Earnings related schemes: Design, options and experience

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Retirement-income systems: goal

- Primary objective
  - ensuring older people have a decent standard of living in retirement

- Two interpretations
  - ‘Adequacy’: ensuring older people meet a basic standard of living
  - ‘Insurance/forced savings’: ensuring a reasonable standard of living in retirement relative to position before retirement
Objectives and measures

- Adequacy: an **absolute** measure of living standards
  - individual pension entitlement as a proportion of economy-wide average earnings
  - **pension level**
- Forced savings/insurance: a **relative** measure of living standards
  - individual pension entitlement relative to individual earnings when working
  - **replacement rate**
International experience

- Different degrees of emphasis on the alternative objectives of **adequacy** and **insurance/savings**
- Analysis of **mandatory** retirement-income provision
  - public and private
  - **voluntary**, private pensions also important
- Two benchmarks:
  - universal, flat rate benefit
  - constant replacement rate
Benchmarks

**Relative pension level**

- **Earnings related**
- **Basic**

**Replacement rate**

- **Basic**
- **Earnings related**
Relative pension levels: adequacy emphasis

Source: OECD Pensions at a Glance
Relative pension levels: insurance emphasis

Source: OECD

Pensions at a Glance
Replacement rates: adequacy emphasis

Source: OECD

Pensions at a Glance
Replacement rates: insurance emphasis

Source: OECD Pensions at a Glance
Benefit design
Retirement-income target

- What should be the replacement rate objective?
  - family support in old age
  - non-pension income (e.g., other savings, work)
  - consumption needs in retirement are lower (e.g., costs of work, no children to support)
  - taxes and social contributions are lower during retirement

- A replacement rate in the pension system of less than 100% means that the same living standard can be maintained during retirement
Retirement-income target

- Ideal replacement rates are higher for low-income workers than for higher-income workers.

- For high-income workers:
  - A ceiling on earnings that are eligible for pension benefits,
  - At the lower end of the international ‘norm’ (around 125-200%) of average earnings is appropriate.

- For low-income workers:
  - Use ‘adequacy’ schemes to boost replacement rates.
Types of insurance scheme

- Earnings-related:
  - pension value depends on number of years of contributions and individual earnings
  - variants: pure defined benefit (DB), notional accounts, points

- Defined contribution:
  - pension value depends on contributions paid in and investment returns that they earn
Some equations

- **Defined benefit**
  AUT, BEL, CAN, CZE, FIN, GRC, HUN, ISL, JPN, KOR, LUX, NLD, PRT, SVN, ESP, GBR, USA

- **Points**
  EST, FRA, DEU, SVK

- **Notional accounts**
  ITA, NOR, POL, SWE

- **Two identities**
  If $u = x = n$
  then $a = v / k = c / A$
Defined-benefit schemes:
Earnings measure

- ‘Final’ salary used to be very common
  - but now many countries moved to lifetime average salary

Explanations:
- improved record-keeping
- computerisation makes lifetime calculations easier
- final salary no longer needed to protect against effects of inflation between earning rights and retirement

Problems of final-salary schemes:
- distributional effects
- strategic manipulation
- costs
- retirement incentive
Earnings measures

Number of years of earnings in pension calculation

Pre-reform

Post-reform

Iceland

Germany

Hungary

United States

Canada

Japan, Korea, Luxembourg, Switzerland

Norway, United Kingdom

Austria, Finland, Poland, Portugal

Czech Republic

France

Spain, Sweden

Greece, Netherlands, Slovak Republic, Italy, Turkey
Benefit design: Indexation

- Indexation:
  - automatic adjustment of pensions in payment to reflect changes in costs of living or standards of living
  - not the arbitrary result of annual negotiation
  - without adjustment, purchasing power of pension can decline quickly: indexation ensures adequacy in a dynamic sense

- Few countries had automatic adjustments until the 1970s
  - then, high inflation led all industrialised countries to adopt automatic indexation
Benefit design: Pension eligibility age

- All pension systems have a ‘normal’ pension eligibility age (even if people often retire earlier)
- There are no guiding principles as to what this should be
- Therefore, examine what other countries do
  - ‘normal’ pension eligibility age
  - life expectancy at that age
Pension eligibility ages: year 2000

Number of OECD-34 countries

Normal pensionable age, years
Pension eligibility ages: after reform

Number of OECD-34 countries

Normal pensionable age, years

60  61  62  63  64  65  66  67  68  69

0   5   10  15  20

AUT  BEL  CHL (60F)  EST  FIN  HUN  JPN  KOR  LUX  MEX  NZE  PRT  SVN  SWE  CHE (64F)  TUR

CAN  FRA  AUS  DEU  GRC  ISL  ISR (64F)  NLD  NOR  POL  SVK  ESP  IRL  DNK  TUR
Pension eligibility age

- Normal pension eligibility age should depend on life expectancy
  - across countries
  - in one country over time
- Flexibility in retirement may be desirable
- But benefits for early and late retirees need to be adjusted to reflect the longer/shorter period for which they are paid
Financing pensions

A general principle:
- ‘Adequacy’ pensions should be paid for from the central government budget
- ‘Insurance’ pensions should be self-financing, that is paid for out of contributions from individual members and employers

In defined-contribution, ‘insurance’ pensions this is simple to achieve
- the contributions made by or on behalf of each individual member will automatically equal the benefits that he or she receives
Principles of pension design

- Adequacy
  - ensure that all older people, regardless of their career history, have enough money to survive

- Self-financing
  - insurance/forced savings benefits should be financed wholly from contribution revenues without support from the central budget

- Secure
  - pensions promises are sustainable and affordable
  - pensions are protected against inflation

- Transparent
  - people know what they can expect in retirement income

- Efficient
  - administration is effective and costs are as low as possible
  - avoids distorting economic choices (e.g., savings and retirement decisions)
  - limits opportunities for ‘gaming’ the system