Principles of financial crises in the first two decades of the 21st century

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General government gross debt [% GDP]

### General government gross debt in % of GDP, growth debt rate 2008-2010 [%]

<table>
<thead>
<tr>
<th>Country</th>
<th>Growth rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulgaria</td>
<td>140,2</td>
</tr>
<tr>
<td>Lithuania</td>
<td>140,1</td>
</tr>
<tr>
<td>Cyprus</td>
<td>126,4</td>
</tr>
<tr>
<td>Romania</td>
<td>125,5</td>
</tr>
<tr>
<td>Slovakia</td>
<td>122,9</td>
</tr>
</tbody>
</table>

**Growth rate EU 27 countries is only 101,3%**

Source: EUROSTAT and own calculation
Relation between General government gross debt [% GDP] and Real GDP growth rate [% change on previous year 2009/2010]

Source: EUROSTAT
Fiscal consolidation requirements

Source: OECD, Government at a Glance, 2011
Gross debt-to-income ratio of households [%]

Source: EUROSTAT
## Gross debt-to-income ratio of households, growth debt rate 2008-2010 [%]

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Source: EUROSTAT and own calculation
Relation between government debt and household debt (%GDP) in chosen EU countries

2007

Source: ECB, own calculation
Government debt = 29,127 + 0.352*household debt, 
(7,26)   (0,07)

Strength of dependancy $R^2 = 59\%$ shows middle dependency

F-test ($F = 25,55$) and Durbin-Watson statistics ($DW = 1,74$)

Confirm that model is fine

This relationship means that in 2010 increase of HD about 1% caused increase of GD about 0.352 percentage point.
Shares of insolvent households in total number of indebted households divided by income category – simulation results

Net income in thousands CZK per 1 member of household

Source: CZSO Household Budget Survey, CNB calculation
12-month default rate on bank loans to households
Conclusion

In 2013 we may expect the household default rate to be at 8 to 10%.

The segment of consumer’s loans will be affected more the segment of mortgages.

This process will affect the financial health of the banking sector and can caused a third wave of financial turmoil.