

MONITORING SOCIAL INCLUSION  
IN THE REPUBLIC OF SERBIA

# INDICATORS IN THE FIELD OF PENSIONS



GOVERNMENT  
OF THE REPUBLIC  
OF SERBIA



SOCIAL INCLUSION AND  
POVERTY REDUCTION  
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## MONITORING SOCIAL INCLUSION IN THE REPUBLIC OF SERBIA – INDICATORS IN THE FIELD OF PENSIONS

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**Author:**

Katarina Stanić

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Biljana Mladenović

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## 1. ABBREVIATIONS

**AROP** – at risk of poverty

**ARR** – aggregate Replacement Rate

**AWG** – Aging Working Group

**DC** – Defined Contribution

**DG ECFIN** – Directorate General for Economic and Financial Affairs

**EC** – European Commission

**EPC** – Economic Policy Committee

**ESSPROS** – European System of Integrated Social Protection Statistics

**EU** – European Union

**GDP** – Gross Domestic Product

**ILO** – International Labor Organization

**ISG** – Indicators Sub-Group

**LFS** – Labor Force Survey

**NRP** – National Reform Programmes

**NSR** – National Strategy Reports

**OECD** – Organization for Economic Co-operation and Development

**OMC** – Open Method of Co-Ordination

**PIO fund** – Republic of Serbia Pension and Disabled Person Insurance

**RMI** - Relative Median Income

**SDGs** – United Nations Sustainable development goals

**SDI** – Sustainable Development Indicators

**SILC** – Statistics on Income and Living Conditions

**SPC** – Social Protection Committee

**SPPM** – Social Protection Performance Monitor

**SPSI** – Social Protection and Social Inclusion

**TRR** – Theoretical Replacement Rate

**UN** – United Nations

## 2. INTRODUCTION

As the pension system has multiple objectives, there is a number of pension system indicators that might be used to measure different characteristics of pension programs. Pension indicators are complementary and should be considered together for a better understanding of any pension system (EC, 2006).

The most important goal of pension policy is poverty prevention/reduction and consumption smoothing. A pension system is therefore said to be adequate when it manages to accomplish these two major goals: to provide the *absolute level of retirement income* (preventing/reducing old-age poverty), and to provide the *relative level of retirement income* (income replacement or maintaining the relative standard of living) (Stanić, 2012 as in Holzmann and Hinz, 2005)..

Besides being adequate, pension systems nowadays are constrained with the demand for financial sustainability. “Adequate and financially sustainable pensions are considered the priority of EU pension policy proclaimed by the process of open method of coordination. Achieving these objectives in an ageing Europe is a major challenge. What complicates pension policy is the fact that the two objectives are conflicting. Provision of adequate pension level comes at expense of affordability and sustainability of pension systems. On the other hand, cutbacks that contribute to sustainability of pension systems make the adequacy of pensions uncertain. A good pension design must strike the right balance between these two contradictory objectives” (Stanić, 2010).

In what follows is description of pension indicators within EU framework, then description of pension indicators developed by other international institutions recognized for their work on pensions; discussion on the previously explained sets of indicators and measurement issues, and finally proposal of a set of pension indicators for Serbia.

### 3. EU INDICATORS IN THE FIELD OF PENSIONS

Although pension OMC was launched shortly after the social inclusion OMC, it was not until 2005 that pension indicators were developed. In 2005 the first set of indicators was produced by SPC and EPC and presented in the Guidance Note for preparation of second round of NSRs.

However, soon after the list of pension indicators was finally defined, EU Council decided to streamline the Open Method of Coordination (OMC) on social inclusion, on pensions and on healthcare and long-term care into a Single Social OMC. In this context, the Council endorsed the 12 common objectives for the Social OMC (3 overarching objectives and 3 for each of the 3 covered strands) on the basis of which the set of EU social protection and social inclusion indicators were revised and reorganized.

When it comes to pension strand, objective is to **provide adequate and sustainable pensions** in the following manner:

- In the spirit of solidarity and fairness between and within generations, guarantee an **adequate retirement income** for all and **access** to pensions which allow people to maintain, to a reasonable degree, their living standard after retirement;
- In the context of sound public finances, ensure the **financial sustainability** of public and private pension schemes, particularly by supporting a longer working life and active ageing, guaranteeing an appropriate and fair balance between contributions and benefits, and maintaining the security of funded and private schemes;
- Ensure that pension schemes 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 prepare for retirement and that reforms are conducted on the basis of the broadest possible consensus.

In 2006, the set of indicators was comprehensively reviewed and reorganized in accordance with the new common objectives for the streamlined Social OMC (EC, 2006). This portfolio was not changed since and is still valid (more details on the list of indicators will be given in the next section).

Pension developments in EU countries are currently monitored in two tri-annual reports, which complement one another – **Ageing Report** produced by the Economic Policy Committee and **the Pension Adequacy Report** produced by the Social Protection Committee. The Ageing Report focuses on the future fiscal sustainability of public pension schemes, while the Pension Adequacy Report examines the present and future adequacy of pensions as element in the income of retired people (EC and SPC, 2015).

### 3.1. Pension portfolio of the EU Social Indicators

Pension portfolio of indicators was developed in 2006 and it is still current. Main source of data are EU-SILC and in few cases EU-LFS. The list contains **11 primary indicators, 11 secondary indicators** and **5 context indicators** regrouped according to the objective to which they refer: 1) adequate; 2) sustainable and 3) modernized pensions (EC, 2006; EC, 2008; SPC-ISG, 2015).

#### **Adequate pensions: 4 primary and 8 secondary indicators (1 context information)**

Almost all indicators in this group are “performance” indicators, i.e. actual, empirical indicators based on EU-SILC.

First primary indicator is **at-risk-of-poverty rate of older people** (65 and above) measuring relative poverty. At-risk-of-poverty rate is a usual measure of poverty in the EU (those under 60% median income in the respective country).

Other two indicators – aggregate replacement ratio and median relative income of elderly people, both measure adequacy of income relative to younger generations. The **aggregate replacement ratio (ARR)** reflects the individual pension income (old-age, survivors and private individual pensions) compared to the individual income from work of people in the decade before retirement, regardless of the household size, hence without equalization and excluding other social benefits. **Median relative income of elderly people (MRI 65+)** is broader in scope both in terms of the income concept and the age groups that are considered (Agilis, 2014), and takes into account household structure and size. It compares median equalized income of people aged 65 and above as a ratio of median equalized income of people aged 0-64. Therefore, the ARR informs on the adequacy of pensions, while the median relative income 65+ informs on the overall adequacy of older peoples’ income and their relative position compared to others.

Different variants of these three indicators serve as a secondary indicators: **at-risk-of poverty rate** and **median relative income** for various age breakdowns (**0-59, 60 and above, 0-75, 75 and above**), which allow to isolate the specific situation of a different age group; **at-risk-of poverty rates calculated for different percentages of median** (50%, 70%)<sup>1</sup> as a complementary poverty rates measure; **at-risk-of poverty rate for pensioners** and **aggregate replacement rate (including other social benefits)**, which measures adequacy of overall welfare state benefits rather than pensions system solely.

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<sup>1</sup> This indicator is at Eurostat tables dubbed as Dispersion around the at-risk-of-poverty threshold for elderly people.

In addition, secondary indicators include **at-risk-of poverty gap of elderly people**, which measures how strongly those at-risk-of poverty fall short below the poverty line; **income inequality among population aged 65 and above** (80s/20s) providing information on the income distribution of elderly and **incidence of risk of elderly poverty by the housing tenure**.

Summing up, 11 out of 12 primary and secondary indicators for this objective are performance indicators, mainly poverty and inequality indicators of elderly population based on EU-SILC as a source.

Only one within this group is policy (design) indicator – **change in projected theoretical replacement ratio** for base case 2006–2046 (4<sup>th</sup> primary indicator), informing on future developments of adequacy without information on current situation. It also serves as Context information for overarching portfolio. This indicator is national indicator meaning that it is “based on commonly agreed definitions and assumptions that provide key information to assess the progress of Member States in relation to certain objectives, while not allowing for a direct cross-country comparison, or not necessarily having a clear normative interpretation” SPC-ISG (2015). It is not collected through the Eurostat website together with other primary and secondary indicators for adequacy objective. In addition, definition of the indicator specifying 2006 as a starting year is not clear. Further discussion on this continues in the Chapter 5 in this paper.

Context information belonging to this group of indicators is **composition of income by source** (pensions; other social benefits; earnings from work; other sources) and by income quintile for people aged 60 and above, 65 and above, 75 and above (EU type item). Source for this indicator is also EU-SILC.

### **Sustainable pensions: 4 primary and 2 secondary indicators (4 context information)**

Sustainability indicators are mainly national indicators concerning pension expenditures – current and projected, coupled with two indicators based on EU-LFS regarding employment and duration of working life.

First primary indicator measuring sustainability of pensions is **total current pension expenditure (% of GDP)** summing expenditure on seven categories of pension benefits<sup>2</sup>. This indicator measures expenditure on gross pension benefits i.e. the value of social benefits “disbursed by general government before the deduction of any taxes or social contributions paid on social benefits by their recipients”<sup>3</sup>. Administrative costs and transfers to other social schemes are excluded, while

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<sup>2</sup> Categories defined by ESSPROS: disability pension, early retirement benefit due to reduced capacity to work, old-age pension, anticipated old-age pension, partial pension, survivors' pension and early retirement benefit for labor market reasons.

<sup>3</sup> This is a feature of a “core” system. In 2007 “restricted” approach introduced.



benefits include both public and private interventions (Eurostat, 2012: 136)<sup>4</sup>. Similar type of indicator – **total expenditure on social protection (as % of GDP)** – measures all interventions from public or private bodies intended to relieve households and individuals of the burden of a defined set of risks or needs (sickness/health care, disability, old-age, survivors, family/children, unemployment, housing and social exclusion not elsewhere classified) and serves as a secondary indicator of pension sustainability. This indicator is now available both in net and gross variant.

Another set of indicators regarding sustainability of pensions consists of two indicators with EU-LFS as a source, both serving as primary indicators. This is **employment rate** for various age-group breakdowns with particular focus on employment rate of 55-64, allowing the analysis of “change in employment rates with age brackets and paths of early exit from the labor market”<sup>5</sup>. Another indicator is **duration of working life**, which replaced previous indicator – effective age of labor market exit. This indicator has been developed and produced for analysis and monitoring under the Europe 2020 employment strategy and it reflects one of two White paper messages – balancing work and retirement time. This indicator is actually an expectation on number of years a person being active in the labor market, and for its calculation both LFS activity rates and Eurostat survival functions are needed.

Final set of indicators regarding sustainability of pensions is created for Aging Report produced by Economic Commission (DG ECFIN) and Economic Policy Committee (EPC) – Aging Working Group (AWG). It consists of **projections of pension expenditure, public and total (% of GDP)** and **decomposition of the projected increase in public pension expenditure** (effect of old age dependency ratio, the employment effect, the take-up ratio and the benefit ratio). These are national indicators as defined by SPC (2015) since projections of pension expenditure were to be carried out by the Member States using national models on the basis of the commonly agreed underlying assumptions. “This approach was chosen by the Commission and EPC because pension systems and arrangements are very diverse in the EU Member States, making it extremely difficult to reliably project pension expenditure on the basis of one common model, to be used for all the 28 EU Member States” (EC, 2015:102).

Context information that belongs to this group of indicators is: **old-age dependency ratio** (current and projected), **evolution of life expectancy at birth and at ages 60 and 65**, by gender (current and projected), **pension system dependency ratio** (number of pensioners relative to contributors, current and projected up to 2050) and **contribution to public and private pension schemes**

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<sup>4</sup> This means that private pensions are included but only provided on collective basis (occupational schemes). According to SPC-ISG (2015) breakdown between public and private pensions is in development.

<sup>5</sup> SPC-ISG (2015): Portfolio of EU Social Indicators for the Monitoring of Progress Towards the EU Objectives for Social Protection and Social Inclusion. Report by the Indicators Sub-Group (ISG) of the Social Protection Committee, p. 40.

(pension contributions to public pension schemes as a share of GDP, current and projected to 2050). First two indicators are demographic indicators and other two are produced in Aging reports.

### **Modernized pensions: 3 primary and 1 secondary**

This objective is basically measured only for its part dealing with gender issues. The primary indicators are **gender differences** of AROP and **relative income of elderly**, and **ARR**. Gender differences in the relative income of elderly for additional age groups (60 and above, 75 and above) serve as a secondary indicator.

When it comes to **overarching indicators** that measure the link between the main policy areas and ultimate social cohesion outcomes, two adequacy indicators are included related to pension policy – **aggregate replacement ratio** and **median relative income of elderly**.

In addition, ISG considers further development and inclusion of additional indicators in pension portfolio such as material deprivation of older people, age of the labor market entry (as a % of working age).

### **3.2. Other relevant EU indicators**

**Social Protection Performance Monitor (SPPM) dashboard**<sup>6</sup> – a tool which uses a set of the key EU social indicators for monitoring social development in the EU – regarding pensions consists of overarching indicators (**aggregate replacement ratio** and **median relative income of elderly indicators**) and **AROPE (at-risk-of poverty and social inclusion) 65 and above**. AROPE indicator combines 3 measures (at-risk-of poverty rate (AROP), severe material deprivation and living in a household with a very low intensity). However, AROPE 65 and above actually combines the first two measures, whereas the third component – the share of people living in very-low work intensity households – is only taken into account for the population below age 60.

**Adequacy and Aging Reports' indicators** – alongside the two previously mentioned indicators produced for Aging Report that are part of pension portfolio of EU social indicators (projections of pension expenditure and its decomposition), there is a few additional indicators produced for Aging and Adequacy Reports. One of them is **benefit ratio** that is the average pension benefit divided by an economy-wide average wage. “The average pension is calculated as the ratio of public pension spending relative to the number of pensioners, whereas the average wage is proxied by the change

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<sup>6</sup> Dashboard indicators were meant to give a synthetic but comprehensive picture on the main changes in the social situation in Europe, hence the overarching indicators served as the basis for the selection while taking into account more recent developments, mainly related to the definition of the Europe 2020 poverty and social exclusion target and indicator (European Union (2014): 2014 Social Protection Performance Monitor (SPPM) Dashboard Results).

in the GDP per hours worked. The ratio of these two indicators is intended to provide an estimate of the overall generosity of pension systems” (EC and SPC, 2015: 112).

SPC-ISG has done significant work on **theoretical replacement rates (TRR)**. This work was presented in *2004, 2006 and 2009 Reports on Current and Prospective Theoretical Pension Replacement Rates* and since 2012 it has been published in *Pension Adequacy Reports*. SPC-ISG calculates variety of TRRs – current/perspective, net/gross, for different career profiles, while only change in current and perspective TRR is an indicator of pension portfolio of EU social indicators. Replacement rate is defined as the level of pensions as a percentage of previous individual earnings at the moment of take-up of pensions<sup>7</sup>. The replacement rate is calculated for a hypothetical worker, a single person with 40 years career length (i.e. he/she started to work at 25 and retired at 65) with constant average earnings. In addition to this base case, replacement rates for alternative hypothetical cases of a workers are calculated – for example flat low earnings profile (2/3 of average earnings), rising careers, different seniority and age of retirement (63 years of age with 38 years of service; 67 years of age with 42 years of service) etc.

**EU Sustainable Development Indicators (SDI)** are not relevant for pension policy since they do not deal with social protection as such. The only relevant indicator overlaps with sustainability dimension primary indicator **duration of working life**. This indicator is part of demographic change component, i.e. public finance sustainability related to demographics.

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<sup>7</sup> This practically means that the last year earnings will be earning in 2005, if the year of retirement is 2006. However, the difference in income between these two years is in real terms, therefore adjusted for inflation.

#### 4. OTHER RELEVANT FRAMEWORKS

When it comes to pension indicators, World Bank and OECD work is of great relevance. Unlike EU indicators, which focus on performance, World Bank and OECD in particular pay special attention to the policy or design indicators.

World Bank organizes pension indicators into 3 broad types of indicators: 1) environment information, 2) pension system design parameters, 3) performance indicators (Pallares-Miralles et al. (2012).

First set of indicators provides **information on the environment** in which the system operates, focusing on demographic and labor market conditions. Demographic indicators include fertility rate, life expectancies, old-age dependency ratio and similar. Labor market indicators are based on ILO as a source looking primarily at the labor-force participation rates as an “important determinant of the potential base of contributors to mandatory pension systems”<sup>8</sup>. The authors also note that standard fiscal indicators provide important contextual information for pension policy. This group of indicators corresponds to the context information in EU framework.

Second set is **information on pension system design**, presented in two groups of indicators: 1) overall architecture of the system information on pillars and various schemes) and 2) operating parameters of the system, which in turn consists of two sub-groups – a) qualifying conditions and b) contributions rate and indexation. This set includes indicators such as net and gross theoretical replacement rate, pension wealth, change in pension wealth for early/late retirement, progressivity formula, which are taken over from OECD and will be explained within OECD pension indicators.

Third set – **performance indicators**, consists of core indicators measuring “the outcomes that are achieved rather than implied or intended by the manner in which the system is designed”<sup>9</sup>. This set includes data that is grouped into indicators of coverage, adequacy, financial stability, economic efficiency and administrative efficiency, and security<sup>10</sup>. Indicators are presented in the following table:

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<sup>8</sup> Ibid, p. 12.

<sup>9</sup> Ibid, p. 70.

<sup>10</sup> Authors explain that the indicators illustrate “six key criteria of any pension scheme”.

<p><b>COVERAGE</b></p> <p>Coverage of workers</p> <p>Coverage of elderly</p> <p>Share of elderly households receiving pension transfers</p>
<p><b>ADEQUACY</b></p> <p>Empirical replacement rates by gender</p> <p>Ratio of pension income to expenditures/incomes of elderly households</p> <p>Relative poverty of elderly (50% of median expenditure per capita)</p> <p>Relative consumption/income of elderly (% of non elderly consumption)</p> <p>% of poverty gap reduced by pension transfers</p>
<p><b>FINANCIAL SUSTAINABILITY</b></p> <p>Pension spending to GDP ratio, most recent year</p> <p>Pension spending as a share of government spending</p> <p>Unfunded pension liability (accrued to date minus reserves) as share of GDP and tax revenues</p> <p>Net pension liability (net of assets and projected revenues) as share of GDP and tax revenues</p>
<p><b>ECONOMIC EFFICIENCY</b></p> <p>Average effective retirement age</p> <p>Tax wedge (income tax, employee and employer social security contributions, % of gross labor costs)</p>
<p><b>ADMINISTRATIVE EFFICIENCY</b></p> <p>Administrative costs of public scheme (normalized to benchmark)</p>

Source: Pallares-Miralles et. al (2012: 72), slightly corrected.

OECD has developed a set of pension indicators that are biannually published and analyzed in its publication Pension at Glance. Many of the OECD indicators, particularly pension design indicators, are incorporated in the previously described World Bank indicator base. Indicators are grouped into 5 categories, the first one dubbed **pension entitlements** being design indicators. This group of indicators provides perhaps the most comprehensive insight of the design of any elaborated pension system.

Very important indicator in the group of pension entitlements is **replacement rate (gross and net)** defined as the ratio of the pension benefit as a share of individual lifetime-average earnings.<sup>11</sup> Only

<sup>11</sup> Since under the baseline assumptions workers earn the same percentage of economy – wide average earnings throughout their career, lifetime average re-valued earnings and individual final earnings are identical. Therefore,

**prospective (expected) replacement rates** are calculated by the OECD reflecting future entitlements under today's parameters and rules, for current workers just entering the labor market at the age of 20, and retiring after a full career i.e. at the statutory retirement age. Since the statutory retirement age varies across countries, the length of full career varies as well (40 years for retirement at 60; 45 years for retirement at 65), though in most cases it is 45 years of service<sup>12</sup>. Additionally to the single average earner, replacement rates calculated for various earning levels – at 0.5, 0.75, 1.5 and 2 times average (mean) earnings. In the latest edition of Pension at Glance, it is calculated only for three hypothetical types of earners. Replacement rates include all mandatory pension schemes for private sector workers, regardless of whether they are public or private. This includes mandatory private personal DC pensions, recently introduced in some countries (such as Hungary, Sweden, Poland etc.). This is equivalent to 1<sup>st</sup> pillar in EC-ISG terminology. Systems with near-universal coverage are also included and they cover at least 90% of employees. For example, such a degree of coverage of occupational plans is achieved through centralized collective bargaining in the Netherlands and Sweden. In Canada, Denmark, the United Kingdom and the United States, there is a broad coverage of voluntary occupational pensions and these play an important role in providing retirement incomes. However, coverage is significantly below 90%, so they have not been included in the main results (OECD, 2005). In more recent years, OECD calculates replacement rates coming from public and from private schemes separately.

**Pension wealth** is a present value of the flow of pension benefit taking into account replacement rate, pension indexation, life expectancy and pensionable age. The calculation of pension wealth uses a uniform discount rate of 2% and country-specific mortality tables (OECD; 2009). OECD calculates gross and net pension wealth, but both expressed as a multiple of individual gross earnings.

The **relative pension level** is developed by OECD (2005), and is defined as net individual pension divided by net economy-wide average earnings. It is seen as an indicator of pension adequacy, since it shows the benefit level that a pensioner will receive in relation to average earnings in the respective country. Individual replacement rates may be quite high, but the pensioner may still receive only a small fraction of economy-wide average earnings. If, for example, a low-income worker – who earned only 50% of economy-wide average earnings – has a replacement rate of 100%, the benefit will only amount to 50% of economy-wide average earnings. For an average earner, the replacement rate and the relative pension level will be the same.

**Progressivity index** measures vertical distribution of a system. It is defined as 100 minus the ratio of the Gini coefficient of pension entitlements divided by the Gini coefficient of earnings, on both

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there is no difference between the OECD and EC (ISG) definition for the baseline case – flat lifetime earnings (Stanić (2008): Uloga penzijskog sistema u održanju nivoa prihoda u starosti – merenje i međunarodna poređenja).  
<sup>12</sup> Ibid.

cases weighted by the earnings distribution. Hence, index of 100 indicates pure basic schemes (Ireland and New Zealand), while small values of index point to strong link between contributions and entitlements (OECD, 2009).

Other groups of OECD indicators are **incomes and poverty of older people** (equivalent to adequacy group in EU pension portfolio), **finances of retirement-income systems** (equivalent to sustainable pensions group of indicators in EU pension portfolio), and **demographic and economic context** (equivalent to context information). In addition, OECD devotes significant work to private pensions, hence there is a whole group of indicators on **private pensions and public pension reserves**.

When it comes to **UN Sustainable development goals (SDGs)**, old-age and pension(ers) are not in the focus. There are only two indicators relating to old-age/pensioners. First one is the indicator measuring target 1.1: By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day – **proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)** when disaggregated by age. Second indicator is actually a sub-indicator of the indicator: **proportion of population covered by social protection floors/systems, by sex, distinguishing children, unemployed persons, older persons, persons with disabilities, pregnant women, newborns, work-injury victims and the poor and the vulnerable**, which measures target 1.3: Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable.

## 5. DISCUSSION

Measuring pension system is quite complex due to a number of pension policy goals, which are sometimes conflicting (adequacy vs. sustainability/affordability), and due to potential differences in system design and actual outcomes. Therefore, it is important that a set of indicators encompass all of these elements.

Prior to development of pension portfolio within the EU social indicators, EC Communication announced both “performance indicators (drawn from statistical data sets developed by Eurostat or international organizations) as well as policy indicators (mostly drawn from administrative or institutional information)” in July 2001. However, EU pension portfolio left out, to a large extent, the “policy” indicators, while focusing on performance – on income and poverty of elderly in particular. Although SPC-ISG devoted a significant work on development of TRR, both current and perspective, the only design indicator included in pension portfolio is the change in TRR for base case worker since 2006 to 2046<sup>13</sup>.

On the other hand, World Bank and OECD include a significant number of **design information and indicators** in their sets of indicators. This type of information and indicators are important and will be dubbed the **design information/indicators**<sup>14</sup>.

Beside information on parameters of the system such as indexation rules, retirement age and similar, this group usually includes indicators that depict generosity of pension system (current and prospective TRR, pension wealth) and measure vertical redistribution (such as OECD progressivity index, pension variation etc.). As pension system in Serbia is set as Bismarckian type, with a very strong link between previous earnings and pension entitlements, the only redistributive element within the old-age pension system, in terms of vertical redistribution, is minimum pension<sup>15</sup>. Therefore, measure of vertical redistribution (progressivity) so far has not been particularly relevant. Nevertheless, with the Law on regulation of temporary pension payment from dubbed design information/indicators November 2014, where pension higher than 25 thousand dinars were progressively cut, this measure could be interesting if this “temporary” pension payment prolongs. One should bear in mind that division of indicators according to the goals and division of indicators for being actual (performance) vs. design are crossing in a sense that a goal of pension policy can be measured both by design and performance indicators. For example, adequacy can be measured by design indicators (TRRs, pension wealth) as well as with performance indicators (relative income, actual retirement rates, poverty rates etc.).

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<sup>13</sup> It is not clear why this indicator is static i.e. fixed for only 2006-2046. In Pension adequacy report it is period 2013-2053.

<sup>14</sup> EC call them “policy” and World Bank/OECD design/entitlements. Term policy will be avoided as OECD publication Pension at Glance (2011), consisting of 5 groups explained in the section 3, names the whole set of pension indicators a pension-policy indicators.

<sup>15</sup> There are still some other elements of horizontal redistribution in the system, such as disability and survivors pensions, 6% augmentation in female pension formula, pensions with accelerated services, etc.



Objectives/goals that need to be measured can be defined in various ways. For example, EU measures 3 dimensions – adequacy, sustainability and modernized pensions; World Bank measures 5–6 dimensions – coverage, adequacy (which is in EU portfolio jointly deemed as adequacy), financial sustainability, economic and administrative efficiency (that can also be considered jointly as a broad goal of sustainability/affordability of pensions). OECD measures income and poverty of older people (that is actually adequacy) and financing of retirement-income systems.

**Adequacy** – being a pension policy goal that is most typically measured, is a broad category difficult to define (OECD, 2013). According to Holzman and Hinz (2005: 6), adequate pension system is “the one that provides benefits to the full breadth of the population that are sufficient to prevent old-age poverty on a country-specific absolute level in addition to providing a reliable means to smooth lifetime consumption for the vast majority of the population”. EU definition also includes absolute and relative living standard – “incomes for all and access to pensions which allow people to maintain, to a reasonable degree, their living standard after retirement” as well as coverage. OECD (2013: 61) uses a narrow definition that considers retirement income adequate if it meets some absolute minimum level of resources in old age and broadest definition that “deems a retirement income adequate if it replaces a worker’s earnings at a level which enables him or her to maintain a standard of living in retirement comparable to that enjoyed in working life”.

Accordingly, pension indicators can be generally divided into: 1) those designed to measure the **absolute living standard** of pensioners and poverty in old-age; and 2) those that measure the **relative living standard** of pensioners, i.e. income replacement. Further, both groups of indicators can be divided into those measuring the **design indicators** and those measuring the **actual outcome** i.e. performance indicators Stanić (2012). Finally, those measuring actual outcome may be individual/micro measures or aggregate/macro measures.

Table 1 summarises the most important adequacy sub-goals of the pension system and the risks they cover, parameters of pension system, indicators used to measure how system is designed and the achievement of the goals.

**Table 1. Adequacy sub-goals, parameters and indicators of pension system**

Goal (covered risk)	Pension system parameters	Measurement/Indicators	
		Design	Actual
Poverty reduction/ Prevention i.e. absolute living standard  ( <i>earnings risk, unemployment risk</i> )	Minimal benefit provision (flat/targeted/ minimum pension).  Different accrual rates for different earnings levels.  Contribution/benefit ceiling.	Minimal benefit/average earnings ratio.  Hypothetical replacement rate for low income earners (below 50% average).  Coefficient of variation of hypothetical replacement rate (higher than 0).	Poverty and inequality indexes.  Coefficient of variation of actual replacement rate.
Income maintenance/consum ption smoothing i.e.  relative living standard  ( <i>longevity risk, myopia, time inconsistency</i> )	<b>Traditional DB</b>  Valorisation  Accrual rate.  <b>Point system</b>  General point value General point indexation.  NDC.  Interest rate.	Hypothetical/theoretical replacement rate.  Pension wealth.  Relative pension level.	<b>Micro measures:</b>  Actual (individual) replacement rate.  <b>Macro measures:</b>  Ratios of elderly to non- elderly income.  Benefit ratio.  Aggregate replacement ratio.

Source: Stanić (2012: 78), slightly amended.

When it comes to **measurement of absolute living standard** i.e. poverty reduction/prevention, there are usual dilemmas general to poverty measurement – absolute vs. relative poverty,

consumption or income measurement, unit of measurement (individual vs. household), equivalence scales etc.<sup>16</sup>.

Typical **measure of relative living standard** is **replacement rate** – ratio of post-retirement to pre-retirement income. Defined in such a way, this is a micro/individual measure of income maintenance. It can be calculated based on hypothetical or actual earnings.

Hypothetical/theoretical replacement rate (TRR) is the most usual indicator of assessing pension adequacy. “The intention behind the standardized approach is to isolate the specific design issues that can be compared across countries. In this way, idiosyncratic determinants of pension system outcomes can be separated from those inherent to the design of the pension system itself” (Pallares-Miralles et al., 2012). “Theoretical replacement rates have been developed to measure the extent to which pension systems enable workers to preserve their previous living standard when moving from employment to retirement” (EC, 2006a). Currently most prominent work on TRRs is done by EC-ISG and OECD, as discussed in previous sections.

TRR may be current and perspective (future). For Serbia only current replacement is currently relevant, since changes of indexation have been so frequent and ad hoc in the last 10 years that projections for 40–50 years in the future cannot be reliable.

A number of authors criticize TRRs as not being a comprehensive measure of income replacement. OECD (2005) notes that replacement rates are the first indication of the magnitude of the pension promise, but they are not comprehensive measures. For a full picture, it is necessary to take account of life expectancy, retirement ages and the indexation of pension benefits. Grech (2013) points out that replacement rate is a “single point-in-time indicator” failing to take into account differences in longevity and state pension ages and also ignoring how pension payments change over the period in retirement. Similarly, Chybalski (2012) argues that measuring adequacy only with replacement rate is one-dimensional approach. This is why it is important to include **pension wealth**, which takes into the total value of the lifetime flow of retirement incomes as a complementary indicator. In addition, change in pension wealth shows what are the incentives or disincentives to stay in labor market for additional year. These indicators have not been calculated for Serbia so far.

When it comes to measures of actual outcome, individual replacement rates are very difficult to calculate. All EU measures, such as aggregate replacement rate (ARR), median relative income of elderly people, benefit ratio – they are all macro measures of adequacy.

When it comes to income maintenance, another issue is **adequacy**. Stanić (2008) points to a number of studies analyzing this matter. For example, Palmer (1989), as in McGill (1989), argue

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<sup>16</sup> See for example Disney and Whitehouse (2001) for discussion on measurement of old-age income.

that total retirement income of **60-75%** of an individual's **gross** earnings at retirement will enable him/her to enjoy an adequate standard of living during the latter stages of his/hers employment. Similarly, Munell and Soto (2005) state that replacement does not have to be 100 percent of gross income because they pay much less in taxes after retirement, they no longer need to save a portion of their income for retirement and they don't have work-related expenses, such as clothing and transportation. On the other side, health expenses are increasing in old-age. Therefore, the manner the health system is financed, the quality of health insurance in a country, a way costs of medicines are covered etc. influence the amount of income needed in retirement compared to working time when health-related expenses are lower. Finally, replacing the pre-retirement income in transition and emerging economies may not be adequate due to very low wages prior to retirement.

Furthermore, one may analyze broader concept such **income adequacy of elderly** or focus only on **pension income adequacy**. For income adequacy of elderly, pension system plays very important, but does not the only role. Other factors are also important and implicitly taken into account such as pension coverage, other income sources, household composition, access to other benefits that are not pension (such as attendance allowance for example, prescribed drugs etc.) and services (health care, long-term care services etc.)<sup>17</sup>. Hence, when more narrow concept of pension income adequacy is analyzed, also other aspects of the system explicitly, for example pension coverage as well as to take into consideration other components of welfare states such as health, long-term care etc. need to be analyzed.

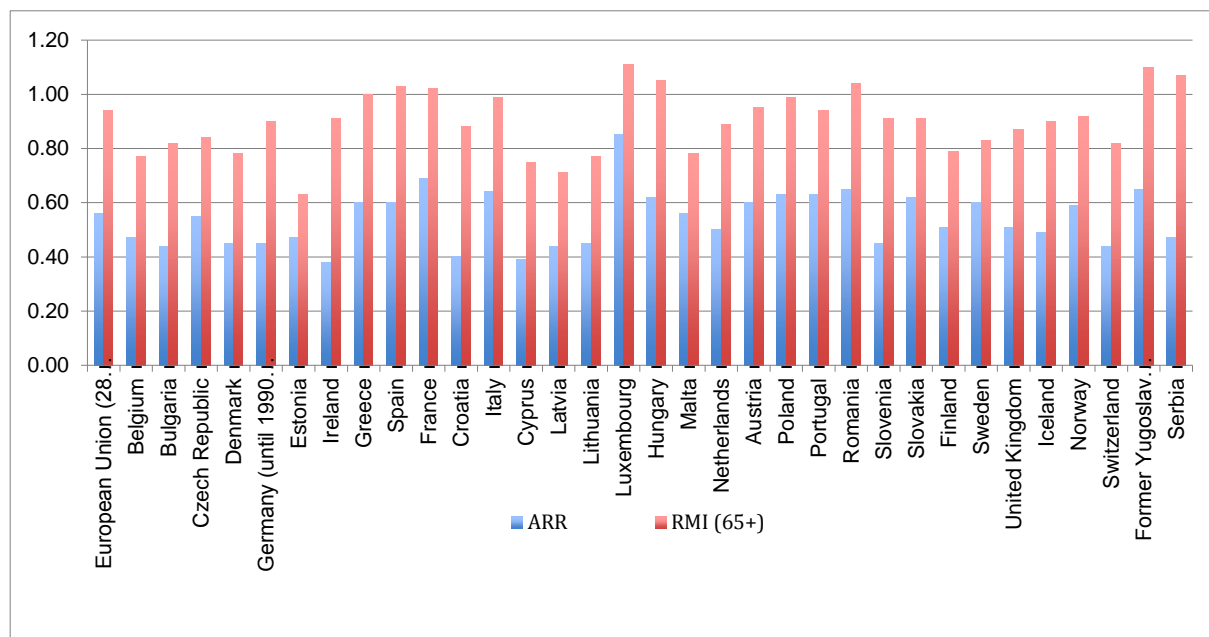
Difference in measuring adequacy of pension income vs. income of elderly is evident when ARR and median relative income of elderly are compared. ARR focuses on pension income that pertains to old-age and survivors' pensions and individual pension plans, while disability pensions are considered as other social benefits that are not included in ARR when paid for those aged below statutory pensionable age<sup>18</sup>. ARR does not take into account type and size of household, hence there is no equalization of disposable income. Finally ARR compares income only to those working earners in a decade prior to retirement while RMI compares to total population up to 65, taking in account children, too. It should also be kept in mind that ARR is based on gross pensions and earnings, while "net figures would provide more accurate depiction of actual (disposable) income situation" (EC and SPC, 2015:113).

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<sup>17</sup> This is how Pension Adequacy report is structured (one chapter is examining current living standard of older people and other the role of pension system in securing adequate living standard in old age)

<sup>18</sup> For those above statutory pensionable age disability pensions are considered old-age pensions.

**Graph 1. Aggregate replacement ratio (ARR) vs. relative median income of elderly (RMI 65 and above) in 2014**



Source: Eurostat (2014)

Despite these conceptual differences, results from the ARR indicator are generally in line with the overall trends described by the relative median income ratio (correlation coefficient is somewhat less than 0.7). Where a comparably low aggregate replacement ratios coincide with relatively high relative median income ratios, which is a case of Serbia (also in Ireland, Croatia, Slovenia etc.), this may be explained by factors such as the availability of other sources of income, the level of social contributions and taxes levied on pension income (which in case of Serbia are non-existent), or differences in household structures (EC and SPC, 2015).

When it comes to indicators of **sustainability** or financing, EU portfolio is not particularly relevant for Serbia. Out of four primary indicators, two rely on Eurostat-LFS, which is not comparable with LFS in Serbia<sup>19</sup>. In addition, due to a high degree of grey economy in Serbia, LFS employment is not crucial for pension system finances, at least not in short and medium run. Furthermore, indicator such as duration of working life, which is primary indicator in EU pension portfolio and the only EU-SDI indicator relevant for pension policy, is not informative enough as it can also include gray economy.

On the other side, indicators such as deficit of pension system are wrongly the main indicators of Serbian pension system in public view. Although there are a lot of arguments why this indicator is

<sup>19</sup> Analysis of LFS in Serbia and compatibility with Eurostat-LFS is beyond this paper, and is also relevant for employment indicators portfolio

not adequate<sup>20</sup>, still is informative to some extent and it is better to include it in the indicator list with the appropriate definition than to leave it out as it is and have misinterpretation (transfers to PIO fund, which include other expenditures and revenues from budget, is interpreted as pension system deficit).

When it comes to indicators for the third objective – **modernized pensions**, they are solely focused on gender inequality, although the definition of this goal includes other issues as well, such as transparency, adequate information on pension system, flexibility (well adapted to the requirements of modern societies). EU gender differences in pension entitlements result from the “disadvantaged position of women in the labor market as well as from the design of pension systems” (Lodovici et.al, 2016). However, in Serbia only the first part of this statement is true. When it comes to design, design was made to smooth this gap with 15% that was added to female pension. In addition, periods of child care are taken into account for pension entitlement. This is way gender gap in Serbia has been lower than gender pension gap in EU – less than 20% in comparison to 40% in EU (Rakić and Chiappe, 2008). As the increase in pension formula has been reducing up to 6% in 2021 and it is expected to be completely eliminated. Hence the modernization of pension formula in Serbia will not reduce gender gap; it is most likely going to be neutral due to increase in retirement age. Anyway, modernization as the title of a group of indicators dealing with gender gap is not appropriate in Serbia.

All analyzed pension sets of indicators (EU, World Bank, OCED) have a group of **contextual information/indicators**, typically demographic and employment. In case of EU indicators, they are clustered around the group of indicators for which they are informative, while World Bank and OECD have one sub-set of indicators with all context information for various aspects of pensions system. Second approach is perhaps better since in the first one there may be some duplication/repetition of indicators. When it comes to EU context information, in some cases the same indicator – employment rate – is regarded as context information for overarching indicators, but is also primary sustainability indicator. Or, indicator **contribution to public and private pension schemes (% of GDP)** – is context information and it can be argued that it is an indicator of financing and sustainability, as it is in OECD pension indicators set.

Finally, the choice of **overarching indicators** should reflect overarching objectives, which according to Marlier et al. (2009) address horizontal issues that cut across three policy strands. They provide linkage across the three social policy strands as well as between the EU social, economic and employment strategies.

The portfolio should reflect fully the overarching objectives, including dimensions that are “overarching” (social protection expenditures, labor market participation rates) and not specific to a

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<sup>20</sup> For details see Matković (2010); Bajec, Stanić (2005); Stanić (2010)

strand (social inclusion, pensions or health) in particular. The portfolio should include indicators reflecting the link between the main policy areas and ultimate social cohesion outcomes, this could be achieved through an adequate combination of indicators reflecting social outcomes (e.g. at-risk-poverty rates, other income and living conditions indicators, unemployment rates, educational attainment etc.) and indicators reflecting the scale and nature of social policy interventions (e.g. social protection expenditures etc.).

## 6. PENSION PORTFOLIO OF INDICATORS IN SERBIA

The proposed list of indicators for Serbia is a combination of various frameworks discussed in the previous sections. EU social indicators pension portfolio is a starting point amended with country-specific indicators, for which source is typically PIO fund i.e. administrative data.

Dataset of pension indicators for Serbia includes **overarching indicators** as EU social indicators.

There is a set of **context information**, which groups together all contextual information unlike the EU social indicators list where it is not divided according to dimension (overarching, adequacy, sustainability etc). This approach avoids overlapping of information/indicators since one indicator may be relevant for a number of dimensions.

Following is a group of information and indicators dubbed **design information/indicators**, modeled on the World Bank and OECD datasets. This group includes all the information and a few indicators that depict the design of pension system in Serbia.

**Actual or performance indicators** are grouped in a similar manner as in other datasets – adequacy and sustainability/finances. There is also a group of indicators dealing with number of pensioners and coverage. Group of indicators on adequacy is divided into the group analyzing adequacy of elderly income, which implicitly includes pension system generosity and coverage, and group of indicators focusing solely on pension system generosity. These indicators are further divided into those measuring poverty reduction/preventions, those measuring relative income and income replacement, and those dealing with income inequalities, and gender inequalities in particular. All of performance indicators can be primary or secondary.

Performance indicator basically consists of EU indicators and country specific indicators. Source of data for EU indicators is EU-SILC and all of the indicators are available at Eurostat since 2013. Main sources for country-specific indicators are administrative data from PIO fond, often published in PIO Fund Bulletin but in many cases additional processing and calculations are needed.

There is also a group of indicators dubbed **other indicators**. These are a few EU indicators that are left out as they are not really applicable for the Serbian circumstances. For example, change in TRR, although being a primary EU indicator, has not taken into the core list of indicators due to uncertainty and lack of vision when it comes to general point indexation. Same situation is with the indicator Projection of pension expenditure and its decomposition. Employment rate (LFS source), although primary indicator in EU and naturally important indicator of sustainability, is not as relevant in Serbian context due to two factors– grey economy and underreporting, as well as agricultural worker that are not regularly paying contributions. Hence, it is more a indicator of potential number



of contributors under changes of some circumstances (tax policy, administration etc.). Therefore, this indicator is not considered as a primary (nor secondary) indicator of financial sustainability, but is left in the group of context information and in the group of other indicators. So, the idea was to not to completely leave out EU indicators, but to show which of those are not adequate for circumstances in Serbia.

Finally, private pensions should be mentioned, for which legislative framework exists in Serbia since 2005. However, since this sector is negligible, inclusion of the indicators measuring private pensions is not included.

Proposed indicators are sorted in the following groups:

### **I – Overarching indicators**

### **II – Context information**

### **III – Design information/indicators**

### **IV – Performance/outcome indicators**

IVa – Number of pensioners and coverage

IVb – Adequacy

- *Elderly adequacy*
  - Poverty reduction/prevention
  - Relative living standard
  - Gender/Income Inequality
- *Pension adequacy*
  - Poverty reduction/prevention
  - Income replacement/Relative living standard
  - Gender/Income Inequality

IVc – Finances/Sustainability

### **V – Other indicators.**

Detailed list of indicators with data sources and comments is also provided in *Table 2. Pension indicators*. First column of the Table points to the type of indicator (O-overarching, C-contextual, D-design, P-primary, S-secondary). Second column gives the name of the indicator. Third column explains the origin of the indicator, whether it is EU social indicator, or SPPM, or country-specific

and if so, whether the similar indicator exists in any other profound publication/dataset. Fourth column gives the definition of indicator. Fifth column gives information on breakdowns of indicator. Sixth column gives information on primary source of data for indicator construction and the time frame for indicator reporting (most often it is annual and in some cases monthly; certain context information are not expected to change in short to medium term frame, hence there is not information on time frame). Final seventh column gives information on indicator availability and comments.

**Table 2. Pension indicators**

PENSION INDICATORS						
OVERARCHING INDICATORS						
	Indicator Title (Unit)	Indicator Type/Origin	Definitions	Disaggregation	Primary Data Source (Time Frame)	Data Availability and Comments
O1	Risk of poverty rate of older people	<i>Adequate Pensions - Primary EU indicator</i>	Risk of poverty (at the 60% threshold of equivalised disposable income) for people aged 65+ Complemented by composition of income	By sex	SORS (EU-SILC)	EUROSTAT <i>data for 2013, 2014 and 2015</i>  For Serbia, this is a more adequate indicator than AROPE 65+ (which is a dashboard indicator), bearing in mind the subjectivity of the indicator of material deprivation (which is a AROPE component), as well as other issues relative to this measure (see Matkovic, 2014, for details)  Poverty rate of 65+ provides a key indication of the capacity of pension systems to provide adequate income to older people. Should be compared with AROP of general population
O2	Median relative income of older people	<i>Adequate Pensions - Primary EU indicator</i>	The ratio between the median equivalised disposable income of persons aged 65 or older and the median equivalised disposable income of persons aged between 0 and 64.	By sex	SORS (EU-SILC) (Annual average)	EUROSTAT <i>data for 2013, 2014 and 2015</i>

O3	Pension coverage of older people (percentage)	<i>Country-specific</i>	Pensioners above the mandatory retirement age limit relative to the population above the mandatory retirement age limit	By sex For age groups 65+, 75+, 80+	PDIF/Report OS-5) and SORS (Demographic projections by sex and age groups). Secondary source SILC (Annually)	<i>Calculation needed</i>
O4	The total expenditure for current pensions (percentage of expenditure for social care and percentage of consolidated state)	<i>Country-specific</i>	<p>"Pension expenditure" is the sum of seven different categories of benefits, as defined in the ESSPROS Manual 1996: disability pension, early retirement benefit due to reduced capacity to work, old age pension, anticipated old age pension, partial pension, survivors' pension and early retirement benefit for labour market reasons</p> <p>Taken from the Financial Report of PDIF expenditure for net pensions is <u>account 471121-3 BASIC/FLAT-RATE PENSIONS</u></p>		PDIF (Annually)	<p><i>Data available on EUROSTAT, in Ministry of Finance Bulletin on Public Finances, The Financial Report</i></p> <p>This indicator is country-specific since it would not be a typical choice in an EU case if one took into consideration the definition of the overarching factors-the overarching objectives are relative to the horizontal issues between different policies. However, bearing in mind that the indexation of pensions is linked to the participation of pension expenditure in GDP, this indicator is also relevant to other policies.</p> <p>Information published in the Ministry of Finance <i>Bulletin on Public Finances</i> corresponds to the information from the PDIF Report. Information available on EUROSTAT differs by approximately two million RSD, a sum which has been accrued to the item "early retirement</p>

						benefit due to labour market reasons"; it is unclear what exactly this sum relates to, probably to the "Five Years to Retirement" social programme
O5	Average pension by municipalities (as percentage of the average earnings in the Republic of Serbia)	<i>Country-specific</i>			PDIF and SORS (Annually)	
<b>CONTEXT INFORMATION</b>						
C1	Life expectancy of people aged 65+	<i>Context information for the Overarching Portfolio and sustainable pensions</i>		By sex	SORS - Demographic Statistics (Annually)	<i>Available on SORS website and EUROSTAT – Demographic Database</i>  Contextual information for sustainable pensions is the Evolution of life expectancy at birth and at ages 60 and 65, by gender (current and projected)
C2	Old age dependency ratio, current and projected	<i>Context information for the Overarching Portfolio and sustainable pensions</i>			SORS	The development of dependency ratios provides key information on future pressures on pension systems expenditures and resources
C3	Information on household structures	<i>Country-specific</i>  (Guidance Note 2005)	Percentage of people aged 65+ (60+) living with their children (men/women/total). Percentage of people aged 65+ (60+) living with another adult aged 65+ (60+), men/women/total		CENSUS, estimates	<i>Special processing</i>

			Percentage of people aged 65+ (60+, 75+) living alone, men/women/total.			
C4	Employment rate	<i>Context information - the Overarching Portfolio</i>  <i>Primary sustainability indicator</i>		By sex	SORS /LFS	<i>SORS /AFS Bulletin and Communication</i>  According to EU (2015), the employment rate of people aged 55-64 (measured by EUROSTAT LFS) is an essential aspect of pension systems sustainability; therefore, this is a primary indicator in the EU Pensions Portfolio of Social Indicators. However, bearing in mind certain particularities pertaining to Serbia (primarily the high level of the grey economy and the number of farmers who do not pay contributions), this indicator is not considered to be of primary importance; rather, it can be considered as a potential and not as an essential aspect of sustainability. For this reason it has been classified as context information (the way it is classified within the overarching EU indicators)
C5	People aged 55–64 neither in employment nor in retirement (percentage of the age group)	<i>OECD Indicator</i> People aged 55–64 neither in employment nor completely in retirement	Combination of questions from LFS	By sex	SORS /LFS	<i>Special processing LFS</i>
C6	Unemployment rate, by sex, and key age groups	<i>Context information- the</i>			SORS /LFS	<i>SORS/LFS Bulletin and Communication</i>

		<i>Overarching Portfolio</i>				
C7	Long-term unemployment rate, by sex and key age groups	<i>Context information- the Overarching Portfolio</i>			SORS /LFS	
C8	Composition of income by source and by income quintile	<i>Context information- adequacy</i>	Pensions; other social benefits; earnings from work; other sources	60+, 65+, 75+	SORS (EU-SILC)	
C9	Poverty rate of the general population (percentage)				SORS/ <b>SHC</b> (Survey on Household Consumption)	The absolute poverty, currently not covered
C10	At-risk-of-poverty rate for the general population (percentage)				SORS (EU-SILC)	<i>Available on SORS site and at EUROSTAT - data for 2013, 2014 and 2015</i>  Relative poverty
C11	Current social protection expenditure, by function, gross and net (ESPROSS)	<i>Context information- the Overarching Portfolio</i>				
<b>DESIGN INFORMATION/INDICATORS</b>						
D1	Age limit			By sex	PDIF Law (Annually)	The Actual limit within a given year, its increase rate and the ultimate legal objective
D2	Age limit for survivors' pension				PDIF Law (Annually)	The actual limit within a given year, its increase rate and the ultimate legal objective
D3	Minimum age limit for the accelerated retirement schemes				PDIF Law (Annually)	
D4	Minimum age limit for the early retirement			By sex	PDIF Law (Annually)	
D5	Early retirement requirement (number of years spent working)			By sex	PDIF Law (Annually)	

D6	Amount of monthly penalties for taking up the early retirement				PDIF Law	
D7	Value of the general point, both nominal and relative to the average earnings				PDIF (Annually)	
D8	Indexation of pensions and the general point				Law (Annually)	
D9	Net replacement rate (percentage)	<i>Country-specific (SPC-ISG methodology)</i>	The replacement rate is calculated as the ratio between the pension of a hypothetical worker (with 40 years of service and constant average earnings) and the previous net earnings (the average net earnings in the Republic of Serbia during the previous year, recalculated into the prices from the current year)		PDIF for the <u>value</u> of the general point and SORS (or <b>Central Registry for Compulsory Social Insurance</b> ) for the average earnings in the Republic of Serbia (Annual average)	<i>Calculation needed</i>  This is the hypothetical current Replacement Rate, which reflects the design of the pension system. This indicator has been taken from EC-ISG; however, in its present variant it has not been included into the EU List of Social Inclusion Indicators.
D10	Projected (future) replacement rate	<i>Country-specific (modelled after EC-ISG)</i>				<i>Calculation needed</i>  The calculation of this indicator is modelled after and based upon the EU-ISG and OECD methodology; however, it is not as relevant to Serbia as it is to EU Member States, due to the ad hoc indexation of pensions and the <u>general point</u> and the absence of clear vision about further steps and measures
D11	Expected duration of retirement - life expectancy at pensionable age	<i>Country-specific</i>	Demographic life expectancy data at the age of retirement (65 for men, 61 for women in 2016)	By sex	EUROSTAT (Annually)	<i>Monitor the information about the life expectancy at the pensionable age limit during a given year on EUROSTAT</i>



		WB (Milares-Pillares) p. 52 as in OECD 2011				A variant for the minimum (anticipated pension) retirement age
D1 2	Net pension wealth (multiples of annual net/gross earnings)	<i>Country-specific</i>  OECD <i>Pensions at a Glance</i> (various issues), WB	Present value of the flow of pension benefits, taking into account the replacement rate, the pension indexation, the life expectancy and the pensionable age. OECD uses a 2% discount rate.	At the standard retirement age; the minimum retirement age	Calculation based on the net replacement rate (D9), the indexation rules (Law) and the expected duration of retirement (D11)  <i>(Annually)</i>	<i>Calculation needed</i> OECD calculates both the gross and the net pension wealth as a multiple of individual <i>gross</i> earnings. This indicator is modified for Serbia since it would be difficult to understand the net wealth as a multiple of gross earnings; therefore, it is defined as a multiple of net earnings (net wages). The variant used by OECD (multiples of gross earnings) should be calculated as well for the sake of comparison
D1 3	Change in pension wealth	<i>Country-specific</i>  WB indicators, OECD (2013)				<i>Calculation needed</i>
D1 4	Nominal contribution rate to PDIF	<i>Country-specific</i>	Administrative contribution rate to PDIF. If it changes during a year, then the annual average is calculated		Law on Compulsory Social Insurance Contributions	
<b>PERFORMANCE/OUTCOME INDICATORS</b>						
<b>NUMBER OF PENSIONERS AND COVERAGE</b>						
<b>P/S</b>	<b>Indicator Title (Unit)</b>	<b>Indicator Type (Origin)</b>	<b>Definitions</b>	<b>Disaggregation</b>	<b>Data Source (Time Frame)</b>	<b>Data Availability and Comments</b>
P	Pension coverage of older people (percentage)	<i>Country-specific</i>	Pensioners above the mandatory retirement limit relative to the population	By sex  For age groups 65+, 75+, 80+	PDIF/Report OS-5) and SORS (demographic estimates by sex	<i>Calculation needed</i>  Over the course of previous years, the information provided

			above the mandatory retirement limit		and age brackets). Second source: SILC	by PDIF, classified by age groups (Report OS-5), was not completely consistent with the total number of pensioners, as reported by PDIF
P	Gender Gap in non-coverage rate	<i>Country-specific</i> (Pension adequacy report)	Participation of male pensioners above the mandatory retirement limit relative to the male population above the mandatory retirement limit minus the participation of female pensioners above the mandatory retirement limit relative to the female population above the mandatory retirement limit		PDIF/Report OS-5) and SORS (demographic estimates by sex and age brackets). Second source: SILC	Idem
S	Total number of pensioners	<i>Country-specific</i>			PDIF ( <i>End of year, annual average</i> )	PDIF <i>Annual Bulletin</i> PDIF publishes information indicating the factual situation on December 31st. It would be beneficial if information regarding the annual average were also published
P	Structure of beneficiaries by pension type	<i>Country-specific</i>	Old age, disability, survivors', accelerated retirement scheme pensions/according to special regulations	By type of coverage (employees, self-employed, farmers)	PDIF ( <i>end of year, annual average</i> )	Idem
P	Share of pensioners with 40+ years of service	<i>Country-specific</i>			PDIF	
P	Composition of survivors' pensions beneficiaries	<i>Country-specific</i>		By number of beneficiaries, children beneficiaries	PDIF	PDIF, <i>additional processing needed</i>

S	Number of pensioners (percentage of total population)	Country-specific	Total number of pensioners/total population (in the same year)		PDIF and SORS	<i>Calculation needed</i> PDIF current data indicate the factual situation at the end of the year, and demographic data indicate the annual average
S	Coverage of working population/labour force with PDIF	Country-specific			SORS (registered employment rate and demographic data), <b>Central Registry for Compulsory Social Insurance</b>	<i>Calculation needed</i>
S	Average number of "paid service years" by age groups	Country-specific				Currently there are no sources from which this information could be obtained. Both the SILC questionnaire and the LFS questionnaire contain a question about the total number of service years, but they do not differentiate between the actual and the formal number of service years. In the absence of information about the formal (registered) number of service years, the number of total service years may also be informative.
<b>ADEQUACY</b>						
<b>P/S</b>	<b>Indicator Title (Measure Unit)</b>	<b>Indicator Type (Origin)</b>	<b>Definitions</b>	<b>Disaggregation</b>	<b>Data Source (Time Frame)</b>	<b>Data Availability and Comments</b>
<b>OLDER AGE ADEQUACY</b>						
<b>Poverty Reduction/Prevention</b>						

P	At-risk-of-poverty rate of older people (65+)	<i>Adequate pensions - Primary EU indicator</i>	Risk of poverty (at the 60 % threshold of equivalised disposable income) for people aged 65+ Complemented by composition of income	By sex	SORS (EU-SILC)	EUROSTAT <i>data for 2013, 2014 and 2015</i>  Poverty rate of 65+ provides a key indication of the capacity of pension systems to provide adequate income to older people. Should be compared with AROP of the general population
S	At-risk-of-poverty rate of older people (60+, 75+)	<i>Adequate Pensions - Secondary EU Indicator</i>	Risk of poverty for people aged 0-59, 0-74, 60+, 75+	Age: 0-59, 0-74, 60+, 75+ By sex	SORS (EU-SILC)	EUROSTAT <i>data for 2013, 2014 and 2015</i>  These breakdowns allow to isolate the specific situations of different age groups more specifically than the primary indicator.
S	At-risk-of-poverty rate of older people according to the household type	<i>Country-specific</i>			SORS (EU-SILC)	<i>Additional calculation needed</i>
S	At-risk-of-poverty gap of older people	<i>Adequate Pensions - Secondary EU Indicator</i>	Poverty gap by age brackets (for 65+ and 75+) at the 60% threshold	65+, 75+	SORS (EU-SILC)	EUROSTAT <i>data for 2013, 2014 and 2015</i> This indicator complements indicators on poverty rates and is complementary to sensitivity analysis
P	Poverty rate of older people (percentage)	<i>Country-specific</i>	Absolute poverty by expenditure	By sex, age groups (65+,75+), household type	<b>SHC</b> (Survey on Household Consumption) ( <i>Annually</i> )	<i>Absolute poverty is currently not covered by the official statistics</i>  Bearing in mind that a significant part of Serbia's population cannot meet even its basic needs, this indicator needs to be monitored as an indicator complementing the at-risk-of-poverty rate

S	Severe material deprivation of older people (percentage)	<i>Country-specific (ISG (Indicators Sub-Group) is considering the inclusion of this indicator)</i>		65+, 75+, by sex		EUROSTAT <i>data for 2013, 2014 and 2015</i> Compare with the severe material deprivation of the total population
S	At-risk-of-poverty or social exclusion rate for older people (AROPE 65+)	<i>Dashboard Indicator</i>				EUROSTAT <i>data for 2013, 2014 and 2015</i>  This actually presents the cross-sectional data/analysis regarding the at-risk-of-poverty rate and material deprivation
<b>Relative Living Standard</b>						
P	Median relative income of older people	<i>Adequate Pensions - Secondary EU Indicator</i>  <i>Dashboard Indicator</i>	Median equivalised disposable income of people aged 65+ as a ratio of income of people aged 0-64	By sex	SORS (EU-SILC)	EUROSTAT <i>data for 2013, 2014 and 2015</i>  This indicator informs on the overall adequacy of income of older people. Relative context information: income composition
S	Median relative income of older people (60+)	<i>Adequate Pensions - Secondary EU indicator</i>	Median equivalised disposable income of people aged 60+ as a ratio of equivalised disposable income of people aged 0-59	By sex	SORS (EU-SILC)	Idem
<b>Gender/Income Inequality</b>						
P	Gender differences by the at-poverty-risk factor	<i>Modernised Pensions - Primary EU indicator</i>	The absolute difference between males and females in the at-risk-of-poverty rate for single-person households (see at-risk-of-poverty rate)	Age: 0-65, 65+ Total + women/men living alone	SORS (EU-SILC)	EUROSTAT <i>data for 2013, 2014 and 2015</i>  Relative secondary indicators: by age group (60+ and 75+ and below 60, 75);

P	Gender differences in the relative income of older people (65+)	<i>Modernised Pensions - Primary EU Indicator</i>	The absolute difference between males and females in the relative income of older people (65 +) for single-person households. See relative income for 65+, in relation to the 0-64 population	Total + women/men living alone	SORS (EU-SILC)	EUROSTAT <i>data for 2013, 2014 and 2015</i>  Relative secondary indicators: by age group (60+ and 75+ and below 60, 75);
S	Gender differences in the relative income of older people (60+,75+)	<i>Modernised Pensions - Secondary EU Indicator</i>	The absolute difference between males and females in the relative median income ratio, which is the ratio between the median equivalised disposable income of persons aged 65 or older and the median equivalised disposable income of persons aged 0-64.	Age groups: 60+, 75+, below 60 and below 75); Total + women/men living alone		EUROSTAT <i>data for 2013, 2014 and 2015</i>
S	Income inequality among population aged 65+	<i>Adequate Pensions - Secondary EU Indicator</i>	Income quintile ratio (S80/S20) among population aged 65+	Age groups 0-64, 65+	SORS (EU-SILC)	EUROSTAT <i>data for 2013, 2014 and 2015</i>  This indicator informs on the part of the objective regarding the solidarity among generations and provides an indication on the income distribution for the age group 0-64 and older people aged 65+.
<b>PENSION ADEQUACY</b>						
<b>Poverty Reduction/Prevention</b>						
P	Minimum pension relative to the absolute	<i>Country-specific</i>	The lowest pension coverage of employees and self-		PDIF, SORS	<i>Processing/calculation needed</i>  Serves as an alternative to the

	poverty line (percentage)		employed for old age and disability pensions			cost of a MINIMUM consumer basket by unit (an equivalent adult)  May also serve as a secondary indicator
P	Minimum survivors' pension relative to the absolute poverty line (percentage)	<i>Country-specific</i>	Minimum survivors' pension (70% of minimum old age/disability pensions) from coverage of employees/self-employed relative to the absolute poverty line		PDIF, SORS	<i>Processing/calculation needed</i>  Serves as an alternative to the cost of a MINIMUM consumer basket by unit (an equivalent adult)  May also serve as a secondary indicator
S	Average survivors' pension relative to the at-risk-of poverty threshold (percentage)	<i>Country-specific</i>			PDIF, SORS	<i>Processing/calculation needed</i>
P	Farmers' pension relative to the absolute poverty line (percentage)	<i>Country-specific</i>			PDIF, SORS	<i>Processing/calculation needed</i>  May also serve as a secondary indicator
P	Pensioners' poverty rate (percentage)	Adequate Pensions <i>Country-specific</i>	Absolute poverty by expenditure	By sex, by age groups (65+,75+)	SHC (Survey on Household Consumption)	<i>Absolute poverty is currently not covered by the official statistics</i>  Bearing in mind that a significant part of Serbia's population cannot meet even its basic needs, this indicator needs to be monitored as an indicator complementing the at-risk-of-poverty rate
P		Adequate Pensions	At-risk-of-poverty rate restricted to the group of	By sex	SORS (EU-SILC)	This indicator complements indicators on poverty rates for

	At-risk-of-poverty rate of pensioners	<i>Secondary EU Indicator</i>	people whose main activity status is 'retired'			people whose status is retired. See also indicators for the third streamlined objective.
S	Minimum pension (employed and self-employed) relative to the average earnings (percentage)	<i>Country-specific (Pensions at a Glance)</i>			PDIF, SORS - <b>Central Registry for Compulsory Social Insurance</b>	<i>Processing/calculation needed</i>  <i>This indicator has been selected mainly for the sake of comparability with OECD Member States</i>
S	Minimum pension relative to the threshold of relative poverty	Pension adequacy report		Employed/self-employed and farmers, separately		<i>Processing/calculation needed</i>
<b><i>Income Replacement, Relative Living Standard</i></b>						
P	Average old age pension RSD	<i>Country-specific</i>	Average old age pension from the pension coverage of employees and self-employed (excluding farmers)		PDIF <i>(Monthly, annually)</i>	<i>PDIF Monthly Bulletin, additional analysis for pensions defined by chosen standards</i>
P	Average old age pension relative to the average net earnings (percentage)	<i>Country-specific</i>	Average old age pension (excluding farmers) as percentage of the average net earnings in the Republic of Serbia		PDIF, SORS <i>(Annually)</i>	Idem
P	Average disability pension relative to the average net earnings (percentage)	<i>Country-specific</i>	Average disability pension (excluding farmers) as percentage of the average net earnings in the Republic of Serbia		PDIF, SORS <i>(Annually)</i>	Idem
P	Average survivors' pension relative to the average net earnings (percentage)	<i>Country-specific</i>	Average survivors' pension (excluding farmers) as percentage of the average net earnings in the Republic of Serbia		PDIF, SORS <i>(Annually)</i>	Idem
S	Average pension relative to the average earnings (percentage)	<i>Country-specific</i>	Total amount of an average pension relative to the total amount of average earnings	By types of coverage (employees,	PDIF <i>(monthly, annually)</i>	<i>PDIF Monthly and Annual Bulletins, Ministry of Finance</i>



		(Benefit ratio, Ageing Report)		self-employed, farmers)		<i>Bulletin on Public Finances</i> This indicator is not particularly informative, especially if pensions from all three types of coverage are observed as a group; still, its use has taken root in the public, and it is also, to a certain extent, comparable with the EU benefit ratio, albeit these two indicators differ not only methodologically, but also essentially, due to the specificities of farmers' pensions in Serbia
P	Aggregate replacement ratio - percentage	<i>Adequate Pensions-Primary EU Indicator</i>  <i>Dashboard indicator</i>	The aggregate replacement ratio is the gross median individual pension income of the population aged 65–74 relative to the gross median individual earnings from work of the population aged 50–59, excluding other social benefits.	By sex	SORS (EU-SILC) (Annually)	EUROSTAT <i>data for 2013, 2014 and 2015</i>  This indicator informs on the overall adequacy of pensioners' income in relation to older workers Currently pension income encompasses only the first pillar schemes.
S	Aggregate replacement ratio (including other social benefits)	<i>Adequate Pensions Secondary EU Indicator</i>	Ratio of the median individual pensions of the 65-74 age group relative to the median individual earnings of the 50-59 age group, including other social benefits	By sex	SORS (EU-SILC) (Annually)	Currently pension income encompasses only the first pillar schemes.
<b>Gender/Income Inequality</b>						
S	Distribution of pensions (percentage of beneficiaries beneath the average pensions)	<i>Country-specific</i>	Calculate separately by groups: employees/self-employed/ farmers	Old age pensions, disability pensions, survivors' pensions	PDIF	PDIF <i>Monthly Bulletin</i> Pay special attention to the “proportionate” pensions which should be taken out from the distribution

P	Gender pension gap M/W (percentage)	<i>Pension Adequacy Report, EC Report Gender Gap</i>	Gender Pension Gap = $(1 - \text{Women's average individual old age income} / \text{Men's average individual old age income}) \times 100$	Old age pensions, disability pensions	PDIF	<i>Additional calculations needed</i>
P	Gender differences in aggregate replacement ratio	<i>Modernised Pensions-Primary EU Indicator</i>	The absolute difference between the males and the females in the aggregate replacement ratio. The aggregate replacement ratio is defined as the ratio of the median individual gross pensions of 65-74 age category relative to the median individual gross earnings of 50-59 age category, excluding other social benefits		SORS (EU-SILC)	
<b>FINANCIAL SUSTAINABILITY</b>						
P/S	<b>Indicator Title (Unit)</b>	<b>Indicator Type/Origin</b>	<b>Definitions</b>	<b>Disaggregation/Variants</b>	<b>Data Source (Time Frame)</b>	<b>Data Availability and Comments</b>
P	Total current pension expenditure (percentage of GDP)	<i>Sustainable Pensions Primary EU-NAT Indicator</i>	“Pension expenditure” is the sum of seven different categories of benefits, as defined in the ESSPROS Manual 1996: disability pension, early retirement benefit due to the reduced capacity to work, old age pension, anticipated old age pension, partial pension, survivors' pension and early retirement benefit for labour market reasons.	By function (types of pensions): disability, old age, survivors' pensions	EUROSTAT – ESSPROS PDIF Financial Report	EUROSTAT ( <i>data available for 2010- 2013</i> ) and PDIF <i>Financial Reports as the primary source</i>  Another variant: pension expenditure according to OECD methodology

S	Net pension expenditure as percentage of the total general government spending	<i>Country-specific (OECD)</i>	Net pension expenditure as percentage of the general government expenditure		PDIF Financial Report, Ministry of Finance	<i>Additional calculation</i>
P	Pension system (employee/self-employed) dependency ratio	<i>Country-specific</i>	Number of pensioners (coverage of the employees and the self-employed) relative to the number of the employees and the self-employed. People working on service contracts, members of the Ministry of the Interior and servicemen of the Armed Forces are to be included into the number of the employees and the self-employed		PDIF, SORS / <b>Central Registry for Compulsory Social Insurance</b>	PDIF, <i>additional calculation</i>  A similar indicator is the contextual information for sustainable pensions (the number of pensioners relative to the number of contributors, current and projected up to 2050). Specific assumptions by Ageing Working Group (AWG)
P	Pension system (farmers) dependency ratio	<i>Country-specific</i>	Number of pensioners (coverage of farmers) relative to the number of active regular contributors (estimates based on the paid contributions and the annual minimum retirement benefit base, as well as on the data obtained from <b>CROSO</b> ( <i>Central Registry of Compulsory Social Insurance</i> ))		PDIF  <b>Central Registry for Compulsory Social Insurance</b>	PDIF, CROSO, <i>additional calculation</i>
P	Contributions to PDIF (as percentage of GDP)	<i>Country-specific (OECD, WB, EU contextual info)</i>	Contributions paid to PDIF as percentage of GDP (all contributions, including transfers from <b>NEA</b> (National Employment Agency) and <b>NHIF</b> (National Health Insurance Fund))		PDIF, Ministry of Finance, SORS	<i>Calculation needed</i>
S	Effective contribution rate	<i>Country-specific (Disney, 2004; Stanić, 2012)</i>	Total expenditure for the net pensions relative to the aggregate indicator of the total compensation for the employees, which consists of		PDIF for expenditure, <b>Central Registry for Compulsory Social</b>	<i>Calculation needed</i>

			the gross earnings of all employed citizens in the Republic of Serbia and the contributions paid by the employers		<b>Insurance</b> for the total compensation for the employed	
S	Budget subsidies to PIO fund (percentage of net expenditure on pensions)	<i>Country-specific</i>	Total transfers (for the entitlements/rights accrued/realised in accordance with special regulations+transfers for the coverage of the difference from the lowest pension (amount of pension))/net pension expenditure)x100		PDIF Financial Report	<i>Calculation needed</i>
S	Pension System Deficit (as percentage of GDP)	<i>Country-specific</i>	(Contributions+transfers for the entitlements/rights accrued/realised in accordance with special regulations+transfers for the coverage of the difference from the lowest pension (amount of pension)-net pension)/GDP		PDIF Financial Report	<i>Calculation needed</i> Although the deficit is very often used as one of the basic indicators defining a pension system, in Serbia it is not an adequate indicator, especially since the complete budget transfers to the PDIF, which include some other expenditures, are often presented as deficit. Therefore, it is important, when analysing, to look at the deficit of the pension system.
S	Per capita expenditure on pensions (in PPS - purchasing power standard)	<i>Country-specific</i>		By type of pension		<i>Available at EUROSTAT for 2010-2013</i> EUROSTAT combined with data from PDIF for the sake of information checking
S	Average number of service years for the new pension beneficiaries	<i>Country-specific</i>		By type of coverage/and type of pension	PDIF	<i>PDIF Annual Bulletin</i> This is a country-specific indicator which replaces the PN-P7 (duration of working life)

						indicator; the source of the replaced indicator is LFS; it is not monitored in Serbia from this source
S	Average number of service years for all pension beneficiaries	<i>Country-specific</i>	Average number of service years, both for those previously retired and for those who retired during a given year			PDIF <i>Annual Bulletin</i>
S	Average age of newly retired people	<i>Country-specific</i>		Employees/ self-employed, farmers - by type of pension	PDIF	PDIF <i>Annual Bulletin</i>
S	Age of beneficiaries whose entitlement to pension expired due to death	<i>Country-specific</i>		By type of coverage, by type of pension and by sex		PDIF <i>Annual Bulletin</i>  When looking at the old age pensions, it would be beneficial to differentiate the pensioners receiving the accelerated retirement scheme pensions, earned according to special regulations, from the others. This would require further processing of information by PDIF.
S	Number of years spent in retirement	Sustainable Pensions  <i>Country-specific</i>		Old age/ Disability/ Survivors' Pensions - all categorised by sex		PDIF <i>Annual Bulletin</i>  PDIF (without beneficiaries receiving pensions according to the accelerated retirement schemes)
S	Average number of years of service of beneficiaries receiving the minimum old age pension	Sustainable Pensions  <i>Country-specific</i>			PDIF	PDIF, <i>special processing</i>  This indicator points to the main cause of low pensions (low wages or years of service)

OTHER INDICATORS						
	Incidence of risk of older people poverty by housing tenure status  Risk of poverty calculated at 50% and 70% of the median national equivalised income for the older people	Adequate Pensions  <i>Secondary EU indicator</i>				This indicator is one of the secondary indicators; however, it is not adequate for the situation in Serbia, given the current housing ownership structure, particularly among the older people
	Risk of poverty calculated at 50% and 70% of the median national equivalised income for the older people	Adequate Pensions  <i>Secondary EU Indicator</i>				
	Effective labour market exit age NOW REPLACED BY Duration of working life	Sustainable Pensions  <i>Primary EU Indicator</i>	The average age of withdrawal from the labour market, based on a probability model considering the relative changes of activity rates from one year to another at a specific age. The duration of working life indicator measures the number of years a person at a given age is expected to be active in the labour market.			The central challenge is probably the extent to which pension reforms will translate into an increase of the effective retirement age. The effective labour market exit age indicator has been discontinued. A new indicator called 'duration of working life' has been developed to replace the old 'average exit age' indicator.
	Changes in projected theoretical replacement ratio for base case 2006-2046  accompanied by	Adequate Pensions  <i>Primary EU-NAT Indicator</i>	Changes in the theoretical level of income from pensions at the moment of take-up relative to the income from work in the last year before retirement for a hypothetical		Information on the development of future adequacy has to be complemented	This is a primary indicator in the EU Pensions Portfolio of Social Indicators; however, for Serbia, it is not quite relevant, given the ad hoc changes of general point indexations and

	<p>information on type of pension schemes (DB-Defined Benefits, DC-Defined Contributions, or NDC-<i>Notional Defined Contribution</i> plans) and changes in the projected public pension expenditure 2006-2046 ) These results should be presented systematically and collectively in one table.</p> <p>+ assumptions and the relevant background information on representativeness</p> <p>+ present calculations of changes in the replacement rates for one or two other cases, if suitable (for instance OECD)</p>	<p><i>Context Information/ Overarching Portfolio</i></p>	<p>worker (base case), percentage points, 2006-2046, with information on the type of pension schemes (DB, DC or NDC) and changes in the public pension expenditure as a share of GDP, 2006-2046.</p> <p>This information can form the indicator called Projected Theoretical Replacement Ratio only if it is all put together.</p> <p>Results relate to the current and projected, the gross (public and private) and total net replacement rates, and should be accompanied by information on representativeness and assumptions (contribution rates and coverage rates, both public and private).</p> <p>Specific assumptions agreed in the ISG. For further details, see Updates of Current and Prospective Theoretical Pension Replacement Rates 2006-2046.</p>		<p>by the information on future sustainability (projections of pension expenditure). Theoretical replacement rates provide the key elements about the current replacement levels and their likely evolution, in response to the enacted reforms, especially for the DC schemes. They provide comprehensive similar information for the DB schemes when used with the appropriate information regarding the sustainability of such schemes. Other NAT indicators: other cases including differences in careers and in retirement age.</p>	<p>pensions, and the uncertainty of future indexation</p>
	<p>Employment rate</p>	<p><i>Context Information/</i></p>		<p>By sex</p>	<p>SORS /LFS</p>	<p>SORS/LFS <i>Bulletin and</i></p>

		<i>Overarching Portfolio/ Primary Sustainability Indicator</i>				<i>Communications</i> According to EU (2015), the employment rate of people aged 55-64 (measured by EUROSTAT LFS) is an essential aspect of pension systems sustainability; therefore, this is a primary indicator in the EU Pensions Portfolio of Social Indicators. However, bearing in mind certain particularities pertaining to Serbia (primarily the high level of the grey economy and the number of farmers who do not pay contributions), this indicator is not considered to be of primary importance; rather, it can be considered as a potential and not as an essential aspect of sustainability. For this reason it has been classified as context information, the way it is classified within the overarching EU indicators
	Pension expenditure projections (as percentage of GDP)  Projections of pension expenditure, public and total, 2004 -2050 (percentage of GDP)	Sustainable Pensions  <i>Primary EU Indicator</i>	Specific assumptions agreed in the AWG. For further details, see the 2009 Ageing Report: Underlying Assumptions and Projection Methodologies for the EU 27 Member States (2007-2060)	None	EPC-AWG	Projections of pension expenditure also reflect assumptions made on economic trends (notably the evolution of employment rates, in particular for the older workers). Attention should be paid to the fact that the various methodologies used by Member States may not ensure full consistency and comparability (particularly in



						the coverage of private and occupational pensions).
	Decomposition of the projected increase in public pension expenditure	Sustainable Pensions  <i>Secondary EU Indicator</i>	Decomposition with the old age dependency ratio, the employment effect, the take-up ratio and the benefit ratio. Specific assumptions agreed in the AWG. For further details, see the 2009 Ageing Report: Underlying Assumptions and Projection Methodologies for the EU-27 Member States (2007-2060).		EPC-AWG	Projections of pension expenditure also reflect assumptions made on economic trends (notably the evolution of employment rates, in particular for the older workers). Attention should be paid to the fact that the various methodologies used by Member States may not ensure full consistency and comparability (particularly in the coverage of private and occupational pensions).

## ANEX 1. PENSIONS IN OMC CONTEXT – SUMMARY TIMELINE

- **SPC and EPC publish joint report “Quality and Viability of Pensions”** in November 2001 – 11 objectives.
- **Laeken European Council in December 2001 ‘noted’ previously mentioned report – the OMC in the field of pensions was effectively launched.**
- **Reporting:** National Strategy Report on Adequate and Sustainable Pensions (every year cycle), EC prepared Synthesis Reports.
- **Indicators:** work in progress until 2005, when first set of indicators were produced by SPC and EPC and presented in the Guidance Note for preparation of second round of NSRs.
- **In 2006 Single OMC** – 12 common objectives for the Social OMC (3 overarching objectives and 3 for each of the 3 covered strands).
- **Reporting:** National Strategy Report on Social Protection and Social Inclusion (three-year cycle, 2006 and 2008 “full years”).
- **“Light years” reporting:** Privately managed pensions, longer working lives, Joint report.
- **Indicators:** reviewed in 2006, updated in 2008 (health and long-term care, material deprivation in 2009).
- **EUROPE 2020 – communication March 2010 (strategy was finalized and formally adopted at the summit on June 17, 2010).**
- **Objectives:** reinvigorated and reaffirmed in 2011.
- **Reporting:** “European semester” – National Reform Programs (including Guideline 10), no longer formally requested to produce NSRs; SPC initiated National Social Reports (2012, since 2013 biennial, since 2014 annual) input for the SPC annual social situation report.
- **Indicators:** SPPM developed in 2012, Portfolio 2015.

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