TO FUND OR NOT TO FUND? – A BALANCED CASE

Professor E Philip Davis
Brunel University
West London

e_philip_davis@msn.com
www.geocities.com/e_philip_davis
groups.yahoo.com/group/financial_stability

Structure

- The ageing problem
- Economic arguments for funding and pay-as-you-go
- Pension systems and financial stability
- Options for pension reform

The ageing problem

- Increase in life expectancy….
- ….decline in the birth rate….
- ….giving rise to an ageing population…
- ….and financial difficulties for generous pay-as-you-go systems….
- ….generally in countries where funding is not developed

Life expectancy at birth

	Males		Females	
	1960	2000	1960	2000
Belgium	67.7	75.3	73.5	81.5
Denmark	70.4	74.2	74.4	79.0
Germany		74.7		80.8
Greece	67.3	75.9	72.4	81.0
Spain	67.4	74.9	72.2	82.1
France	66.9	74.8	73.6	82.8
Ireland	68.1	74.0	71.9	79.4
Italy	67.2	75.5	72.3	82.0
Luxembourg	66.5	74.4	72.2	80.8
Netherlands	71.5	75.5	75.3	80.9
Austria	66.2	75.0	72.7	81.2
Portugal	61.2	72.0	66.8	79.2
Finland	65.5	73.9	72.4	81.1
Sweden	71.2	77.3	74.9	82.0
UK	67.9	75.2	73.7	80.0

Fertility rates

	1960	1980	2000
Belgium	2.6	1.7	1.5
Denmark	2.5	1.6	1.8
Germany	2.4	1.6	1.4
Greece	2.3	2.2	1.3
Spain	2.9	2.2	1.2
France	2.7	2.0	1.7
Ireland	3.8	3.3	1.9
Italy	2.4	1.6	1.2
Luxembourg	2.3	1.5	1.7
Netherlands	3.1	1.6	1.7
Austria	2.7	1.6	1.3
Portugal	3.2	2.2	1.5
Finland	2.7	1.6	1.7
Sweden	2.2	1.7	1.5
UK	2.7	1.9	1.7

Projections of elderly dependency rates

	2000	2020	2040
Belgium	28.1	35.6	51.3
Denmark	24.1	33.7	44.5
German	26.0	36.3	54.7
Greece	28.3	35.8	51.4
Spain	27.1	33.1	55.7
France	27.2	35.9	50.0
Ireland	19.4	24.5	36.0
Italy	28.8	39.7	63.9
Luxembourg	23.4	31.0	45.4
Netherlands	21.9	32.6	48.1
Austria	25.1	32.4	54.5
Portugal	25.1	30.3	43.1
Finland	24.5	38.9	47.4
Sweden	29.6	37.6	46.7
UK	26.4	32.0	47.0

Projected pension costs

Percent of GDP	2000	2020	2040	Change to peak	Memo: Replace-ment rate*
Belgium	9.3	10.4	13.0	3.7	58-45
Denmark	10.2	14.0	13.9	4.5	45-43
Germany	10.3	10.6	14.4	4.3	93-37
Greece	na	na	na	Na	70-48
Spain	9.4	10.2	16.3	8.3	94-63
France	12.1	15.0	15.8	3.9	67-51
Ireland	4.6	6.7	8.3	4.4	53-21
Italy	14.2	14.9	15.7	1.7	78-75
Luxembourg	na	na	na	na	87-76
Netherlands	7.9	11.1	14.1	6.2	76-31
Austria	14.5	15.7	17.0	3.1	70-70
Portugal	9.8	14.4	15.8	6.2	74-74
Finland	11.3	140	16.0	4.7	60-59
Sweden	9.0	10.2	10.7	1.7	63-50
UK	5.1	4.4	4.4	0.0	60-33

* 1997 data, for incomes of $20,000 and $50,000

Pension assets (2000)

2000 (Mercer data)	Pension assets $ bn	Pension assets/GDP
Austria	28	12
Belgium	30	11
Denmark	186	100
Finland	52	36
France	82	5
Germany	288	13
Ireland	49	43
Italy	275	22
Netherlands	695	162
Norway	43	24
Portugal	12	10
Spain	32	5
Sweden	308	112
Switzerland	318	111
UK	1403	91

The basic arithmetic of pensions

- Aaron conditions: return to pay-as-you-go depends on population growth, productivity and dependency ratio (pensioners/contributors), while return to funding depends on rate of return on assets invested and passivity ratio (years spent retired/years spent working)
- Funding’s advantage depends on whether rate of return exceeds wages growth (compounded if dependency ratio exceeds passivity)

The case for pay-as-you-go

- Ensures individuals make advance provision for retirement and do not burden society
- Usable by government to redistribute income
- By being mandatory, overcomes market failures in voluntary annuities (adverse selection)
- Protects against market risks, notably those related to inflation
- Lower transactions costs than funded pensions
- Pools risks of returns on human capital across the generations
- Broader macroeconomic benefits in stabilising aggregate demand (if confidence is maintained)

The case against pay-as-you-go

- Distortion of labour supply due to typical lack of actuarial fairness (young substitute leisure for labour and old retire early)
- Distortion of labour demand leading firms to substitute capital for labour or move abroad
- Credible systems reduce saving owing to “implicit asset accumulation”
- Dependence on performance of domestic economy
- Vulnerability to demographic shifts, as returns vary with the dependency ratio
- Political risk that future governments cut promised benefits

The case for funding

- Ability to diversify internationally, thus reducing dependence on domestic economy
- Generally higher degree of actuarial fairness, reducing labour market distortions
- Enhanced availability of long term funds – in some circumstances increase in saving – which may boost economic growth
- Assets accumulated under funding less vulnerable to “reform” cutting benefits
- Less vulnerable to demographic pressures; contribution rates less volatile than with pay-as-you-go

- Cost advantage under Aaron conditions: economically, unlikely that wages growth could exceed asset returns for long periods (otherwise build-up of debt)
- Empirically, over last 30 years, there has been excess of at least 2% (See table)
- Note: whether potential rates of return realised depends on efficiency of the investment process, including costs, and risks incurred. Appropriate governance and regulation (including “consumer protection”) help to ensure efficiency

Real returns and benchmarks

1970-95	Real Returns/ Risk	50–50 Bond Equity	Global Portfolio	Real Average Earnings
Australia	1.8	3.5	6.1	1.0
	(11.4)	(17.5)	(18.2)	(3.4)
Canada	4.8	4.0	7.1	1.3
	(10.0)	(12.1)	(14.7)	(2.4)
Denmark	5.0	6.1	3.7	2.4
	(11.1)	(19.0)	(18.5)	(3.5)
Germany	6.0	6.4	3.9	2.7
	(5.9)	(17.7)	(18.4)	(2.7)
Japan	4.4	6.1	6.9	2.4
	(10.2)	(16.9)	(16.0)	(3.0)
Netherlands	4.6	5.5	4.8	1.4
	(6.0)	(18.3)	(14.7)	(2.6)
Sweden	2.0	8.0	6.3	1.4
	(13.1)	(20.1)	(14.8)	(3.5)
Switzerland	1.7	2.4	3.7	1.5
	(7.5)	(18.1)	(17.0)	(2.1)
United Kingdom	5.9	4.7	5.9	2.8
	(12.8)	(15.4)	(15.0)	(2.3)
United States	4.5	4.4	7.5	–0.2
	(11.8)	(13.3)	(15.2)	(1.9)

The case against funding

- Unable to redistribute income
- Cost of regulation
- High administrative costs, especially for personal pensions
- Vulnerable to volatility of capital markets (defined contribution)
- Barriers to labour mobility (defined benefit, except with “transfer circuits”)
- Cost of wholesale transition from pay-as-you-go, which must be paid by current generation (via higher contributions) or future generation (via bond issue)

Policy implications

- Several of the reasons for favouring pay-as-you-go are also applicable to mandatory funding
- Few of the arguments for pay-as-you-go favour a generous earnings related system, but rather a subsistence-level safety net
- General conclusion – have both, as offsetting risks and comparative advantages
- Ensure funding permits international investment (prudent person rules) so its own comparative advantage is realised (cf. EC IORP Directive)
- Go on to assess financial risks of pension systems as ageing proceeds:

Pay-as-you-go and financial stability

- Extreme case – no reform of generous systems
- Precautionary saving as system loses credibility
  - If directed to banks, may lead to underpricing of risk in domestic credit or international interbank markets
  - Life insurers could invest in high yield bonds, property, vulnerable to credit cycle
- Tax finance with high contribution rates
  - major economic difficulties (less inward investment, slow growth, evasion of contributions, ultimately "factor flight")

- credit losses and falls in asset prices, which are unlikely to be accurately anticipated
- System ultimately defaults on pension obligations

- Case of bond finance to limit contribution increases
  - sharp rise in long term interest rates, loss of credit rating, crowding-out, recession
  - Hence major credit losses for lenders (most past fiscal crises were with unliberalised banking systems)
  - Government's ability to recapitalise banks declines
  - Ultimately fiscal-solvency crises, which could be contagious, "snowball" and temptation to monetise. Default likely to occur

Institutional investors and financial stability

- Financial structure with sizeable institutional sector should have strong stabilising properties:
  - Accuracy of asset pricing
  - Liquidity
  - Transparency/marking to market
  - Distance from safety net
  - “Multiple avenues of intermediation”

- Some unfamiliar risks arise:
  - Extreme price volatility after a shift in expectations and asset allocations
  - Protracted collapse of market liquidity and issuance after similar portfolio shifts
- Threat to EMEs, banks and non financial sector…
- …and possibly to institutions themselves given e.g. exposure to credit risk in real estate cycles

- But note institutionalisation likely to impact on market behaviour regardless of pension reform (global phenomenon)

Asset accumulation, funding and financial stability

- Possible effects of institutional flows on equity market in 1990s
- Bubbles in debt and property feasible
- Vulnerability of EMEs to institutional flows
- Falls in asset prices during ageing:
  - Lower real returns on capital
  - Lower saving (“baby bust”) affecting real interest rates or risk premium
  - Switch from equities to bonds

Policy implications

- Upcoming financial risks linked to ageing underline need to scale down pay-as-you-go, but be conscious of risks to funding
- It is underlined that reforms should hence focus on creating a diversified system
- Policy options follow – divided into systemic (wholesale reforms of the pension system) and parametric (partial reforms, retaining most of existing structure). In our view, systemic change may be needed in some EU countries:

Models for major pension reforms

- Mandatory personal defined contribution funds managed on decentralised basis (Latin America, Eastern Europe)
- Mandatory personal defined contribution funds invested centrally by public bodies (Hong Kong, Singapore)
- Mandatory occupational defined contribution funds (Australia, Switzerland))
- Defined contribution pay-as-you-go (Sweden, Italy, Poland) with pension indexed to life expectancy

Alternative – parametric reform

- Pay as you go
  - Raise retirement age
  - Change indexation rules
  - Cut replacement ratio
  - Increase contribution period
  - Lower incentive for early retirement
  - Cutting privileges for public employees, disabled
  - Lower credits for higher education

- Funding
  - Easing of portfolio regulations
  - Increased tax privileges
  - Allow opting out of earnings related social security
  - “Monopsony” of public sector buying asset management services on behalf of private individuals
  - Reserve fund for pay-as-you-go (In what assets? Managed by whom?)