Welfare gains from a capital market union with capital-funded pensions

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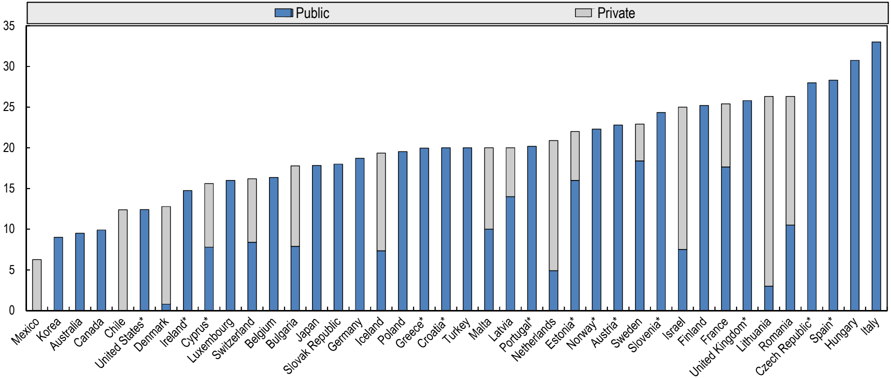
Pension systems across the OECD: large variation

Mandatory pension contribution rates for an average worker in 2016

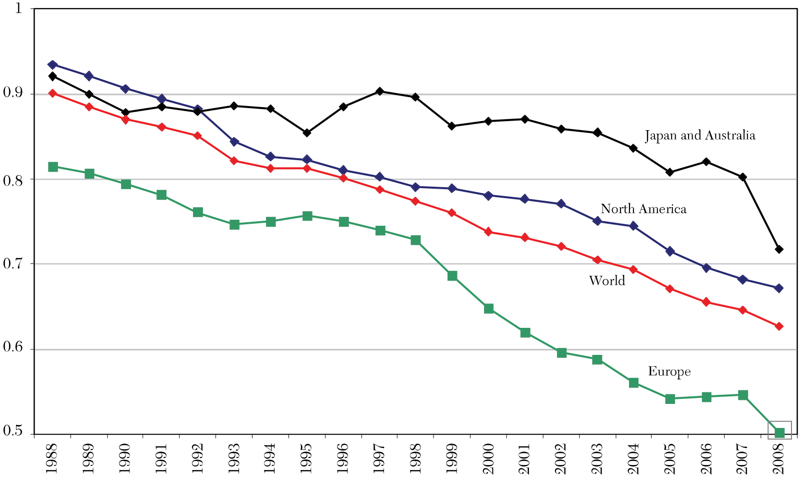


Source: OECD (Pensions Outlook, 2018)

Pension systems' respective merits: open debate

PAYG	Key	Pension contributions of workers are consumed immediately by retirees
	Pro´s	Allows redistribution to the desired degree
	Con´s	Financing challenge under population aging
Capital-Funded	Key	Pension contributions are saved into a (private) fund for own future consumption after retirement
	Pro´s	Contributions earn a return Robust to population aging Positive labor supply incentives
	Con´s	Exposure to returns risk Risk of old-age poverty (esp. low-income persons)

Capital markets integration: incomplete, growing



Home Bias on Equity Markets (Source: Coeurdacier and Rey, 2012)

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Question

- General question: does capital market integration play a role in the design of pension systems?
- Specific question considered here: does it make the PAYG or the capital-funded pension system more attractive?
- Implementing a full Capital Market Union (CMU) could help to resolve future Eurozone crises, if any (European Commission, 2017)
- The CMU could thus play a role in the design of pension systems

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Answering the question: the approach

- We use simulations with a large-scale multi-country macroeconomic model, for countries such as Austria
- We start from a pure PAYG pension system and introduce a capital-funded pension pillar

Total contributions into...	Start	After reform
...PAYG pillar	45.0 %	32.5 %
...Capital-funded pillar	0.0%	3.75%

- This leads to the same average pension payments per retiree (ceteris paribus)
- We assume that the other countries have a pure PAYG system and remain with it
- We then compare long-run outcomes (with an aging population) when capital markets are integrated (CMU) and when they are separated (Closed Economy)

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Macroeconomic simulation results

Impact after 100 years	Closed economy	CMU
GDP (%)	3.3	3.1
Interest rate (%)	-16.8	- 15.9
Foreign assets (p.p of GDP)	0.0	12.4
Capital stock (%)	10.4	9.9
Labor supply (%, per worker)	1.6	1.5
CF pillar (% pension expenditures)	14.4	14.4
GDP/capita (%)	-8.3	-8.4
Consumption/capita (%)	-12.5	-12.4

Note: GDP and consumption figures are deviations from the productivity growth trend

Comments on macroeconomic results

- GDP increases, because part of pension contributions are accumulated into a fund, available for investments
- GDP/capita however declines, as we assumed no change in retirement ages and life expectancy increases
- GDP increases less when capital markets are integrated (CMU)
  - Reason: the CF fund increases capital supply at home,
  - ...which drops the domestic interest rate (returns on CF fund);
  - when capital markets are integrated, CF funds are partially invested abroad,
  - ...as the supply of capital there is no not increasing,
  - ...and thus the foreign interest rate does not drop as much.
  - Hence the domestic capital stock (and GDP) increases less in the CMU case
- However, consumption increases more with the CMU, since the returns on the CF pillar are larger

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Welfare results

Welfare measure = how much lifetime consumption do I need to give to (or take from) households born in a world with separated capital markets (closed economy) so that they are as happy as households born in a world with integrated capital markets (CMU)

Education level	Welfare impact
Low	+ 0.49 %
Medium	+ 0.38 %
High	+ 0.28 %

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- Outcome: households would benefit to live in a world with CMU, if a capital-funded pillar is introduced ... especially when low-educated
- Reasons:
  - 1. There are returns to savings into the CF, and these are higher with the CMU
  - 2. Because of their low wages, low-educated households need to save more to finance consumption as life expectancy increases, so the returns differential brings more benefits to them

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Summing up

- There are *pro´s* and *con´s* in PAYG pension systems and *pro´s* and *con´s* in Capital-funded systems
- We found that households living in separated capital markets would require 0.3 to 0.5 % more consumption over their entire life to be as happy as households living in a full CMU, if a moderate capital-funded pillar ($<$15%) was introduced into a pure PAYG system
- In other words, there are more *pro´s* for capital-funded pension systems when capital markets integrate (e.g through the CMU)
- Note: for some countries, capital-funded pensions might still contain too many *con´s*
- Limitation: the conclusion holds as long as some other countries stick to PAYG systems

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