rate anchored at a fixed moment in time (2005)			
1	Total (AGE ≥ 0)	T	:
2		M	:
3		F	:
4	(0 ≤ AGE ≤ 17)	T	:
5	(18 ≤ AGE ≤ 64)	T	:
6		M	:
7		F	:
8	(AGE ≥ 65)	T	:
9		M	:
10		F	:

18. At-risk-of-poverty rate before social transfers, by gender and selected age groups

NB. See also similar indicator 1 'At-risk-of-poverty rate'.

Comment

This indicator shows the hypothetical/ marginal impact of the absence of social transfers.

Definition

The 'at-risk-of-poverty rate before social transfers' shows the percentage of persons (over the total population) having an equivalised disposable income before social transfers excluding old-age benefits below the 'at-risk-of-poverty threshold'.

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[22] see footnote no. 12.

Note:

The precise definition of each item is provided in the SILC Commission regulation No. 1980/2003 of 21 October 2003 on updated definitions.

- Social transfers are defined as current transfers received during the income reference period which are intended to relieve them from the financial burden of a number of risks or needs, made through collectively-organised schemes or outside such schemes by government units and NPISH (Non-Profit Institutions Serving Households). In order to be included as a social benefit, the transfer must be (a) compulsory for the group in question and (b) based on a principle of social solidarity. Under SILC, amounts are restricted to cash benefits.

- Social benefits under SILC include (target variables) :
  1. Family/children-related allowances;   …HY050
  2. Housing allowances;   …HY070
  3. Unemployment benefits;   …PY090
  4. **Old-age benefits;**   **…PY100**
  5. **Survivors' benefits;**   **…PY110**
  6. Sickness benefits;   …PY120
  7. Disability benefits;   …PY130
  8. Education-related allowances;   …PY140
  9. Social exclusion not elsewhere classified. …HY060

- Social benefits do not include benefits paid from schemes into which the recipient has made voluntary payments only, independently of his/her employer or government (which are included under 'Pensions from individual private plans (other than those covered under ESSPROS)).

<u>Algorithm for the calculation</u>

This indicator is provided for the following breakdowns:

<u>Total</u>	<u>Males</u>	<u>Females</u>
AGE ≥ 0 (TOTAL)	AGE ≥ 0	AGE ≥ 0
0 ≤ AGE ≤ 17		
18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64
AGE ≥ 65	AGE ≥ 65	AGE ≥ 65

Note:

- Further age breakdowns are computed for the similar indicator included in the Social Inclusion portfolio.

- In accordance with the SPC.ISG recommendation, the 0-17 age group is not broken down by gender as it is not considered that any normative interpretation can be made of gender differences in the poverty risk for children. In practise, for the calculation of the indicators with statistical packages and for publication on the New Cronos database, it is not possible to exclude gender breakdowns for the 0-17 age group. However these breakdowns will not be used for printed publications.

- Households ot persons therein with missing age or gender information or income before social transfers are excluded from the calculation. Additionally, for this calculation it is used the age at the end of income reference period.

Calculation of equivalised income before social cash transfers

For this indicator, a distinction is made between "pensions" (old-age and survivors' benefits) and "other social transfers". Two indicators are then computed separately:
- One using a definition of income which includes pensions but excludes other social transfers, and
- One using a definition of income which excludes all social transfers.

Only the former forms part of the Social Inclusion Portfolio.

Note:
The modified income is compared to the standard 'at-risk-of-poverty threshold' (60% of the national median) whose computation is described at the beginning of this document. In other words, the threshold is computed on the basis of the distribution **after** transfers (*ARPT*).

Calculation of equivalised income before social cash transfers (other than pensions)
 (i.e. income including old-age and survivors' benefits.)

For each household the equivalised income before social transfers except old-age or survivors' benefits (*EQ_INC_BST$_{epb}$*) is to be calculated as:

$$EQ\_INC\_BST_{epb} = \frac{HY022 \cdot HY025}{EQ\_SS} , {}^{23}$$

$$INC\_BST_{epb} = HY022 \cdot HY025 =$$
$$= \left[HY020 - \left(HY050 + HY070 + HY090 + PY120 + PY130 + PY140 + HY060 \right) \right] \cdot HY025$$

Each person in the same household receives the same total equivalised disposable income before social transfers except old-age and survivors benefits ($EQ\_INC\_BST_{epb}$).

Calculation of 'at-risk-of-poverty rate before social transfers <u>except</u> old-age and survivors' benefits', by age and gender

The 'at-risk-of-poverty rate before social transfers except old-age and survivors' benefits broken down by age and gender' ($ARPR\_BST_{epb\text{-}at\text{-}age/gender}$) is calculated – for each gender and age category – as the percentage of persons (over the total population) with an equivalised disposable income before social transfers except old-age and survivors' benefits ($EQ\_INC\_BST_{epb\text{-}at\text{-}age/gender}$) below the 'at-risk-of-poverty threshold' (i.e. for each breakdown, the equivalised disposable income before social transfers except old-age and survivors' benefits of each person is compared with the at-risk-of-poverty threshold. The cumulated weights of people whose equivalised disposable income, for a given breakdown, is below the at-risk-of-poverty threshold are divided by the cumulated weights of persons who belong to the same breakdown).

$$ARPR\_BST_{epb-at-age/gender} = \frac{\sum\limits_{\forall i \, in \, each \, age/gender \, breakdown \, with \, EQ\_INC\_BST_{epb} < ARPT} weight'i}{\sum\limits_{\forall i \, in \, the \, same \, age/gender \, breakdown} weight'i} \cdot 100 ,$$

where

weight'i = is the corrected weight of person *i*.

Note:
- The 'at-risk-of-poverty threshold' (60% of the national median) is the same as the one used to calculate the at-risk-of-poverty rate after transfers. In other words, the threshold is computed on the basis of the distribution of income **after** transfers (*ARPT*).
- Households or persons with missing 'equivalised disposable income before transfers except old-age and survivors benefits' ($EQ\_INC\_BST_{epb}$) and/or missing age (year of birth only) and/or missing gender are excluded.

where

where *weight i* = personal weight of the person *i* on the basis of RB050 and
weight' i = adjusted weight of person *i* on the basis of RB050[24].

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[23] The estimation of equivalised disposable income before transfer in case of missing individuals is based on the assumption that the impact of missing values is the same on HY020, HY022 and HY023 (constant factor).
[24] see footnote no. 12.

Presentation table

At-risk-of-poverty rate before social transfers except old-age and survivors' benefits			
No.	**Age**	**Gender**	**(%)**
1	Total (AGE ≥ 0)	T	:
2		M	:
3		F	:
4	(0 ≤ AGE ≤ 17)	T	:
5	(18 ≤ AGE ≤ 64)	T	:
6		M	:
7		F	:
8	(AGE ≥ 65)	T	:
9		M	:
10		F	:

19. In-work at-risk-of-poverty rate

Definition

The 'at-risk-of poverty rate (after social transfers)' broken down by most frequent activity status during the income reference period and gender is calculated as the percentage of persons in each breakdown (over the total population in the same breakdown) with an equivalised disposable income below the 'at-risk-of-poverty threshold' for the whole population .
The most frequent activity status is defined as the status that individuals declare themselves to have occupied for more than half the total number of months for which information on any status is available (from the cross-sectional variables).
People with less than 7 months declared in the calendar of activities are excluded from the calculation.
This indicator considers only the breakdown of people in work.

NB. In SILC, information on activity status is generally only collected from persons aged 16+. The indicator, however, refers to the population of individuals aged 18+.

NB. For the *in work at-risk-of-poverty rate* indicator, only the activity status category "in work" is required.

Algorithm for the calculation

Calculation of age-gender breakdowns

Each household member is classified according to their gender.

Note:
A breakdown by age is considered only for the corresponding Social Inclusion indicator.

Activity status information is only considered relevant for persons aged 18+.

Calculation of most frequent activity status breakdowns

For each household member for which RB250 = 11, 12 or 13 the following variables will be selected: PL070, PL072, PL080, PL085, PL087, PL090 (or PL073, PL074, PL075, PL076, PL080, PL085, PL086, PL087, PL088, PL089, PL090).
The following derived variables will be constructed:

TOT= PL070 + PL072 + PL080 + PL085 + PL087 + PL090
WRK= PL070 + PL072

Or:
TOT= PL073 + PL074 + PL075 + PL076 + PL080 + PL085 + PL086 + PL087 + PL088 + PL089 + PL090
WRK= PL073 + PL074 + PL075 + PL076

If $TOT < 7$, then exclude the individual.
(Only persons, which have reported for more than 7 months are considered.)

If $TOT \geq 7$ $Ratio1 = \dfrac{WRK}{TOT}$
(The calculations above determine, what ratio of time was spent in 'in work' for each person.)

If $Ratio1 \leq 0.5$, then exclude the individual.
(Here it is determined whether the person has spent more than half the reported time in 'in work')
Otherwise: - if $Ratio1 > 0.5 \Rightarrow Activity\ status = 1$
(The person is considered to be 'in work').

Note:
- Only the persons with activity status 1 ('in work') are to be considered for this indicator.

- The activity statuses correspond to the following SILC target variables:
  cross-sectional survey:
  WRK = sum of PL070 (full-time) and PL072 (part-time)
  Or:
  WRK = sum of PL073 (full-time employee) and PL074 (part-time employee) and of PL075 (full-time self-employed) and PL076 (part-time self-employed)

The full-time and part-time status is then calculated on the basis of PL030 (or PL031).[25]

Calculation of in work at-risk-of-poverty rate by gender

The 'in work-at-risk-of poverty rate (after social transfers)' broken down by gender ($ARPR_{iw\text{-}gender}$) is calculated as the percentage of persons 'in work' with an equivalised disposable income below the 'at-risk-of-poverty threshold' over the total population in that breakdown (i.e. for each gender, the equivalised disposable income of each person is compared with the at-risk-of-poverty threshold calculated for the total population. The cumulated weights of persons 'in work' whose equivalised disposable income, for a given gender, is below the at-risk-of-poverty threshold are divided by the cumulated weights of persons 'in work' with the same gender).

$$ARPR_{iw\text{-}gender} = \frac{\sum_{\forall i \text{ with } activity\ status=1 \wedge EQ\_INC<ARPR \wedge gender} weight\ i}{\sum_{\forall i \text{ with } activity\ status=1 \wedge gender} weight\ i} \cdot 100$$

where *weight i* = personal weight of the person *i* on the basis of PB040 and
weight' i= adjusted weight of person *i* on the basis of PB040[26].

Note:
Persons with missing 'equivalised disposable income' or activity status or gender or age at the end of the income reference period are excluded.

Presentation table

In work at-risk-of poverty rate			
No.	**Activity**		**(%)**
1	in-work	Full-time	:
2		Part-time	:

20a. Housing deprivation rate by item

<u>Definition</u>

The indicator is defined as the percentage of the population deprived of each available housing deprivation items. The items considered are:

    1) Leaking roof, damp walls/floors/foundation, or rot in window frames or floor (variable HH040);

    2) Bath or shower in the dwelling (variable HH080 or HH081);

    3) Indoor flushing toilet for sole use of the household (variable HH090 or HH091);

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[25] It is being discussed whether it is more appropriate to use PL070 and PL072 (or PL073, PL074, PL075 and PL076). For the time being, PL030 (or PL031) is used in indicator calculations.
[26] see the corresponding calculation for RB050: footnote no. 12.

4) Problems with the dwelling: too dark, not enough light (variable HS160);

<u>Algorithm for the calculation</u>

Leaking roof = 1 if HH040 = 1
Leaking roof = 0 if HH040 = 2

Bath/shower = 1 if HH080 = 2
Bath/shower = 0 if HH080 = 1

Or:
Bath/shower = 1 if HH081 = 3
Bath/shower = 0 if HH081 = 1 or 2

Toilet = 1 if HH090 = 2
Toilet = 0 if HH090 = 1

Or:
Toilet = 1 if HH091 = 3
Toilet = 0 if HH091 = 1 or 2

Darkness = 1 if HS160 = 1
Darkness = 0 if HS160 = 2

Although this information refers to the household level, this indicator is defined at individual level, i.e. has to be calculated by individual and not by household. Therefore individual weights based on RB050 have to be used.

The indicator is calculated as

$$\text{Leaking roof} = \frac{\displaystyle\sum_{\forall \, i \text{ with leaking roof} = 1} weight'i}{\displaystyle\sum_{\forall \, i} weight'i} \bullet 100$$

$$\text{Bath/shower} = \frac{\displaystyle\sum_{\forall \, i \text{ with bath/shower} = 1} weight'i}{\displaystyle\sum_{\forall \, i} weight'i} \bullet 100$$

$$\text{Toilet} = \frac{\displaystyle\sum_{\forall \, i \text{ with toilet} = 1} weight'i}{\displaystyle\sum_{\forall \, i} weight'i} \bullet 100$$

$$\text{Darkness} = \frac{\displaystyle\sum_{\forall \, i \text{ with darkness} = 1} weight'i}{\displaystyle\sum_{\forall \, i} weight'i} \bullet 100$$

where
weight i = RB050i weight of the person *i* and
weight' i = weight corrected for missing values of the person *i*

Breakdowns
For this indicator the totals and breakdowns by whether the person was above or below the at-risk-of-poverty threshold as well as gender and selected age groups have to be calculated.

Note:
- In accordance with the SPC.ISG recommendation, the 0-17 age group is not broken down by gender as it is not considered that any normative interpretation can be made of gender differences in the poverty risk of children. However, for publication in electronic databases, there are technical limitations which prevent not showing this breakdown.

- Households and individuals therein with missing equivalised disposable income (*EQ_INC*) or missing age or missing gender information are excluded from the calculation. Age at the end of income reference period is used.

- Each indicator has to be calculated separately due to the missing values. Households with missing values in each of the relevant housing deprivation items are excluded from the calculation.

Calculation of the at-risk-of-poverty threshold
See algorithm of the calculation of 'at-risk-of-poverty threshold' defined at 60% of national median equivalised disposable income.

Calculation of poverty status and age breakdowns

Each person is classified in the following categories according to his/her age and whether she/he is considered to be at-risk-of-poverty according to the at-risk-of-poverty threshold calculated at 60% of national median equivalised disposable income:

TOTAL	EQ_INC<ARPT	EQ_INC≥ARPT
AGE ≥ 0 (TOTAL)	AGE ≥ 0 (TOTAL)	AGE ≥ 0 (TOTAL)
0 ≤ AGE ≤ 17	0 ≤ AGE ≤ 17	0 ≤ AGE ≤ 17
18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64
AGE ≥ 65	AGE ≥ 65	AGE ≥ 65

Calculation of age and gender breakdowns

Each person is classified in the following categories according to his/her age and gender.

Total	Males	Females
AGE ≥ 0 (TOTAL)	AGE ≥ 0 (TOTAL)	AGE ≥ 0 (TOTAL)
0 ≤ AGE ≤ 17		
18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64
AGE ≥ 65	AGE ≥ 65	AGE ≥ 65

Presentation tables

Housing deprivation by item				
Leaking roof	*Bath/shower*	*Toilet*	*Darkness*	*Bath/shower and toilet*

Housing deprivation by item (4 separate tables)			
No.	**Age**	**At-risk-of-poverty**	**(%)**
1	Total (AGE ≥ 0)	total	:
2		yes	:
3		no	:
4	(0 ≤ AGE ≤ 17)	total	:
5		yes	
6		no	
7	(18 ≤ AGE ≤ 64)	total	:
8		yes	:
9		no	:
10	(AGE ≥ 65)	total	:
11		yes	:
12		no	:

Housing deprivation by item (4 separate tables)			
No.	**Age**	**Gender**	**(%)**
1	Total (AGE ≥ 0)	T	:
2		M	:
3		F	:
4	(0 ≤ AGE ≤ 17)	T	:
5	(18 ≤ AGE ≤ 64)	T	:
6		M	:
7		F	:
8	(AGE ≥ 65)	T	:
9		M	:
10		F	:

20b. Housing deprivation rate by number of items

Definition

The indicator is defined as the percentage of the population deprived of 0, 1, 2, 3 or 4 of the following housing deprivation items:

1) Leaking roof, damp walls/floors/foundation, or rot in window frames or floor (variable HH040);

2) Bath or shower in the dwelling (variable HH080 or HH081);

3) Indoor flushing toilet for sole use of the household (variable HH090 or HH091);

4) Problems with the dwelling: too dark, not enough light (variable HS160).

Algorithm for the calculation

New variables HOUSDEPx

A new variable HOUSDEPx is created for each number x of lacking items:

For 0 item, HOUSDEP0:
HOUSDEP0 = 1 if HH040=2 $\wedge$ HH080=1 (or HH081=1 $\vee$ 2) $\wedge$ HH090=1 (or HH091=1 $\vee$ 2) $\wedge$ HS160=2
HOUSDEP0 = 0 elsewhere.

For 1 item HOUSDEP1:
HOUSDEP1 = 1 if
    (HH040=1 $\wedge$ HH080=1 (or HH081=1 $\vee$ 2) $\wedge$ HH090=1 (or HH091=1 $\vee$ 2) $\wedge$ HS160=2) $\vee$
    (HH040=2 $\wedge$ HH080=2 (or HH081=3) $\wedge$ HH090=1 (or HH091=1 $\vee$ 2) $\wedge$ HS160=2) $\vee$
    (HH040=2 $\wedge$ HH080=1 (or HH081=1 $\vee$ 2) $\wedge$ HH090=2 (or HH091=3) $\wedge$ HS160=2) $\vee$
    (HH040=2 $\wedge$ HH080=1 (or HH081=1 $\vee$ 2) $\wedge$ HH090=1 (or HH091=1 $\vee$ 2) $\wedge$ HS160=1)
HOUSDEP1 = 0 elsewhere.

For 2 items HOUSDEP2:
HOUSDEP2 = 1 if
    (HH040=1 $\wedge$ HH080=2 (or HH081=3) $\wedge$ HH090=1 (or HH091=1 $\vee$ 2) HS160=2) $\vee$
    (HH040=1 $\wedge$ HH080=1 (or HH081=1 $\vee$ 2) $\wedge$ HH090=2 (or HH091=3) $\wedge$ HS160=2) $\vee$
    (HH040=1 $\wedge$ HH080=1 (or HH081=1 $\vee$ 2) $\wedge$ HH090=1 (or HH091=1 $\vee$ 2) $\wedge$ S160=1) $\vee$
    (HH040=2 $\wedge$ HH080=2 (or HH081=3) $\wedge$ HH090=2 (or HH091=3) $\wedge$ HS160=2) $\vee$
    (HH040=2 $\wedge$ HH080=2 (or HH081=3) $\wedge$ HH090=1 (or HH091=1 $\vee$ 2) $\wedge$ HS160=1) $\vee$
    (HH040=2 $\wedge$ HH080=1 (or HH081=1 $\vee$ 2) $\wedge$ HH090=2 (or HH091=3) $\wedge$ HS160=1)
HOUSDEP2 = 0 elsewhere.

For 3 items HOUSDEP3.
HOUSDEP3 = 1 if
    (HH040=1 $\wedge$ HH080=2 (or HH081=3) $\wedge$ HH090=2 (or HH091=3) $\wedge$ HS160=2) $\vee$
    (HH040=1 $\wedge$ HH080=2 (or HH081=3) $\wedge$ HH090=1 (or HH091=1 $\vee$ 2) $\wedge$ HS160=1) $\vee$
    (HH040=1 $\wedge$ HH080=1 (or HH081=1 $\vee$ 2) $\wedge$ HH090=2 (or HH091=3) $\wedge$ HS160=1) $\vee$
    (HH040=2 $\wedge$ HH080=2 (or HH081=3) $\wedge$ HH090=2 (or HH091=3) $\wedge$ HS160=1)
HOUSDEP3 = 0 elsewhere.

For 4 items HOUSDEP4:
HOUSDEP4 = 1 if HH040=1 $\wedge$ HH080=2 (or HH081=3) $\wedge$ HH090=2 (or HH091=3) $\wedge$ HS160=1
HOUSDEP4 = 0 elsewhere.

Although this information refers to the household level, this indicator is defined at individual level, i.e. has to be calculated by individual and not by household. Therefore individual weights based on RB050 have to be used.

The indicator is calculated as

$$\text{HOUSDEP0} = \frac{\displaystyle\sum_{\forall\, i\, HOUSDEP0\, =\, 1} weight'i}{\displaystyle\sum_{\forall\, i} weight'i} \bullet 100$$

$$\text{HOUSDEP1} = \frac{\displaystyle\sum_{\forall\, i\, HOUSDEP1\, =\, 1} weight'i}{\displaystyle\sum_{\forall\, i} weight'i} \bullet 100$$

$$\text{HOUSDEP2} = \frac{\displaystyle\sum_{\forall\, i\, HOUSDEP2\, =\, 1} weight'i}{\displaystyle\sum_{\forall\, i} weight'i} \bullet 100$$

$$\text{HOUSDEP3} = \frac{\displaystyle\sum_{\forall\, i\, HOUSDEP3\, =\, 1} weight'i}{\displaystyle\sum_{\forall\, i} weight'i} \bullet 100$$

$$\text{HOUSDEP4} = \frac{\displaystyle\sum_{\forall\, i\, HOUSDEP4\, =\, 1} weight'i}{\displaystyle\sum_{\forall\, i} weight'i} \bullet 100$$

where
weight i = RB050i weight of the person *i* and
weight' i = weight corrected for missing values of the person *i*

Breakdowns
For this indicator the totals and breakdown by gender and selected age groups has to be calculated.

Note:
- In accordance with the SPC.ISG recommendation, the 0-17 age group is not broken down by gender as it is not considered that any normative interpretation can be made of gender differences in the poverty risk of children. However, for publication in electronic databases, there are technical limitations which prevent not showing this breakdown.

- Households and individuals therein with missing equivalised disposable income (*EQ_INC*) or missing age or missing gender information are excluded from the calculation. Age at the end of income reference period is used.

- Households with missing values in at least one of the following housing deprivation items are excluded from the calculation: HH040, HH080 (or HH081), HH090 (or HH091) and HS160.

Calculation of and poverty status and age breakdowns

109

Each person is classified in the following categories according to his/her age and whether she/he is considered to be at-risk-of-poverty according to the at-risk-of-poverty threshold calculated at 60% of national median equivalised disposable income:

TOTAL	EQ_INC<ARPT	EQ_INC≥ARPT
AGE ≥ 0 (TOTAL)	AGE ≥ 0 (TOTAL)	AGE ≥ 0 (TOTAL)
0 ≤ AGE ≤ 17	0 ≤ AGE ≤ 17	0 ≤ AGE ≤ 17
18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64
AGE ≥ 65	AGE ≥ 65	AGE ≥ 65

Calculation of age and gender breakdowns
Each person is classified in the following categories according to his/her age and gender.

Total	Males	Females
AGE ≥ 0 (TOTAL)	AGE ≥ 0 (TOTAL)	AGE ≥ 0 (TOTAL)
0 ≤ AGE ≤ 17		
18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64
AGE ≥ 65	AGE ≥ 65	AGE ≥ 65

Presentation tables

Housing deprivation by number of items				
0 item	**1 item**	**2 items**	**3 items**	**4 items**
:	:	:	:	:

Housing deprivation by number of items (5 separate tables)			
No.	**Age**	**Gender**	**(%)**
1	Total (AGE ≥ 0)	T	:
2		M	:
3		F	:
4	(0 ≤ AGE ≤ 17)	T	:
5	(18 ≤ AGE ≤ 64)	T	:
6		M	:
7		F	:
8	(AGE ≥ 65)	T	:
9		M	:
10		F	:

21. Median of the housing cost burden distribution (median share of housing cost)

Definition

This indicator is defined as the median of the housing cost burden (HCB) distribution, i.e. the distribution among individuals of the share of the total housing costs (net of housing allowances) in the total disposable household income (net of housing allowances).

Algorithm for the calculation

The first step is to compute the housing cost burden for each individual. HCB is defined as the ratio between the monthly total housing costs multiplied by 12 and diminished by gross housing allowances and the annual total disposable household income diminished by gross housing allowances following the formula:

$$HCB = \frac{(HH070 \; x \; 12) - HY070G}{HY020 - HY070G} \bullet 100$$

The following conditions should be checked and applied:

1. (HH070x12) – HY070G ≤ 0 then HCB = 0

2. HY020 – HY070G ≤ 0 then HCB = 100

3. HY020 – HY070G < (HH070x12) – HY070G then HCB = 100

Although all information used for its calculation refers to the household level, this indicator is defined at individual level, i.e. has to be calculated by individual and not by household. Therefore HCB should be ascribed to each person in the household (HCB$_i$) and individual weights based on RB050 have to be used.

Persons have to be sorted according to their housing cost burden (sorting order: lowest to highest value, household identification number and personal identification number). The median is then calculated as:

$$HCB_{MEDIAN} = \begin{cases} \frac{1}{2}(HCB_j + HCB_{j+1}) & \text{if } \sum_{i=1}^{j} weight'i = \frac{1}{2}W \\[2em] HCB_{j+1} & \text{if } \sum_{i=1}^{j} weight'i < \frac{1}{2}W < \sum_{i=1}^{j+1} weight'i \end{cases}$$

where:
  HCB_i= housing cost burden of person i
  $weight_i$= RB050i weight of the person i
  $weight'_i$= weight corrected for missing value of person i
  $W = \sum_{i=1}^{n} weight'i$
  n = number of individuals in the sample.

Breakdowns
For this indicator the totals and breakdowns by whether the person was above or below the at-risk-of-poverty threshold as well as gender, selected age groups and degree of urbanisation have to be calculated.

Note:
• In accordance with the SPC.ISG recommendation, the 0-17 age group is not broken down by gender as it is not considered that any normative interpretation can be made of gender

differences in the poverty risk of children. However, for publication in electronic databases, there are technical limitations which prevent not showing this breakdown.

- Households and individuals therein with missing equivalised disposable income (*EQ_INC*) or missing housing costs or missing gross housing allowances or missing age or missing gender information are excluded from the calculation. Age at the end of income reference period is used.

Calculation of the at-risk-of-poverty threshold
See algorithm of the calculation of 'at-risk-of-poverty threshold' defined at 60% of national median equivalised disposable income.

Calculation of and poverty status and age breakdowns
Each person is classified in the following categories according to his/her age and whether she/he is considered to be at-risk-of-poverty according to the at-risk-of-poverty threshold calculated at 60% of national median equivalised disposable income:

TOTAL	EQ_INC<ARPT	EQ_INC>ARPT
AGE ≥ 0 (TOTAL)	AGE ≥ 0 (TOTAL)	AGE ≥ 0 (TOTAL)
0 ≤ AGE ≤ 17	0 ≤ AGE ≤ 17	0 ≤ AGE ≤ 17
18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64
AGE ≥ 65	AGE ≥ 65	AGE ≥ 65

Calculation of age and gender breakdowns
Each person is classified in the following categories according to his/her age and gender.

Total	Males	Females
AGE ≥ 0 (TOTAL)	AGE ≥ 0 (TOTAL)	AGE ≥ 0 (TOTAL)
0 ≤ AGE ≤ 17		
18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64	18 ≤ AGE ≤ 64
AGE ≥ 65	AGE ≥ 65	AGE ≥ 65

Calculation of degree of urbanisation
The variable degree of urbanisation (DB100) is defined as follow:

Degree of urbanisation
1 Densely populated area
2 Intermediate area
3 Thinly populated area

Households and individuals therein with missing DB100 are excluded from the calculation of this breakdown.

The degree of urbanisation status is assigned to each household member.

Presentation tables

Median of the housing cost burden distribution			
No.	Age	At-risk-of-poverty	(%)
1	Total (AGE ≥ 0)	total	:
2		yes	:
3		no	:
4	(0 ≤ AGE ≤ 17)	total	:
5		yes	
6		no	
7	(18 ≤ AGE ≤ 64)	total	:
8		yes	:
9		no	:
10	(AGE ≥ 65)	total	:
11		yes	:
12		no	:

Median of the housing cost burden distribution			
No.	Age	Gender	(%)
1	Total (AGE ≥ 0)	T	:
2		M	:
3		F	:
4	(0 ≤ AGE ≤ 17)	T	:
5	(18 ≤ AGE ≤ 64)	T	:
6		M	:
7		F	:
8	(AGE ≥ 65)	T	:
9		M	:
10		F	:

Median of the housing cost burden distribution		
No.	Degree of urbanisation	(%)
1	Densely populated area	:
2	Intermediate area	:
3	Thinly populated area	:

Appendix I: The EU-SILC Legal Framework

(situation as of January 2009)

Details of the methodology applicable for participant countries with effect from 2003 (launch under gentlemen's agreement) and 2004 (under regulation).

Framework Regulations:

Regulation of the European Parliament and of the Council (EC) **No.1177/2003**, dated 16 June 2003, concerning Community statistics on income and living conditions (EU-SILC): text with EEA relevance, published in Official Journal L 165, 3/7/2003 P.0001-0009.

Regulation of the European Parliament and of the Council (EC) **No.1553/2005**, dated 7 September 2005, amending Regulation (EC) No.1177/2003 concerning Community statistics on income and living conditions (EU-SILC): text with EEA relevance, published in Official Journal L 255, 30/9/2005 P.0006-0008.

Implementation Regulations:

Commission Regulation (EC) **No.1980/2003**, dated 21st October 2003, implementing Regulation (EC) No.1177/2003…(EU-SILC) as regards **definitions and updated definitions**: text with EEA relevance, published in Official Journal L.298, 17/11/2003 P.0001-0022.

Commission Regulation (EC) **No.1981/2003**, dated 21st October 2003, implementing Regulation (EC) No.1177/2003…(EU-SILC) as regards **fieldwork aspects and imputation procedures**: text with EEA relevance, published in Official Journal L.298, 17/11/2003 P.0023-0028.

Commission Regulation (EC) **No.1982/2003**, dated 21st October 2003, implementing Regulation (EC) No.1177/2003…(EU-SILC) as regards **sampling and tracing rules**: text with EEA relevance, published in Official Journal L.298, 17/11/2003 P.0029-0033.

Commission Regulation (EC) **No.1983/2003**, dated 7th November 2003, implementing Regulation (EC) No.1177/2003…(EU-SILC) as regards **the list of primary target variables**: text with EEA relevance, published in Official Journal L.298, 17/11/2003 P.0034-0085.

Commission Regulation (EC) **No.28/2004**, dated 5th January 2004, implementing Regulation (EC) No.1177/2003…(EU-SILC) as regards **the detailed content of intermediate and final quality reports**: text with EEA relevance, published in Official Journal L.5, 9/1/2004 P.0042-0056.

Current Regulations on Modules:

2005 - Commission Regulation (EC) **No.16/2004**, dated 6th January 2004, implementing Regulation (EC) No.1177/2003…(EU-SILC) as regards **the target list of secondary variables relating to "the intergenerational transmission of poverty"**: text with EEA relevance, published in Official Journal L.4, 8/1/2004 P.0003-0006.

2006 - Commission Regulation (EC) **No.13/2005**, dated 6th January 2005, implementing Regulation (EC) No.1177/2003…(EU-SILC) as regards **the target list of secondary variables relating to "social participation"**: text with EEA relevance, published in Official Journal L.5, 7/1/2005 P.0005-0009.

2007 - Commission Regulation (EC) **No.315/2006**, dated 22nd February 2006, implementing Regulation (EC) No.1177/2003…(EU-SILC) as regards **the target list of secondary variables relating to "housing conditions"**: Text with EEA relevance, published in Official Journal L.52, 23/2/2006 P.0016-0021.

2008 - Commission Regulation (EC) **No.215/2007**, dated 28th February 2007, implementing Regulation (EC) No.1177/2003…(EU-SILC) as regards **the target list of secondary variables relating to "over-indebtedness and financial exclusion"**: Text with EEA relevance, published in Official Journal L.62, 1/3/2007 P.0008-0015.

2009 – Council Regulation (EC) N° 362/2008, dated 14th April 2008, implementing Regulation (EC) No.1177/2003…(EU-SILC) as regards the **list of target secondary variables relating to material deprivation**: Text with EEA relevance, published in the Official Journal of 24/04/2008.

2010 - Commission Regulation (EC) N° 646/2009 dated 23rd July 2009 implementing Regulation (EC) No.1177/2003…(EU-SILC) as regards **the target list of secondary variables relating to "intra-household sharing of resources"**: Text with EEA relevance, published in Official Journal 24/07/2009.

Appendix II: National data sources during transition to EU-SILC

(Data available at Eurostat as of April 2010)

Country	Source	Survey year	Income year
Belgium	ECHP	1995..2001	1994..2000
	n/a	n/a	2001
	EU-SILC	2003-	2002-
Bulgaria	Household Budget Survey ()	2000..2004	2000..2004
	EU-SILC	2006-	2005-
Czech Republic	Survey on Social Situation of the Household (SSD: Sociální Situace Domácností)	2001	2000
	Microcensus	2001	2000
	n/a	n/a	2001-2003
	EU-SILC	2005-	2004-
Denmark	Law Model	1995, 1997, 1999, 2001	1994, 1996, 1998, 2000
	n/a	n/a	1995, 1997, 1999, 2001
	EU-SILC	2003-	2002-
Germany	ECHP (adapt GSOEP (Sozio-oekonomische Panel))	1995..2001	1994..2000
	n/a	n/a	2001-2003
	EU-SILC	2005-	2004-
Estonia	Household Budget Survey (LEU: Leibkonna Eelarve Uuring)	2000..2002	2000..2002
	EU-SILC	2004-	2003-
Ireland	ECHP	1995..2001	1994..2000
	n/a	n/a	2001
	EU-SILC	2003-	2002*-
Greece	ECHP	1995..2001	1994..2000
	n/a	n/a	2001
	EU-SILC	2003-	2002-
Spain	ECHP	1995..2001	1994..2000
	Household Budget Survey (ECPF: Encuesta Continua de Presupuestos Familiares)	2002..2003	2001..2002
	EU-SILC	2004-	2003-
France	ECHP	1995..2000	1994..1999
	Tax Survey (ERF: Enquête Revenu Fiscaux)	2001..2003	2000..2002
	EU-SILC	2004-	2003-
Italy	ECHP	1995..2001	1994..2000
	n/a	n/a	2001..2002
	EU-SILC	2004-	2003-
Cyprus	n/a	n/a	2000..2002
	Household Budget Survey (FES: Family Expenditure Survey)	2003	2003
	EU-SILC	2005-	2004-

Country	Source	Survey year	Income year
Latvia	Household Budget Survey (MBP: Majsaimniecibu Budzetu Petijums)	2000	2000
	n/a	n/a	2001
	Household Budget Survey (MBP: Majsaimniecibu Budzetu Petijums)	2002..2003	2002..2003
	EU-SILC	2005-	2004-
Lithuania	Household Budget Survey (Namu ukiu biudzetu tyrimas)	2000..2001	2000..2001
	EU-SILC	2005	2004
Luxembourg	ECHP (adapt PSELL (Panel Socio-Economique Liewen zu Lëtzebuerg))	1995..2001	1994..2000
	n/a	n/a	2001
	EU-SILC	2003-	2002-
Hungary	Household Budget Survey (HKF: Háztartási Költségvetési Felvétel)	2000..2003	2000..2003
	EU-SILC	2005-	2004-
Malta	Household Budget Survey (HBS: Household Budgetary Survey)	2000	2000
	n/a	n/a	2001..2003
	EU-SILC	2005-	2004-
Netherlands	ECHP	1995..2000	1994..1999
	Income Panel Survey (IPO: Inkomenspanelonderzoek)	2000..2003	2000..2003
	EU-SILC	2005-	2004-
Austria	ECHP	1995..2001	1994..2000
	n/a	n/a	2001
	EU-SILC	2003-	2002-
Poland	Household Budget Survey (Badania Bud?etów Gospodarstw Domowych)	2000..2003	2000..2003
	EU-SILC	2005-	2004-
Portugal	ECHP	1995..2001	1994..2000
	ECHP small sub-sample	2002..2003	2001..2002
	EU-SILC	2004-	2003-
Romania	Household Budget Survey ()	2000..2006	2000..2006
	EU-SILC	2007-	2006-
Slovenia	Household Budget Survey (Anketa o porabi v gospodinjstvih)	2000..2003	2000..2003
	EU-SILC	2005-	2004-
Slovakia	Microcensus	2003	2002
	Extrapolation	2004	2003
	EU-SILC	2005-	2004-
Finland	ECHP	1995..2000	1994..1999
	Income Distribution Survey (Tulonjakotilasto)	2001..2003	2000..2002
	EU-SILC	2004-	2003-
Sweden	Income distribution survey (HEK: Hushållens ekonomi, formerly HINK: Hushållens Inkomstfördelningsundersökningen)	1997, 1999, 2001	1997, 1999, 2001
	n/a	n/a	1998, 2000
	Survey of Living Conditions (ULF: Undersökning av levnadsförhållanden)	2002	2002
	EU-SILC	2004-	2003-

Country	Source	Survey year	Income year
United Kingdom	ECHP (adapt BHPS (British Household Panel Survey))	1995..2000	1994..1999
	Household Budget Survey (FRS: Family Resources Survey)	2000/01..2003/4	2000/01..2003/4
	EU-SILC	2005-	2005**-

Croatia	n/a	n/a	2000..2002
	Household Budget Survey ()	2003..2007	2003..2007
	EU-SILC	n/a	n/a
Turkey	n/a	n/a	2000..2001
	Household Budget Survey (HICE: Household Income and Consumption Survey)	2002..2003	2002.2003
	EU-SILC	n/a	n/a

Iceland	n/a	n/a	2000..2002
	EU-SILC	2004-	2003-
Norway	Income Distribution Survey	2000.2002	1999..2001
	EU-SILC	2003-	2002-
Switzerland	n/a	n/a	2000..2005
	EU-SILC	n/a	n/a

* The survey is continuous and the income reference period is last twelve months.

** The income reference period is the current year.