FINANCIAL MARKETS AND INSTITUTIONS

INSURERS AND PENSION FUNDS

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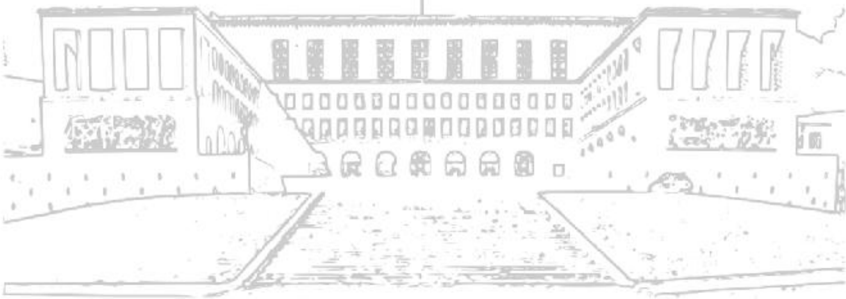


DEAMS
University of Trieste

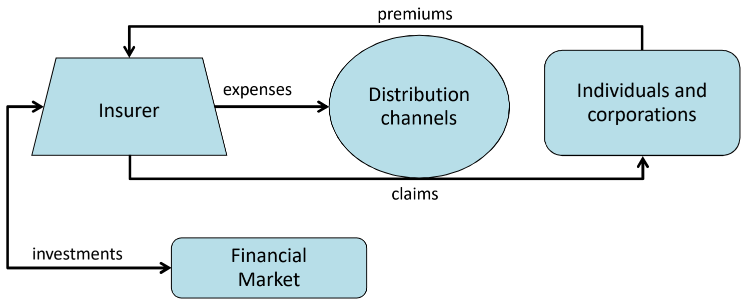
AGENDA

- How insurance works
- Types of insurers and insurance products
- How pension works
- Types of pensions and funds

HOW INSURANCE WORKS

- Up-front certain cost (**premium**) in exchange for a future uncertain event (**risk**) with adverse financial consequences (**claim**)
- Main issues:
  - **Adverse selection** of "bad" risks Vs predictions on populations
  - **Moral hazard**: behaving differently by having insurance
  - **Conflicts of interests** between insurers and agents
- To reduce these issues:
  - **screening** of risks to reduce adverse selection
  - **pricing** accurately risks to avoid the "lemons" issue
  - restrictive contractual **clauses** to reduce moral hazard
  - **fraud prevention** mechanisms
  - **self-insurance** and **risk-sharing**

HOW INSURANCE WORKS



Income statement

+ Premiums - Claims - Expenses +/- Provisioning + Inv. returns
Profit/loss

Balance sheet

Assets	*Equity*
Investments - Stock - Bonds - Funds - …	*Liabilities* Provisions on policies

How insurance works

Moreover, heavily **principle-based** business:

- Qualified relationship between insured and beneficiary
- Utmost good faith and indemnity principle
- Large number of homogeneous uncorrelated exposures
- Quantifiable and non-catastrophic losses (otherwise: mutuality)
- Availability of basis for estimating probabilities
- Exclusions, coinsurance, self-insurance
- Risk-based premiums and underwriting practices

Insurance products and companies

Two main types of insurers:

- Stock companies
- Mutual insurers:
  - Owned by policyholders instead of shareholders
  - Profits are returned as refunds or policy discounts
  - Exchange of individual uncertainty for a share of the collective uncertainty

Two main lines of business (but classifications vary):

- **Life** insurance (including pensions and usually also long-term health)
- **Non-life** insurance (property/casualty or general, including usually also accidents and short-term health)

INSURANCE PRODUCTS AND COMPANIES

Life insurance:

- Protecting from consequences of **death**, **superannuation** and/or **illness** by making use of the "law of large numbers"
- Offering mainly term life, whole life, annuities and "universal" life (including more **financial features**)
- Naturally **long-term investors** and less worried about liquidity of assets

Non-life insurance:

- Protecting **assets** owned (wealth) and/or third-party **liability**, all potentially recurrent and **difficult to estimate** events
- Offering mainly property insurance, liability insurance but also credit insurance, protection from lawsuit's costs and assistance

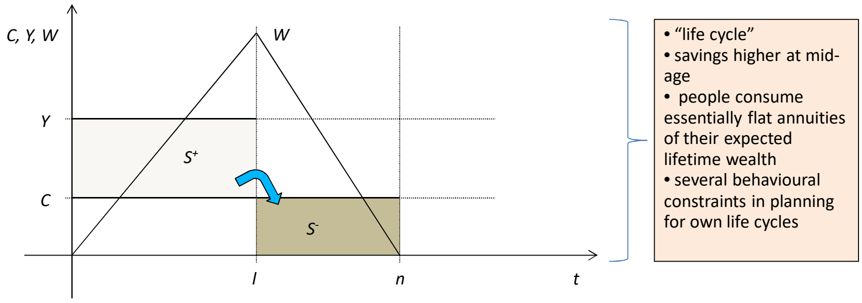
INSURANCE PRODUCTS AND COMPANIES

Reinsurance: risk management tool (insurance bought by insurers)

- Sharing of risk through premiums, claims, expenses, deposits, experience accounts, provisions, …
- Complex B2B contracts and treaties
- No need to notify policyholders, but legal obligation remains within ceding company that acquires a reinsurance receivable
- Several purposes:
  - capacity,
  - protection from catastrophes,
  - expertise,
  - entry/exit from markets,
  - loss stabilisation,
  - …

HOW PENSIONS WORK

- Income and consumption are not stable across time and are influenced by several demographic and financial uncertainties



- Pension systems aim at providing retirement income as well as protection from several of these uncertainties (health, inflation, …)
- Due to long cumulation phases, (funded) pension funds are the largest institutional investors

PENSIONS PRODUCTS AND FUNDS

Two main regimes:

- Defined-benefit:
  - participants know in advance the level of the future benefit
  - contributions may be changed accordingly
  - risky for sponsors but not risk free for participants
- Defined-contribution:
  - participants know in advance the level of contributions
  - benefit will depend on cumulated contributions
  - several financial and demographic risks are passed on participants

Public funds are often unfunded (PAYG), many provide defined benefits and plans are usually mandatory, whereas private funds are mostly defined contribution and often act on a voluntary basis

EXAMPLES

1. Some figures on the European insurance market (from InsuranceEurope/CEA, year 2013):

a. What is the global share of insurance markets that Europe holds?
b. How many premiums are collected in the life and non-life sector?
c. How much money do Europeans spend in insurance? And as a share of GDP?
d. How many insurers are there in Europe?
e. How much do European insurers invest? What about asset allocation?

a. 35%, followed by North America (30%), Asia (28%).
b. 1.117 bln €, 60% of which in the life sector
c. On average, 1.833€ (61% in life); ranging from 6k€ in CH or 4k€ in FI to 100 € in RO. On GDP insurance penetration is around 7.7%; ranging from 12% in NL to 1% in RO.
d. Around 5.400.
e. Around 8.5trn€ (82% in life). Asset allocation: bonds ~40%, equity ~30%, loans 10%, real estate <5%, deposits <5%.

EXAMPLES

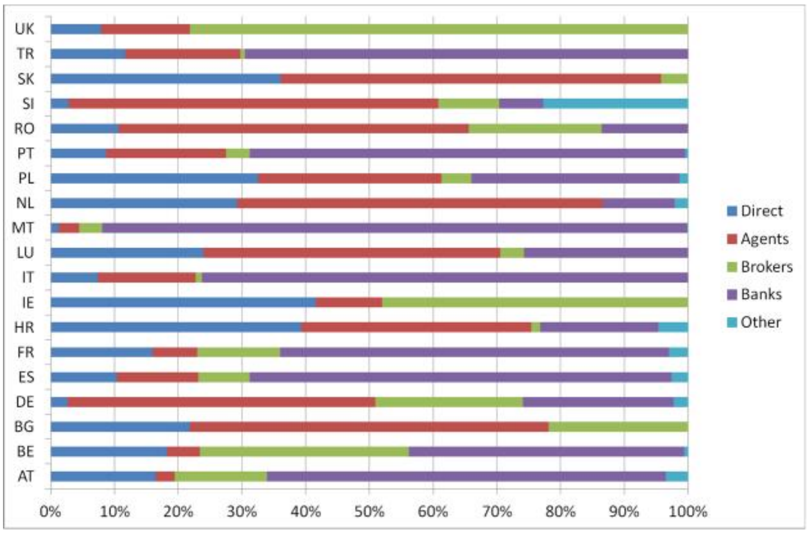
2. Some figures on the European insurance market (from InsuranceEurope/CEA, year 2013):

What about Italy?

- Share of European insurance	- 10.6%
- premiums and % in life/non-life	- 120 bln €, 56% in life
- premiums per capita and in % of GDP	- 2k€ per capita, or 7.6% of GDP
- number of insurers	- 225
- investments	- 563 bln €

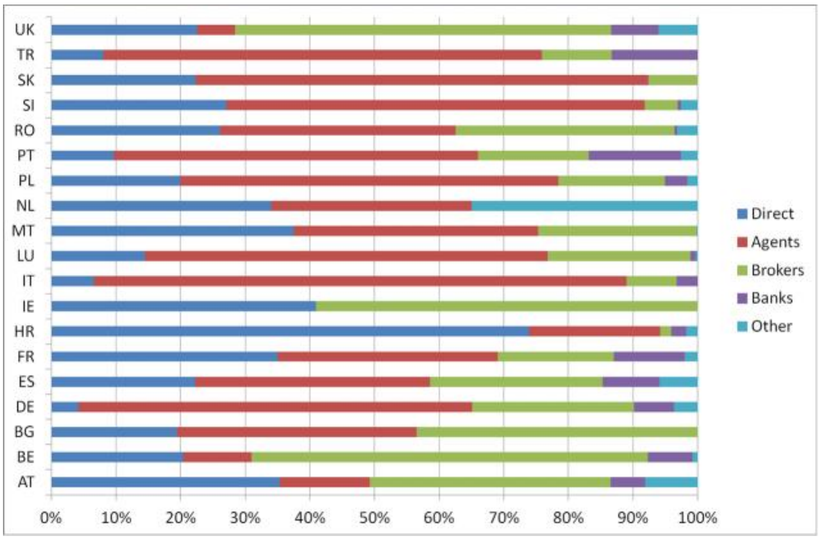
EXAMPLES

3. How do insurers distribute their products in the life sector?



EXAMPLES

4. How do insurers distribute their products in the non-life sector?



EXAMPLES

5. What is the trend of pensionable age and life expectancy in selected OECD countries?

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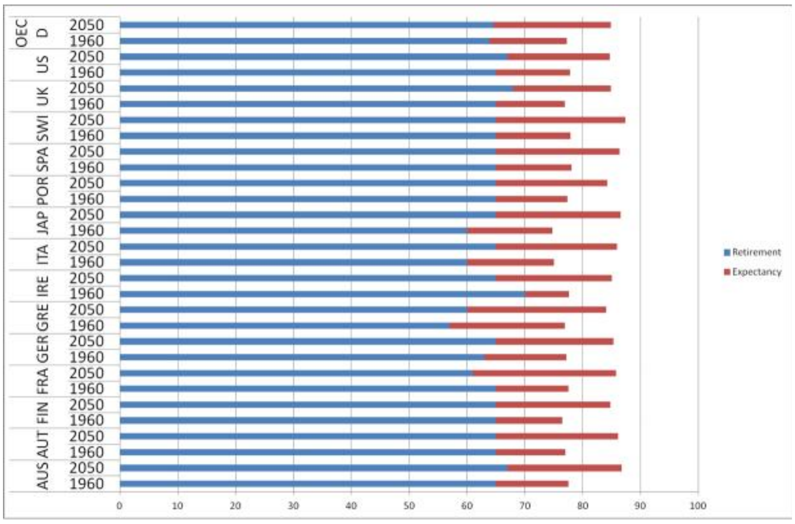

EXAMPLES

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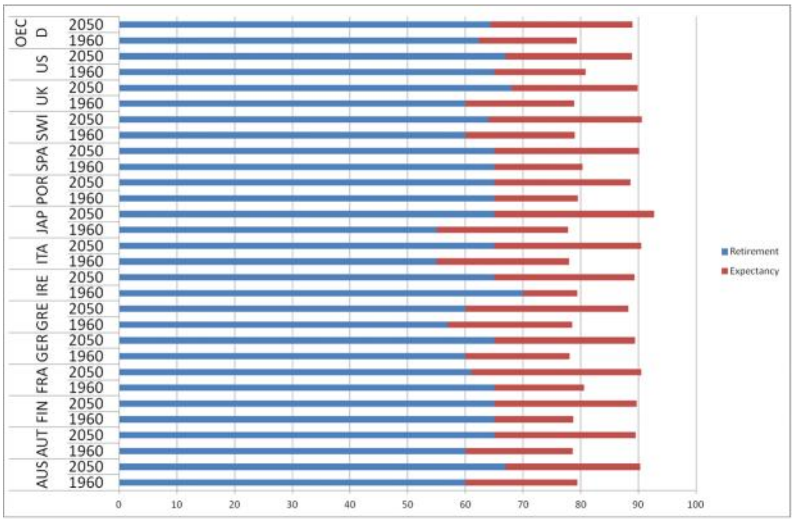

EXAMPLES

Better look at changes…