A fiscal outlook for Poland using Generational Accounts

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A fiscal outlook for Poland using Generational Accounts (and more …)

1. Scope of the fiscal projection
2. Modelling approach
3. Results and indicators
4. Conclusion and discussion
1. Scope of the fiscal projection – What is modelled?

Stock and Flow Concepts

- Expenditures/revenues
- e.g. accrued-to-date liabilities
- e.g. AWG, "walking" forecast ZUS

Time horizon

- Stock
- Flows
1. Scope of the fiscal projection – What is modelled?

<table>
<thead>
<tr>
<th>Time horizon</th>
<th>Gross Liabilities</th>
<th>Net liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>infinite</td>
<td>Accrued-to-date-liabilities</td>
<td>(OECD-Method)</td>
</tr>
<tr>
<td></td>
<td>Open-system gross liabilities</td>
<td>Open-system net liabilities (Generational Accounting)</td>
</tr>
</tbody>
</table>
Step 1: Derive age- and gender-specific profiles from micro data
2. Modelling approach

Step 2: Combine age- and gender-specific profiles with the population structure

...weighted with cohort sizes

![Graphs and diagrams illustrating population projection for Poland from 2008 to 2060.](Poland_2008-2060.png)
2. Modelling approach

**Step 3: Match micro and macro data**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>medical specialist services</td>
<td>3.1</td>
<td>3.8</td>
</tr>
<tr>
<td>basic medical health care</td>
<td>4.7</td>
<td>5.6</td>
</tr>
<tr>
<td>dentists’ services</td>
<td>1.3</td>
<td>1.7</td>
</tr>
<tr>
<td>long-term home health care services</td>
<td>0.7</td>
<td>0.9</td>
</tr>
<tr>
<td>hospital treatment</td>
<td>18.6</td>
<td>22.8</td>
</tr>
<tr>
<td>Other NFZ expenditures</td>
<td>12.0</td>
<td>12.6</td>
</tr>
<tr>
<td>other healthcare expenditures</td>
<td>13.2</td>
<td>14.4</td>
</tr>
<tr>
<td>primary and secondary education</td>
<td>56.1</td>
<td>59.5</td>
</tr>
<tr>
<td>higher education</td>
<td>10.7</td>
<td>10.7</td>
</tr>
<tr>
<td>unemployment benefits</td>
<td>2.2</td>
<td>1.8</td>
</tr>
<tr>
<td>active forms of dealing with unemployment</td>
<td>2.7</td>
<td>3.2</td>
</tr>
<tr>
<td>...</td>
<td></td>
<td>...</td>
</tr>
</tbody>
</table>
Step 4: Project expenditures and revenues (I)

weighted with future cohort sizes …
2. Modelling approach

Step 4: Project expenditures and revenues (II)

<table>
<thead>
<tr>
<th>Further issues to be considered</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>growth assumptions</em></td>
<td>growth of health care expenditures</td>
</tr>
<tr>
<td><em>indexation rules</em></td>
<td>pension indexation</td>
</tr>
<tr>
<td><em>fiscal reforms</em></td>
<td>partial abolition of disability pensions, time-varying ZUS-contribution rates</td>
</tr>
<tr>
<td></td>
<td>...</td>
</tr>
<tr>
<td></td>
<td>...</td>
</tr>
</tbody>
</table>
2. Modelling approach

Building a new pension model to reflect the profound pension reform of 1999 …

from standard profile approach $\rightarrow$ probability approach (incl. NDC accounts)

Contributions & NDC accounts $=$ NDC pensions

(determined by wage, contribution rates, retirement behaviour, etc.)

(determined by contributions retirement behaviour, growth, etc.)
3. Results and indicators

Explicit debt is only the fiscal ‘iceberg’ → Implicit debt is four times higher

Sustainability gap (status quo)
base year 2007, r=3%, g=1.5%

228.1% of GDP

Implicit Debt

Explicit Debt

228.1%

182.8%

45.2%
3. Results and indicators

Generational Accounts – a tool to assess intergenerational redistribution

![Graph of Generational Accounts, status quo]

Generational accounts, status quo
base year 2007, r=3%, g=1,5%
3. Results and indicators

Which fiscal category shall policymakers adjust?

VAT? Pension contributions? Disability benefits? Free healthcare services? etc…?

Maybe Generational Accounting missed popularity due to a lack of more precise suggestions, which category could be modified to regain intergenerational equilibrium

???
3. Results and indicators

The modification of the standard method:

‘Isolations’
of particular subsystems may be a better tool for policy makers

By disaggregating this:

we get these:

![Diagram showing disaggregation of implicit and explicit debt](image)

<table>
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<tr>
<th>Category</th>
<th>% of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZUS old age pensions</td>
<td>105.8</td>
</tr>
<tr>
<td>Public Health Care</td>
<td>83.1</td>
</tr>
<tr>
<td>disability &amp; survivors</td>
<td>97.3</td>
</tr>
<tr>
<td>farmers pension</td>
<td>47.5</td>
</tr>
<tr>
<td>accident</td>
<td>6.3</td>
</tr>
<tr>
<td>sickness</td>
<td>-10.2</td>
</tr>
<tr>
<td>Miners</td>
<td>16.2</td>
</tr>
<tr>
<td>all others</td>
<td>-163.1</td>
</tr>
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Which are the major drivers of the Polish fiscal unsustainability? (I)

The standard isolation approach:

Isolated sustainability gaps (status quo)
base year 2007, r=3%, g=1.5%

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Two types of isolations

Subsystems with ‘own’ revenues

ZUS funds: for pensions, disability, accident, sickness; NFZ; farmers’ social insurance; ...

Subsystems financed from ‘taxes’

Civil servants (uniformed services, judges); education

CONSEQUENCES

Revenue side:
- Varying age- and gender-specific profile, balanced budget not necessarily
- For comparability: adjusted option

Revenue side:
- Flat profile, balanced budget (in base year)
Which are the major drivers of the Polish fiscal unsustainability? (II)

The balanced budget isolation approach:

Isolated sustainability gaps (status quo)
base year 2007, r=3%, g=1.5%
A tool to assess reform measures …

The example of the 1999 pension reform:

Cash Flows of ZUS pension contributions and expenditures
base year 2007, r=0%, g=1.5%
3. Results and indicators

GA – a tool to assess reform measures ...

Sustainability examination of pension reforms:

Isolated sustainability gaps of the ZUS old age pension system
base year 2007, r=3%, g=1.5%
3. Results and indicators

In the coming 20 years ZUS will be confronted with an increasing mismatch of contributions and expenditures

Cash flows: impact of the recently discussed pension reforms (I)

Cash Flows of ZUS pension contributions and expenditures
base year 2007, r=0%, g=AWG
3. Results and indicators

Growth assumptions make a difference …

Cash flows: impact of the recently discussed pension reforms (II)

Cash Flows of ZUS pension contributions and expenditures
base year 2007, r=0%, g=1,5%
Both MoF reforms could partially bridge the ZUS deficits in the coming years …

Cash flows: impact of the recently discussed pension reforms (III) – both reforms combined!

3. Results and indicators
A closer look at the health care system – a possible major driver of fiscal unsustainability

Isolated sustainability gaps of NFZ
base year 2007, r=3%, g=1.5%

- Standard scenario: 82.7
- Cost pressure scenario: 157.2

in % of GDP
3. Results and indicators

Which contribution rates are we willing to bear in coming decades?

Nominal healthcare contribution rate to balance future NFZ budgets:

![Chart showing contribution rate in % over years from 2010 to 2050 for standard and cost pressure scenarios.](chart.png)
Conclusion and Discussion …