

Timing of pension reforms

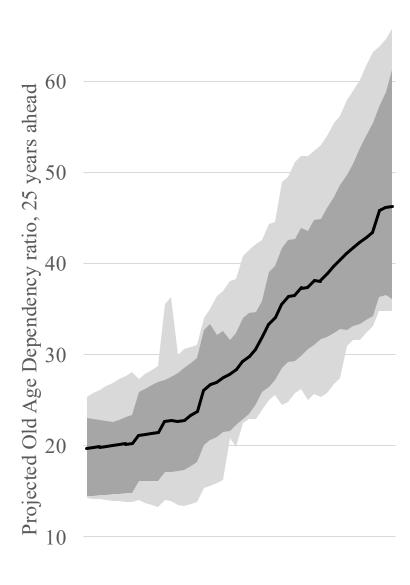
Old-age dependency ratios in OECD countries are now 60% higher than in 1970 and are expected to rise another 60% until 2040

- This renders most pay-as-you-go financed pension systems unsustainable
- Economic theory (and common sense) suggest a tight link between ageing and pension reform

Key questions

- Empirical: when do we reform our pension system?
- Theoretical: what can **explain** the timing of those reforms?

Dataset with all old-age pension reforms legislated between 1970 and 2023 in 23 OECD countries





Main contributions

Narrative identification of reforms

• Romer & Romer (2010), Duval, R., D. Furceri, B. Hu, J. Tovar Jalles, and H. Nguyen (2018a)

Timing of labour market reforms & product market reforms

• Duval, R., D. Furceri, and J. Miethe (2018b), Ciminelli, G., R. Duval, and D. Ferceri (2022)

Timing of pension reforms

 Bi & Zubairy (2023), Beetsma, et al. (2020), and Romp & Beetsma (2022), Romp (2025)



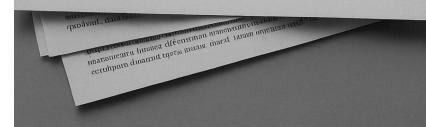
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BCIENTIFIC ARTICLE

PENSION REFORM

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Underlying databases

#Countries 23 23 15/23 (EU Members) 10/23 23 #Records 11000 1100 432 516 810 Notes Focus on legislation, includes name of law, text of new law, date of legislation and implementation. Very short – often Very short – often Very short – often Also includes other Very short – often Very short – oft		NATLEX	ISSA	LabRef	Bi & Zubairy	OECD
#Records 11000 1100 432 516 810 Notes Focus on legislation, includes name of law, text of new law, date of legislation and implementation. Very short – often Also includes other Also in	Time period	1970-2017	1994-2014	2000-2013	1960-2019	2005-2023
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Whenever necessary to properly date and categorise reforms, we used other texts, official legislation communication and online resources

Dataset - examples

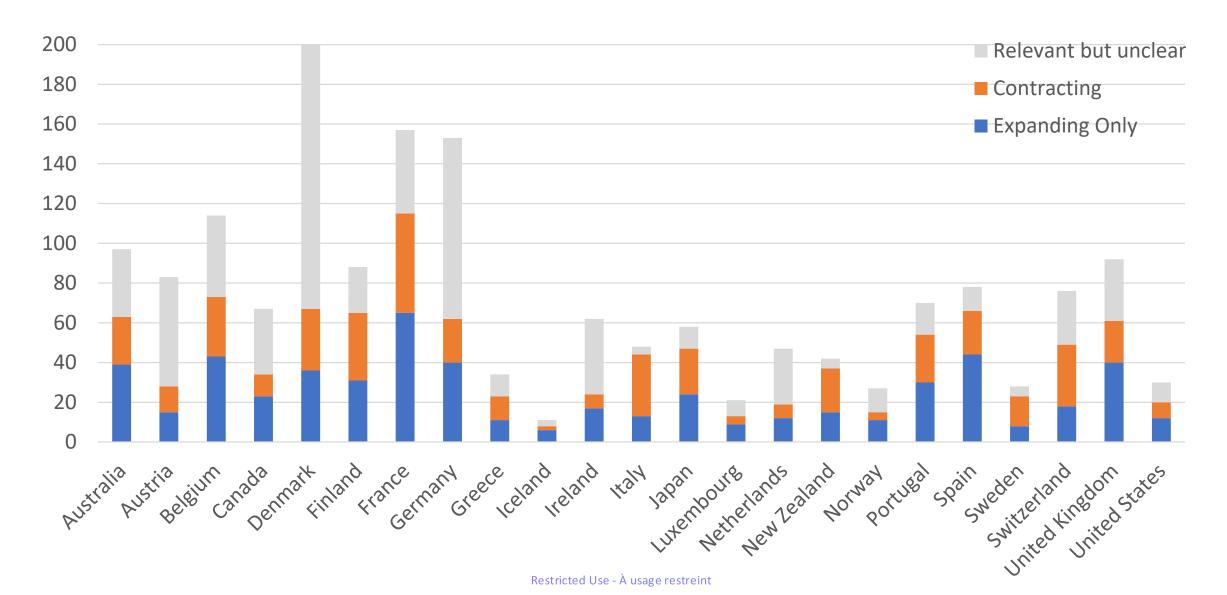
ILO NATLEX (ISN: BEL-1970-R-17660) writes about Belgium

- "Royal Decree adapting certain legal provisions with the provisions of the Act of 21 December 1970 establishing a National Social Insurance Institute for freelancers."
- Categorised as Belgium (1970), Expanding, Small

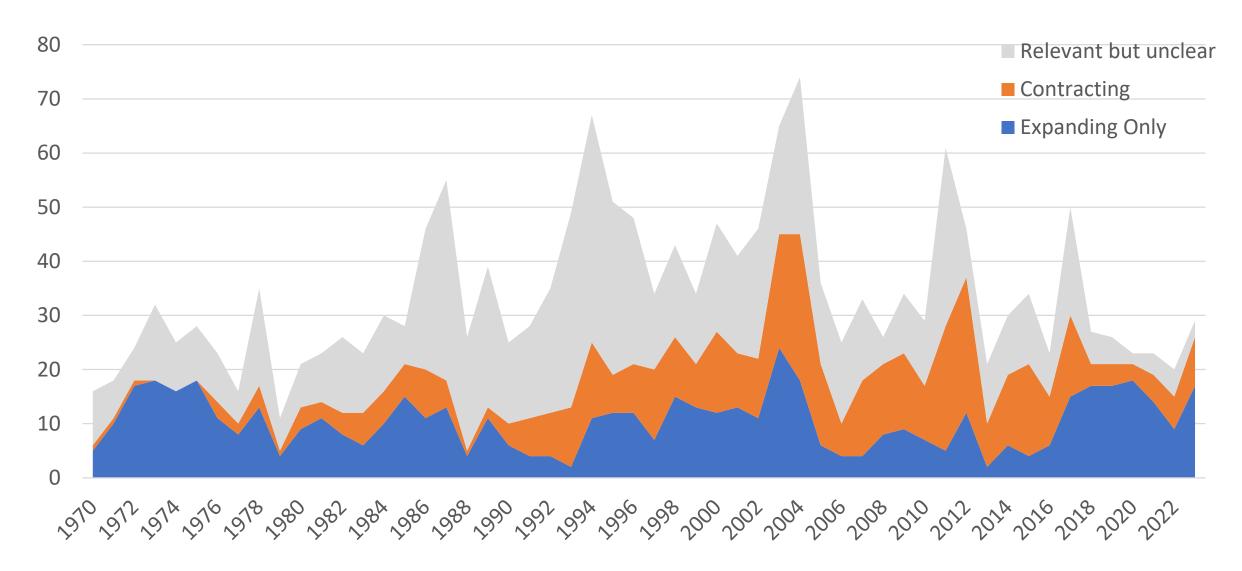
OECD (2012) writes about Greece

- "Pensions frozen 2011-13; full-career earnings measure from best 5 of last 10 yrs; accrual rate 2.0% ->1.2%; replace seasonal bonuses with annual, flat-rate payment; tax of 5-10% on largest 10% of pensions. (July 2010)."
- Categorised as Greece (2010), Contracting, Large

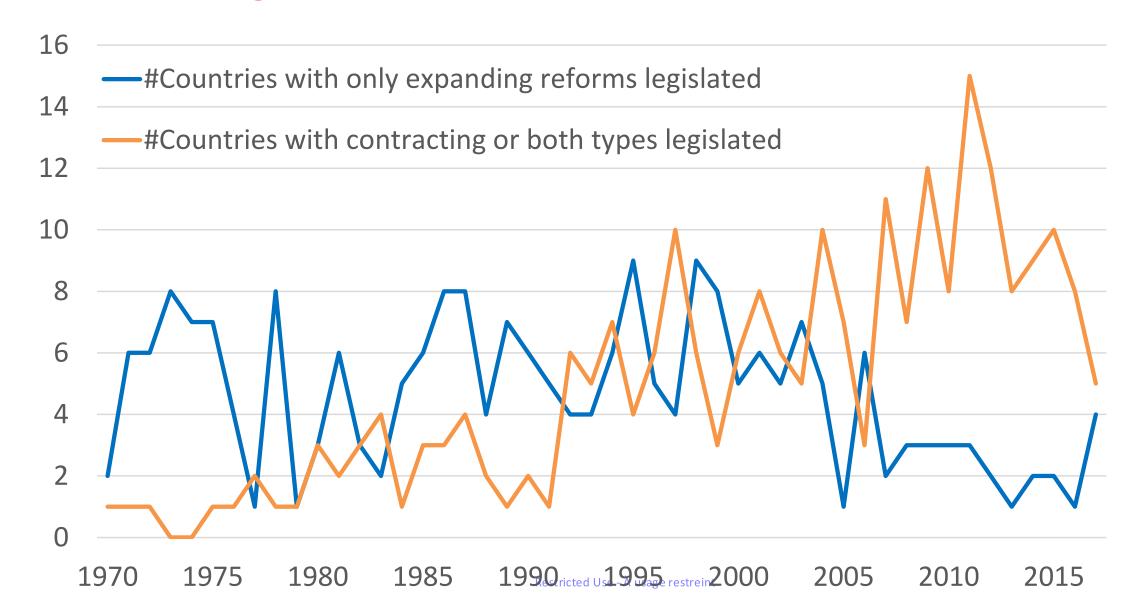
Reforms per country



Reforms, 1970-2023



Reform regimes, 1970-2017



Timing of pension reforms

Multinomial logit estimations (average marginal effects, with country fixed effects)

Expanding only

			5 5 2 1 4 5 5 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		
	Marginal effect	Standard error	Marginal effect	Standard error	
OAD25 _t	-0.81***	(0.22)	0.79***	(0.18)	
OADDEV25 _{it}	0.43	(0.43)	-0.011	(0.36)	
$\Delta OAD25_{it}$	-0.14	(1.05)	1.16	(0.87)	
GROWTH _{it}	1.46***	(0.53)	-1.50***	(0.51)	
DEF _{it}	-0.33	(0.46)	0.93**	(0.41)	
UNEMPLit	-0.28	(0.52)	1.45***	(0.49)	
MAASTRICHT _{it}	0.13***	(0.05)	0.13***	(0.05)	

Contracting

#Observations = 1081, $McFadden R^2 = 0.14$, *p < 5.0%, *** p < 2.5%, *** p < 1.0%



Empirical findings



OECD-wide ageing helps to explain nature of reform

Higher old-age-dependency ratio reduces "Expanding only" and increases "Contracting" reforms



Business cycle swings coincide with timing of reforms

Expanding reforms are more likely during economic upswings

Contracting reforms occur during recessions



Robustness checks

Country deviations from OECD-wide ageing indicators and changes in country projections play no significant role

Pressure indicators are not significant



Possible explanation

Crisis induced reforms



Crisis-induced reforms – the "crisis hypothesis" – may catalyze significant policy changes and structural reforms that might otherwise be blocked by established interests or public inertia





- 1) Correlation of expanding reforms with booms in the business cycle
- 2) Relation between OECD-wide ageing and nature of reform
- 3) Lack of correlation with demographic shocks



Possible explanation

Adjustment costs



Political adjustment costs may explain infrequent occurrence of reforms

- Adjusting pension system is political costly, both up and down
- Demographics is a low frequency process, but predictable
- Business cycle is unpredictable and moves at higher frequency



But this does not connected reforms

Connected reforms such as the Dutch retirement age (2012, 2015, 2019, 2020), Sweden's NDC indexation, and Italy's reforms should not happen



Implications

International institutions advise to reform pension arrangements to enhance financial sustainability

Effectiveness of these attempts may be highly dependent on the underlying cyclical state of the countries' economies

Reforms may have procyclical effects

Automatic links between demographic projections and adjustments of pension arrangements (e.g. retirement age) break this procyclical effect.