Center
of Excellence
in Finance

Role of Accounting and Data in costing of Structural Reforms

Mitja Čok

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Agenda

Data for the assessment of structural reforms

- **Types of data (survey, administrative data), their advantages and disadvantages**

- **Use of data in modes**

- **Examples of structural reforms assessment (case of Slovenia)**

Structural reforms

Areas

- **Labour market**
- **Tax system**
- **Social protection (pensions, health care, long-term care, social benefits)**
- **Education**

=> In many cases connected with demographic changes

Structural reforms

Tools/models

Macroeconomic models - macro data:
- **General equilibrium models (CGE)**
- **Different econometric-based models (GDP or unemployment forecasting)**
- **Tax-gap models**

Microsimulation models - micro data
- **Taxes (PIT, SSC, CIT)**
- **Social benefits (child benefit, social assistance)**

Structural reforms

Tools/models

Macro/micro simulation models

- **Pension system**
- **Health-care system**
- **Long-term care system**
- **Generational accounting**

=> Time dimension

Structural reforms

Institutions

- **Line ministries (Finance, Labour, Health, Education)**
- **Statistical Office**
- **Central Bank**
- **Research / forecasting institutions - (non)government**

Microsimulation models

- **Survey and administrative data**

- **Models worldwide**

  - **EU countries / other European countries**

  - **EUROMOD - taxes and benefits on household incomes for each country and for the EU as a whole**

  - **Latin America**

  - **USA**

  - **Canada**

  - **Australia**

  - **South Africa**

  - **Russia**

  - **Namibia**

Microsimulation models

- **Some countries have more than one model**

- **Germany – circa 15 models**

- **Static* / dynamic (behaviour effect, time dimension)**

Microsimulation models

Data(bases)

- **Administrative**
    - **Tax database (accurate)**
    - **Gross income already reported**
    - **Active taxpayers (no others individuals / no other data: household composition, education, employment status)**
    - **Social benefits database**

- **Survey**
    - **Less accurate**
    - **Without taxes**
    - **Net income - grossing up required**
    - **Other data (household composition, education, employment status)**

    - **Household budget survey**
    - **EU-SILC: European Union Statistics on Income and Living Conditions**

Microsimulation tax models

Data – issues

- **Data protection** **/ anonymization / on-line approach**

- **Weights; if weights are part of the sample, all simulations should be weighted.**

- **Non-response and under-reporting; assumptions, data should be estimated or imputed from other sources.**

- **Data adjustment; in some case necessary adjustments and imputation are required to complete microsimulations.**

- **Gross incomes; generally, most of the data derived from registers are recorded gross. In case of recorded net data, grossing-up algorithm shout be incorporated into the microsimulation model.**

Microsimulation models

Data - issues

- **Validation of the results, two aspects:**

  - **Aggregate validation - the results are validated against external benchmarks**

    - **Comparisons of the number of people receiving a given income component of income and total annual amounts of those components**

    - **Comparisons of the number of people paying a given tax and total annual amounts of those taxes**

  - **Validation by components of disposable income (wages, pensions, social benefits, other income)**

Microsimulation tax models

- **Grossing-up algorithm: gross income calculation based on tax rules and observed variables in the sample**

  - **Statistical approach - based on information on both net and gross income. Using this information, a statistical model can be developed that yields estimates of net/gross ratios. These estimates are then applied to net incomes in order to compute gross amounts.**

  - **Iterative algorithm - exploits the tax and contribution rules already built into tax-benefit models to convert gross income into net income.**

  - **Analytical inversions - combined with a trial-and-error approach.**

Microsimulation models

Ageing (pension / health-care/ long-term care)

Active ageing: population which develops over years with „real-life" characteristics (births, marriage, death)

Static ageing: using weights
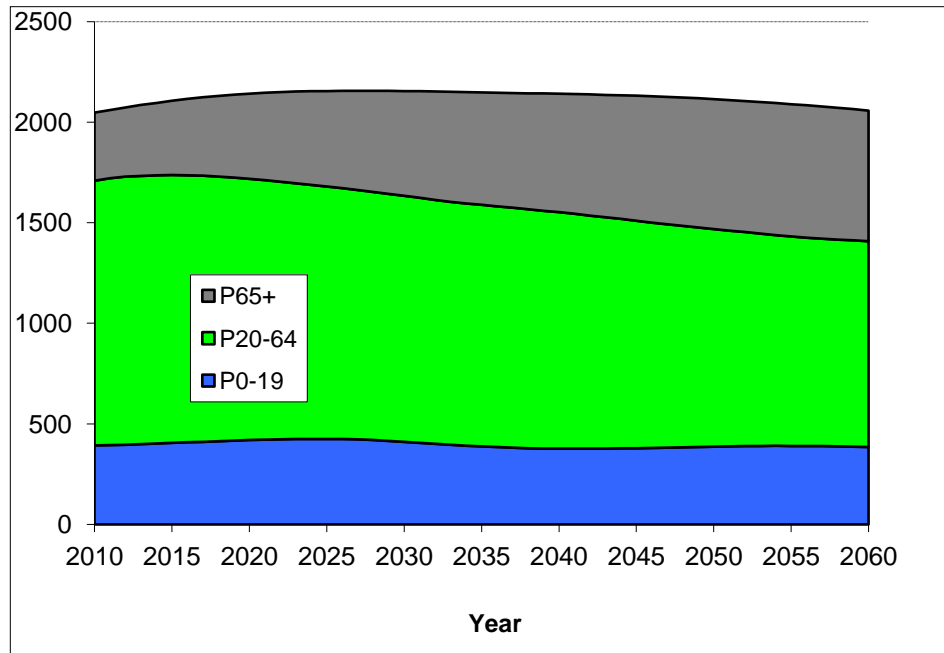
Age	2010	2020	2030	2040	2050	2060
0	18,6	17,2	14,8	16,3	16,0	14,8
20	15,6	12,2	15,2	13,9	12,2	13,3
40	16,6	19,0	16,0	12,4	14,9	13,7
60	19,9	22,2	21,6	24,6	20.9	16,3
80	22,7	26,5	34,8	41,3	42,3	50,2
90+	22,5	54,4	76,7	105,2	165,1	200,9

Models in Slovenia

Institute for Economic Research (IER)
- Microsimulation model*
- Long-term pension MMS model (static ageing)*
- Cohort based model of the I. and II. pension pillar*
- EUROMOD
- Dynamic pension MMS (dynamic ageing)
- CGE model

Ministry of Finance

Institute for Macroeconomic Analysis and Development (IMAD)

(* all examples in this presentation are taken from IER studies)

Fiscal Implications of Structural Reforms

The first MSM (2002)

- **Household Budget Survey database**

- **Small sample (10,000 individuals)**

- **Grossing-up procedure**

- **Microsimulation of PIT, SSC and several social transfers (child benefit*) at the level of individual taxpayers and households**

The first MSM

Child benefit – by decile group

- **1,884 HH with children**

- **CB represents from 25.4% to 1.2% of HEI**

Variable	Obs	Mean	Std. Dev.	Min	Max
c1	209	25.4	0	25.4	25.4
c2	210	12.8	0	12.8	12.8
c3	214	8.8	0	8.8	8.8
c4	194	6.6	0	6.6	6.6
c5	204	4.7	0	4.7	4.7
c6	203	4.1	0	4.1	4.1
c7	200	2.6	0	2.6	2.6
c8	184	2.0	0	2.0	2.0
c9	171	1.6	0	1.6	1.6
c10	95	1.2	0	1.2	1.2
c	1884	5.6	0	5.6	5.6

The first MSM

Child benefit – by No. of children

- **49.9% of overall CB is received by HH with 2 children**

Variable	Obs	Mean	Std. Dev.	Min	Max
c1	872	22.2	0	22.2	22.2
c2	**828**	**49.9**	**0**	**49.9**	**49.9**
c3	152	20.1	0	20.1	20.1
c4	29	6.7	0	6.7	6.7
c5	2	.6	0	.6	.6
c6	1	.5	.	.5	.5
	1884				

The second MSM

- **Simulates broad range of policy measures (taxes and social transfers)**

- **Sample of 40,000 HH and 112,000 individuals**

- **Nested databases from different sources (income tax declarations, data on pensions and social transfers, the dwellings and cars)**

- **Integral part of consequent models (Pension MMS model)**

- **Its results are input for CGE model**

Fiscal Implications of Structural Reforms

The second MSM

Modules

1. **PIT and SSC**
2. **State pension**
3. **Child benefit**
4. **State scholarship**
5. **Social assistance**
6. **Childcare subsidy**
7. **Subsidized school meals (for children in primary and secondary schools)**
8. **Subsidized commuting (for children in a secondary and high school students)**
9. **Housing subsidy**

The second MSM

Use of the model - estimating consequences of reforms:

- **Personal income tax reform (2006 – different scenarios, input for CGE model)**
- **Social transfers system**
- **Child care subsidy**
- **State scholarship**
- **Corrections of the personal income tax in the second package of measures due to the financial crisis**
- **Social security contributions**

Calculated changes in aggregates of simulated benefits

Income decile	Average equalised income, in EUR	Social assistance	Child benefit	Income pension support	State scholarship (upper secondary students)	State scholarship (tertiary students)
Old legislation						
1	1,706	67.1	13.5	0.2	20.0	19.3
2	4,116	31.9	25.5	30.5	33.8	29.2
3	5,876	0.8	16.8	38.5	26.1	27.9
4	6,953	0.1	13.2	15.8	14.8	17.0
5	7,923	0.0	10.0	6,0	4.2	5.2
6	8,933	0.1	7.4	5.3	0.9	0.8
7	10,084	0.0	5.1	2.0	0.2	0.5
8	11,538	0.1	4.2	0.9	0.0	0.1
9	13,807	0.0	3.6	0.5	0.0	0.1
10	21,386	0.0	0.6	0.3	0.1	0.0
Total	9,457	100	100	100	100	100
New legislation						
1	2,028	55.7	13.8	32.7	10.2	10.3
2	4,362	41.2	26.2	46.2	18.8	16.3
3	5,802	2.4	16.9	16.1	17.5	16.6
4	6,925	0.4	13.4	3.1	15.7	13.8
5	7,984	0.1	10.3	0.8	13.0	14.0
6	9,025	0.0	7.6	1.1	13.8	13.4
7	10,161	0.1	4.7	0.1	9.1	12.0
8	11,540	0.0	3.6	0.0	1.8	3.4
9	13,782	0.0	2.9	0.0	0.0	0.3
10	21,382	0.0	0.5	0.0	0.0	0.0
Total	9,517	100	100	100	100	100

Funded by the European Union. Fiscal Implications of Structural Reforms

Total effect of the reform, by family type

Families with	Families better off, %	Families worse off, %	Annual amount of all benefits per equivalent adult, current legislation, in EUR	Annual amount of all benefits per equivalent adult, new legislation, in EUR
Pre-school children	31.1	33.4	795	819
Children in primary school	35.7	35.9	836	848
Students in upper secondary education	52.8	44.8	1,149	1,069
Students in tertiary education	39.6	60.4	948	1,050
Persons aged 63 or more	41.1	37.7	1,010	1,381

Long-term pension MMS model

- **Static ageing - using weights**
- **Sample of 40,000 households (112,000 individuals)**
- **Six connected modules:**
  1. **Demographic module**
  2. **Module for generating weights**
  3. **PIT and SSC module**
  4. **Pension module**
  5. **Economic module**
  6. **Generational accounting sub-module**

Long-term pension MMS model

Modules

1. **Demographic module: producing population projections through defining assumptions on fertility, mortality and migration**

2. **Module for generating weights: based on demographic projections (age and gender)**

3. **PIT and SSC module: simulates any scenario with change of all possible personal income tax and SSC parameters in any point of time**

4. **Pension module:**
   - reproduces the pension system,
   - by changing parameters (in any year and transition periods) any scenario of the pension system can be simulated,
   - results: total number of pensioners, insured persons, employees, average pension, total amount of pensions and their % of GDP,
   - new values of wages and pensions – changes in PIT and SSC revenues

Long-term pension MMS model

Modules

5.   **Economic module:**

- GDP growth,

- government revenue and expenditure (by categories),

- budget deficit and public debt,

- indicators of long-term sustainability (S1 and S2) as used by the EU Commission, and

- health care and long-term care expenditures (age-profile based sub-modules)

6.   **Generational accounting sub-module:**

- generational accounts by 5-year age groups – i.e., how much a representative of particular age would net pay into the public finance system in the rest of his/her life

Fiscal Implications of Structural Reforms

B2 — PARAMETER1

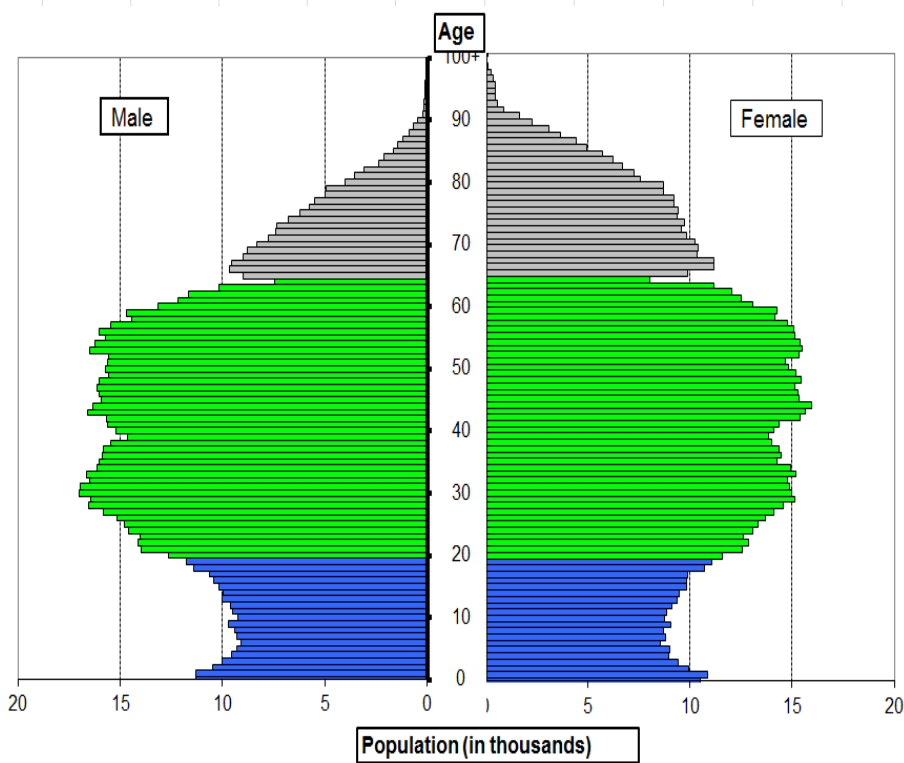| DOHODKOVNI PROFILI	ime parametra	tip	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	203
Katastrski dohodek	PARAMETER1	vektor	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	20
NC za delo po pogodbi - vir 1109	PARAMETER2_2	vektor	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.10
NC za študentsko delo	PARAMETER3	vektor	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.10
NC za AH/PP - vir 1230	PARAMETER4	vektor	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.10
NC za SP-je z do 42.000 EUR letnega prometa	PARAMETER5	vektor	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.25
NC za umetno obrt	PARAMETER6	vektor	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.70
NC za najemnine	PARAMETER7	vektor	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.40
NC za prenos premoženjske pravice	PARAMETER8	vektor	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.10
Stopnja prispevkov delodajalca	PARAMETER_DAJ	vektor	0.161	0.161	0.161	0.161	0.161	0.161	0.161	0.161	0.161	0.161	0.161	0.161	0.161	0.161	0.161	0.161	0.161	0.161	0.161	0.161	0.161	0.161	0.16
Stopnja prispevkov delojemalca	PARAMETER_JEM	vektor	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.22
Splošna olajšava	PARAMETER10	vektor	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.1
Splošna olajšava za nizek dohodek	PARAMETER10A	vektor	6120.00	6120.00	6120.00	6120.00	6120.00	6120.00	6120.00	6120.00	6120.00	6120.00	6120.00	6120.00	6120.00	6120.00	6120.00	6120.00	6120.00	6120.00	6120.00	6120.00	6120.00	6120.00	6120.0
Meja za nizek dohodek	PARAMETER10A1	vektor	10200.00	10200.00	10200.00	10200.00	10200.00	10200.00	10200.00	10200.00	10200.00	10200.00	10200.00	10200.00	10200.00	10200.00	10200.00	10200.00	10200.00	10200.00	10200.00	10200.00	10200.00	10200.00	10200.0
Splošna olajšava za srednji dohodek	PARAMETER10B	vektor	4147.67	4147.67	4147.67	4147.67	4147.67	4147.67	4147.67	4147.67	4147.67	4147.67	4147.67	4147.67	4147.67	4147.67	4147.67	4147.67	4147.67	4147.67	4147.67	4147.67	4147.67	4147.67	4147.6
Meja za srednji dohodek	PARAMETER10B1	vektor	11800.00	11800.00	11800.00	11800.00	11800.00	11800.00	11800.00	11800.00	11800.00	11800.00	11800.00	11800.00	11800.00	11800.00	11800.00	11800.00	11800.00	11800.00	11800.00	11800.00	11800.00	11800.00	11800.0
Olajšava za novinarje in kulturne delavce	PARAMETER11	vektor	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.1
Prag, do katerega velja olajšava za novinarje in kultur	PARAMETER12	vektor	25000.00	25000.00	25000.00	25000.00	25000.00	25000.00	25000.00	25000.00	25000.00	25000.00	25000.00	25000.00	25000.00	25000.00	25000.00	25000.00	25000.00	25000.00	25000.00	25000.00	25000.00	25000.00	25000.0
Olajšava za +65 let	PARAMETER13	vektor	1334.18	1334.18	1334.18	1334.18	1334.18	1334.18	1334.18	1334.18	1334.18	1334.18	1334.18	1334.18	1334.18	1334.18	1334.18	1334.18	1334.18	1334.18	1334.18	1334.18	1334.18	1334.18	1334.1
Olajšava za invalide	PARAMETER14	vektor	16575.94	16575.94	16575.94	16575.94	16575.94	16575.94	16575.94	16575.94	16575.94	16575.94	16575.94	16575.94	16575.94	16575.94	16575.94	16575.94	16575.94	16575.94	16575.94	16575.94	16575.94	16575.94	16575.9
Olajšava za študentsko delo	PARAMETER15	vektor	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.17	3100.1
Olajšava za dodatno pokojninsko zavarovanje (kot %	PARAMETER16	vektor	0.05844	0.05844	0.05844	0.05844	0.05844	0.05844	0.05844	0.05844	0.05844	0.05844	0.05844	0.05844	0.05844	0.05844	0.05844	0.05844	0.05844	0.05844	0.05844	0.05844	0.05844	0.05844	0.0584
Maksimalni absolutni znesek olajšave za dodatno po	PARAMETER17	vektor	2646.21	2646.21	2646.21	2646.21	2646.21	2646.21	2646.21	2646.21	2646.21	2646.21	2646.21	2646.21	2646.21	2646.21	2646.21	2646.21	2646.21	2646.21	2646.21	2646.21	2646.21	2646.21	2646.2
Olajšava za 1. otroka	PARAMETER21	vektor	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.4
Olajšava za 2. otroka	PARAMETER22	vektor	2486.78	2486.78	2486.78	2486.78	2486.78	2486.78	2486.78	2486.78	2486.78	2486.78	2486.78	2486.78	2486.78	2486.78	2486.78	2486.78	2486.78	2486.78	2486.78	2486.78	2486.78	2486.78	2486.7
Olajšava za 3. otroka	PARAMETER23	vektor	4147.58	4147.58	4147.58	4147.58	4147.58	4147.58	4147.58	4147.58	4147.58	4147.58	4147.58	4147.58	4147.58	4147.58	4147.58	4147.58	4147.58	4147.58	4147.58	4147.58	4147.58	4147.58	4147.5
Olajšava za 4. otroka	PARAMETER24	vektor	5808.39	5808.39	5808.39	5808.39	5808.39	5808.39	5808.39	5808.39	5808.39	5808.39	5808.39	5808.39	5808.39	5808.39	5808.39	5808.39	5808.39	5808.39	5808.39	5808.39	5808.39	5808.39	5808.3
Olajšava za 5. otroka	PARAMETER25	vektor	7469.19	7469.19	7469.19	7469.19	7469.19	7469.19	7469.19	7469.19	7469.19	7469.19	7469.19	7469.19	7469.19	7469.19	7469.19	7469.19	7469.19	7469.19	7469.19	7469.19	7469.19	7469.19	7469.1
Olajšava za 6. otroka	PARAMETER26	vektor	9129.90	9129.90	9129.90	9129.90	9129.90	9129.90	9129.90	9129.90	9129.90	9129.90	9129.90	9129.90	9129.90	9129.90	9129.90	9129.90	9129.90	9129.90	9129.90	9129.90	9129.90	9129.90	9129.9
Olajšava za 7. otroka	PARAMETER27	vektor	10790.79	10790.79	10790.79	10790.79	10790.79	10790.79	10790.79	10790.79	10790.79	10790.79	10790.79	10790.79	10790.79	10790.79	10790.79	10790.79	10790.79	10790.79	10790.79	10790.79	10790.79	10790.79	10790.7
Olajšava za 8. otroka	PARAMETER28	vektor	12451.59	12451.59	12451.59	12451.59	12451.59	12451.59	12451.59	12451.59	12451.59	12451.59	12451.59	12451.59	12451.59	12451.59	12451.59	12451.59	12451.59	12451.59	12451.59	12451.59	12451.59	12451.59	12451.5
Olajšava za 1. prizadetega otroka	PARAMETER29	vektor	8288.52	8288.52	8288.52	8288.52	8288.52	8288.52	8288.52	8288.52	8288.52	8288.52	8288.52	8288.52	8288.52	8288.52	8288.52	8288.52	8288.52	8288.52	8288.52	8288.52	8288.52	8288.52	8288.5
Olajšava za 2. prizadetega otroka	PARAMETER30	vektor	9949.32	9949.32	9949.32	9949.32	9949.32	9949.32	9949.32	9949.32	9949.32	9949.32	9949.32	9949.32	9949.32	9949.32	9949.32	9949.32	9949.32	9949.32	9949.32	9949.32	9949.32	9949.32	9949.3
Olajšava za 3. prizadetega otroka	PARAMETER31	vektor	11610.13	11610.13	11610.13	11610.13	11610.13	11610.13	11610.13	11610.13	11610.13	11610.13	11610.13	11610.13	11610.13	11610.13	11610.13	11610.13	11610.13	11610.13	11610.13	11610.13	11610.13	11610.13	11610.1
Olajšava za 4. prizadetega otroka	PARAMETER32	vektor	13270.93	13270.93	13270.93	13270.93	13270.93	13270.93	13270.93	13270.93	13270.93	13270.93	13270.93	13270.93	13270.93	13270.93	13270.93	13270.93	13270.93	13270.93	13270.93	13270.93	13270.93	13270.93	13270.9
Olajšava za ostale vzdrževane družinske člane	PARAMETER33	vektor	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.48	2287.4
Olajšava za upokojence (v obliki znižanja davka)	PARAMETER36	vektor	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.135	0.13
Rast povprečne bruto plače	FAKTOR_G	vektor	1.000	1.016	1.023	1.042	1.065	1.106	1.127	1.148	1.167	1.185	1.201	1.219	1.237	1.255	1.274	1.293	1.313	1.334	1.355	1.377	1.400	1.423	1.44
Meja med prvim in drugim doh. razredom	MEJA1	vektor	7528.99	7528.99	7528.99	7528.99	7528.99	7528.99	7528.99	7528.99	7528.99	7528.99	7528.99	7528.99	7528.99	7528.99	7528.99	7528.99	7528.99	7528.99	7528.99	7528.99	7528.99	7528.99	7528.9
Meja med drugim in tretjim doh. razredom	MEJA2	vektor	15057.96	15057.96	15057.96	15057.96	15057.96	15057.96	15057.96	15057.96	15057.96	15057.96	15057.96	15057.96	15057.96	15057.96	15057.96	15057.96	15057.96	15057.96	15057.96	15057.96	15057.96	15057.96	15057.
Meja med tretjim in četrtim doh. razredom	MEJA3	vektor	50000.00	50000.00	50000.00	50000.00	50000.00	50000.00	50000.00	50000.00	50000.00	50000.00	50000.00	50000.00	50000.00	50000.00	50000.00	50000.00	50000.00	50000.00	50000.00	50000.00	50000.00	50000.00	50000.
Meja med četrtim in petim doh. razredom	MEJA4	vektor	60000.00	60000.00	60000.00	60000.00	60000.00	60000.00	60000.00	60000.00	60000.00	60000.00	60000.00	60000.00	60000.00	60000.00	60000.00	60000.00	60000.00	60000.00	60000.00	60000.00	60000.00	60000.00	60000.
MDS prvi razred	MDS1	vektor	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.1
MDS drugi razred	MDS2	vektor	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.2
MDS tretji razred	MDS3	vektor	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.4

Sheets: maOsebnaIzkaznica, maDohodnina

Pripravljen — 60%

B7 · · 1.5

	A	B	C	D	E	F	G	H
1	**DEMOGRAFSKA GIBANJA**			**2010**	**2011**	**2012**	**2013**	**201**
2	IZHODIŠČNO LETO PROJEKCIJ:	2008						
3								
4	**RODNOST**			1.33208	1.33810	1.34411	1.35009	1.3560
5	Krivulja prehoda:	Lastna						
6	Oblika prehoda (lastna krivulja prehoda):	50						
7	Mnogokratnik prirasta (za EUROSTAT):	1.50						
8	Začetno leto prehoda:	2009						
9	Končno leto prehoda:	2059						
10	Izhodiščna raven:	1.32						
11	Končna raven:	1.52						
12								
13	**SMRTNOST**							
14	Krivulja prehoda:	Europop2010						
15	Oblika prehoda (lastna krivulja prehoda):	75						
16	Mnogokratnik prirasta (za EUROSTAT):	1.5						
17	**Ženske**			82.36126	82.59066	82.81869	83.04535	83.2706
18	Začetno leto prehoda:	2009						
19	Končno leto prehoda:	2059						
20	Izhodiščna raven:	81.9						
21	Končna raven:	88.6						
22	**Moški**			75.30242	75.60240	75.90071	76.19735	76.4923
23	Začetno leto prehoda:	2009						
24	Končno leto prehoda:	2059						

Sheets: maOsebnaIzkaznica | **maDemografskaGibanja** | maEkonomskePredpostavke | maDohodnina | maUpokoj

I85
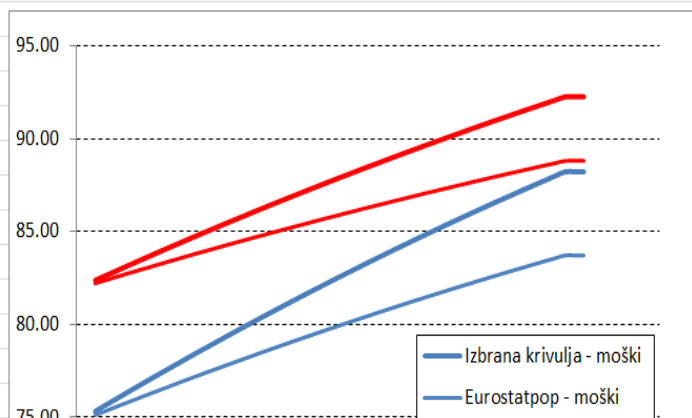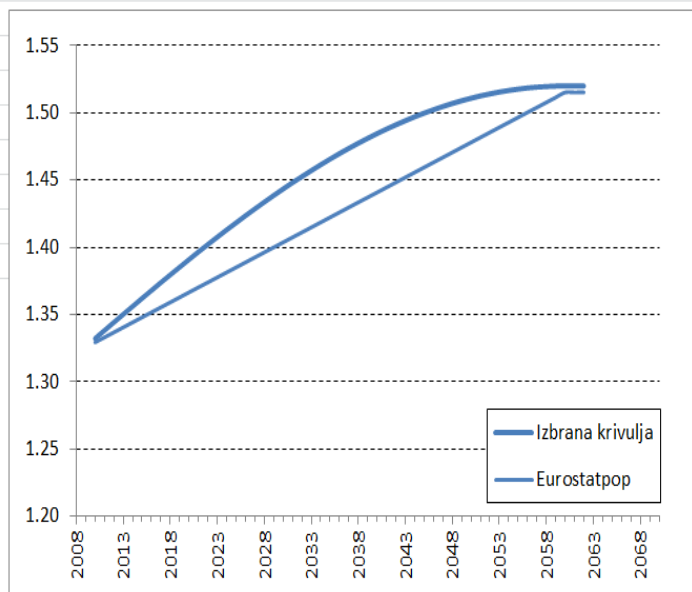
Starostna piramida

Leto: 2010

Number of inhabitants (in thousands)   Share (%)
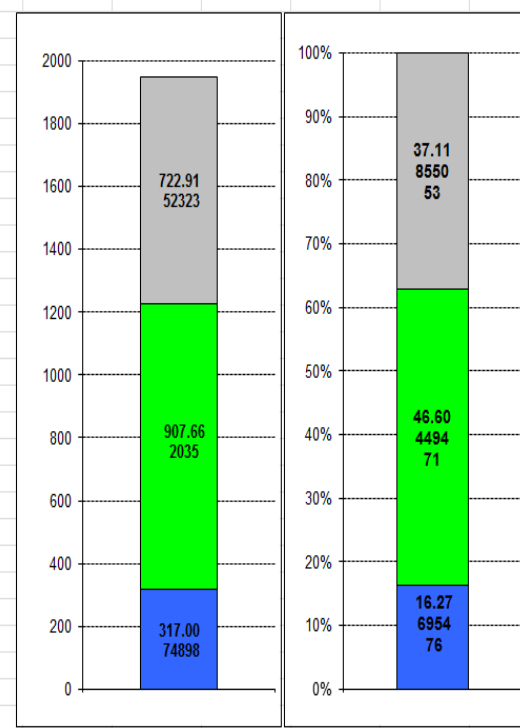
	Number	Share
P65+	338	16.5
P20-64	1,316	64.3
P0-19	393	19.2
Total	2,047	100.0

B176 | =Vhodni_podatki_I!E18

	Leto
	2012

Starost	Število prebivalstva (moški)	Število aktivnih (moški)	Število delovno aktivnih (moški)	Število brezposelnih (moški)	Števko upoko (moš
0	9788	0	0	0	
1	9884	0	0	0	
2	9958	0	0	0	
3	10009	0	0	0	
4	10143	0	0	0	
5	10003	0	0	0	
6	9593	0	0	0	
7	9267	0	0	0	
8	9256	0	0	0	
9	9514	0	0	0	
10	9403	0	0	0	
11	9560	0	0	0	
12	9456	0	0	0	
13	9530	0	0	0	
14	9855	0	0	0	
15	9947	730	707	23	
16	10093	1211	1211	0	
17	10204	1718	1537	180	
18	10701	2860	2655	205	
19	10725	4332	3895	437	
20	11794	6635	6134	501	
21	11915	7524	6835	688	
22	12639	8886	8057	829	
23	13886	10478	9336	1143	
24	13998	11277	10252	1025	
25	13690	11708	10729	978	
26	14598	12904	12189	714	
27	14735	13567	12927	639	
28	14988	14040	13445	595	
29	15789	14855	14352	502	

Legend:
- Število prebivalstva (moški)
- Število prebivalstva (ženske)
- Število delovno aktivnih (moški)
- Število delovno aktivnih (ženske)
- Število brezposelnih (moški)
- Število brezposelnih (ženske)
- Število upokojenih (moški)
- Število upokojenih (ženske)

Moški

Ženske

Število oseb

Starost

Vhodni_podatki I | Vhodni_podatki II | Eksogeni_vnos | Rezultati_EkonModul_I | Rezultati_EkonModul_II | Komponente_rasti | Pop(M) | Pop(F) | Pop(T) | ER(I

Pripravljen | Preračunajte | 100%

Razčlenitev porasta izdatkov za pokojnine na posamezne komponente

$$\frac{Pension \quad Exp.}{GDP} = \overbrace{\frac{Population \quad 55+}{Population \quad 15-64}}^{Dependency \quad Ratio} \times \overbrace{\frac{Population \quad 15-64}{Working \quad People}}^{1/Employment \quad Rate} \times \overbrace{\frac{Number \quad of \quad Pensioners}{Population \quad 55+}}^{Coverage \quad Ratio} \times \overbrace{\frac{Average \quad Pension}{\dfrac{GDP}{Working \quad People}}}^{Benefit \quad Ratio}$$

		F	G	H	I	J	K
	P_{55+}	606781	621378	635119	647607	659535	671325
	P_{15-64}	1425959	1431947	1433312	1432416	1429915	1425581
Dependency ratio $\dfrac{Population \quad 55+}{Population \quad 15-64}$		0.4255	0.4339	0.4431	0.4521	0.4612	0.4709
		0.9412	0.9598	0.9801	1.0000	1.0202	1.0416
	Working people (število delovno	966016	961863	967832	968431	968383	968173
1/Employment rate $\dfrac{Population \quad 15-64}{Working \quad People}$		1.4761	1.4887	1.4810	1.4791	1.4766	1.4724
		0.9980	1.0065	1.0012	1.0000	0.9983	0.9955
	Number of pensioners	557795	569443	581759	594488	609854	625285
Coverage ratio $\dfrac{Number \quad of \quad Pensioners}{Population \quad 55+}$		0.9193	0.9164	0.9160	0.9180	0.9247	0.9314
		1.0014	0.9983	0.9978	1.0000	1.0073	1.0146
	Average pension	7177	7283	7280	7200	7297	7206
	Output per worker	37330	38503	39582	40492	41419	42520
Benefit ratio $\dfrac{Average \quad Pension}{\dfrac{GDP}{Working \quad People}}$		0.1923	0.1892	0.1839	0.1778	0.1762	0.1695
		1.0813	1.0638	1.0343	1.0000	0.9908	0.9531

Vhodni_podatki I | Vhodni_podatki II | Eksogeni_vnos | Rezultati_EkonModul_I | Rezultati_EkonModul_II | Komponente_rasti | Pop(M) | Pop(F) | Pop(T) | ER(

Pripravljen | Preračunajte | 110%

	A	B	C	D	E	F	G	H	I	J	K	L
137	Število brezposelnih, MOŠKI					22,022	22,833	21,122	20,978	20,829	20,672	20,659
138	Število brezposelnih, ŽENSKE					27,767	28,247	26,493	26,601	26,646	26,642	26,787
139	**Število brezposelnih, SKUPAJ**					**49,788**	**51,080**	**47,614**	**47,578**	**47,476**	**47,314**	**47,447**
140												
141												
142												
143												
144												
145												
146	Generacijski računi (GA) - t.j. diskontirani zneski, ki jih bodo predstavniki posameznih starostnih razredov plačali v preostanku svojega življenja											
147		Starostni razred	Vrednost GA									
148		0-4	34,114									
149		5-9	56,989									
150		10-14	94,320									
151		15-19	125,697									
152		20-24	133,264									
153		25-29	122,125									
154		30-34	103,000									
155		35-39	76,561									
156		40-44	36,897									
157		45-49	-4,153									
158		50-54	-56,042									
159		55-59	-121,087									
160		60-64	-149,116									
161		65-69	-116,906									
162		70-74	-109,244									
163		75-79	-74,132									
164		80-84	-57,034									
165		85-89	-49,092									
166		90-94	-59,755									
167		95-99	-24,804									
168		100+	1,170									
169	Mečasovna javnofinančna obveznost (razlika med diskontiranimi javnofinančnimi odhodki in prihodki); (v % BDP)					-180.6%						
170	Potrebno povišanje vseh vrst davkov (in prispevkov) za vzpostavitev medčasovnega proračunskega ravnotežja:					-8.5%						
171	Potrebno znižanje vseh vrst transferjev za vzpostavitev medčasovnega proračunskega ravnotežja:					9.4%						
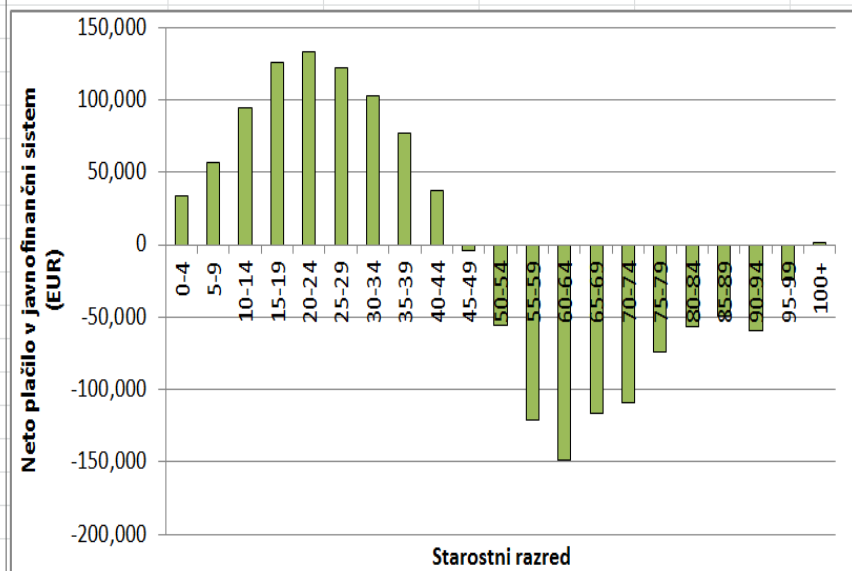
2013 pension reform

www.cef-see.org

ZPIZ1-old / ZPIZ2-new

TABLE : ESTIMATED CHANGES IN THE SHARE OF PENSION EXPENDITURES IN GDP COMPARED TO ZPIZ1

TOTAL		2010	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2030	2035	2040	2045	2050	2055	2060
ZPIZ1	Share in BDP	11.19	11.14	11.29	11.48	11.69	11.86	12.02	12.17	12.32	12.49	12.65	12.81	12.97	13.21	14.36	15.20	16.28	17.37	18.15	18.46	18.28
ZPIZ2		11.19	10.83	10.83	10.80	10.86	10.91	10.96	11.10	11.27	11.49	11.70	11.91	12.12	12.33	13.38	14.10	15.05	16.08	16.92	17.32	17.17
ZPIZ1/ZPIZ2	Average pension	100.0	99.3	99.1	98.3	98.2	98.3	98.5	98.8	99.1	99.5	99.9	100.4	100.9	100.8	99.8	99.1	99.0	99.1	99.3	99.2	98.9
ZPIZ1/ZPIZ2	Number of pensioners (base=100)	100.0	98.7	98.0	97.3	96.6	95.9	95.3	95.2	95.2	95.3	95.5	95.5	95.5	95.5	96.1	96.4	96.3	96.5	96.8	97.2	97.4
ZPIZ1/ZPIZ2	Number of employees (base=100)	100.0	100.9	101.4	102.0	102.6	103.1	103.6	103.8	103.8	103.8	103.8	103.8	103.9	104.0	103.8	103.7	104.1	104.1	103.9	103.5	103.2

TABLE: ESTIMATED CHANGES IN INCOME TAX AND SOCIAL SECURITY CONTRIBUTIONS COMPARED TO BASE SCENARIO (mio. EUR)

TOTAL		2010	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2030	2035	2040	2045	2050	2055	2060
ZPIZ1	INCOME TAX	2,039	2,181	2,239	2,323	2,365	2,409	2,449	2,484	2,514	2,540	2,571	2,601	2,629	2,657	2,798	2,989	3,150	3,273	3,386	3,535	3,758
ZPIZ2		2,039	2,213	2,291	2,401	2,466	2,529	2,589	2,631	2,664	2,692	2,723	2,755	2,785	2,818	2,960	3,149	3,332	3,465	3,575	3,707	3,920
	Difference (%)	0.0	1.5	2.3	3.3	4.3	4.9	5.7	5.9	6.0	6.0	5.9	5.9	6.0	6.0	5.8	5.4	5.8	5.9	5.6	4.9	4.3
ZPIZ1	Social security contributions	5,234	5,540	5,680	5,891	5,997	6,096	6,185	6,260	6,324	6,374	6,434	6,492	6,546	6,599	6,881	7,259	7,622	7,975	8,351	8,803	9,360
ZPIZ2		5,234	5,580	5,743	5,988	6,126	6,254	6,371	6,462	6,533	6,585	6,647	6,707	6,764	6,822	7,106	7,480	7,877	8,250	8,627	9,063	9,614
	Difference (%)	0.0	0.7	1.1	1.6	2.2	2.6	3.0	3.2	3.3	3.3	3.3	3.3	3.3	3.4	3.3	3.0	3.3	3.5	3.3	3.0	2.7
ZPIZ1	Change in revenues	0	72	115	175	231	277	326	348	359	362	365	369	375	383	388	381	437	467	466	432	416
ZPIZ2	Change as a share in GDP (%)	0.00	0.19	0.30	0.43	0.56	0.66	0.76	0.81	0.82	0.82	0.82	0.82	0.83	0.84	0.81	0.75	0.81	0.83	0.79	0.70	0.64

Funded by the European Union.

Fiscal Implications of Structural Reforms

2013 pension reform
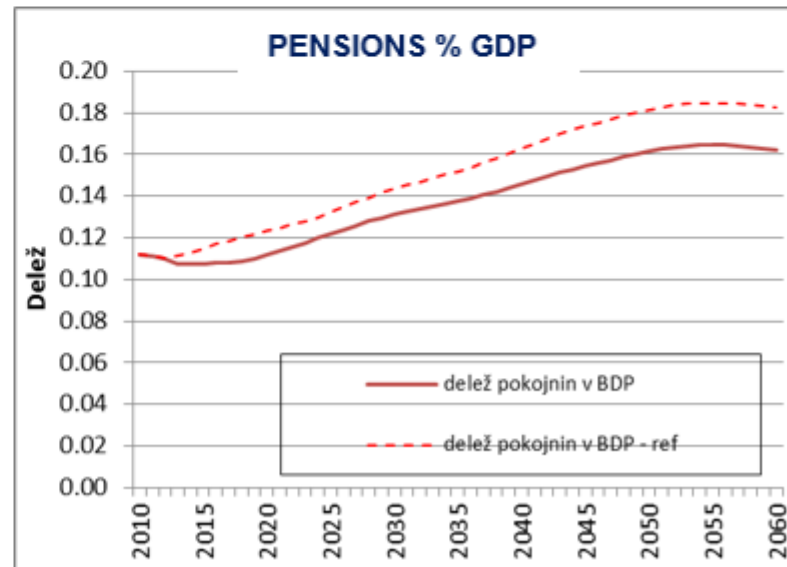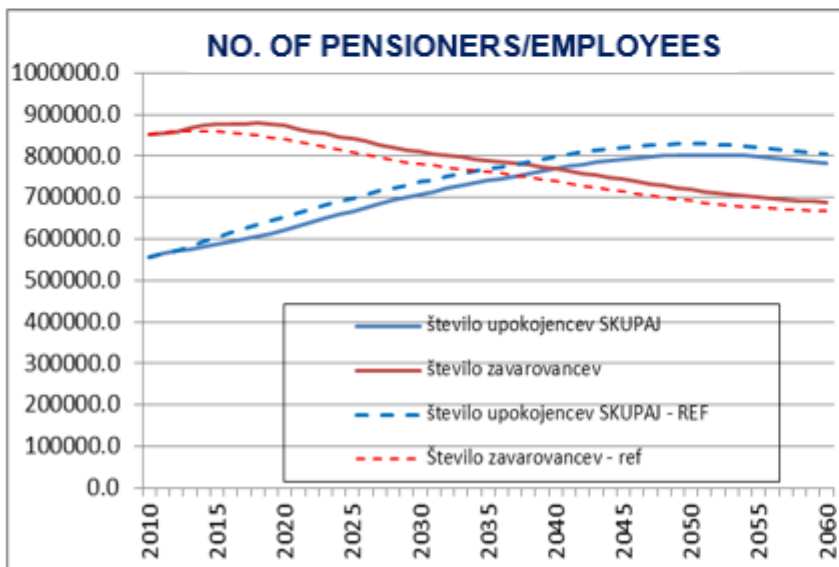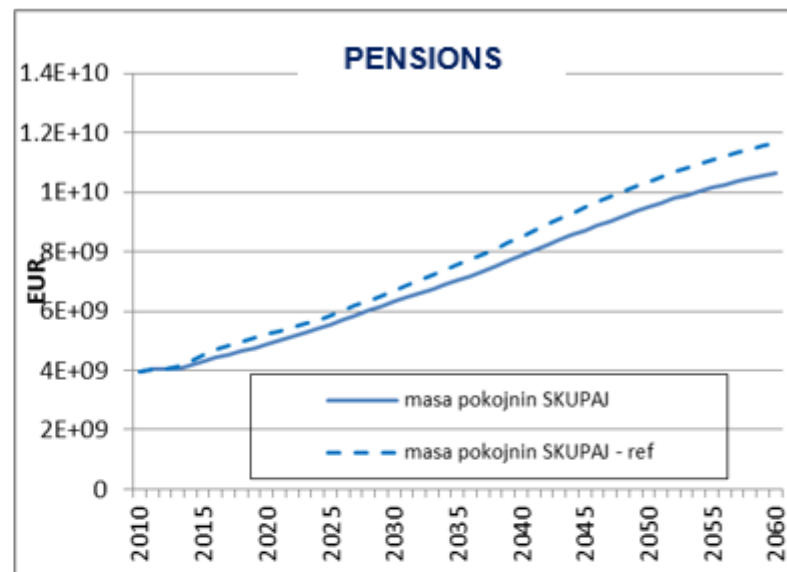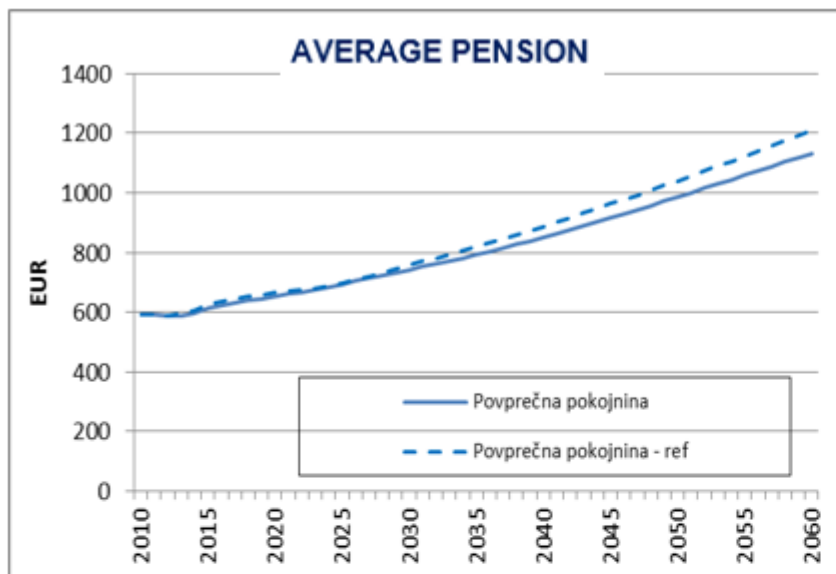
Worker/pensioner ratio and SSC/pension expenditure ratio
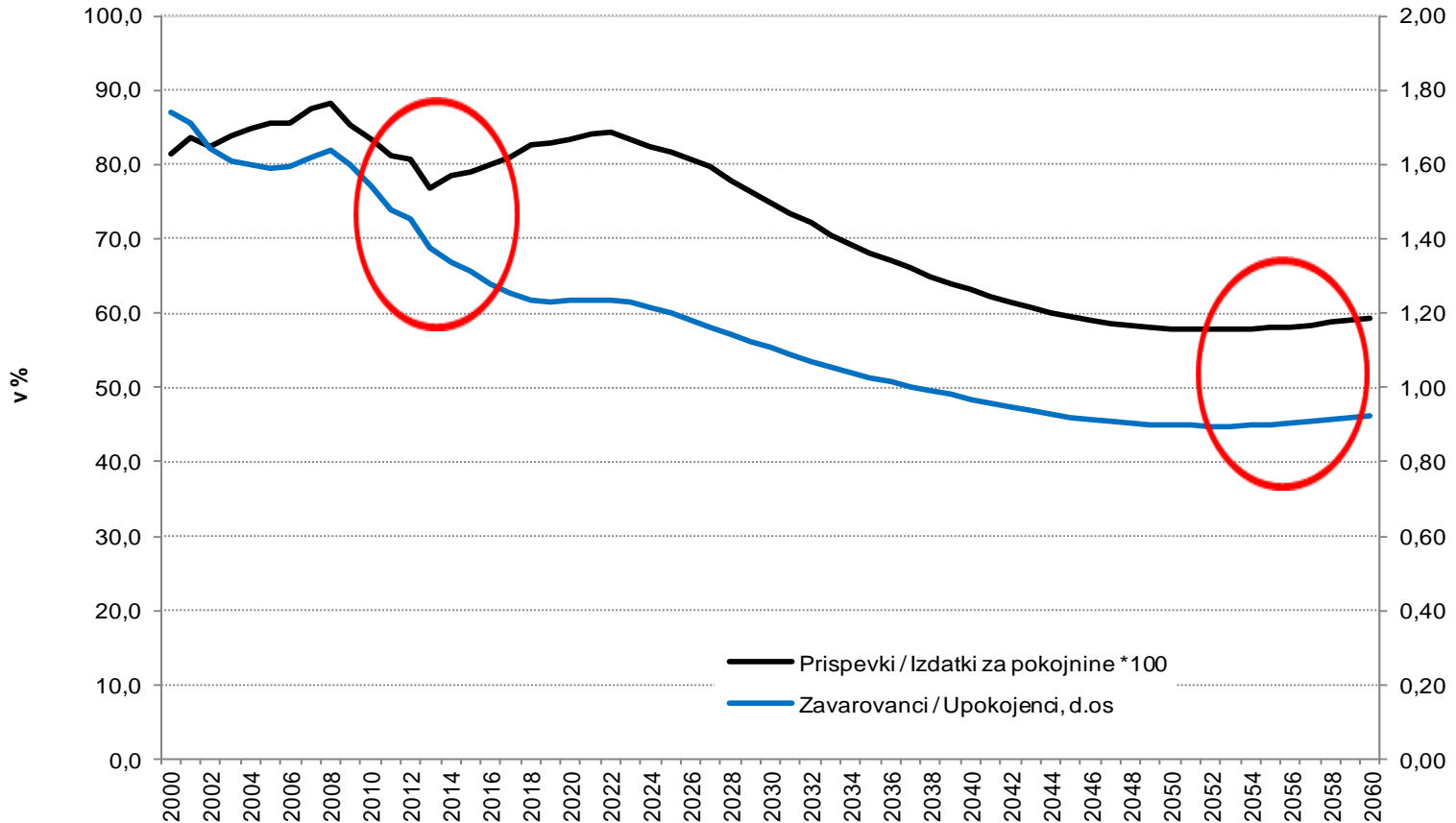
Worker/pensioner ratio: 1,37 => 0,92

SSC/pension expenditure ratio: 77% => 59%

Fiscal Implications of Structural Reforms

Center
of Excellence
in Finance

II. Pension pillar (2020)

Replacement rate M/W (existing participants)
Contribution rate up to 5.84% of gross wage

Nadomestitveno razmerje - starostna pokojnina (NR) in renta (NRR) – MOŠKI

Nadomestitveno razmerje - starostna pokojnina (NR) in renta (NRR) – ŽENSKE
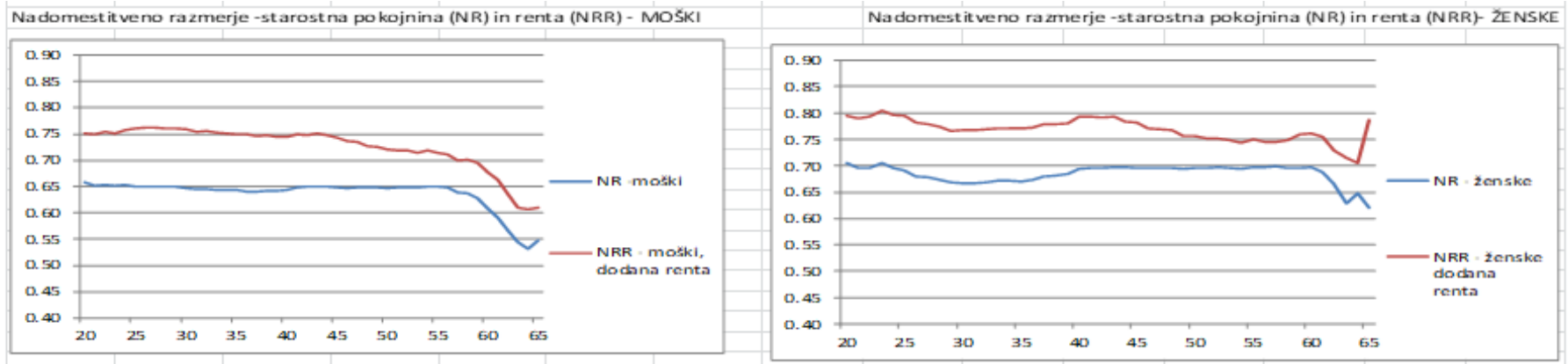
Replacement rate M/W (new participants)
Contribution rate up to 6% of gross wage
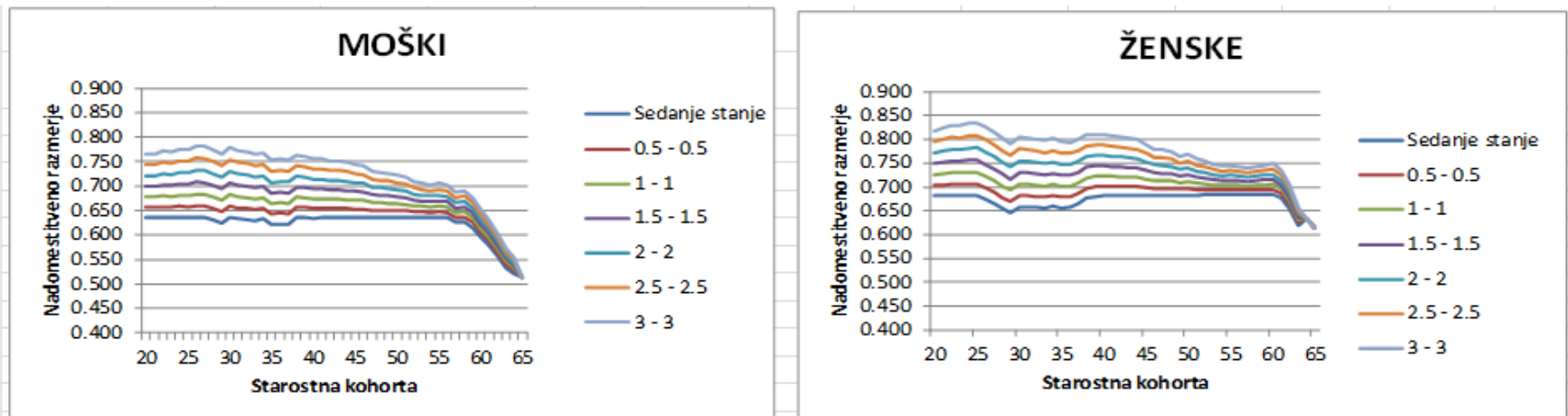
Long-term sustainability of health-care system

Population pyramid
(Statistical Office)

https://www.populationpyramid.net
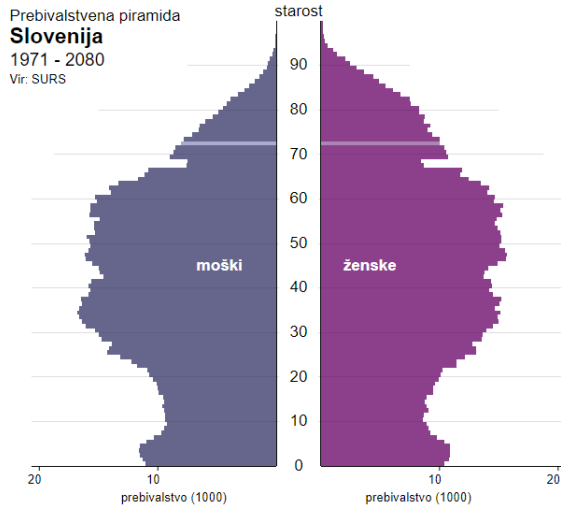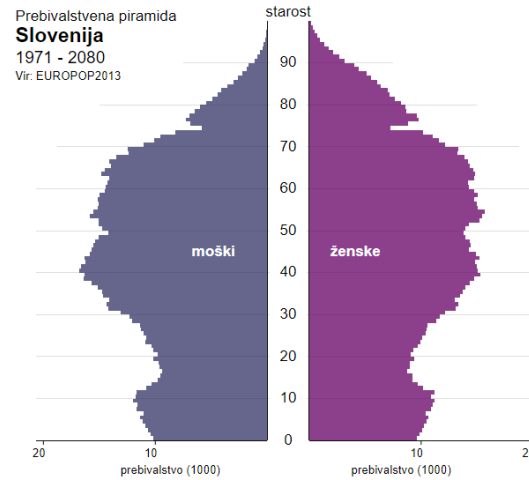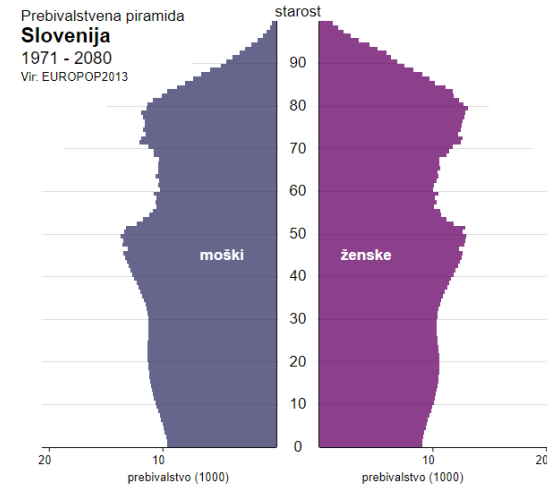
Baseline scenario of EUROPOP2013 population projections

	1980	1990	2000	2013	2020	2030	2040	2050	2060
	Population, age groups								
P_{0-19}	583.245	559.355	456.145	396.931	415.505	406.290	383.348	405.090	408.511
P_{20-64}	1.087.063	1.224.878	1.255.897	1.306.727	1.241.943	1.158.303	1.115.021	1.046.007	1.031.963
P_{65+}	214.169	**213.857**	278.230	356.186	**430.428**	522.518	580.098	618.296	**599.208**
All	**1.884.477**	**1.998.090**	**1.990.272**	**2.045.843**	**2.087.876**	**2.087.111**	**2.078.467**	**2.069.393**	**2.039.681**
	Population, age groups – shares (%)								
P_{0-19}	30,9	28,0	22,9	19,3	19,9	19,5	18,4	19,6	20,0
P_{20-64}	57,7	61,3	63,1	63,4	59,5	55,5	53,6	50,5	50,6
P_{65+}	11,4	**10,7**	14,0	17,3	**20,6**	25,0	27,9	29,9	**29,4**
All	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**
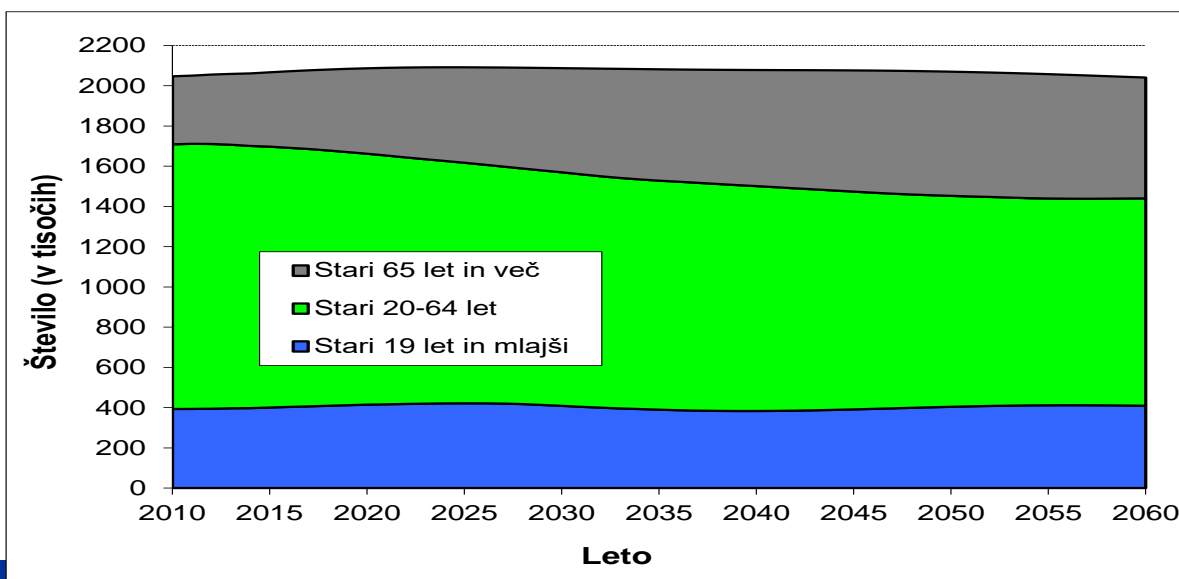
Average health care expenditure *per capita*, cca 50% of overall expenditure (EUR)
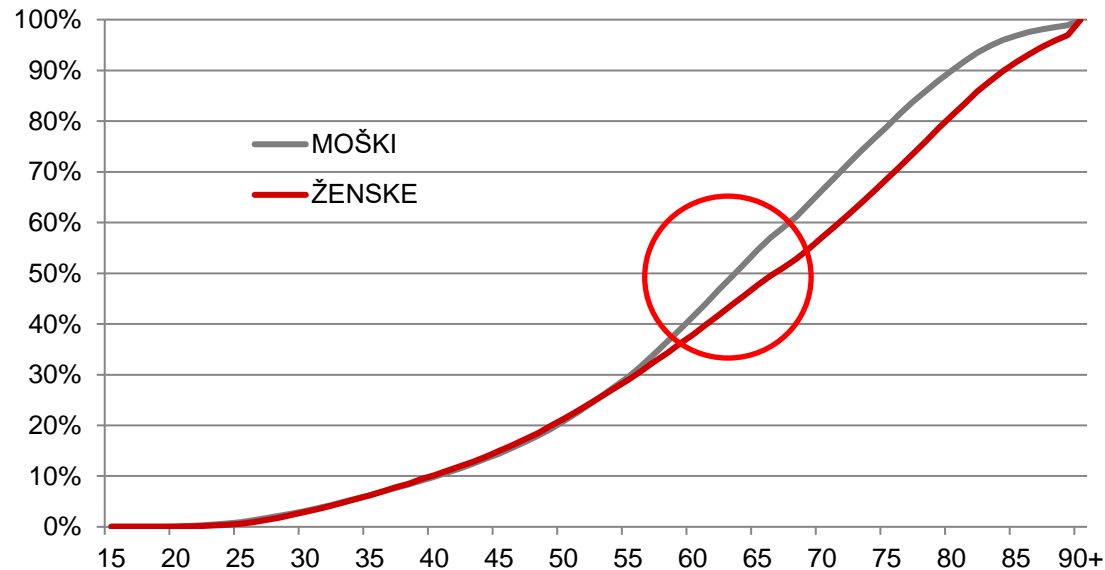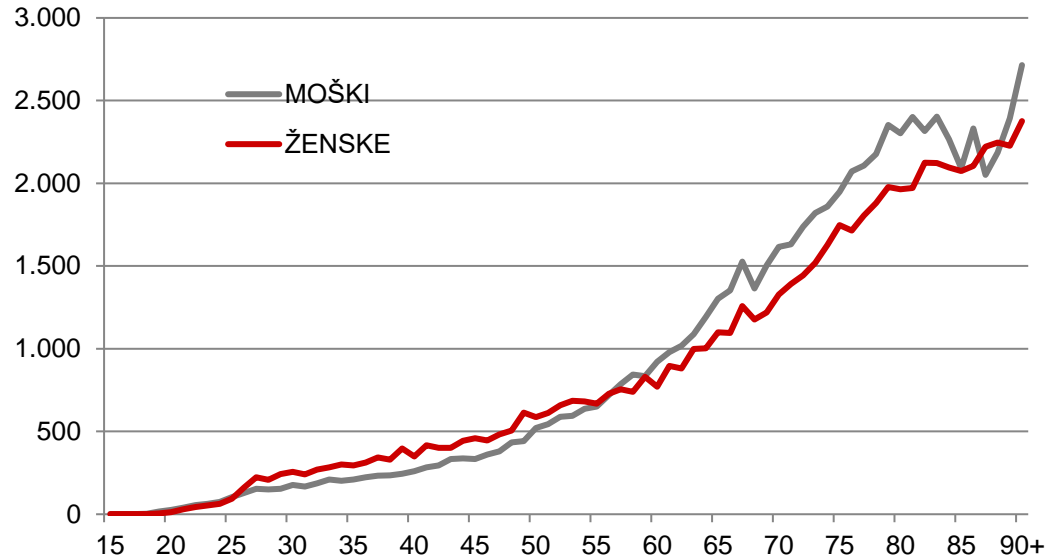
First visit to physician, cca 50%

Legend:
- Povprečno število prvih obiskov; moški
- Povprečno število prvih obiskov; ženske
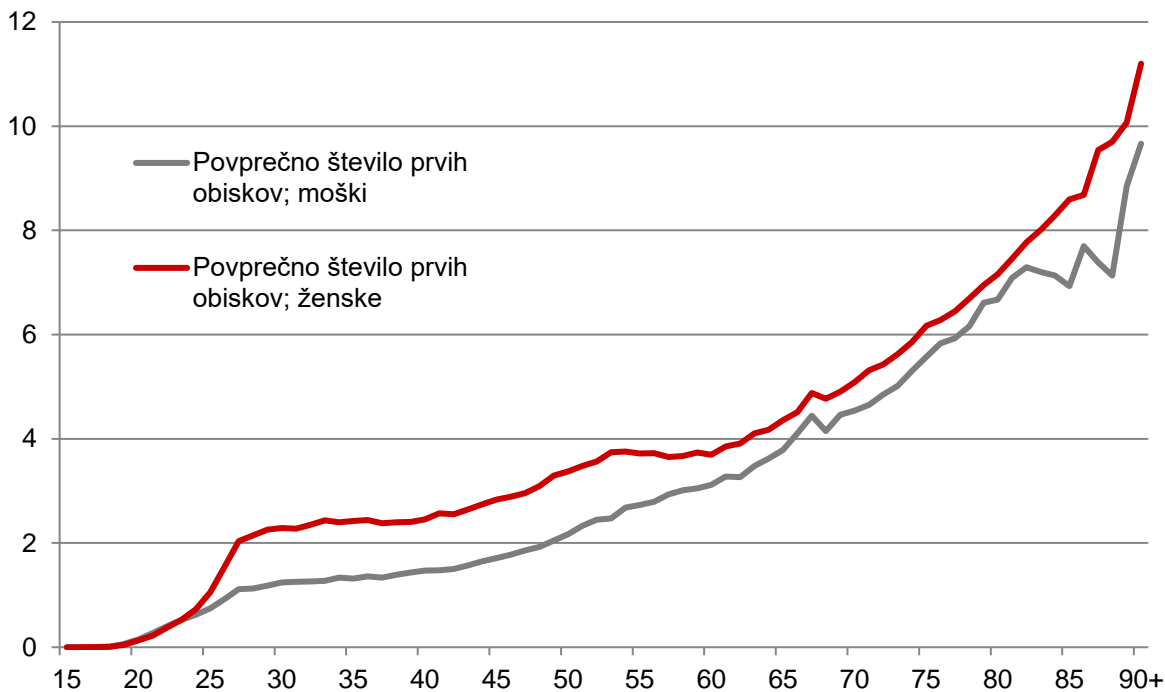
Average: Men 2.3   Women 3.4

Number of prescriptions, cca 50%
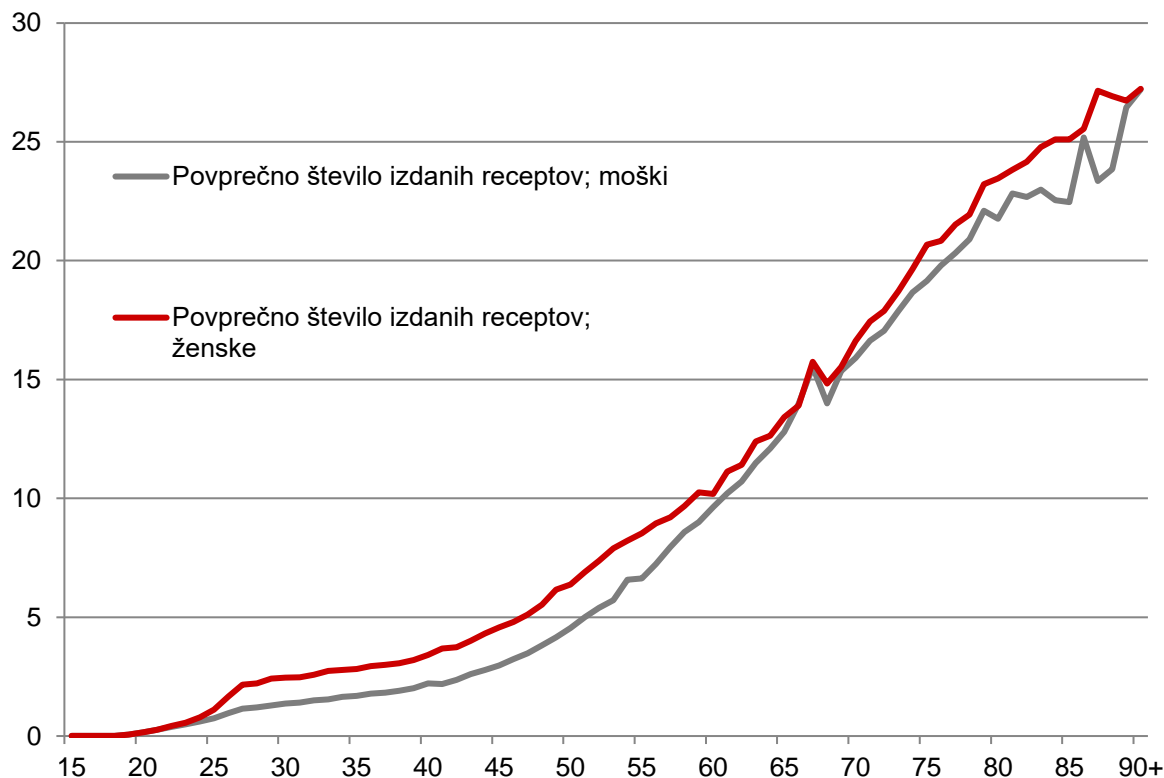
Average: Men 5.9   Women 8.3

Overview of scenario results - increase in public expenditure on health care 2013-2060 (p.p. GDP)
(EU Commission)

	Demo-graphic scenario	High life expectancy scenario	Constant health scenario	Death-related costs scenario	Income elasticity scenario	EU28 cost convergence scenario	Labour Intensity scenario	Sector-specific composite Indexation scenario	Non-demographic determinants scenario	AWG reference scenario	AWG risk scenario	TFP risk scenario	
BE	0.5	0.8	-0.3	0.4	0.7	0.7	1.0	0.6	1.5	0.1	0.5	0.1	BE
BG	0.4	0.6	-0.1	0.4	0.7	3.1	0.7	-0.1	1.9	0.4	1.1	0.3	BG
CZ	1.2	1.6	0.3	0.8	1.5	1.5	2.0	1.1	2.9	1.0	1.7	0.9	CZ
DK	1.0	1.4	0.1	0.7	1.3	1.0	1.1	0.6	3.1	0.9	1.9	0.8	DK
DE	0.7	1.2	0.0	0.5	1.0	0.8	2.0	0.1	2.2	0.6	1.3	0.5	DE
EE	0.8	1.0	0.1	:	1.0	2.6	1.2	0.6	2.3	0.6	1.3	0.6	EE
IE	1.3	1.6	0.6	:	1.6	1.3	1.1	0.6	2.8	1.2	1.9	1.2	IE
EL	1.4	1.8	0.6	:	1.7	1.4	0.5	0.9	3.2	1.3	2.1	1.2	EL
ES	1.0	1.3	0.6	0.9	1.3	1.6	0.8	1.1	2.7	1.1	1.9	1.0	ES
FR	1.1	1.5	0.3	0.8	1.3	1.1	1.2	0.6	2.7	0.9	1.6	0.8	FR
HR	2.0	2.3	1.0	:	2.3	2.9	2.2	1.7	4.0	1.7	2.7	1.7	HR
IT	0.8	1.1	0.2	0.7	1.0	1.2	1.0	0.1	1.9	0.7	1.2	0.6	IT
CY	0.3	0.3	0.1	:	0.4	3.5	0.2	0.2	1.0	0.3	0.6	0.3	CY
LV	0.6	0.8	0.1	:	0.9	2.9	0.8	0.5	2.3	0.6	1.5	0.6	LV
LT	0.1	0.3	-0.3	:	0.4	2.1	0.4	-0.5	1.7	0.1	0.9	0.1	LT
LU	0.7	0.9	0.2	:	0.8	1.5	1.4	0.7	1.4	0.5	0.8	0.5	LU
HU	1.0	1.3	0.1	:	1.3	2.4	1.5	0.3	2.6	0.8	1.5	0.8	HU
MT	2.5	3.0	1.4	:	2.7	3.1	2.6	1.6	4.2	2.1	3.0	2.1	MT
NL	1.2	1.5	0.4	0.9	1.4	1.2	1.4	0.7	2.6	1.0	1.6	0.9	NL
AT	1.6	2.0	0.7	1.3	1.8	1.6	2.4	1.0	3.0	1.3	2.0	1.3	AT
PL	1.3	1.6	0.7	1.1	1.6	3.0	2.3	0.5	3.1	1.2	2.2	1.2	PL
PT	2.8	3.4	1.6	:	3.1	3.4	3.2	1.8	4.9	2.5	3.5	2.5	PT
RO	1.1	1.3	0.5	:	1.3	3.3	2.0	0.5	2.5	1.0	1.7	0.9	RO
SI	1.4	1.7	0.6	1.3	1.6	2.1	2.4	0.9	2.8	1.2	1.9	1.2	SI
SK	2.2	2.5	1.0	1.9	2.6	2.5	3.4	1.4	4.7	2.0	3.3	2.0	SK
FI	1.1	1.5	0.1	0.8	1.3	1.3	2.0	1.2	2.5	0.7	1.3	0.7	FI
SE	0.6	0.8	-0.1	0.3	0.8	0.6	0.9	-0.1	2.1	0.4	1.2	0.4	SE
UK	1.5	2.0	0.6	1.2	1.8	1.6	1.7	1.5	3.1	1.3	2.0	1.2	UK
NO	1.2	1.6	0.2	:	1.5	1.2	2.2	0.6	2.8	0.9	1.7	0.9	NO
EA	0.9	1.3	0.2	:	1.2	1.1	1.3	0.5	2.4	0.8	1.5	0.7	EA
EU	1.1	1.4	0.3	:	1.3	1.3	1.5	0.6	2.6	0.9	1.6	0.8	EU
EU15	1.1	1.4	0.3	:	1.3	1.2	1.4	0.7	2.6	0.9	1.6	0.8	EU15
NMS	1.2	1.5	0.5	:	1.5	2.7	2.0	0.6	2.9	1.1	1.9	1.0	NMS

Overview of scenario results - increase in public expenditure on long-term care 2013-2060 (p.p. GDP) (EU Commission)

	Demographic scenario	Base case scenario	High life expectancy scenario	Constant disability scenario	Shift to formal care scenario	Coverage convergence scenario	Cost convergence scenario	Cost and coverage convergence scenario	AWG reference scenario	AWG risk scenario	TFP risk scenario	
BE	1.5	1.8	2.0	1.4	2.0	1.8	2.8	2.8	1.6	2.6	1.6	BE
BG	0.2	0.2	0.2	0.1	0.4	1.5	0.5	2.7	0.2	2.5	0.2	BG
CZ	0.7	0.8	0.8	0.6	0.8	0.8	5.7	5.7	0.7	5.2	0.7	CZ
DK	2.2	2.2	2.8	1.9	3.0	2.3	2.8	2.9	2.0	2.6	2.0	DK
DE	1.4	1.6	1.8	1.3	2.7	2.6	2.2	3.4	1.5	3.1	1.5	DE
EE	0.7	0.7	0.8	0.6	0.9	0.9	2.7	3.4	0.7	3.2	0.7	EE
IE	0.9	0.8	1.0	0.7	1.1	1.7	1.3	2.5	0.7	2.3	0.7	IE
EL	0.5	0.5	0.5	0.4	0.8	0.5	0.8	0.9	0.4	0.8	0.4	EL
ES	1.6	1.6	2.2	1.3	1.8	2.1	2.3	3.1	1.4	2.9	1.4	ES
FR	0.9	0.9	1.1	0.7	1.6	2.9	1.0	2.9	0.8	2.7	0.8	FR
HR	0.1	0.1	0.1	0.0	0.5	0.4	0.9	1.3	0.1	1.1	0.1	HR
IT	1.0	1.0	1.2	0.8	1.6	1.3	1.1	1.3	0.9	1.1	0.9	IT
CY	0.3	0.3	0.3	0.2	0.4	0.5	0.9	1.9	0.2	1.8	0.2	CY
LV	0.2	0.2	0.2	0.1	0.8	2.4	0.4	3.0	0.1	2.7	0.1	LV
LT	1.0	1.0	1.2	0.8	1.3	1.0	3.8	3.8	0.9	3.5	0.9	LT
LU	1.5	1.9	1.9	1.5	2.3	3.6	1.9	3.6	1.7	3.3	1.7	LU
HU	0.4	0.5	0.5	0.3	1.2	2.7	1.4	4.7	0.4	4.2	0.4	HU
MT	1.3	1.3	1.5	1.0	1.6	2.0	1.8	2.8	1.2	2.6	1.2	MT
NL	3.3	3.5	4.4	2.5	4.3	3.6	4.0	4.1	3.0	3.5	3.0	NL
AT	1.3	1.4	1.7	1.2	1.7	1.4	3.0	3.0	1.3	2.8	1.3	AT
PL	0.9	1.0	1.0	0.8	2.1	1.0	2.1	2.1	0.9	1.9	0.9	PL
PT	0.4	0.4	0.4	0.3	2.5	1.1	1.6	2.3	0.4	2.1	0.4	PT
RO	0.7	1.0	0.8	0.7	1.5	1.0	3.5	3.6	0.9	3.2	0.9	RO
SI	1.4	1.6	1.7	1.4	2.1	1.9	2.5	2.9	1.5	2.7	1.5	SI
SK	0.4	0.5	0.4	0.4	0.7	0.5	4.7	4.8	0.4	4.4	0.4	SK
FI	1.9	2.3	2.5	1.9	2.9	2.3	3.6	3.6	2.1	3.3	2.1	FI
SE	1.6	1.8	2.1	1.3	3.0	3.8	2.4	4.4	1.5	3.8	1.5	SE
UK	0.4	0.4	0.5	0.3	1.0	0.6	1.0	1.2	0.4	1.1	0.4	UK
NO	3.5	4.2	4.3	3.2	4.9	4.2	4.4	4.4	3.6	3.8	3.6	NO
EA	1.3	1.4	1.7	1.1	2.1	2.3	1.9	2.9	1.3	2.7	1.3	EA
EU	1.2	1.3	1.5	1.0	1.9	2.0	1.9	2.7	1.1	2.5	1.1	EU
EU15	1.2	1.3	1.5	1.0	2.0	2.1	1.8	2.6	1.1	2.4	1.1	EU15
NMS	0.7	0.8	0.8	0.6	1.4	1.1	2.8	3.3	0.7	3.0	0.7	NMS

Projection of health-care system

AWG reference scenario

EXPENDITURE	Vrednost v 1.000 EUR	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
Current expenditure	2.967,82	7,69	7,97	8,29	8,62	8,88	9,07	9,16	9,19	9,20	9,16
Long-term care (health part)	327,28	0,85	0,95	1,01	1,11	1,22	1,36	1,48	1,56	1,62	1,66
Sickness leave	474,32	1,23	1,23	1,23	1,23	1,23	1,23	1,23	1,23	1,23	1,23
All	**3.769,43**	**9,77**	**10,15**	**10,53**	**10,95**	**11,34**	**11,66**	**11,87**	**11,98**	**12,05**	**12,05**

REVENUE	Vrednost v 1.000 EUR	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
SSC-active population	1.945,57	5,04	5,05	5,03	4,97	4,93	4,94	4,96	4,98	4,99	4,98
Non tax revenue	50,27	0,13	0,13	0,13	0,13	0,13	0,13	0,13	0,13	0,13	0,13
Pension system (SSC-pensioners, long-term care benefits)	459,05	1,19	1,21	1,31	1,42	1,51	1,58	1,66	1,70	1,68	1,63
Voluntary health insurance	477,89	1,24	1,24	1,24	1,24	1,24	1,24	1,24	1,24	1,24	1,24
General government	160,28	0,42	0,42	0,42	0,42	0,42	0,42	0,42	0,42	0,42	0,42
Households (out of pocket)	412,68	1,07	1,07	1,07	1,07	1,07	1,07	1,07	1,07	1,07	1,07
Companies	269,82	0,70	0,70	0,70	0,70	0,70	0,70	0,70	0,70	0,70	0,70
NGO	3,70	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01
ALL	**3.779,26**	**9,80**	**9,83**	**9,91**	**9,96**	**10,00**	**10,08**	**10,18**	**10,24**	**10,23**	**10,17**

DEFICIT (% GDP)		0,03	-0,32	-0,62	-0,99	-1,34	-1,58	-1,69	-1,74	-1,81	-1,87
DEFICIT (mill EUR)		9,83	-124,42	-239,47	-382,51	-515,86	-607,68	-652,79	-669,30	-699,01	-722,78

AWG risk scenario

DEFICIT (% GDP)		0,03	-0,49	-1,01	-1,57	-2,10	-2,52	-2,80	-3,00	-3,23	-3,41
DEFICIT (mill EUR)		9,83	-188,25	-388,45	-604,55	-810,14	-970,60	-1.081,54	-1.158,03	-1.244,23	-1.315,96

Projection of health care system

Center of Excellence in Finance
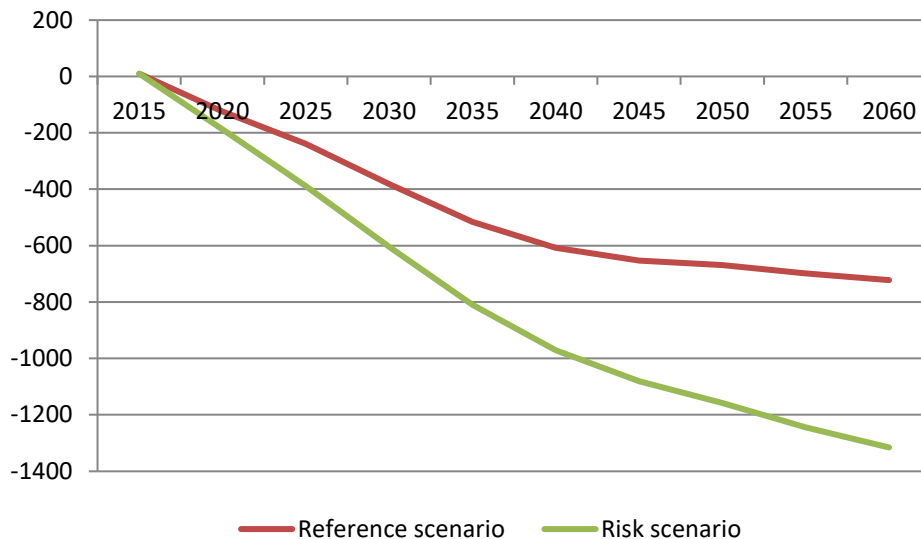
Deficit – mill EUR

Deficit – % GDP

Reference scenario   Risk scenario
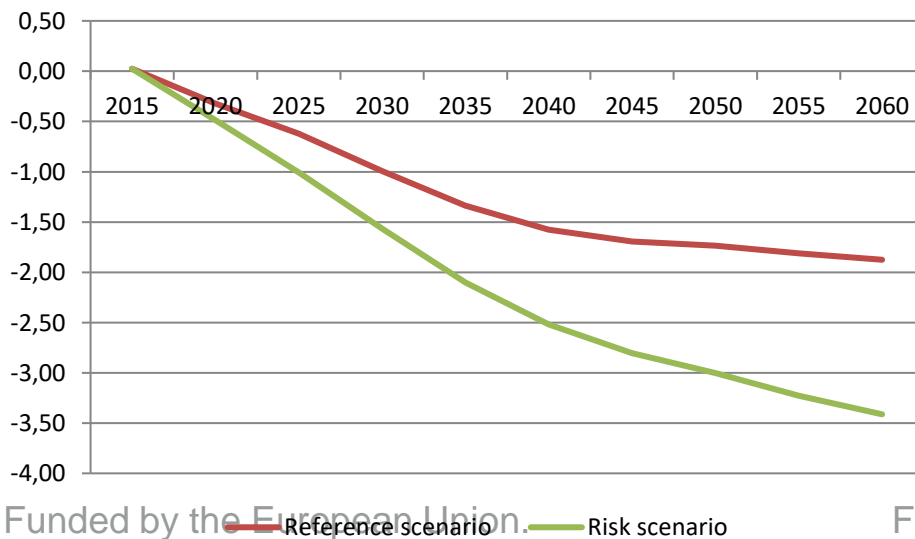
Projection of health care system

Where to find money to cover the deficit?

Required increase of SSC (health-care) from present rate of 13.45%:

Scenarios	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2015-2060 (p.p)
Reference scenario	**13.45**	14.31	15.10	16.10	17.07	17.75	18.06	18.16	18.35	**18.50**	+5.05
Risk scenario	**13.45**	14.75	16.13	17.64	19.13	20.31	21.08	21.60	22.16	**22.65**	+9.20

Conclusions

- **MMS are powerful and regularly used tools for estimating consequences of structural reforms**

- **It is possible to construct a useful model even with limited data**

- **As tools of infrastructural nature they require regular maintenance, data updating and further development**