



Joint Colloquium of the IACA, PBSS and IAAHS Sections of the International Actuarial Association

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Pension Reform and Solutions to Challenges of providing Old-Age Economic Security

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PENSION REFORM

What are the imperatives?

- > to recognise the impact of increasing longevity
- > to ensure sustainability of structure and financing
- > to ensure good coverage and adequate retirement income
- > to improve retirement incentive structures
- > to reduce intergenerational dependency
- > to improve incentives for saving

PENSION REFORM

Problems facing social security schemes

- > demographic ageing
- > maturing of defined benefit schemes
- > effective retirement age too low
- > poor overall levels of coverage
- > inadequate or volatile outcomes from DC schemes
- > inadequate protection against longevity in DC schemes
- > perverse incentives affecting behaviour, eg retirement

PENSION REFORM

Needed reforms of social security

- > ensure long term sustainability
- > raise effective retirement age
- > reduce incentives to retire early and encourage deferral
- > increase incentives to work and to contribute
- > improve efficiency and reduce transaction costs
- > strengthen protection against individual longevity
- > find ways to extend coverage

PENSION REFORM

Possible structural reforms of DB social security

- > introduce funded individual accounts
- > move to notional defined contributions
- > introduce or increase flat-rate element
- > ...or introduce non-contributory demogrant (basic pension)
- > link pension to residence instead of contributions
- > make greater use of means-testing...
- > ...or reduce dependence on means-testing
- > partially fund social security
- > increase role of funded private pensions

PENSION REFORM

Possible structural reforms of DC social security

- > introduce underpinning guaranteed level of pension
- > introduce non-contributory demogrant
- > improve investment returns and risk management
- > reduce transaction costs
- > increase competition and individual choice
- > increase efficiency and transparency
- > improve awareness of need for additional savings
- > improve efficiency of pay-out phase with more annuitisation

PENSION REFORM

Changes to retirement age in DB systems

- > United Kingdom (to 68 by 2046)
- > Germany (to 65 by 2009(M), 2015(F))
- > Italy (from 55/50 to 60 and then 65)
- > Switzerland (from 60/65 to 62/65)
- > United States (from 65 to 67 by 2022)
- > Japan (from 60 to 65 by 2014(M), 2019(F))

PENSION REFORM

Individual account reforms

- > started in Chile in 1981
- > by now includes most countries in Latin America
- > Mexican reform in 1997
- > also several countries in central and eastern Europe
- > supplements or replaces DB social security pension
- > competitive private sector investment vehicles
- > usually mandatory for formal sector workers
- > purchase of annuities at retirement...
- > ...or strictly controlled programmed withdrawal

PENSION REFORM

Chile

- > reform of 1981
- > compulsory contributions to AFPs
- > choice of pension fund (AFP)
- > underpin on annual return
- > old scheme closed to new entrants
- > recognition bonds for previous rights
- > high levels of transaction costs
- > minimum pension guaranteed by state
- > surprisingly high fiscal costs of guarantee

PENSION REFORM

Mexico

- > reform of 1997
- > mandatory contributions into AFOREs
- > protected rights from old system
- > old scheme pensions paid from budget
- > reinsurance of disability and survivorship
- > guaranteed minimum pension
- > high transaction costs
- > limited investment options
- > high prevalence of fall-back on government guarantee

PENSION REFORM

Individual account reforms - experience

- > coverage is still a problem...
- > ...individual account structure is not enough of an incentive
- > transaction costs are generally quite high...
- > ...competition does not bring down the charges
- > churning and mis-selling have been an issue
- > pension levels may not be adequate...
- > ...too many people will qualify for the minimum pension
- > minimum pension creates incentive problems of its own
- > most risks fall on individuals

PENSION REFORM

Problems with pay-out phase

- > uncertainty about life expectancy
- > programmed withdrawal has potential problems
- > need for more annuitisation to protect pensioners
- > compulsory annuitisation may be unpopular
- > insurance market not always receptive
- > high concentration of longevity risk for insurers
- > need for very long-dated bonds to match liabilities
- > preferably index-linked if backing indexed annuities
- > investment mis-match risk for insurers

PENSION REFORM

Alternatives for pay-out phase

- > immediate life annuity – level or increasing
- > unit-linked annuity
- > with-profits annuity
- > unitised fund
- > partially annuitise with temporary annuity
- > controlled drawdown
- > ...with eventual mandatory annuitisation

PENSION REFORM

Notional Defined Contribution

- > structured as defined contribution...
- > ... but on a PAYG basis rather than funded
- > clear link between contributions and benefits...
- > ...but not subject to investment risk
- > targets lump sum at pension age...
- > with 'notional' purchase of an annuity
- > permits flexibility of retirement age
- > passes on part of longevity risk
- > demographic adjustment factor needed to keep in balance

LESSONS FROM SWEDEN

Swedish NDC

- > DB state scheme replaced by NDC
- > ...with fairly fast transition
- > revalorisation of individual accounts by average wage
- > credits for sickness and other absences
- > automatic economic regulator of pensions increase
- > annuity responds to improving mortality
- > automatic balancing mechanism

LESSONS FROM SWEDEN

Automatic balancing mechanism ('actuarial accounting')

Annual balance sheet for scheme:

Liabilities =

present value of all future outlay for pensions in payment
+ accumulated individual accounts for all persons not yet in receipt of a pension

Assets =

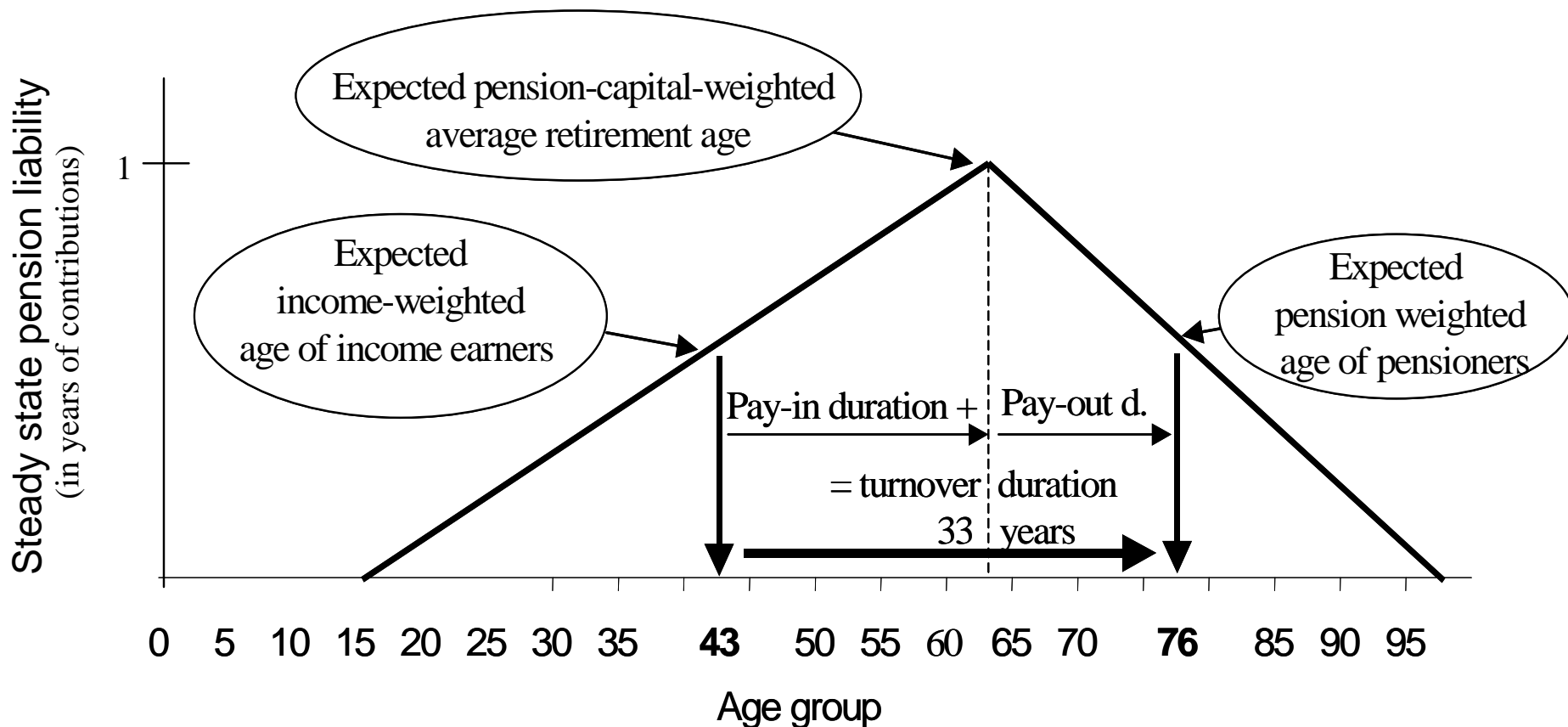
real assets in buffer fund + value of future contributions

Value of future contributions =

contribution rate x wage mass x expected turnover duration

LESSONS FROM SWEDEN

Expected turnover duration



LESSONS FROM SWEDEN

Individual accounts

- > mandatory funded individual accounts (PPM)
- > 2½% of earnings
- > contributions collected with NDC contributions of 16%
- > low administrative costs
- > choice of 700 investment funds
- > default arrangements if no funds selected
- > 90% of wage-earners covered by occupational schemes
- > operated largely on industry-wide basis

LESSONS FROM SWEDEN

Overall evaluation

- > hailed by many as a success story
- > sustainable PAYG system
- > increased level of savings achieved through PPM
- > but little real interest in investment choice
- > rising concern about expected fall in replacement ratios...
- > ...and arbitrary effect of automatic balancing mechanism
- > inequality of earnings mirrored in retirement income

PENSION REFORM FRAMEWORK

Goals of a pension system

Primary goals

> To provide adequate, affordable, sustainable and robust old-age income

Secondary goals

- > To create developmental effects by
 - > minimizing negative impacts
 - > leveraging on positive impacts

PENSION REFORM FRAMEWORK

World Bank framework (1994)

1st Pillar

Mandatory unfunded public defined benefit social security

2nd Pillar

Mandatory funded and privately managed defined contribution

3rd Pillar

Voluntary savings retirement plan (or occupational pension plans)

PENSION REFORM FRAMEWORK

World Bank framework (2005)

Pillar zero

Non-contributory scheme providing minimal level of protection

1st Pillar

Mandatory unfunded publicly managed DB or NDC providing some longevity insurance

2nd Pillar

Mandatory funded and privately managed DC (or DB)

3rd Pillar

Voluntary savings plans – regulated and privately managed

4th Pillar

Informal intergenerational financial and non-financial support

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SOME GENERAL LESSONS

Sharing longevity risk

1. target lump sum at retirement...
 - > ...and convert to pension using current annuity value
 - > ...funded individual accounts or NDC
2. index retirement age based on cohort expectation of life...
 - > ...or maintain ratio between working and retired life periods
3. raise retirement age at intervals to offset rising cost
4. overall adjustment mechanism such as
 - > life expectancy coefficient
 - > sustainability factor
 - > automatic balancing mechanism
5. risk-sharing between contributors and pensioners

SOME CONCLUSIONS

Wide range of solutions – defined contribution favoured

- > each country has a different solution
- > ...but all are starting from different points
- > DC widely favoured for its incentive structure...
- > ...but lacks basic characteristics of protection
- > ...unless in with-profits form or with strong underpin
- > ...exposes members to investment risk
- > ...and also collectively to longevity risk
- > minimum pension or DB underpin is desirable...
- > ...but care is needed to avoid this having a dominant effect

SOME CONCLUSIONS

Wide range of solutions – new defined benefit thinking

- > DB mostly moving to career-average revalued...
- > ...which is equivalent to a type of DC
- > ...or to NDC - really a DB structure dressed up as DC
- > focus on fund at retirement facilitates longevity solutions
- > indexing retirement age also a possibility
- > cash balance is another alternative DB/DC hybrid
- > ...DC on a traditional insurance “with-profits” basis
- > more flexible revaluation might facilitate risk-sharing

SOME CONCLUSIONS

Wide range of solutions – encourage later retirement

- > need stronger incentives to later retirement
- > a reason for DC but possible also with DB
- > higher pension age for unreduced pension forces trade-off
- > target lump sum at retirement instead of pension
- > annuitisation is needed – with innovative solutions
- > need better risk-sharing in decumulation phase

SOME CONCLUSIONS

Wide range of solutions – efficient savings

- > mandatory DC necessary to achieve full coverage...
- > ...or almost mandatory
- > contributions should be collected centrally
- > avoid insurance wrappers
- > control commission and charges
- > choice – but not too much choice – of investment funds
- > minimum income guarantee desirable...
- > ...but needs to be designed carefully

THE END

Questions and discussion



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