



Demographic changes, migration and economic growth in the euro area

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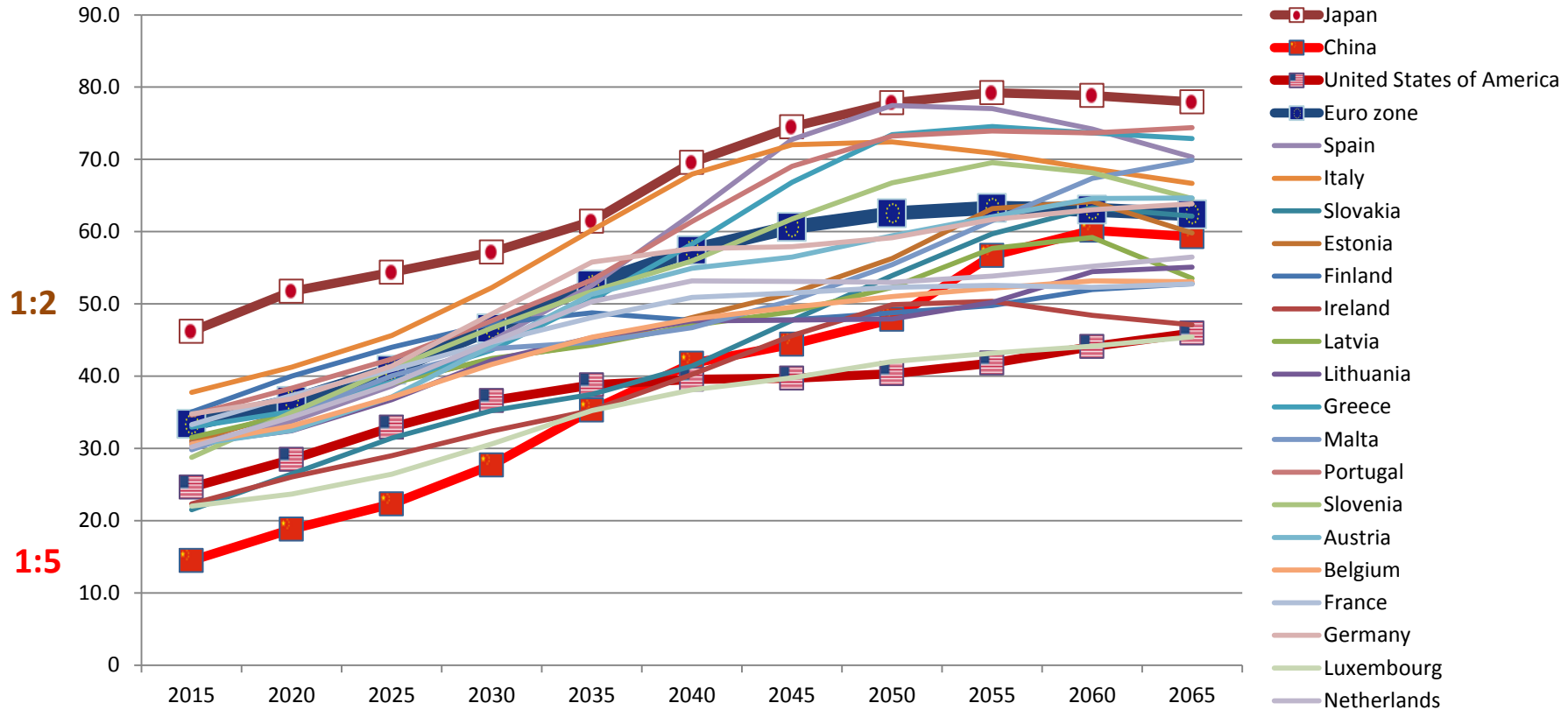
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- *Technical University of Munich (TUM)*
- *National Bureau of Economic Research (NBER) in Cambridge, Mass., USA*

ECB Forum on Central Banking 2019, Sintra, Portugal, 17-19 Juni 2019



Demographic Variation: Old-Age Dependency Ratio

#(65+)/#(20-64)



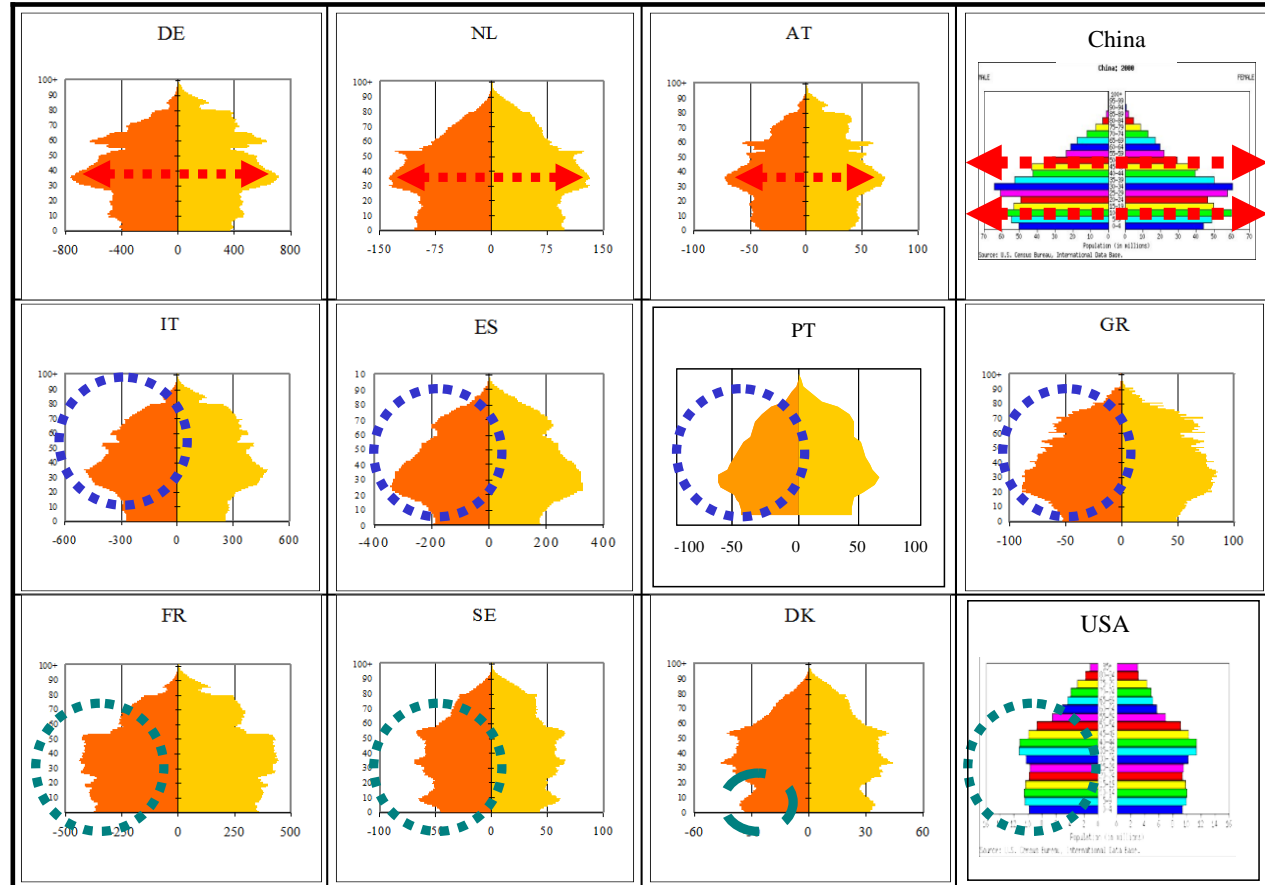


Demographic variation

1. Sharp transition from babyboom to babybust

2. Long-term low birth rate and high life expectancy

3. Still rather high birth rate

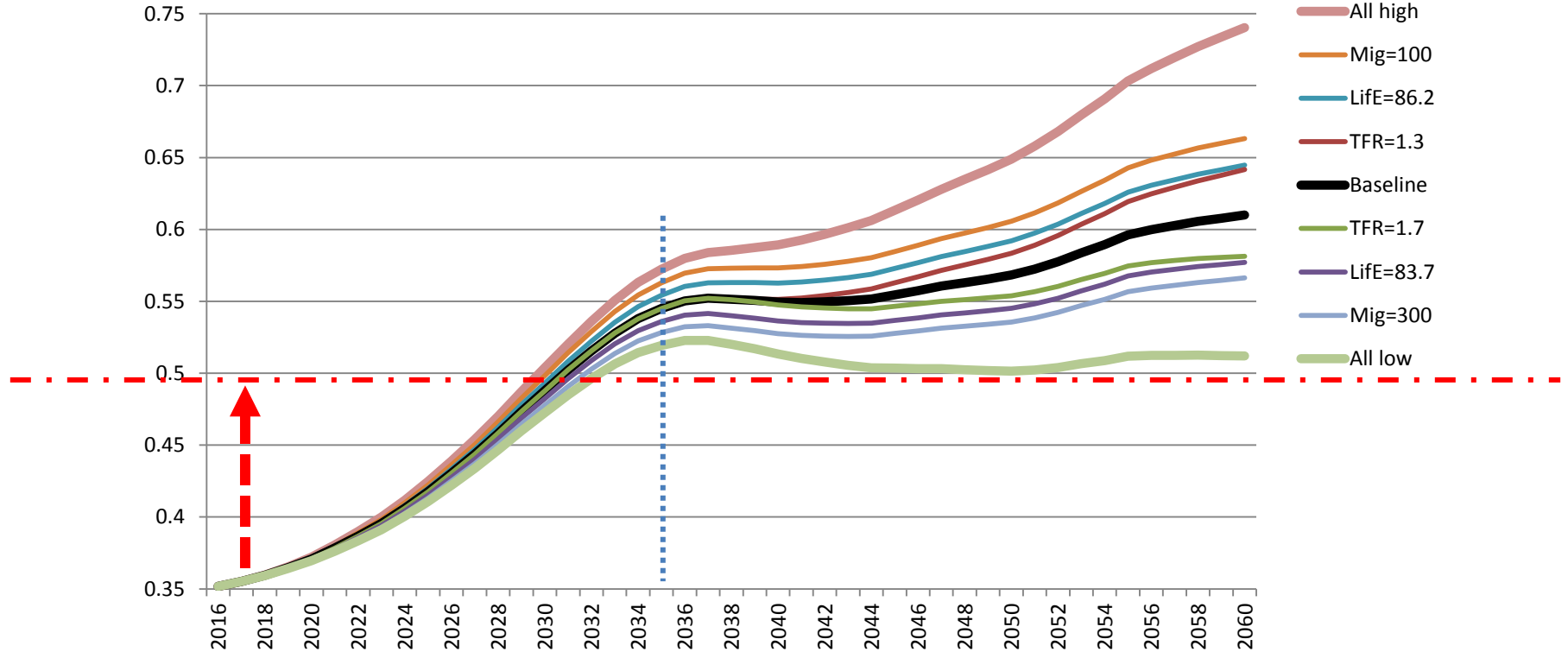




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How reliable?

#(65+)/#(20-64)

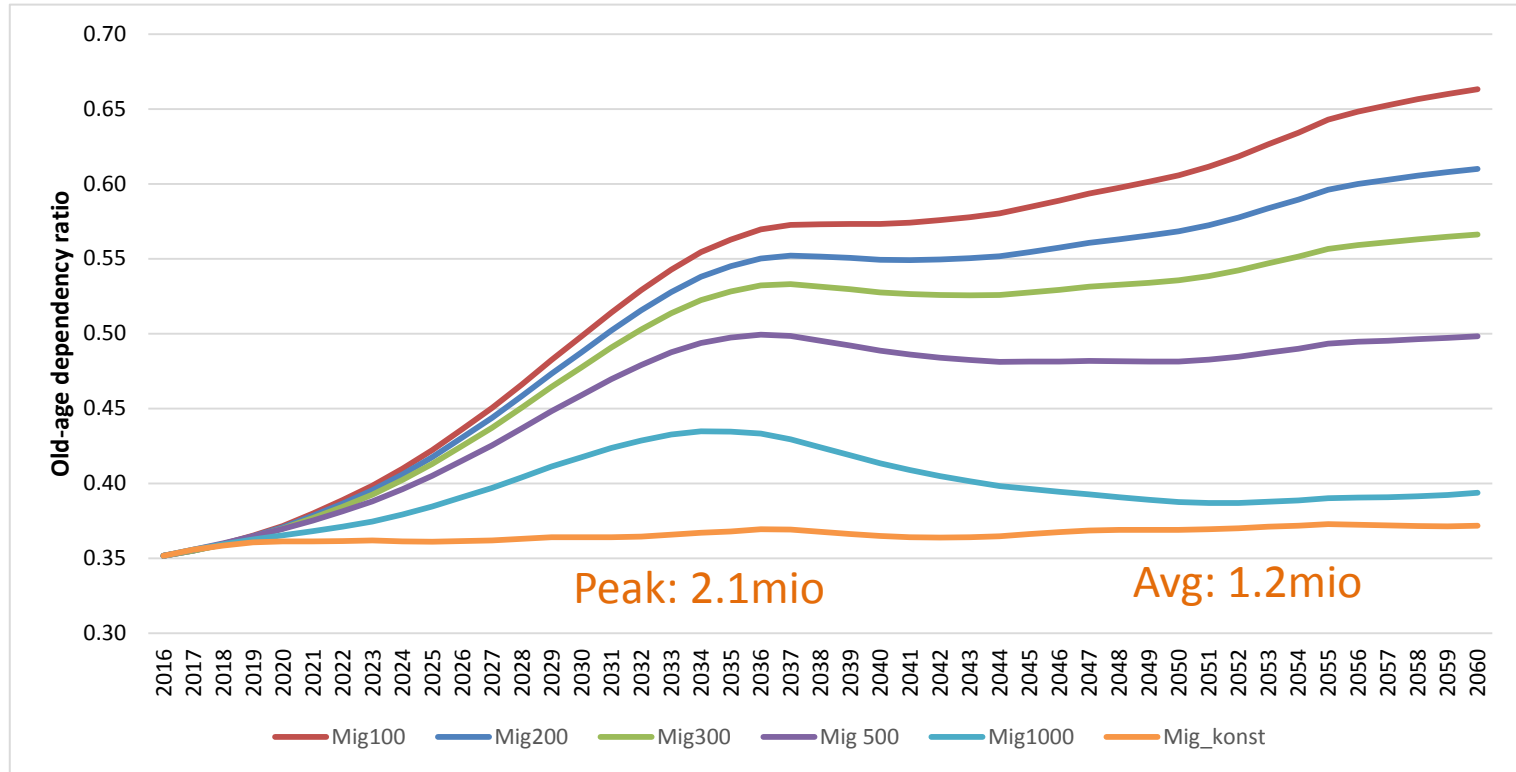




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Would migration help?

#(65+)/#(20-64)

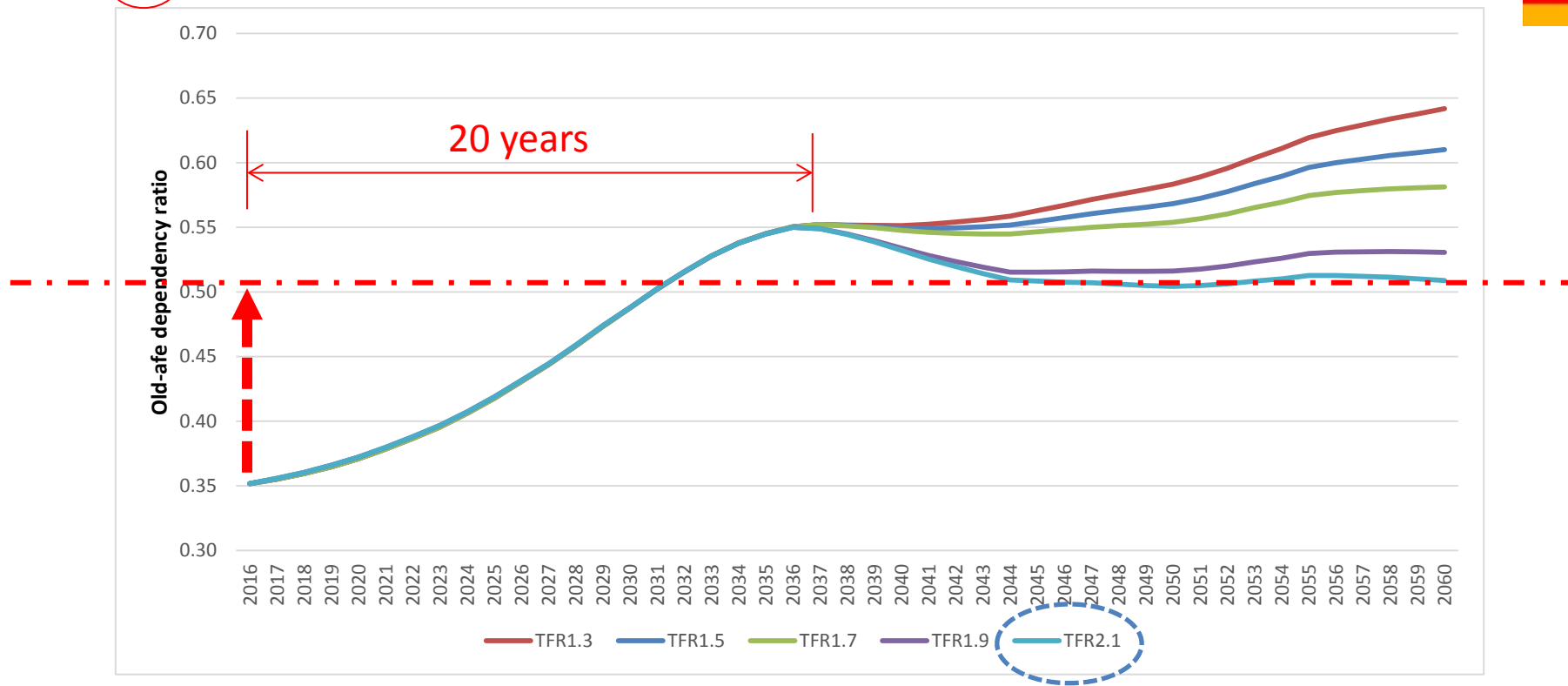




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Would a new baby boom help?

#(65+)/#(20-64)

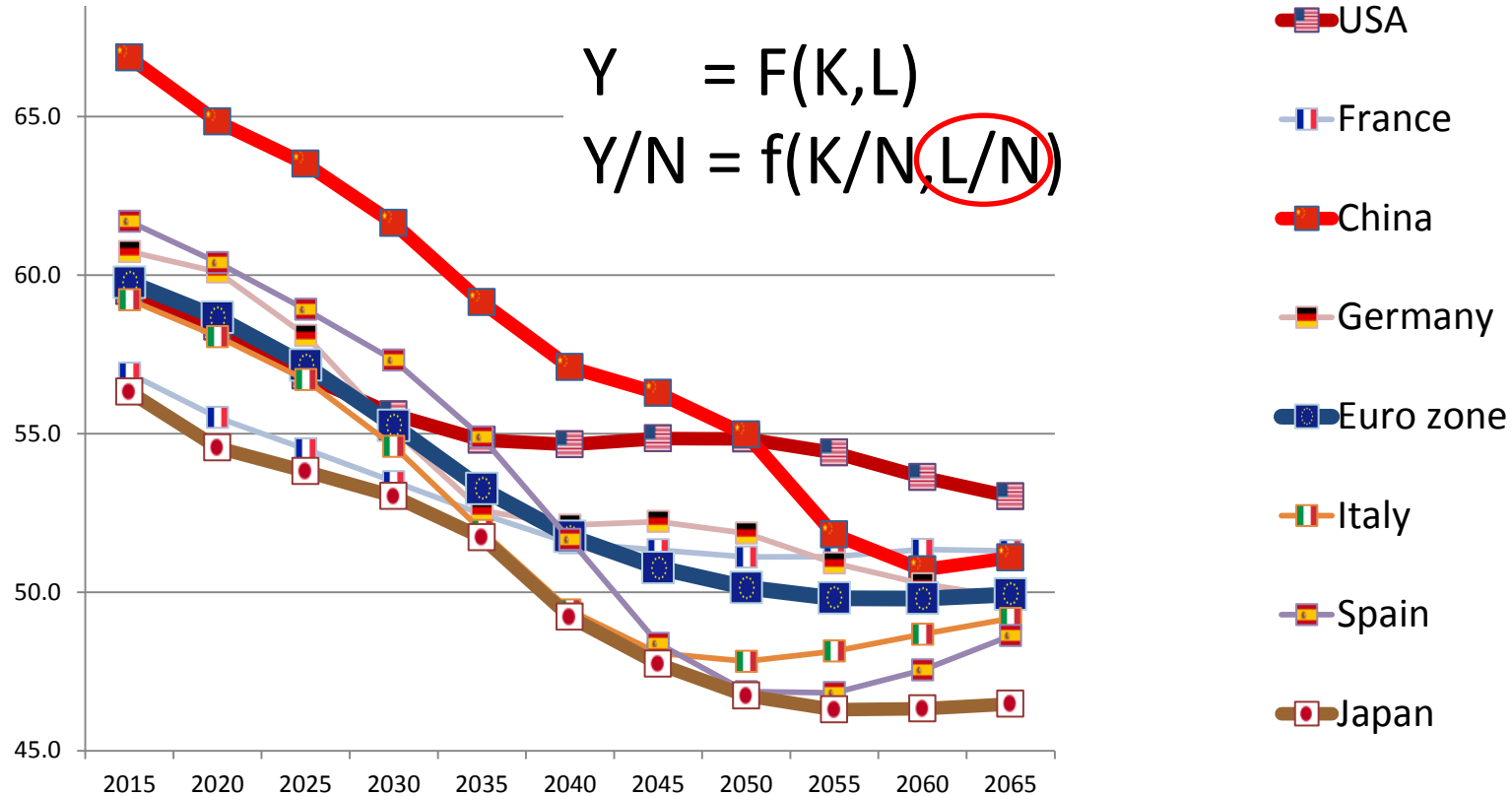




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Macroeconomic challenge

share(20-64)





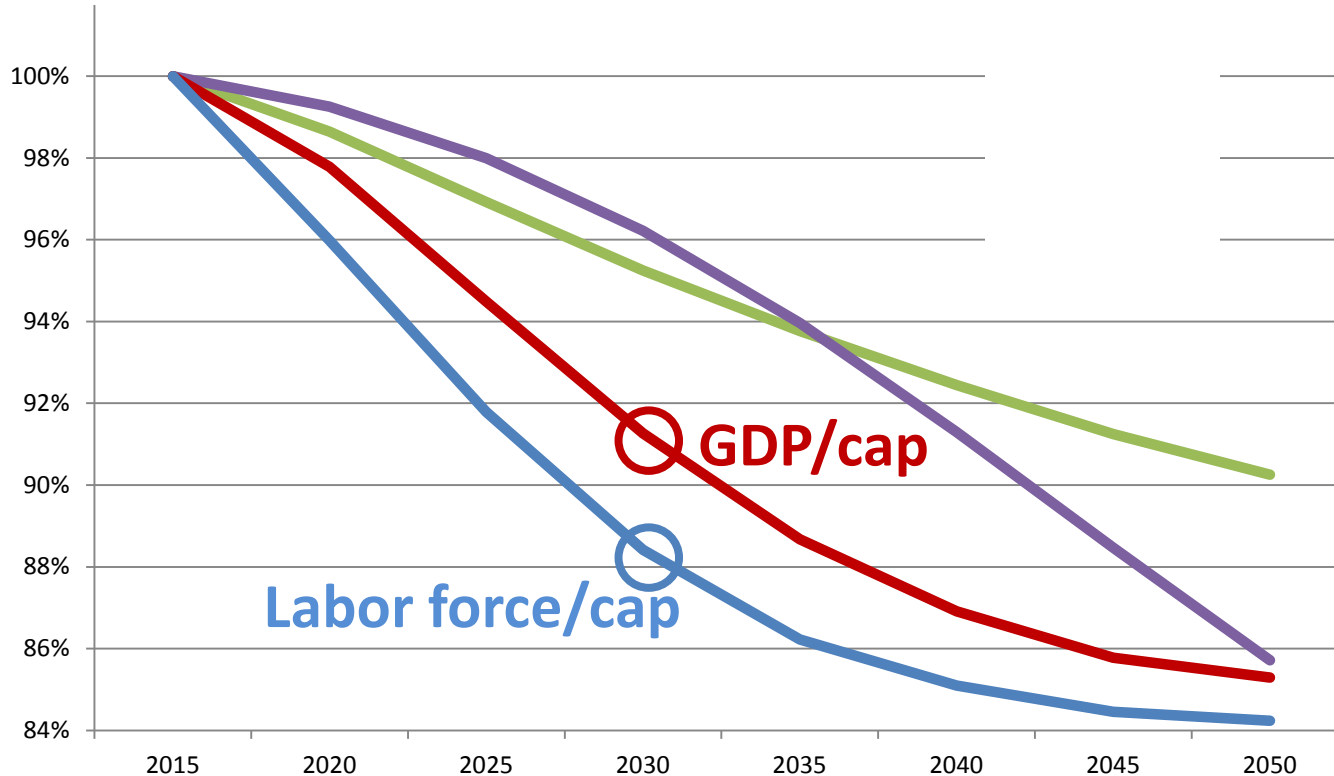
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Adaption 1: Capital intensity

OLG Model (2015=100%, net of productivity trend)



representing the
euro zone

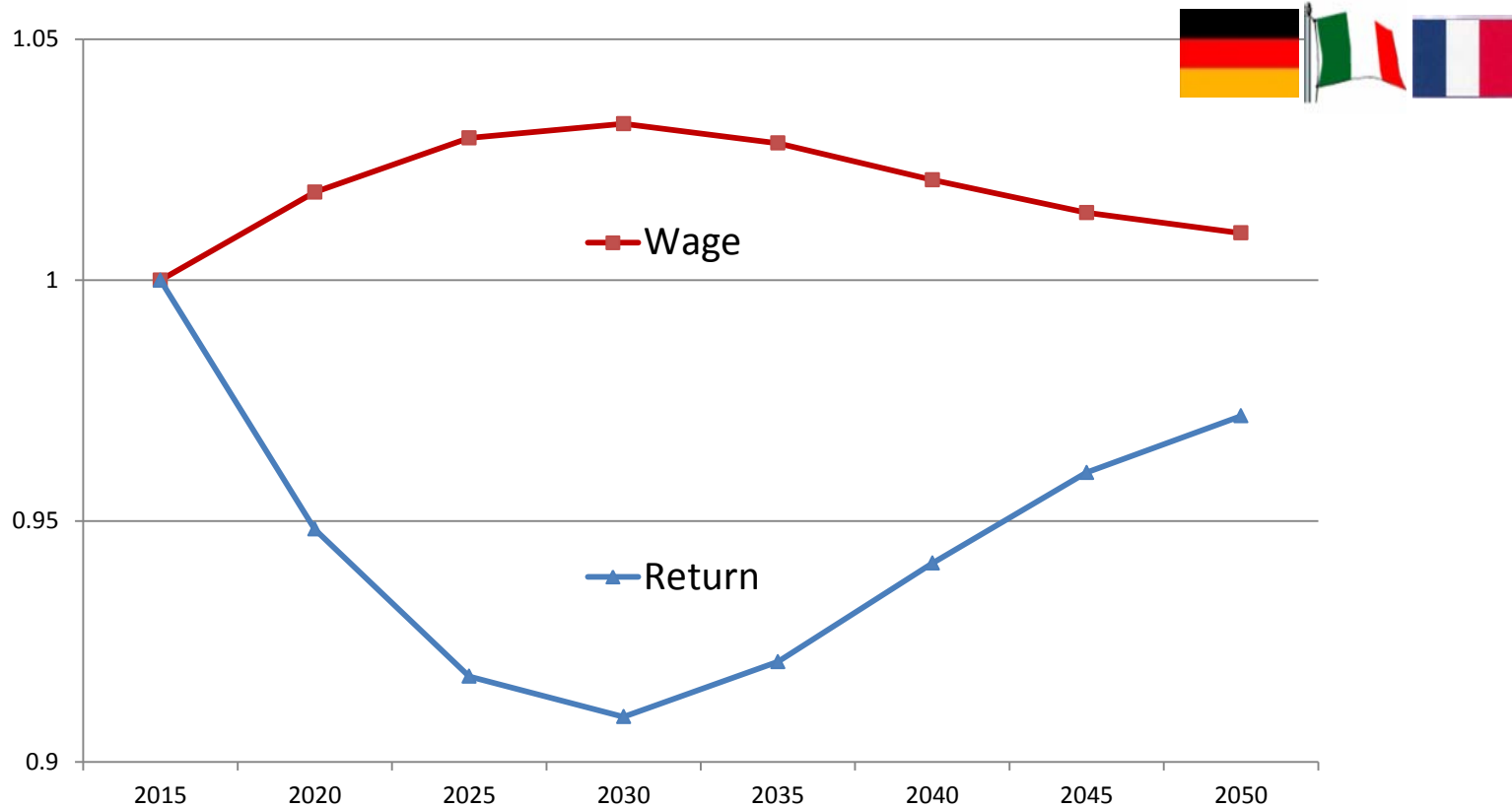


Börsch-Supan, Härtl
& Ludwig, AER, 2014



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Relative price of capital & labor





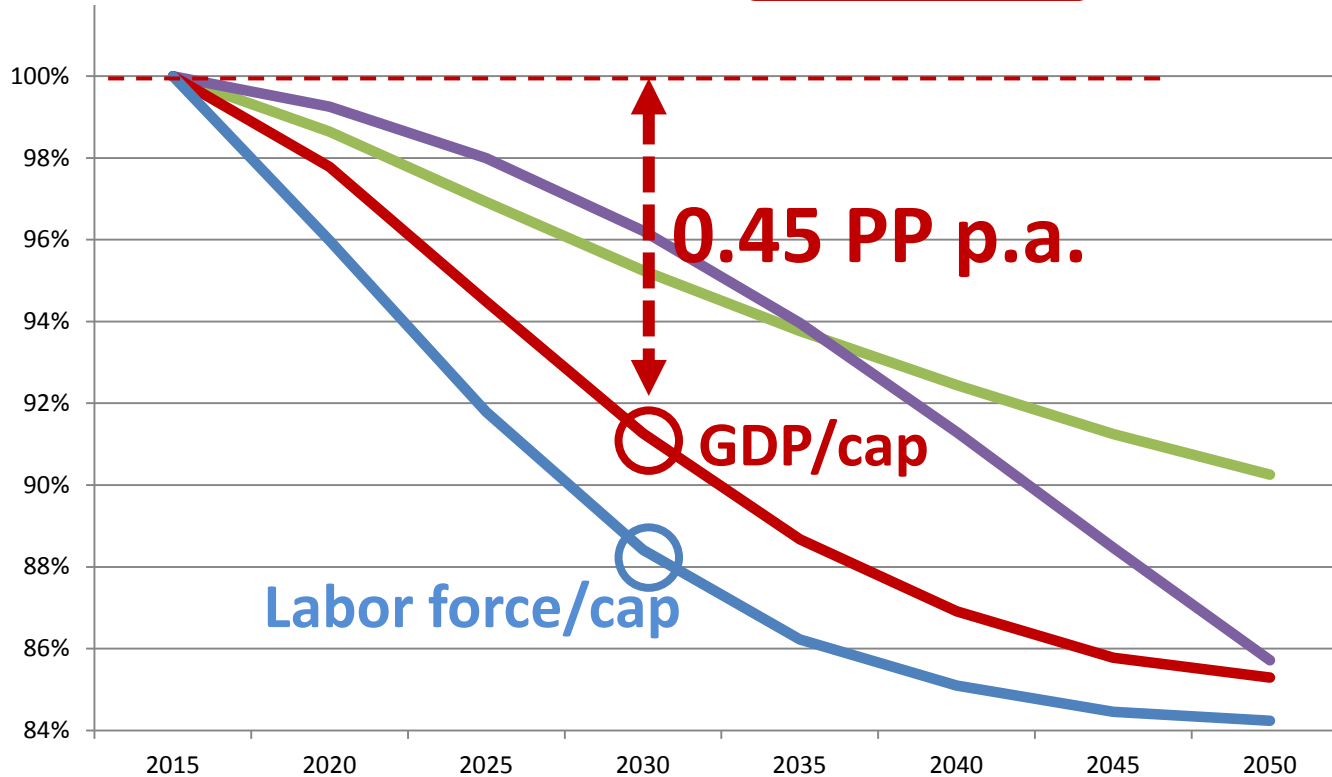
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Adaption 1: Capital intensity

OLG Model (2015=100%, net of productivity trend)



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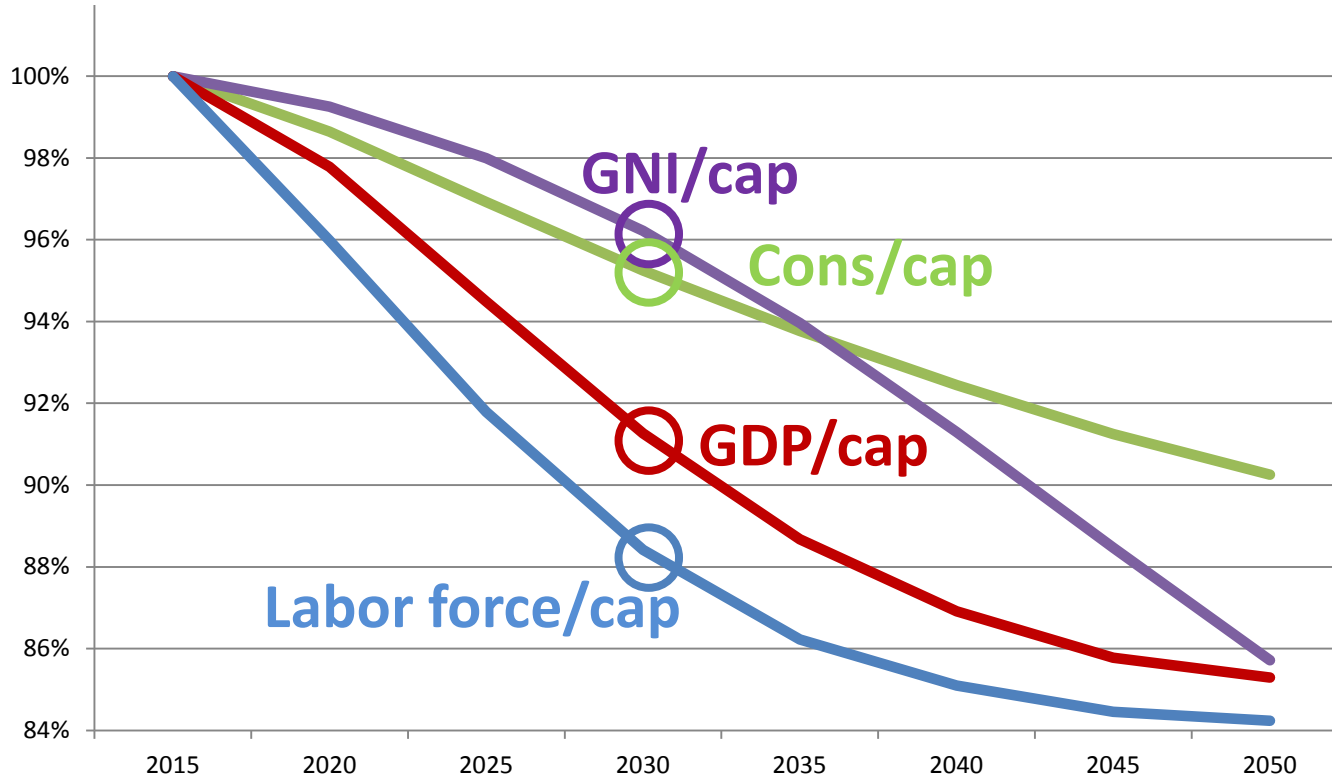
Börsch-Supan, Härtl
& Ludwig, AER, 2014



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Adaption 2: Foreign investment

OLG Model (2015=100%, net of productivity trend)



representing the
euro zone



VS.
representing
ROW

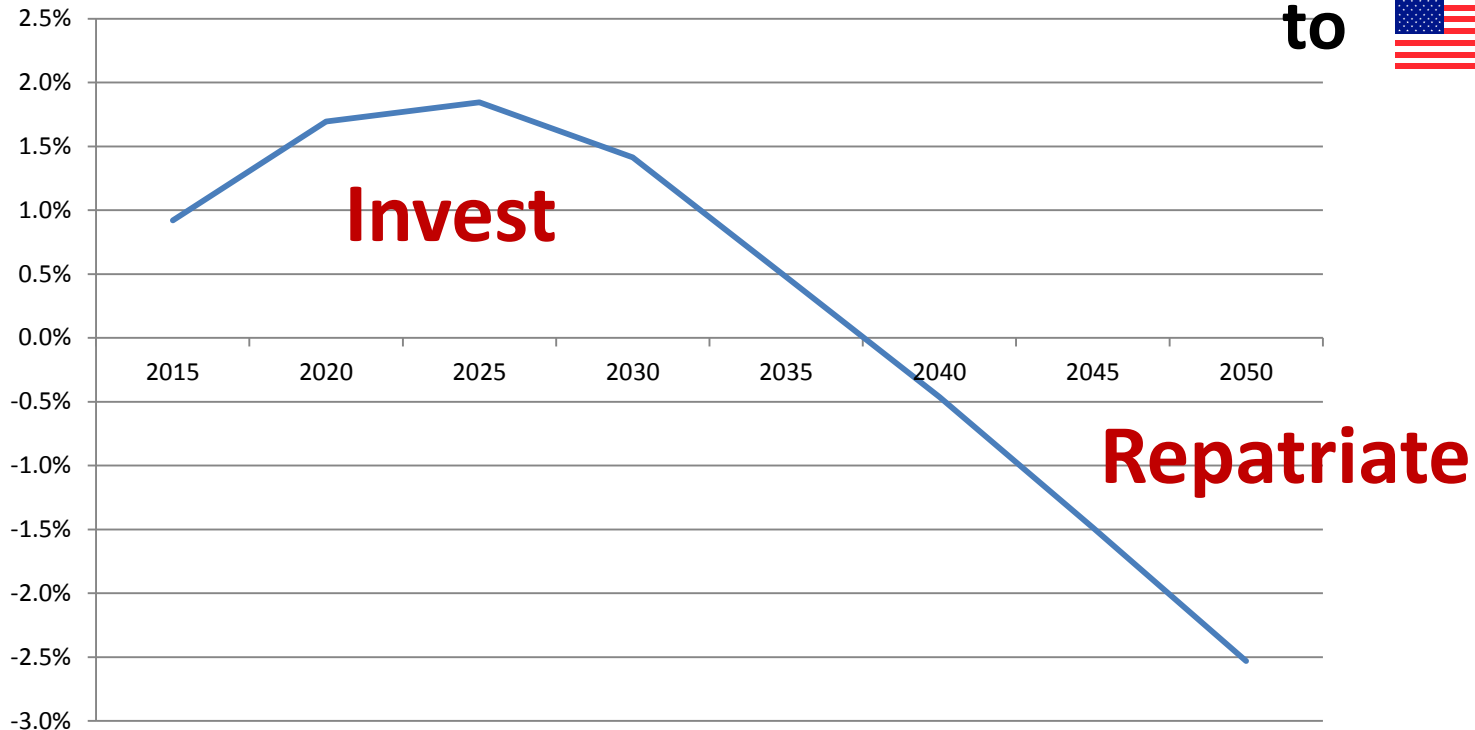
*Börsch-Supan, Härtl
& Ludwig, AER, 2014*

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Adaption 2: Foreign investment

International capital flows [%GDP]

from 
to 

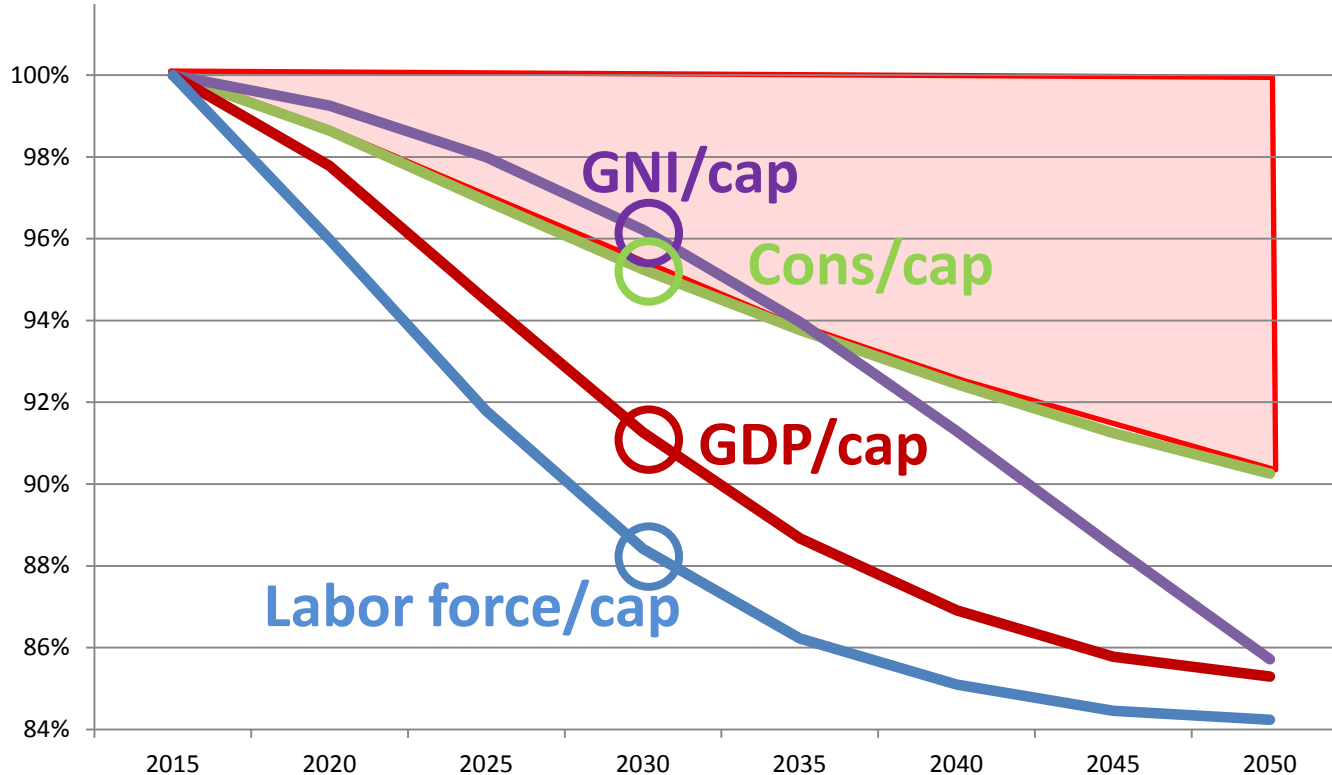




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Automatic vs. policy driven

OLG Model (2015=100%, net of productivity trend)



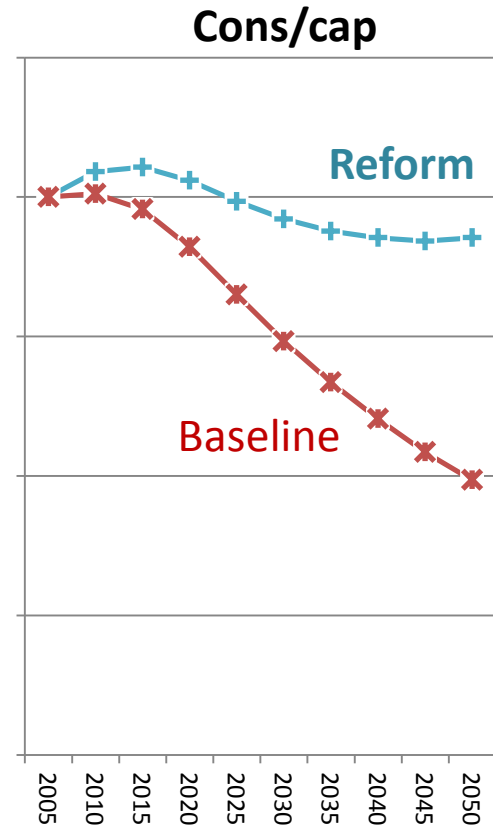
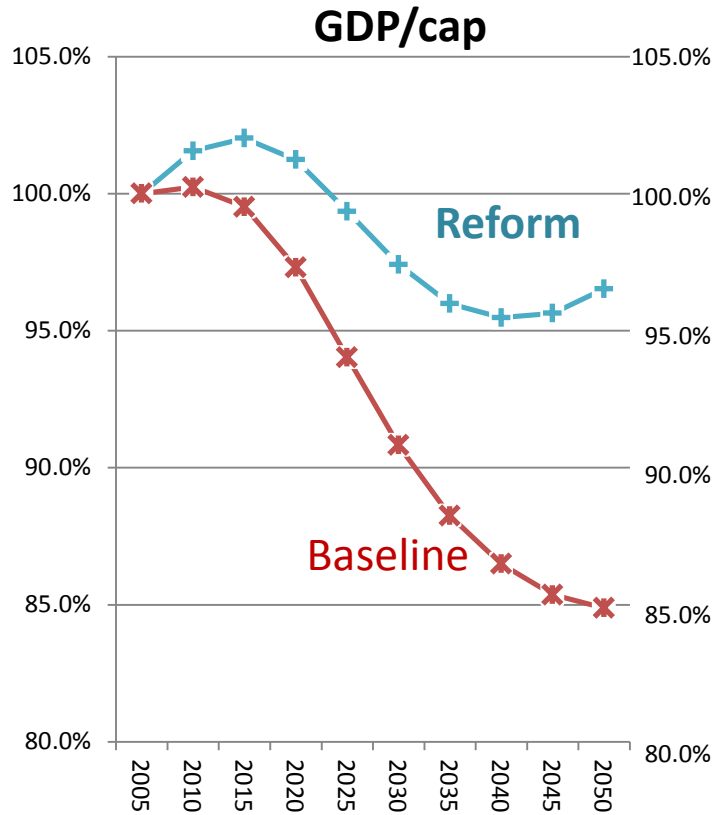
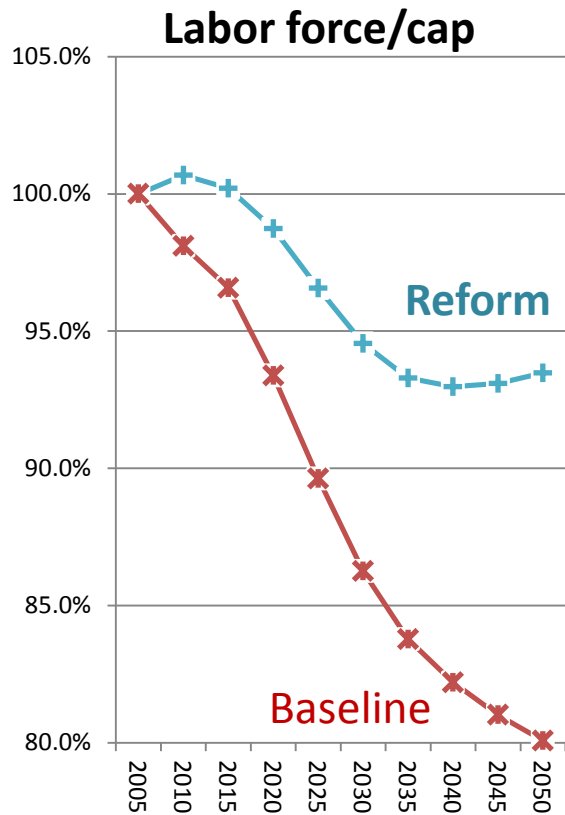
Reform to increase LFP:

1. RetireAge + 2
2. EntryAge - 2
3. FemLFP = 90% of maleLFP
4. Unemp=NAIRU



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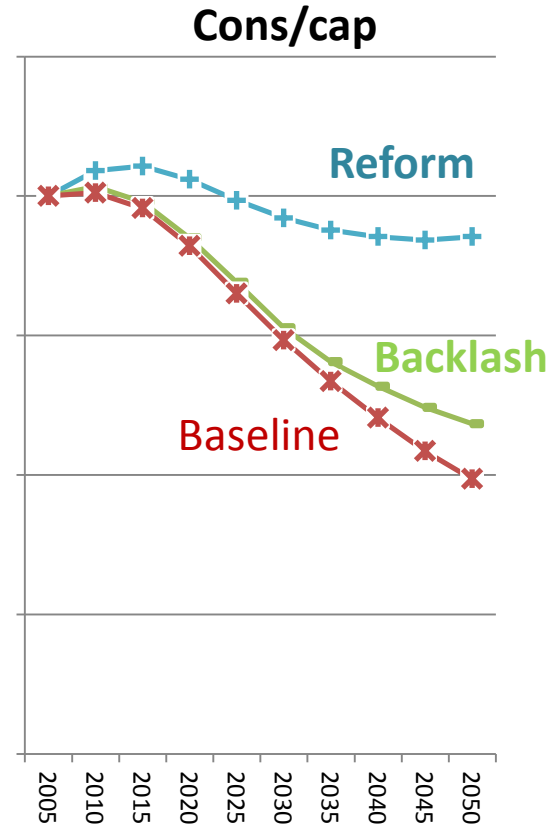
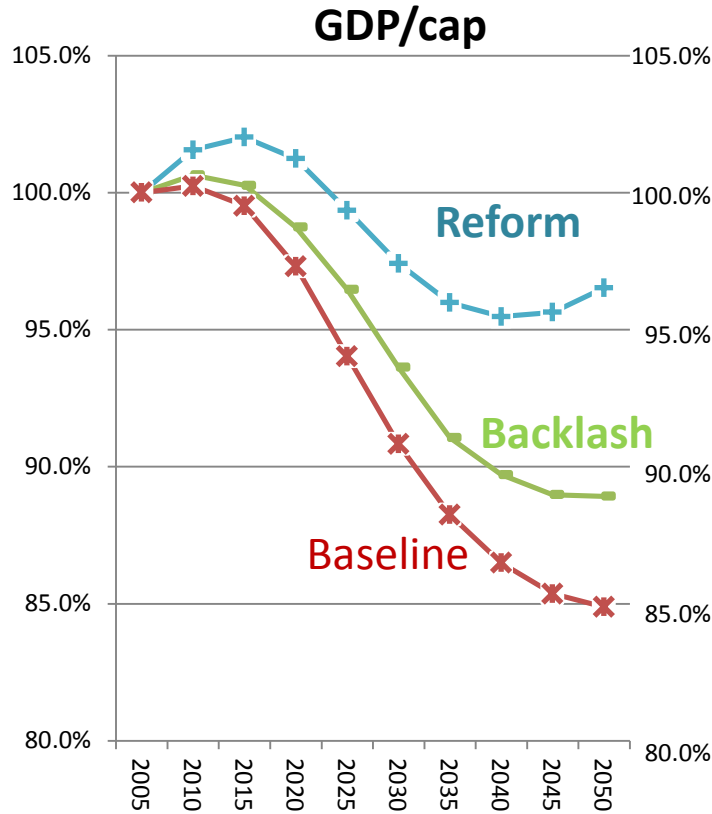
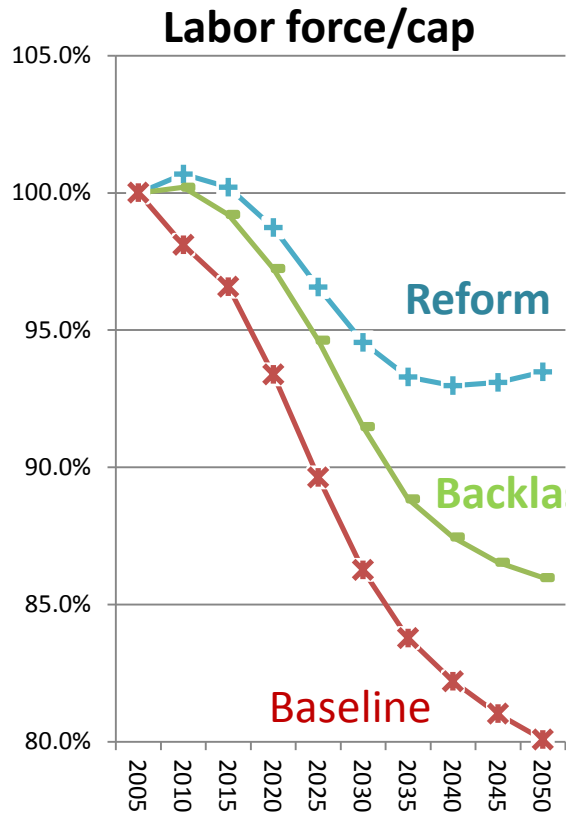
Exogenous labor supply





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Endogenous labor supply





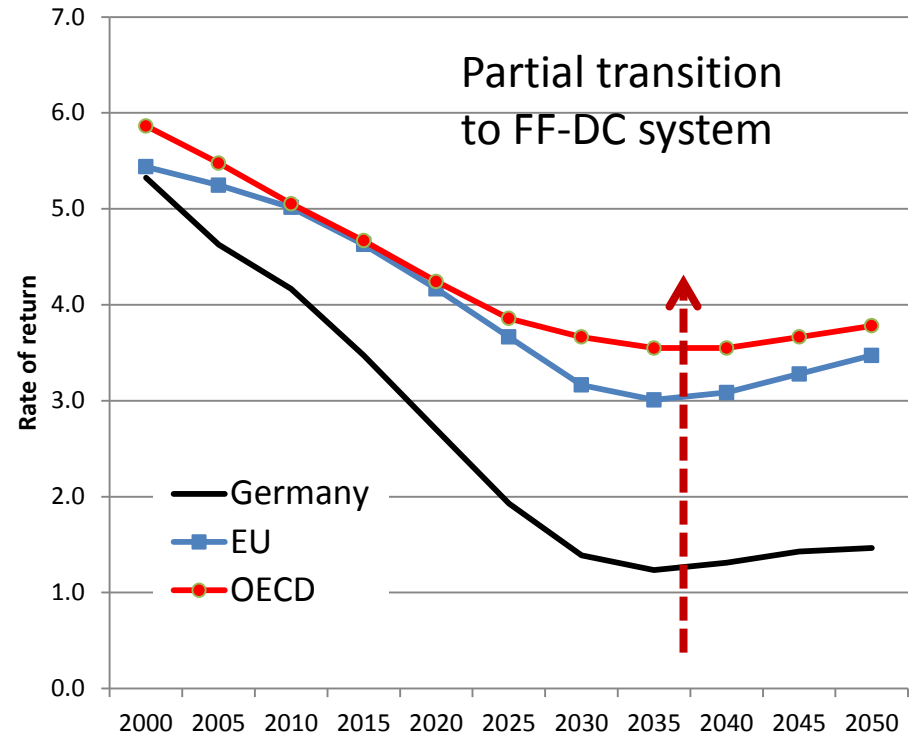
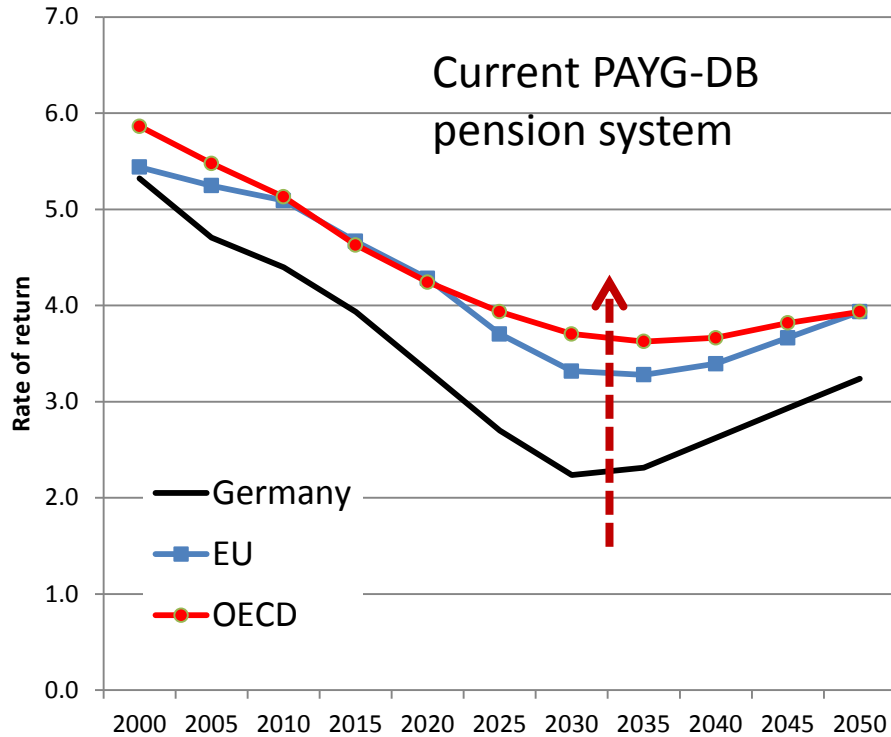
Interim résumé

1. Ageing takes about 1/3 of growth in euro zone – still positive!
2. Higher capital intensity lets GDP/cap decline less than labor/cap
3. Foreign investment increases GNI/cap and thus cons/cap
4. Happens automatically (well....)
5. Moderate structural reform needs to (and can!) fill the remaining gap
6. Unless backlash effects are strong



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Asset Meltdown

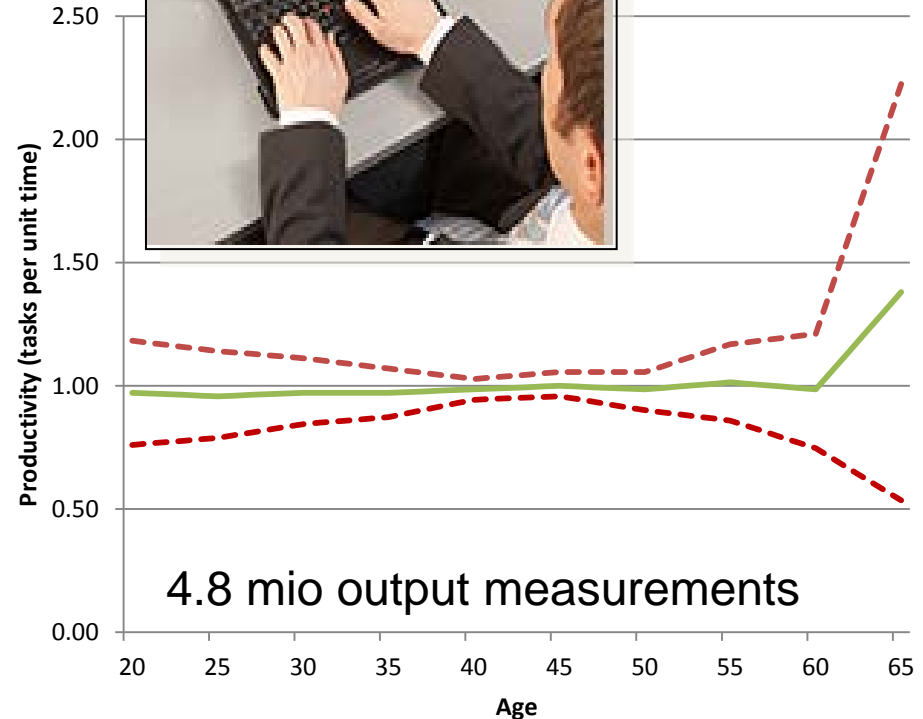
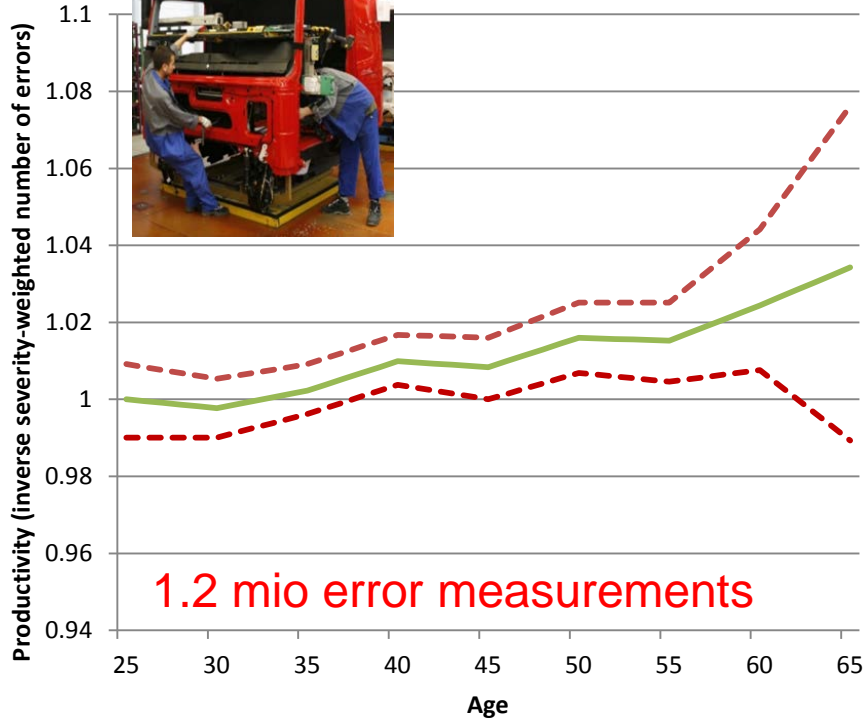


Mankiw-Weil (1989) housing market: **47%**



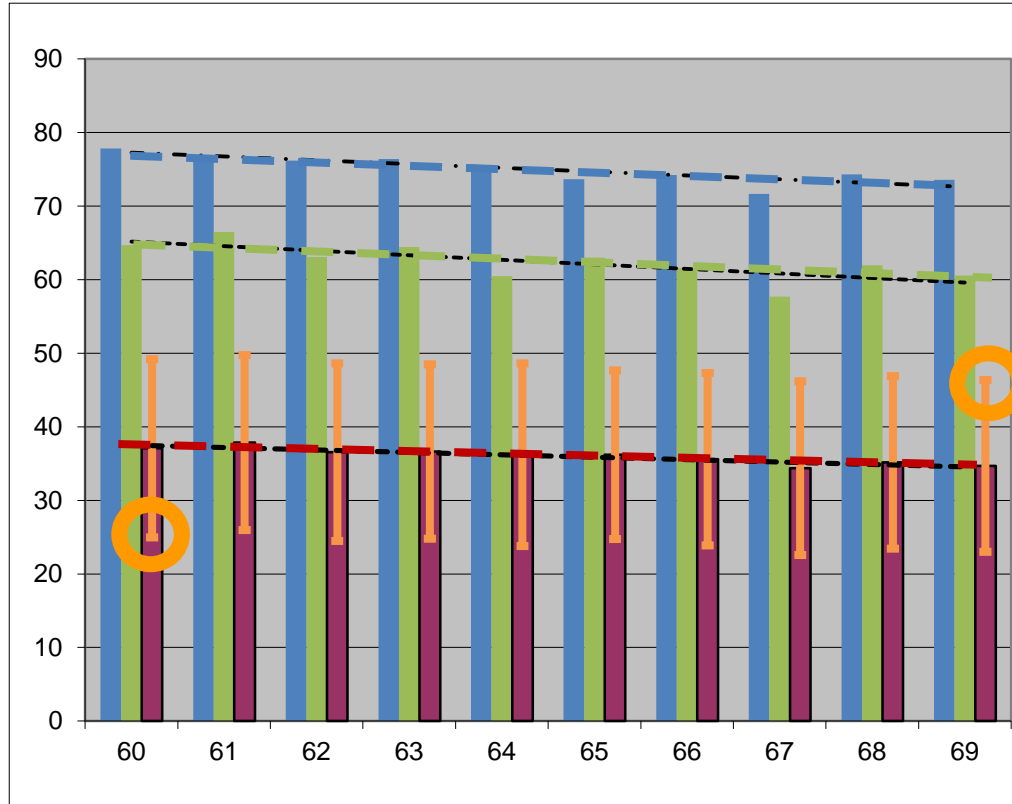
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Microfoundations: productivity





Microfoundations: health



Self-assessed health:

Percent excellent,
very good, good

Functional health:

Percent without any limitation

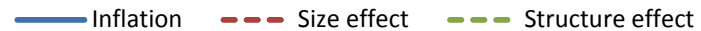
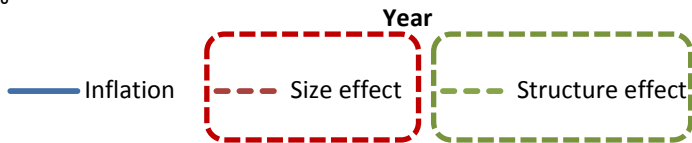
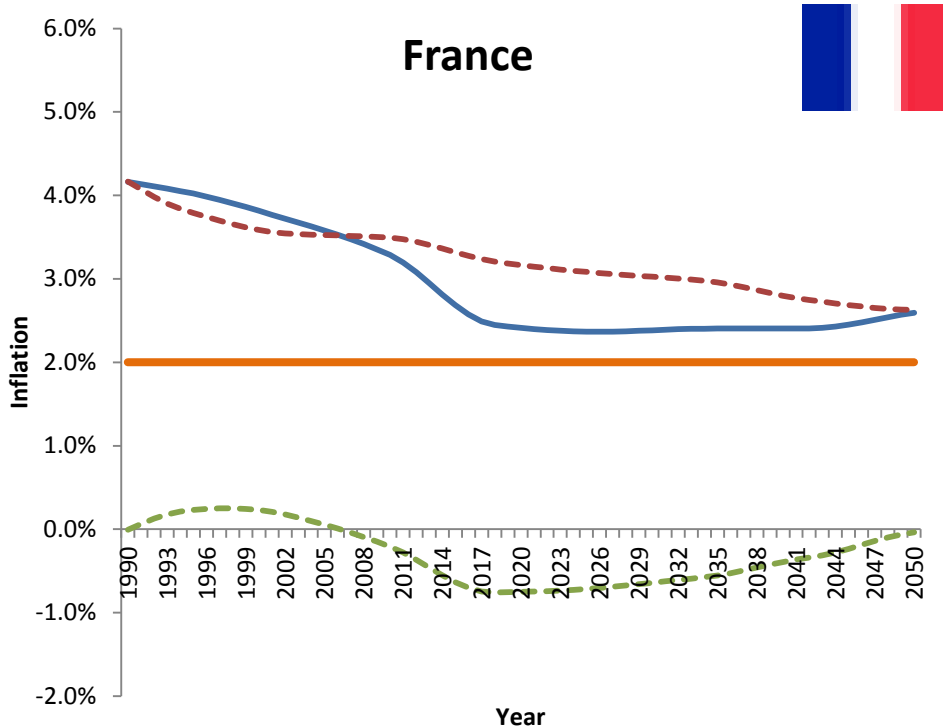
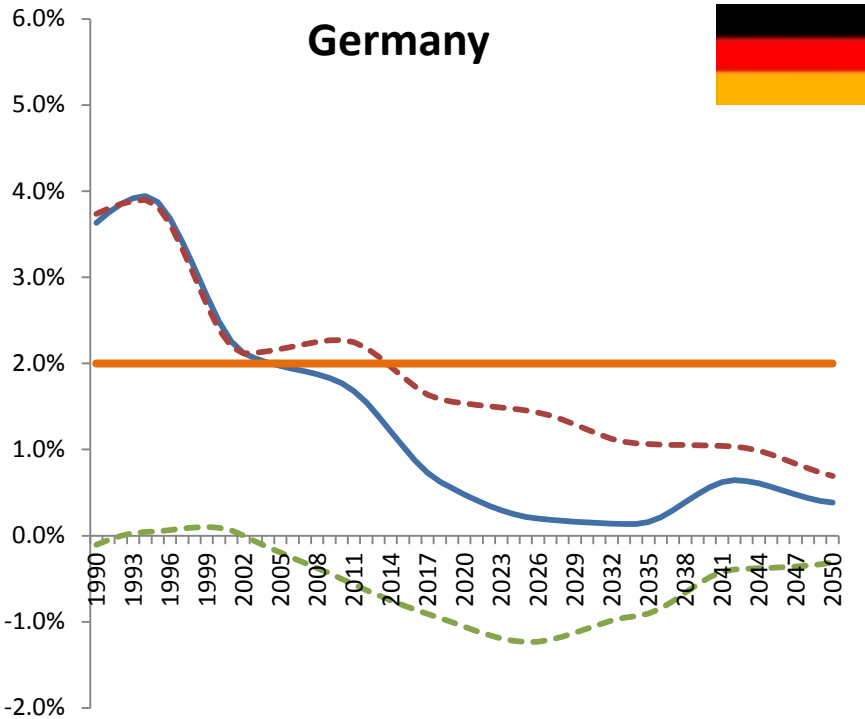
Physical health:

Grip strength [kg]
with 95% confidence interval



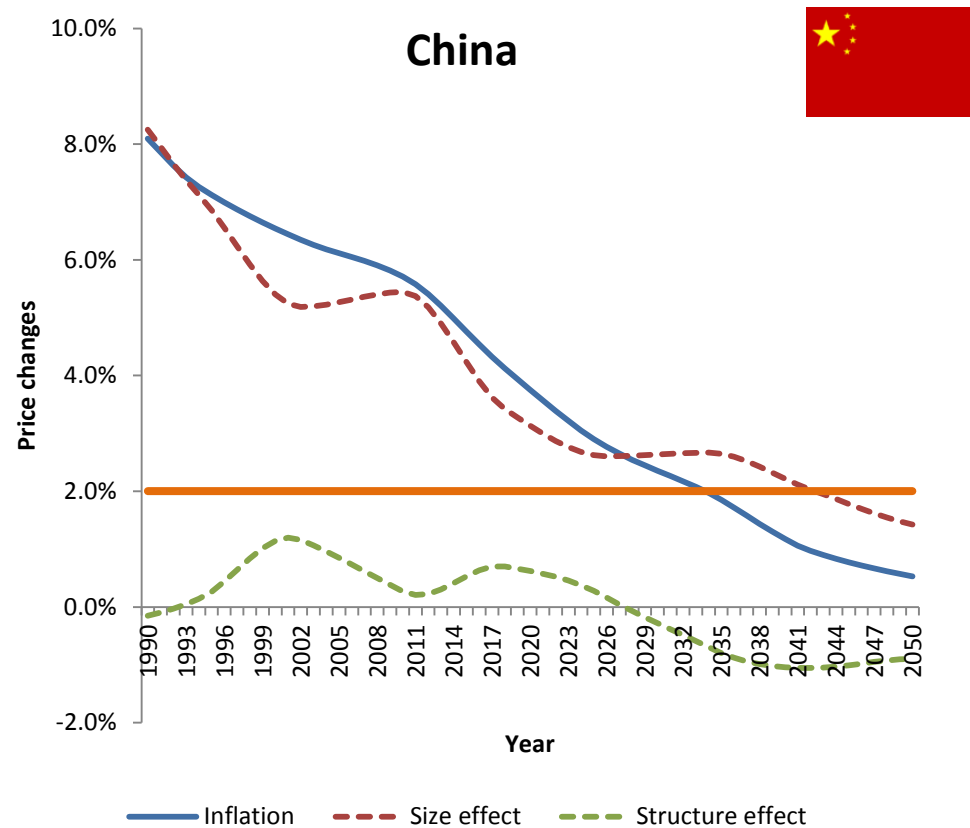
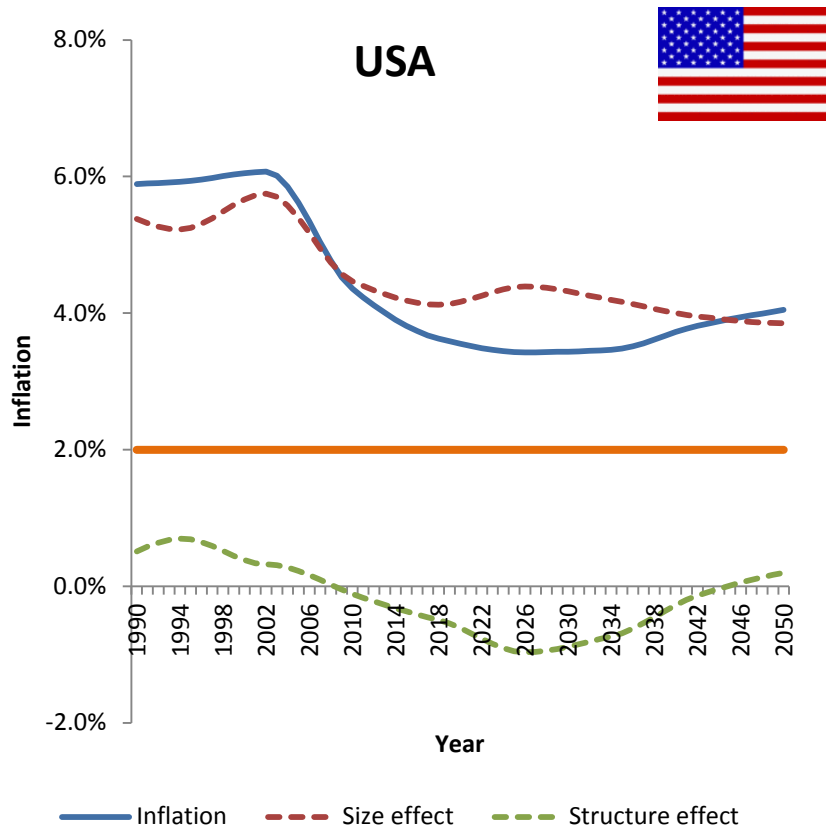
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Ageing and de/inflation





Ageing and de/inflation





Final résumé

- 1. While all countries age, timing, speed and extent are very different across countries**
- 2. Negative impact on growth is partially dampened by endogenous reactions (higher capital intensity, more foreign investment)**
- 3. Moderate structural reforms need to (and can!) fill the remaining gap**
- 4. Declining health and productivity do NOT prevent such reforms for the average worker**
- 5. Ageing-induced deflation effects strongly depend on demographic characteristics of a country**



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Microfoundations: saving

