The Economic Impact of an Ageing Population

An International Perspective

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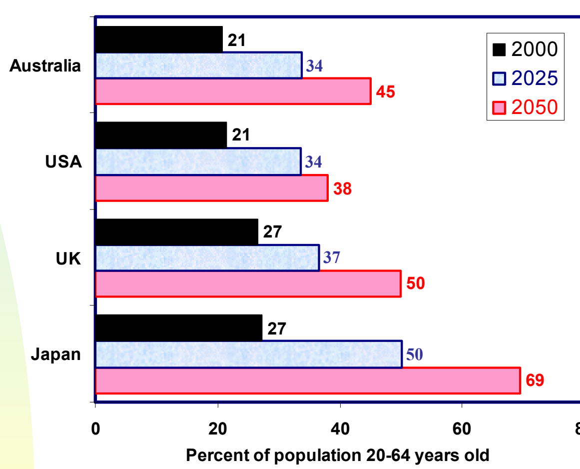
Population ageing is a challenge for all the OECD countries

- Aged population obtains much of its income & consumption from government budgets
- Populations in rich countries are growing older
  - Falling mortality rates / Longer life expectancy
  - Declining fertility
  - Immigration is variable & uncertain

Uneven pace of population ageing across OECD

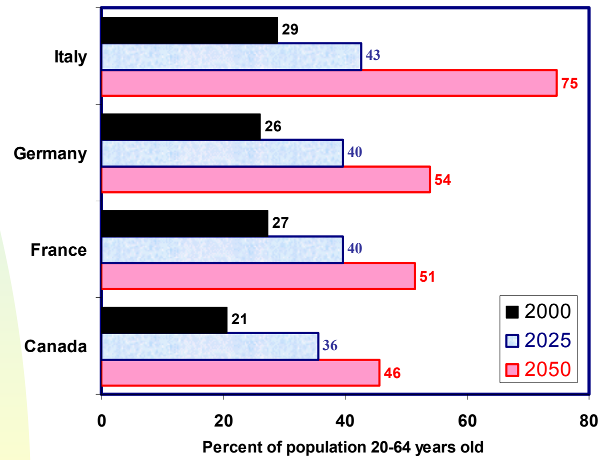
- Fast-ageing countries
  - Italy
  - Japan
  - Germany
- Slow pace of ageing
  - USA
  - Australia
  - Canada
- Intermediate pace
  - France
  - UK

Old-age dependency rate = Population 65+ / Population 20-64



Source: U.S. Census Bureau.

Old-age dependency rate = Population 65+ / Population 20-64



Source: U.S. Census Bureau.

But concern over aging is a bit exaggerated

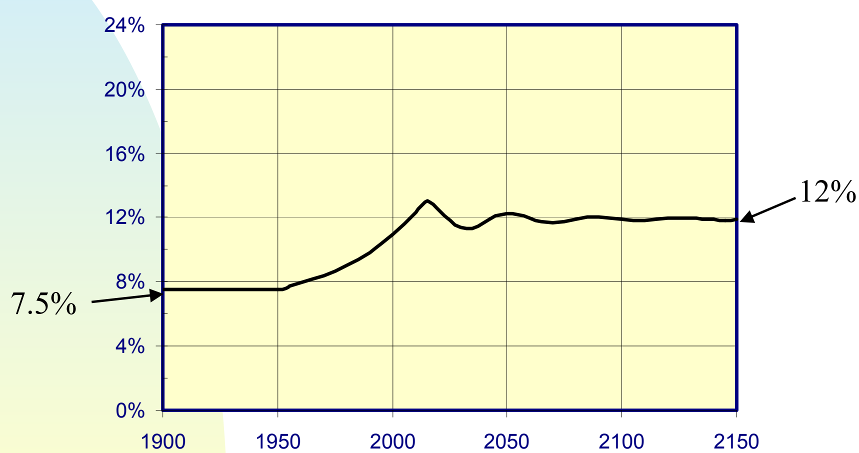
- The drop in fertility has greatly reduced the youth dependency rate
- The decline in the mortality rate initially increases the percentage of life that is spent in productive adulthood
- The increase in female participation has boosted the overall employment rate

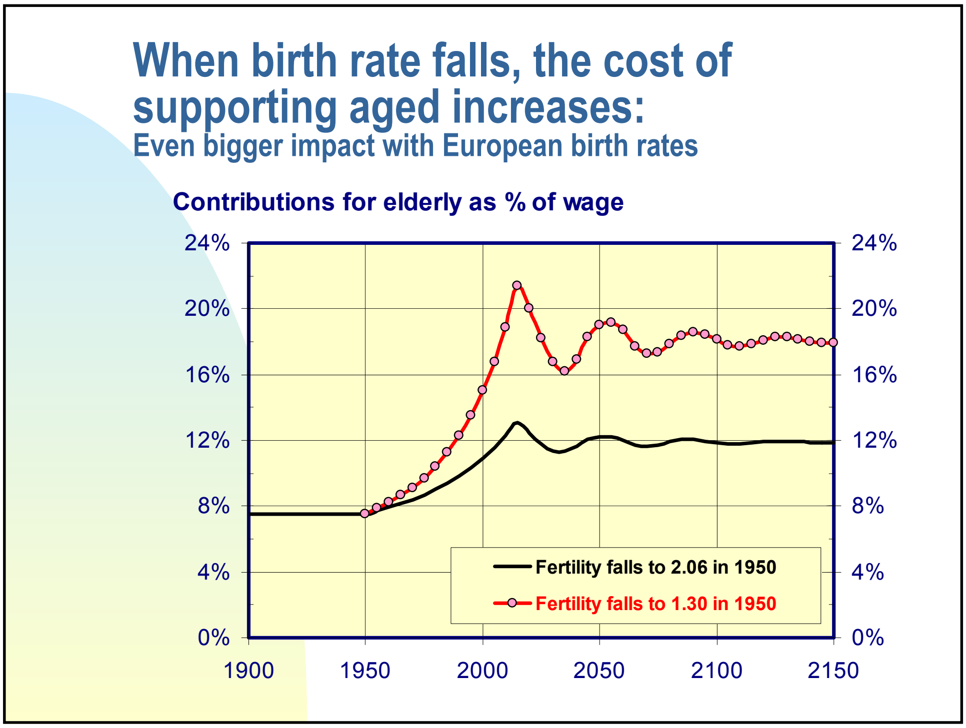
Example: Fall in U.S. fertility and mortality after 1950

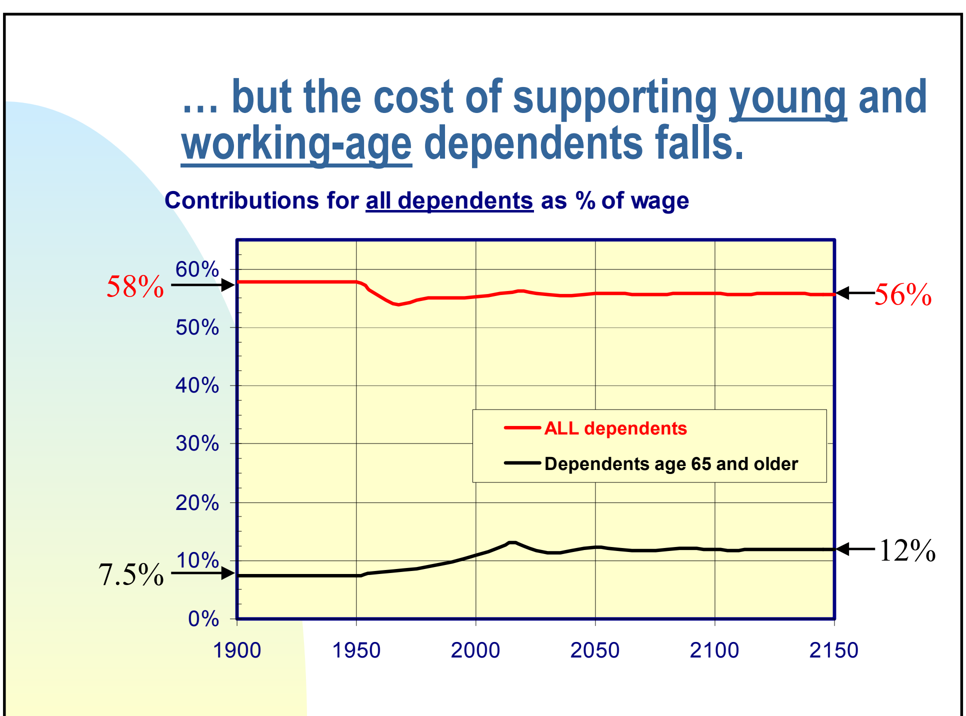
- Start with stable population structure
  - 1950 U.S. fertility rates (TFR = 3.15)
  - 1950 U.S. mortality rates
  - 1950 U.S. employment rates
- Change these rates to 2000 levels
  - Let birth rate fall to 2.06
  - Cut mortality to 2000 U.S. rates
  - Boost employment rates to 2000 U.S. levels
- Assumption: Child costs 72% of adult

When birth rate falls, the cost of supporting aged increases

Contributions for elderly as % of wage

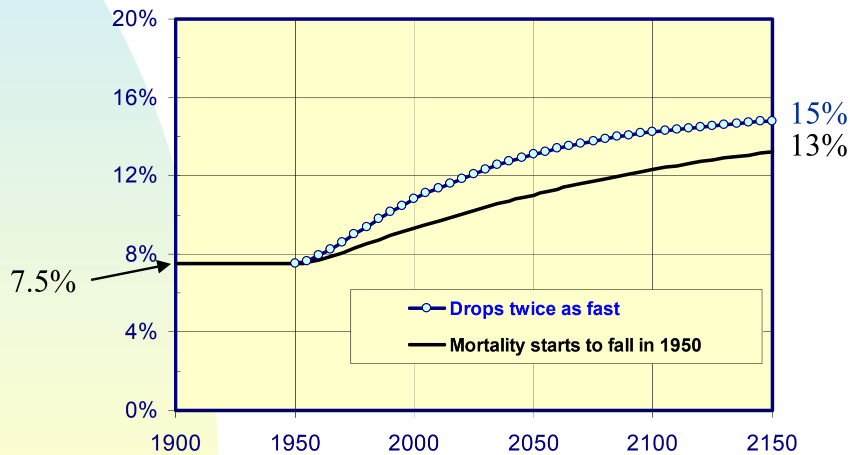



When birth rate falls, the cost of supporting aged increases:
Even bigger impact with European birth rates
Contributions for elderly as % of wage
24%
20%
16%
12%
8%
4%
0%
1900
1950
2000
2050
2100
2150
Fertility falls to 2.06 in 1950
Fertility falls to 1.30 in 1950


… but the cost of supporting young and working-age dependents falls.
Contributions for all dependents as % of wage
58%
56%
7.5%
12%
60%
50%
40%
30%
20%
10%
0%
1900
1950
2000
2050
2100
2150
ALL dependents
Dependents age 65 and older

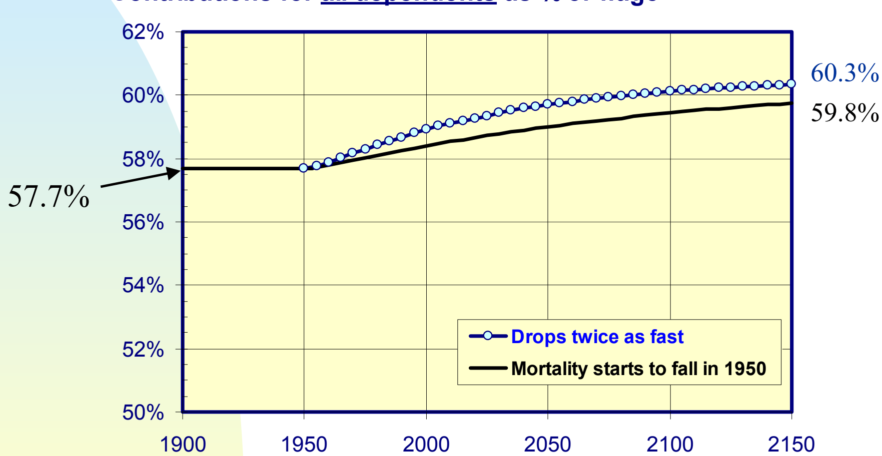
Lower mortality boosts the old-age dependency burden ...

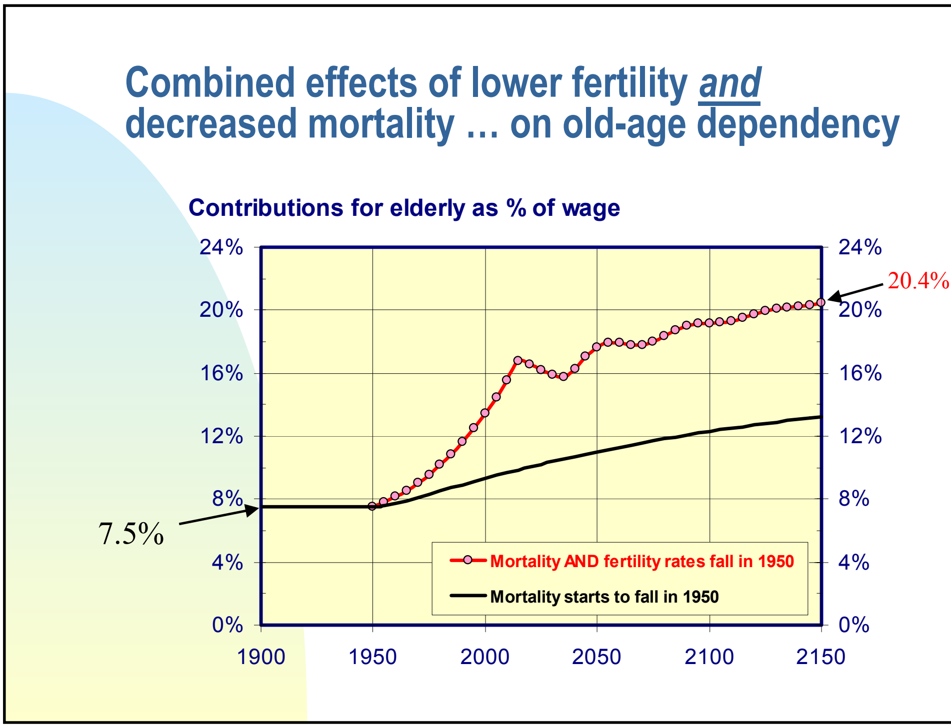
Contributions for elderly as % of wage

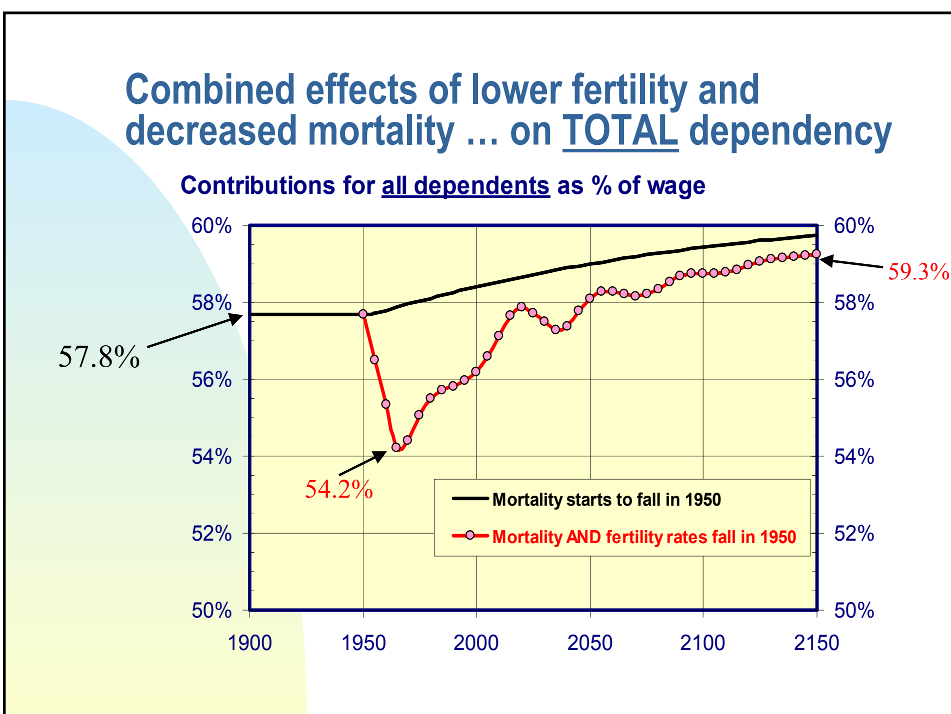


… but the impact on overall dependency burden seems manageable.

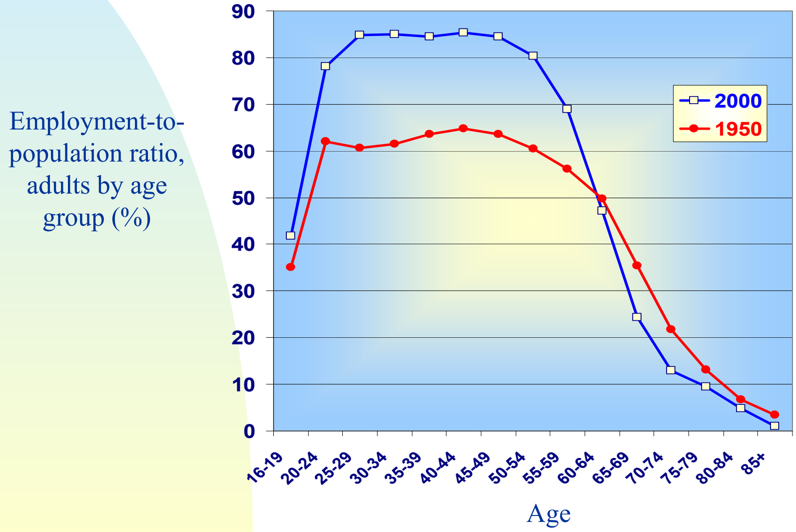
Contributions for all dependents as % of wage



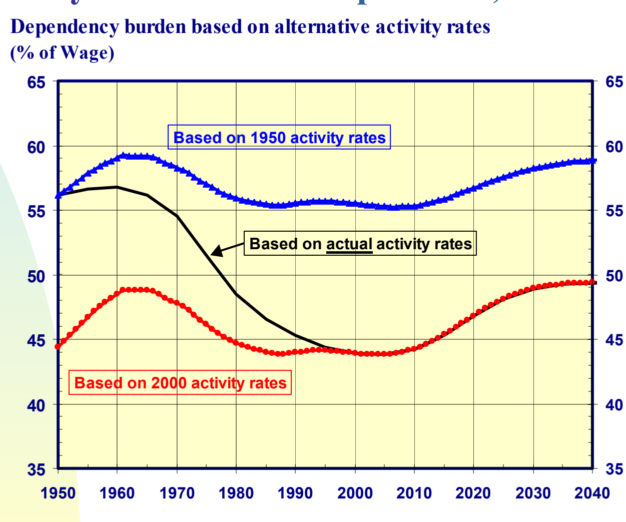

Combined effects of lower fertility and decreased mortality … on old-age dependency
Contributions for elderly as % of wage
24%
20%
16%
12%
8%
4%
0%
1900
1950
2000
2050
2100
2150
7.5%
20.4%
Mortality AND fertility rates fall in 1950
Mortality starts to fall in 1950


Combined effects of lower fertility and decreased mortality … on TOTAL dependency
Contributions for all dependents as % of wage
60%
58%
56%
54%
52%
50%
1900
1950
2000
2050
2100
2150
57.8%
54.2%
59.3%
Mortality starts to fall in 1950
Mortality AND fertility rates fall in 1950

Although retirement now occurs at younger ages, employment rates of non-aged adults have increased: U.S. Rates in 1950 & 2000



A higher employment rate reduces the dependency burden: U.S. experience, 1950-2020



The “AGING CRISIS”: Taxpayers may not view additional dependency burden as modest.

- They pay for old-age dependents with taxes
- Children and working-age dependents are supported by within-family transfers
- Public pensions are harder to change than within-family transfers
- We have already benefited from lower youth dependency burden
- We still face a big future jump in old-age burden

Solutions

More revenue --

- Boost payroll tax
- Infusion of new funds from Treasury
- Change investment policy to achieve higher returns
  - Inside present system?
  - In new, private accounts?

Less pensions --

- Cut monthly pension
  - Offset with new *private* pensions?
- Delay retirement age
- Reduce COLA
- Means-test public benefits
- Private investment accounts instead of PAYGO public pensions

Issues in privatization

- Does country need more advance funding?
- How should the funds be invested?
  - Which assets should be held?
  - Inside or outside the traditional system?
- Should we move to individual accounts?
- How much choice in individual accounts?
- Who should manage investments held in the retirement accounts?

1. More advance funding?

- Ultimately permits lower taxes / higher future pension benefits
- Requires higher taxes / lower benefits in short term
- Increases national saving -- if not offset by higher gov't spending
- Collectively? Or in individual accounts?

2. Diversify? Or hold only government bonds?

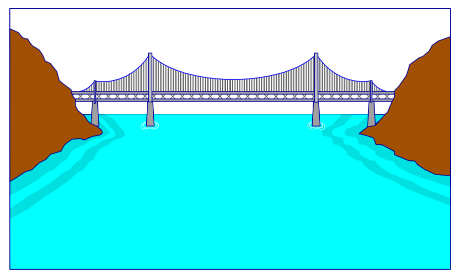
- Stocks boost returns -- and risks
- If individual accounts are offered, stock investments should certainly be an option
- If stocks are held in a GOVERNMENT trust fund, complicated governance structure is needed for investment
- Otherwise, political interference in portfolio choice might reduce returns and compromise safety

3. Move to individual accounts?

- **YES:**
  - Workers might accept higher contributions
  - Offers workers choice
  - Reduces political influence over investment decisions
  - Extra contributions would yield addition to national saving
- **NO:**
  - Individual accounts might replace (not supplement) public pensions
  - Poor investment choices
  - Poor workers face high risk, left in lurch
  - High administrative cost
  - Reduce private saving

Many reform plans introduce new private accounts, but fail to solve the public system's long-term financing problem...

- In USA, we need to *increase* the SS tax by 2% to finance the current package of benefits
- Bush proposes to *cut* the tax by 2% -- without telling us how he would cut the current benefit or how we can make up the lost revenue.



Pension risks facing workers & retirees

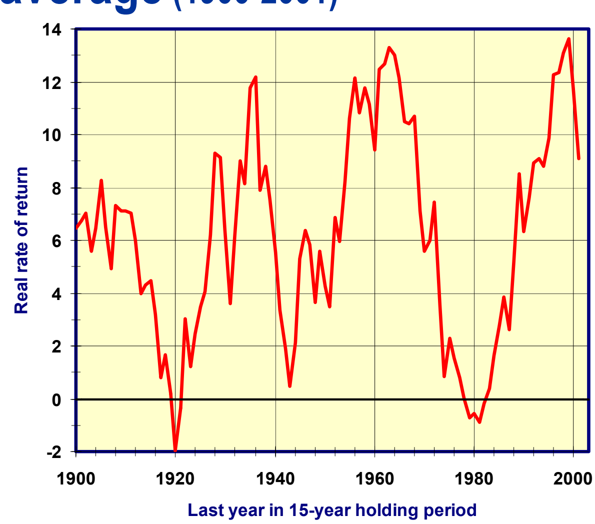
- **Existing system**
  - Unknown future tax increases
  - Unknown future benefit cuts
  - Timing will be determined by politics
  - Size will be determined by political compromise
- **Private investment accounts**
  - Workers may make poor investment decisions
  - Financial markets may deliver poor returns
  - **Political risk:** Governments may change rules of the game (e.g., taxation)

Investment risks are misunderstood

- True: With a 40-50 year investment horizon, US investors can anticipate reasonable real returns
- True: The risk of awful returns can be reduced through diversification
- False: US workers can be assured better returns with investments than PAYGO public pensions

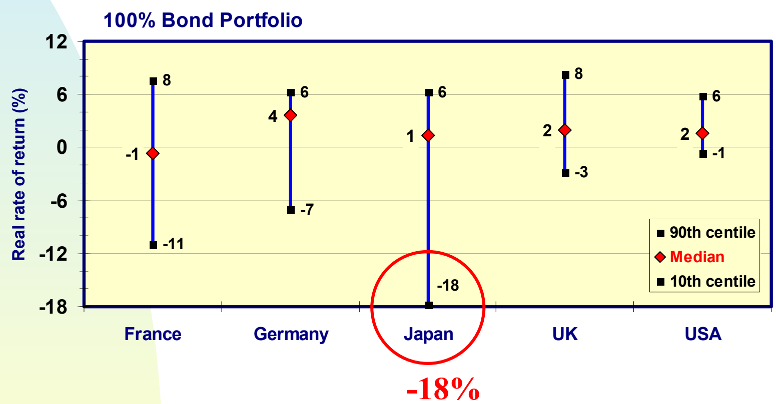
Incidentally ... investment returns are typically *lower* and *riskier* outside the USA.

US stock market returns: 15-year trailing average (1900-2001)



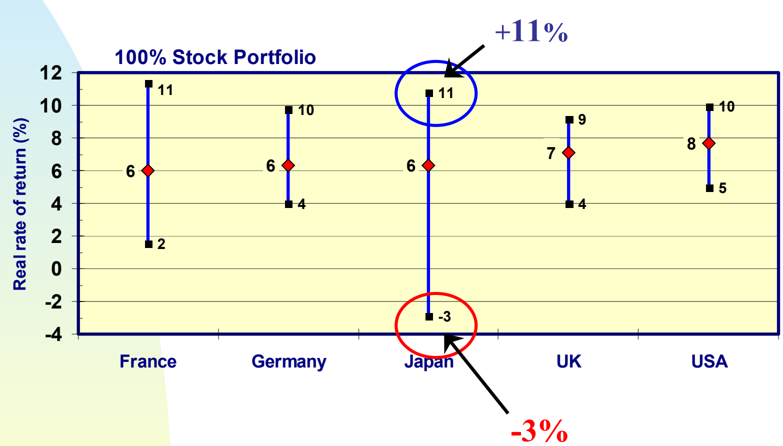
Source: Burtless (2001).

Real returns on <u>bond</u> investments after 40-year career: G-5 countries
(Based on 1926-2001 financial market history)



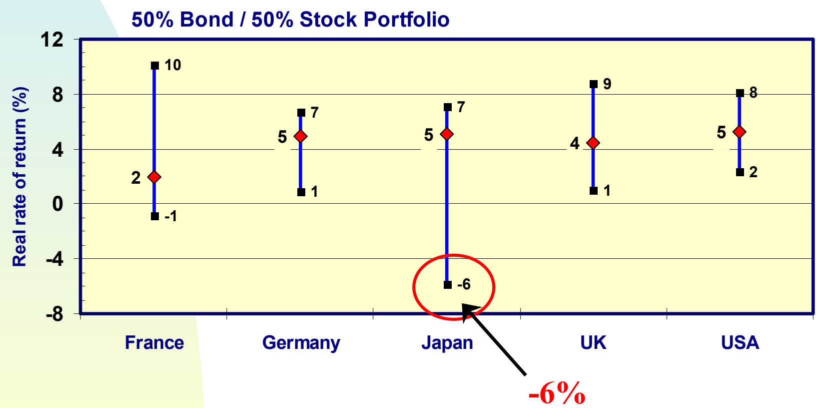
Source: Burtless (2001).

Real returns on <u>stock</u> investments after 40-year career: G-5 countries
(Based on 1926-2001 financial market history)



Source: Burtless (2001).

Real returns on 50% stock / 50% bond portfolio after 40-year career
(Based on 1926-2001 financial market history)



Source: Burtless (2001).

Pension replacement rate at age 62 for worker who contributes 6% of lifetime salary
(100% of contributions are invested in stocks)

Percent of career high wage

	France	Germany	Japan	U.K.	U.S.A.
Expected replacement rate	69	61	71	63	70
Standard deviation	54	32	54	20	24
First quartile	34	42	28	48	52
Median	49	50	48	63	63
Third quartile	86	67	117	80	86

Source: Burtless (2001) using historical equity returns from 1926-2001.

Conclusions --

- There ***is*** an ageing problem … for public budgets
- It is at least ***partly offset*** by smaller youth dependency burden
- World-wide trend toward *less emphasis* on public defined-benefit plans
- Move toward individual investment accounts (mandatory or voluntary)

Conclusions --

- One goal of reform: Boost national saving
- Another: Make public system affordable
- Still another: Make public pension cuts politically acceptable
- Downside of reform: Expose retired workers to more financial market risk
- Upside: Reduce workers' exposure to long-term *political* risk