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General Notes:

Lecture 1: Measuring Aging

Defining ageing.

- Demographic Process
- Change in health
- Change in productivity

Life Tables

EXAM QUESTION EVERY YEAR: What is the difference between period and cohort life tables

Observed data vs fictitious cohort

- Period life table can be observed at each period, but does not reflect mortality experience of a real cohort
- Cohort life table can be observed once every individual of a cohort has died.

Old Age Dependency Ratios

$$\frac{\text{Number of People Older than 65}}{\text{Number of People between 15 – 65}}$$

$$\frac{D_{65+}}{N_{15-64}}$$

Ageing by the Top

From the bottom

Ageing driven by fertility decrease : reductions in number of youths or prime aged individuals

- Historically decline in infant mortality led to increase in the share of the 60+

From the Top

More recent realisation that recent ageing process is essentially ageing by the top

- Recent gains in life expectancy come from gains at older ages
- Variety of experience at international level

Institutional design of Pensions

History Of Retirement

Family Support

Charity and Assistant

Occupational Pensions

Individual Savings

Birth of the Welfare State: Bismark

Work Related Accident Assurance

Healthcare Insurance

Employers contributed one-third, the workers two-third
“Sickness funds””, managed by workers’ representatives

Old-age and disability insurance (1889)

Participation was mandatory (except for civil servants, covered by previous scheme)

All workers concerned (not only industry workers)

Contributory system funded by employee, employers and the State

Pension age was set at 70.

This was not about enjoying life after a career of hard work. This was strictly pragmatic.

What do you expect from the Germans?

The UK and the Beverage Report

Unlike Bismark, the objective of the Beverage report was to lift all British out of poverty, but not to provide high replacement rates.

It was a comprehensive report that factored in all parts of living standards from cradle to grave.
(Health system, Education, Housing, etc.)

An attack on the 5 evils:

Want, Disease, Ignorance, Squalor, and Idleness.

Rationale for Public Intervention

Market Failures

Capital Markets

Large volatility in capital market returns

Inflation could wipe out the value of someone's holdings very quickly in rare events.

Governments began to create index-linked bonds in an attempt to attenuate the effects of those events.

Myopia

People are often short sighted, and so they under-save for retirement

Samaritan's dilemma

If there is expectation that there will be assistance to the elderly poor (i.e., elderly cannot be left dying) Then some will under-save for retirement, expecting receiving welfare when poor

Governments will then intervene to attenuate the motivation to game the system.

Redistribution

Both within and between cohorts. (Some cohorts experience different shocks, large systems help smooth the effects of these)

General objective to prevent poverty, especially of elderly individuals.

Efficiency and Administrative Costs

One of the benefits of compulsion is that no money is spent on selling insurance products by the state. But this harms competition and a uniform scheme might not accommodate heterogeneity in preferences (if too big).

- **Bismarckian system**



- Contributory benefit
- Funded by Social Security contributions
- Covering only workers and their family
- Managed by employee and employers' unions

- **Beveridgian system**



- Flat-rate benefits
- Universal coverage
- Funded by general taxation
- Managed by the State

Pension Design around the World

Bismark vs Beveridge

Historically more complex

Beveridge plan was in the form of a social insurance

- Funded by National insurance contributions (NICs)
- Contributory benefits proportional to years of contribution

Big difference : benefits expressed as absolute amount (not as share of earnings). Evolution lead to marked difference with earnings-related schemes

Types of Pensions

Public vs mandatory private vs voluntary private

- Mandatory systems can be public or private
- Mandate can be found with scheme monopoly or competition
- Public schemes can be run by the State or Social security administrations

Funded vs unfunded vs mixed funding

Think of funding more as a spectrum with complete funding and unfunded being corner solutions.

- Funded : contributions invested in capital markets
- Unfunded or PAYGO : contributions directly used to finance current pensions
- Mixed funding : PAYGO with some reserves