The impact of the ageing population on the pension system in Belgium

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A. Impact of the ageing population in Europe
Over the past 50 years the European birth rate decreased with 38% while life expectancy at birth has increased with 16%

Key demographic trends in the EU

- Life expectancy has risen with 10 years since 1960
- It is expected to increase with another 5 years by 2050

- The number of births in the EU has fallen from 7.5m in 1960 to 5.4m in 2010
- The current birth rate is too low to fully replace each generation (this would require a birth rate of 2.1 for the EU)

Source: Worldbank, Roland Berger
These trends have a profound impact and will lead to a demographic revolution in the next 50 years in Europe.

Demographic revolution in the EU

**Expected demographic evolution [m people; %]**

- By 2060 there will be 39m less people aged 15-64 and 66m more people aged >65
- Hence the old-age-dependency ratio will increase from 26% in 2010 to 53% in 2060
- Assuming Europe reaches its target of a 75% employment rate, the economic old-age-dependency ratio\(^1\) will increase from 38% now to 63% by 2050

**Comment**

1) Defined in this study as the ratio between people aged >65y and people aged 15-64 that are employed

Source: Worldbank, Eurostat, EU Directorate-General for Employment, Social Affairs and Inclusion
The cost of public pensions systems as a share of European GDP will rise from 11.3% in 2010 to 12.9% in 2060

Impact of the ageing population on public budgets

Cost of public pension as a share of GDP [%]

- Belgium: +5.6%
- France: +0.5%
- Germany: +2.6%
- EU-27: +1.5%
- Netherlands: +3.6%

Cost increase 2010-2060 [% of GDP]

1) Estimation according to the EC Ageing report 2012; The Belgian Ageing Commission estimates the cost increase at 4.5% of GDP

Source: EC European ageing report 2012, Roland Berger
The demographic revolution threatens the supportability of both public and private pension systems

Threat of ageing population for pension systems

**Type of scheme**

1. **Public pensions**
   - Predominantly **Pay-As-You-Go funded schemes**
   - Current contributions by the working population are used for the payment of current pensions

2. **Private pensions**
   - Private pension funds are 'Fully Funded'
   - Current contributions by working population are invested towards meeting future benefits once people start their pension

**Threat of ageing population**

- An increasing old-age-dependency ratio creates an imbalance between income and expenditure
- At some point, contributions are no longer sufficient to cover pension expenditures
- The current and future value of assets held in portfolio by pension funds, depends on the economic situation
- A decline in economic output caused by a shrinking workforce will hence negatively influence the value of pension portfolio

1) Some countries as Finland, Luxembourg and Cyprus have set up significant Public Pension funds

Source: EC European ageing report 2012, EU DG for Employment and Social Affairs, Deutsche Bank
B. Impact of the ageing population in Belgium
The old-age-dependency ratio will rise from 26% to 44% in Belgium explained by the increased number of people >65y

Demographic revolution in Belgium

Evolution of population groups [m people; %]

<table>
<thead>
<tr>
<th>Year</th>
<th>&gt;65y</th>
<th>15-64y</th>
<th>Old-Age-Dependency Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>1.9</td>
<td>7.1</td>
<td>26%</td>
</tr>
<tr>
<td>2015</td>
<td>2.0</td>
<td>7.3</td>
<td>28%</td>
</tr>
<tr>
<td>2020</td>
<td>2.2</td>
<td>7.4</td>
<td>30%</td>
</tr>
<tr>
<td>2025</td>
<td>2.5</td>
<td>7.4</td>
<td>33%</td>
</tr>
<tr>
<td>2030</td>
<td>2.7</td>
<td>7.5</td>
<td>37%</td>
</tr>
<tr>
<td>2035</td>
<td>2.9</td>
<td>7.5</td>
<td>39%</td>
</tr>
<tr>
<td>2040</td>
<td>3.1</td>
<td>7.6</td>
<td>41%</td>
</tr>
<tr>
<td>2045</td>
<td>3.2</td>
<td>7.7</td>
<td>42%</td>
</tr>
<tr>
<td>2050</td>
<td>3.3</td>
<td>7.8</td>
<td>43%</td>
</tr>
<tr>
<td>2055</td>
<td>3.3</td>
<td>7.8</td>
<td>44%</td>
</tr>
<tr>
<td>2060</td>
<td>3.4</td>
<td>7.8</td>
<td>44%</td>
</tr>
</tbody>
</table>

Comments

- The increase in the old-age-dependency ratio can largely be explained by:
  - Life expectancy increase from 69.5y (1960) to 80.5y in 2011
  - Drop in fertility rate from 2.6 (1960) to 1.8 children per adult woman
- When only taking in account the employed 'active population', the economic old-age-dependency ratio increases from 42% in 2010 to 71% in 2060

Source: Eurostat, Worldbank, Belgian Study Commission for Ageing (2013), Roland Berger
Pension spending as a share of GDP is forecasted to rise from 10.2% in 2012 to 14.7% of GDP in 2060

Impact of the ageing population on the public budget

Evolution of ageing related costs [% of GDP]

<table>
<thead>
<tr>
<th>Year</th>
<th>Employee Pension</th>
<th>Civil servants pension</th>
<th>Independents pension</th>
<th>Other social expenditure (e.g. healthcare)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>5.6%</td>
<td>3.9%</td>
<td>0.8%</td>
<td>25.8%</td>
</tr>
<tr>
<td>2018</td>
<td>6.2%</td>
<td>4.0%</td>
<td>0.9%</td>
<td>26.6%</td>
</tr>
<tr>
<td>2030</td>
<td>7.8%</td>
<td>4.7%</td>
<td>1.1%</td>
<td>29.1%</td>
</tr>
<tr>
<td>2050</td>
<td>8.5%</td>
<td>5.2%</td>
<td>1.1%</td>
<td>31.2%</td>
</tr>
<tr>
<td>2060</td>
<td>8.3%</td>
<td>5.3%</td>
<td>1.1%</td>
<td>31.2%</td>
</tr>
</tbody>
</table>

Comments

- The cost of the 3 Belgian pension systems is expected to increase from 10.2% in 2012 to 14.7% of GDP by 2060.
- The ageing population also negatively affects healthcare cost: from 8.1% in 2012 to 10.7% in 2060.
- Other costs are expected to decrease (e.g. unemployment payments).
- The total impact of ageing is a spending increase of 5.4% of GDP by 2060.

Source: Belgian Study Commission for Ageing (2013), Roland Berger
The incremental discounted pension cost caused by ageing until 2060 amounts to EUR 304 bn or 81% of Belgium's current GDP.

Discounted normal and incremental pension cost

### Assumptions Ageing Commission

**GDP growth [%]**
- 2014: 1.2%
- 2015-2018: 1.8%
- 2019-2030: 1.4%
- 2030-2060: 1.6%

**Pension cost [% of GDP]**
- 2018: 11%
- 2030: 13.6%
- 2050: 14.9%
- 2060: 14.7%

**Discount factor [%]**
- OLO (10y): 4%<sup>2</sup>

1) Assumptions used in the report of the Study Commission for Ageing
2) Average historic OLO rate

Sources: NBB, Belgian Study Commission for Ageing, Planbureau, Roland Berger Analysis
Taking into account the discounted cost of future pension commitments, Belgium has an actual public debt of 183% of GDP

Actual debt level of Belgium

<table>
<thead>
<tr>
<th>Existing debt and discounted implicit pension-related debt [EUR bn; %]</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing debt (2012) + 2013 budget deficit + Implicit pension debt(^1) = Actual public debt</td>
<td></td>
</tr>
<tr>
<td>375 + 9 + 304 = 689</td>
<td></td>
</tr>
</tbody>
</table>

\(^1\) Based on the discounted extra pension cost created by ageing until 2060

- The official government debt level ignores imbalances between future revenues and obligations.
- Given the existing pension commitments, the effect of ageing causes an implicit pension-related debt of 81% of GDP\(^1\).
- This leads to an actual public debt of 183% of GDP.

Sources: NBB, Planbureau, Belgian Study Commission for Ageing, Roland Berger Analysis
Recent reforms have only limited impact on pension costs in 2060

Impact of recent pension reform on ageing cost

<table>
<thead>
<tr>
<th>Key elements of pension reforms</th>
<th>Expected impact of measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2011 REFORM</strong></td>
<td></td>
</tr>
<tr>
<td>Set of measures to raise applicable age and contributory years required for early retirement</td>
<td>• The 2011 reform has, compared to previous assessments¹, an impact of:</td>
</tr>
<tr>
<td></td>
<td>- 0.1% Pension cost as share of GDP by 2060</td>
</tr>
<tr>
<td></td>
<td>- 0.2% Other ageing related cost as share of GDP by 2060</td>
</tr>
<tr>
<td>Pension level calculation based on salary of last 10 year instead of last 5 year (for government officials)</td>
<td></td>
</tr>
<tr>
<td>Curtailment of 'bruppensioen' system and elimination of part-time 'bruppensioen' system</td>
<td></td>
</tr>
<tr>
<td>Curtailment of 'working period equivalents' as they are no longer valued at latest earned wage</td>
<td></td>
</tr>
<tr>
<td><strong>2013 REFORM</strong></td>
<td></td>
</tr>
<tr>
<td>Replacement of 'Age complement' by a pension bonus that is aligned with the new access conditions to early retirement</td>
<td>• The 2013 reform has, compared to previous assessments², an impact of:</td>
</tr>
<tr>
<td></td>
<td>- 0.3% Pension cost as share of GDP by 2060</td>
</tr>
</tbody>
</table>

¹) Compared to the 2011 report of the Study Commission for ageing; ²) Compared to the 2012 report of the Study Commission for ageing

Source: Belgian Study Commission for Ageing (2012 and 2013), Roland Berger
The Silver fund offers little solace as its financing has stopped at a level of resources enough to pay pension ageing cost until 2018

Available resources Silverfund

<table>
<thead>
<tr>
<th>Year</th>
<th>Available funds [EUR bn]</th>
<th>Not-received funds [EUR bn]</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>0.6</td>
<td>1.3</td>
</tr>
<tr>
<td>2002</td>
<td>8.0</td>
<td>1.3</td>
</tr>
<tr>
<td>2003</td>
<td>11.9</td>
<td>12.4</td>
</tr>
<tr>
<td>2004</td>
<td>13.1</td>
<td>13.1</td>
</tr>
<tr>
<td>2005</td>
<td>13.1</td>
<td>13.1</td>
</tr>
<tr>
<td>2006</td>
<td>2.7</td>
<td>13.1</td>
</tr>
<tr>
<td>2007</td>
<td>5.1</td>
<td>8.3</td>
</tr>
<tr>
<td>2008</td>
<td>12.4</td>
<td>14.1</td>
</tr>
<tr>
<td>2009</td>
<td>17.3</td>
<td>14.1</td>
</tr>
<tr>
<td>2010</td>
<td>14.1</td>
<td>14.1</td>
</tr>
</tbody>
</table>

Conclusions

- **The Silverfund accumulates reserves to finance the cost of ageing** between 2010-2030
- **The financing of the fund**
  - Was initially driven by windfall gains
  - Was supposed to evolve to an annual fixed share of GDP (from 0.3% in 2007 to 1.2% by 2012)
  - Continuous budget deficits have voided these plans and stopped financing
- **With current reserves** (EUR 14.1 bn), the government can finance the effect of ageing on pensions until 2018 only
- All funds are invested in special 'Zilverfonds Treasury Bonds' and the fund is only allowed to spend the money if government debt is <60% of GDP

Source: Silverfund annual report 2012, Roland Berger
C. Remedies to limit the cost of ageing in Belgium
The higher increase in Belgian pension cost vs. other countries is due to low employment rates and easy pension access conditions

Key drivers of pension cost as a share of GDP

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Benefit level per person</th>
<th>Pension access conditions</th>
<th>Productivity employee</th>
<th>Working population</th>
</tr>
</thead>
<tbody>
<tr>
<td># of eligible persons</td>
<td>Net pension replacement rate&lt;sup&gt;2) 3)&lt;/sup&gt; 66%</td>
<td>Share of population &gt;65 in 2060 25.5%</td>
<td>Effective retirement age 59.3y</td>
<td>Employment rate working population 61.8%</td>
</tr>
<tr>
<td>Demo-graphics</td>
<td>GDP</td>
<td>Pension cost as % of GDP</td>
<td>GDP</td>
<td>GDP</td>
</tr>
</tbody>
</table>

Relative performance of Belgium<sup>1)</sup>

<table>
<thead>
<tr>
<th></th>
<th>BE</th>
<th>FRA</th>
<th>DE</th>
<th>NL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefit level per person</td>
<td>66%</td>
<td>60.8%</td>
<td>58.4%</td>
<td>103.3%</td>
</tr>
<tr>
<td>Share of population &gt;65 in 2060</td>
<td>25.5%</td>
<td>26.6%</td>
<td>32.8%</td>
<td>27.7%</td>
</tr>
<tr>
<td>Effective retirement age</td>
<td>59.3y</td>
<td>59.3y</td>
<td>61.7y</td>
<td>62.8y</td>
</tr>
<tr>
<td>Productivity per hour worked</td>
<td>EUR 45.7</td>
<td>EUR 45.4</td>
<td>EUR 42.6</td>
<td>EUR 45.6</td>
</tr>
<tr>
<td>Employment rate working population</td>
<td>61.8%</td>
<td>63.9%</td>
<td>72.8%</td>
<td>75.1%</td>
</tr>
</tbody>
</table>

Source: Eurostat, OECD, Roland Berger Analysis

1) 2012 numbers except when mentioned otherwise
2) For median earners
3) OECD average is 72%
A progressively raising pension cost is unavoidable but it can be toned down by decreasing the economic dependency ratio.

Avoidable part of the rising ageing cost

Conclusions

- The cost impact of ageing can be divided in
  - A part that is related to demographics and is unavoidable (reflected by the increase in the old-age-dependency ratio)
  - A part that is a consequence of the low employment rate and is hence avoidable (reflected in the economic-old-age dependency ratio)

On the short-term we need to take action to increase the employment rate to limit the extra costs of ageing.

On the long-term the demographic revolution forces us to adapt our pension model to keep it affordable.

1) Can only be avoided by raising the official pension age.

Source: Eurostat, Roland Berger analysis
To handle both short and long-term consequences of ageing, the Belgian government should implement 4 sets of measures

1. Increase the effective retirement age
   - The effective retirement age is low compared to other countries and far removed from the official retirement age of 65y
   - Hence pension access conditions should be made more stringent

2. Increase the employment rate
   - Especially in the age group 50-64 years, the employment rate should be raised by lowering income tax for this age group

3. Evolve towards a hybrid pension system
   - Partly shift from 'defined benefit' towards 'defined contribution'
   - Partly shift from PAYG system to Funded system

4. Strengthen the second and third pillar of pension savings
   - State pension benefits are likely to decrease over time, hence other pension pillars must be reinforced

Source: Roland Berger analysis
The effective retirement age should be brought closer to the official retirement age by adopting stringent access conditions

**Lever 1: Increase the effective retirement age**

**Average effective and official retirement age in OECD countries**

<table>
<thead>
<tr>
<th>Country</th>
<th>Effective Retirement Age</th>
<th>Average Retirement Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>59.3</td>
<td>61.7</td>
</tr>
<tr>
<td>Belgium</td>
<td>59.3</td>
<td>62.8</td>
</tr>
<tr>
<td>Germany</td>
<td>61.7</td>
<td>63.7</td>
</tr>
<tr>
<td>Netherlands</td>
<td>62.8</td>
<td>63.9</td>
</tr>
<tr>
<td>OECD Average</td>
<td>63.9</td>
<td>65</td>
</tr>
</tbody>
</table>

**Conclusion**

- While the official Belgian pension age is in line with other countries, the **average effective pension age is very low compared** to other European and OECD countries.
- Belgium's problem lies with the too easy early retirement rules.
- **Recent reform presented a first step but more should be done**
  - Eliminate early retirement schemes
  - Increase minimum contributory years
  - Install a 'pension malus' system next to the pension bonus
  - Couple pension age to life expectancy

1) 62 years is the minimum retirement age, the required age for automatic entitlement of full pension is 67
2) As from 2029
3) As from 2023

*Source: OECD, Roland Berger*
Targeted measures must be taken by the government to increase employment rate in the age group of 55-64 year

Lever 2: Increase the employment rate

Employment rate per age group [% employed]

<table>
<thead>
<tr>
<th></th>
<th>Aged 15-64</th>
<th></th>
<th>Aged 55-64</th>
</tr>
</thead>
<tbody>
<tr>
<td>BELGIUM</td>
<td>62%</td>
<td>62%</td>
<td>34%</td>
</tr>
<tr>
<td>FRANCE</td>
<td>64%</td>
<td>64%</td>
<td>38%</td>
</tr>
<tr>
<td>GERMANY</td>
<td>69%</td>
<td>73%</td>
<td>51%</td>
</tr>
<tr>
<td>NETHERLANDS</td>
<td>76%</td>
<td>75%</td>
<td>48%</td>
</tr>
</tbody>
</table>

Conclusions

• Belgium could seriously improve its economic old-age dependency ratio by increasing the employment rate

• On the short-term the government should **strive for an employment rate of 75%** (EU 2020 target)

• More specifically, **Belgium should take measures to increase the activity level of older people**
  – Tackle high labor cost through a targeted reduction of income tax
  – Reform seniority-based wage structure
  – Help old workers find and retain jobs (through training, support, etc)

Source: Eurostat, Roland Berger
The Swedish pension system offers a good model of a more hybrid system that should also be adopted by Belgium.

Lever 3: Set up a hybrid pension system

Illustration of Swedish pension model

Key lessons for Belgium

- Currently Belgium has a defined benefit system financed on a pay-as-you-go-base
- A hybrid system has a number of advantages:
  - Defined contribution incentivizes higher effective retirement age and better reflects changing demographics
  - Funded system is less sensitive to demographic changes (but more to financial shocks)
- These changes should be installed simultaneously as a funded system with defined benefits would put a higher risk at government level

1) Benefits are determined by nationwide collective bargaining agreements between unions and employers
2) Contributions for premium pension are invested in one of 700 available funds administered by independent fund managers

Source: Pension Fund Online, Roland Berger
Private pension saving should be encouraged to compensate for potential lower state pension benefits

Lever 4: Strengthen 2nd and 3rd pillar pension saving

Investments of HH in Insurance Technical reserves [% of GDP]¹

Conclusions

- Due to the macro-economic climate, the government is not acting with sufficient priority on ageing problem
- Unless the macro-economic situation improves drastically, serious budget problems will arise as from 2018-2020
- Given the already high tax rate, it can be expected that the government will be forced to lower pension benefits²
- As a result, 2nd and 3rd pillar pension savings will become more important
- Insurance companies should prepare for this situation and create optimized pension fund products

¹ Investments of Households (HH) and non profit institutions serving households (incl. life insurance and pension reserves)
² This in itself constitutes a hidden tax raise as people will receive lower pension benefits but pay the same level of social security contributions

Source: Eurostat, Roland Berger
It's character that creates impact!