Designing pensions: What’s right, what’s wrong, what works

1 The objectives of pension systems
2 Lessons from economic theory
3 Lessons from policy experience
4 Mistakes to avoid
5 Useful policy directions
6 Conclusions
1 The objectives of pension systems

• The primary objective of pensions is economic security in old age
• Achieving that objective includes
  • Consumption smoothing across a person’s lifetime
  • Insurance against low income in old age
  • Poverty relief
• The objective involves risk-sharing and redistribution within and across generations
2 Lessons from economic theory
2.1 The simple model is not enough

- The simple economic model (well-informed consumer, rational behaviour, etc.) is a useful benchmark but a bad basis for policy design
- What is needed is second-best analysis
Analysis should be framed in a second-best context

• Imperfect information (the economics of information, Nobel Prize 2001)
• Non-rational behaviour (behavioural economics, Nobel Prize 2002)
• Incomplete markets, incomplete contracts (cited in the 2010 Nobel Prize)
• Distortionary taxation (which is necessary to finance redistribution; addressed in the literature on optimal taxation, Nobel Prize 1996)
2.2 Imperfect information and non-rational behaviour are pervasive
2.2.1 Analytics and evidence

Lessons from information economics

– In many areas of social policy the model of the well-informed consumer does not hold
– In the context of pensions
  • A survey, 50% of Americans did not know the difference between a stock and a bond
  • Most people do not understand the need to shift from equities to bonds as they age if they hold an individual account
  • Few people realises the significance of administrative charges for pensions
Financial literacy is shockingly limited (Lusardi/Mitchell)

• You have £100 in a bank account paying 2% interest a year. How much would you have in the account after 5 years:
  • less than £102?
  • equal to £102?
  • more than £102?
  • don’t know?

• Suppose that the interest rate on your bank account is 1% a year and that inflation is 2% a year. After one year, with the money in this account, would you be able to buy
  • more than today?
  • the same as today?
  • less than today?

• True or false? Using £100 to buy shares in a single company usually provides a safer return than buying £100 of a unit trust (i.e. something that holds a wide range of shares)?
Overview: % All Correct

Non-rational behaviour

• What conventional theory predicts
  • Optimal voluntary saving to maximise lifetime utility (consumption smoothing)
  • Optimal voluntary purchase of annuities (insurance)

• What actually happens
  – Bounded rationality: people do not know what they should do
    • Procrastination: people delay saving
    • Inertia: people stay where they are; in theory it should make no difference whether the system is opt in or opt out – in practice, automatic enrolment leads to higher participation
    • Immobilisation: impossible to process information about 800 different funds (90% of new entrants go into Swedish default fund)
  – Bounded will-power: people know what they should do, but do not do it
    • Do not save, or do not save enough
2.2.2 Implications for policy design
Lesson 1: Constrained choice is part of good policy design

- Constrained choice of pension provider
  - In the face of bounded rationality, choice can be welfare reducing
  - Choice is costly

- Constrained choice about how much to save
  - In part the problem arises from bounded rationality (people do not understand present values)
  - In part, the problem is also one of bounded will power
  - Both reasons create a strong case for a savings mandate
Lesson 2: Don’t overstate what financial education is capable of achieving

• Financial education is useful and important, but there are limits to what it can realistically be expected to achieve

• Financial education does not make us well-informed choosers of complex financial products
Lesson 3: Choice and competition is the wrong model

- Pensions are complex
- Systems in which workers have to choose from competing private pension providers face information and behavioural problems and have high administrative costs
- Not a condescending attitude; we do not allow people free choice of pharmaceutical drugs; pensions are similar
- Thus the model of choice and competition is the wrong one – it uses a first-best model in second-best circumstances
- The criticism is not of pension funds but of the model. Even the most knowledgeable, best-intentioned person could not run a pension fund cheaply using this model
Lesson 4: Incentives matter

• Gruber and Wise (2004) show that badly-designed incentives for delayed retirement lead to a spike in the number of retirements
But their power should not be exaggerated

- The link from incentives to behaviour can be muted by bounded rationality or bounded will power
- Example 1: saving too little: in voluntary systems many people do not save enough
- Example 2: retiring too soon: many people retire at the earliest permitted age, whether or not to their advantage or that of their families
- Example 3: drawing down pension wealth too quickly
- Example 4: little or no shopping around between pension providers
- Example 5: US 401(k) plans
  - Many employers make matching contributions
  - From age 59½ workers can make penalty-free withdrawals
  - Thus a worker can put money into a 401(k) plan, receive the employer match, and withdraw the money shortly afterwards – a high, risk-free return over a short period
  - Simple theory predicts that the option would be heavily used
  - That is not what happens. Many workers make no or limited use of the option
2.3 Risk sharing is central (and often overlooked)

- A central question: How should risks be shared?
- Different designs share risks differently
  - In a pure DC plan, the risk of varying returns to a pension accumulation falls on the individual worker
  - In a pure DB plan, the risk of varying returns falls on the plan sponsor, e.g. in a firm or industry plan on workers, shareholders and/or customers
  - In a pure public PAYG DB plan, the risk of rising pension costs falls on current workers
  - In a plan which includes at least some tax finance, risk falls on taxpayers and hence, via government borrowing, can be shared with current, past and future taxpayers
Exposure to risk should decline with age

• The capacity to adjust declines with age
  • Workers can adjust to a shock by saving more, retiring later and/or retiring on a smaller pension
  • Older workers have less time to adjust than younger ones
  • Pensioners have less scope to adjust than workers: less time; also fewer margins on which to adjust

• Thus pension systems should offer risk-protection that rises with age, avoiding sudden large shocks, particularly for pensioners and workers near retirement

• That does not mean that pensioners should face no risk – but that they should face less risk than younger people
Risk sharing at a system level

• A pension system can share risk in different ways
• Risks can be shared by the design of consumption smoothing: in the US social security system workers with lower earnings get more pension per dollar of contribution than workers with higher earnings
• Risks can be shared by the design of different elements in the system: risk sharing is wider in New Zealand (generous social pension, smaller funded individual accounts) than in a system where funded DC accounts are a larger part of the system
2.4 Different choices have different distributional implications

- Introducing a new PAYG system makes a transfer to the first cohort of retirees; if policy makers introduce a funded scheme, the first cohort receives no pension.
- Similarly, a move towards funding that increases saving redistributes from today’s workers and pensioners to later generations.
- Thus:
  - Choices about pension systems are inherently and inescapably also choices about intergenerational redistribution.
  - Such redistribution may or may not be good policy.
  - But ignoring distributional effects is faulty analysis; so are claims of Pareto superiority.
2.5 Sound principles of design but no single best pension system for all countries

- Objectives: consumption smoothing, insurance, poverty relief, redistribution
- Constraints include
  - Fiscal capacity
  - Institutional capacity
  - Empirical value of behavioural parameters
  - Shape of the income distribution
- No single best system because
  - Policy makers attach different relative weights to the different objectives
  - The pattern of fiscal and institutional constraints differs across countries
- Thus
  - What is optimal will differ across countries and over time
  - Pension systems look different across countries; this is as it should be
3 Lessons from policy experience
3.1 Transition costs matter

- If younger workers’ contributions go into individual accounts the cost of honouring promises to older workers and pensioners has to fall somewhere else
- Thus a move to funding typically has a fiscal cost
- Though called ‘transition cost’ can be large and long-term. Chile (reform in 1981) is instructive
  - PV of cost of transition 136% of 1981 GDP
  - 1981-2004: annual public pension spending averaged 5.7% of GDP (OECD 2013, p. 229)
    - The total cost will not disappear until 2050, taking 70 years to pay off, in contrast with original projections
- Implication: a move to funding requires a sound fisc
Mistake to avoid: understating or ignoring transition costs

• Example: moving towards funding during a time of fiscal constraint

• This is an important reasons why some of the pension reforms in Central and Eastern Europe are being abandoned or reformed to make them less ambitious
3.2 Administrative costs matter

- With individual accounts, administrative costs are, to a significant extent, a fixed cost per account.
- These costs are significant even in large, developed countries with long-established systems.
- Considerably higher for small accounts, typically of low earners, in small countries starting a new system.
- A charge of 1% of assets each year over a 40-year career reduces the worker’s accumulation (and hence his/her pension) by nearly 20%.
3.3 Implementation matters

- Good policy design is important; but the best design will not achieve its objectives if financial, political and administrative capacity are lacking.
- Policy design that exceeds a country’s capacity to implement is bad policy design.
- The importance of implementation is often underestimated. It requires skills that are just as demanding as policy design, and those skills need to be involved when the policy is designed, not as an afterthought.
Mistake to avoid: paying too little account to implementation

• Failing to recognise the depth and breadth of skills that are needed
• Assuming that since collection is first and payout later the design of the mechanism of paying out can wait till later
• Example: Poland’s reforms in 1998, despite trying to avoid these problems, came close to crashing for administrative reasons
4 Analytical and policy errors
Analytical errors
(Barr and Diamond 2009, pp. 13-17)

• Tunnel vision
• Improper use of first-best analysis
• Improper use of steady state analysis
• Incomplete analysis of implicit pension debt
• Incomplete analysis of funding
• Ignoring distributional effects
Policy errors
(Barr and Diamond 2008, Box 11.1)

A World Bank study (2006) of its own work identified policy errors
• Many countries had high inflation at reform
• Several countries had high budget deficits at the time of their pension reform
• Poor financial sectors characterized some Europe and Central Asia reformers
• Fiscal deficits had grown in many countries with second pillars
• Savings rates increased only in Kazakhstan
• Pension participation rates did not change in Latin America and the Caribbean
5 Useful policy directions

• No single best system, so none of these directions is definitive
  – Social pensions
  – Later and more flexible retirement
  – Simple savings and annuities
  – Notional defined-contribution (NDC) pensions
  – Thoughtful risk sharing
5.1 Social pensions

The world then

• Social policy in Europe and North America in 1950 was based on a series of assumptions
  • Independent nation states
  • Employment generally full time and long term
  • Limited international mobility
  • Stable nuclear family with male breadwinner and female caregiver
  • Skills once acquired were lifelong

• Though not true even then, true enough to be a realistic basis for policy
What has changed?

None of these assumptions holds today. In particular:

- More diverse patterns of work: thus there are problems for coverage of contributory benefits tied to employment
- Changing nature of the family
  - More fluid family structures
  - Rising labour-market activity by women
  - Thus there are problems basing women’s benefits on husbands’ contributions
The case for social pensions

- Strengthen poverty relief in terms of coverage, adequacy and gender balance
- Share risk
- Can fit different budget envelopes
- Are robust in the face of shocks
- Make fewer demands on institutional capacity than contributory systems
- Examples: Australia, Canada, Chile, Netherlands, New Zealand; also developing countries
5.2 Later and more flexible retirement
Later retirement

- Longer healthy life + constant or declining retirement age creates problems of pension finance
- The problem is *not* that people are living too long, but that they are retiring too soon
- The solution: pensionable age should rise in a rational way as life expectancy increases
- Beware the ‘lump of labour’ fallacy
Later retirement: How

• Changes should be announced a long time in advance
• Rules should relate to date of birth, not date of retirement
• Changes should be made annually (or monthly), to avoid large changes across nearby cohorts
• The rules should be explicit
Also more flexible retirement

• Mandatory full retirement made sense historically, but no longer

• Increased choice about when to retire, and whether fully or partially is desirable
  • As a response to demographic change
  • As a response to individual preferences (and thus desirable for its own sake, irrespective of problems of pension finance)
5.3 Simple savings and annuities

• The model of choice and competition is the wrong model because
  – Choice has high administrative costs
  – Consumers do not do a good job of choosing because of
    • Imperfect information
    • Bounded-rationality
    • Bounded-will power
Implications for pension design

1. Make pensions mandatory or use automatic enrolment
2. Keep choices simple: highly constrained choice is a deliberate and welfare-enhancing design feature
3. Include a good default option which includes life-cycle profiling
4. Keep administrative costs low by decoupling account administration from fund management
   – Centralised account administration
   – Fund management
     • Wholesale, competitive; or
     • Sovereign wealth fund; closest example is Norway
The US Thrift Savings Plan

The system (www.tsp.gov)

• Initially voluntary for federal civil servants, now auto-enrolment
• Workers choose from five funds
• Centralised account administration
• Wholesale fund management
• No mandatory annuitisation
The UK National Employment Savings Trust

The system (www.nestpensions.org.uk)

- Automatic enrolment into NEST or other occupational plan
- When fully phased in, minimum contribution 8%: 4% worker, 3% the employer, 1% tax relief
- Choice from small number of funds
- Centralised account administration
- Wholesale fund management
- Savings fully portable; and more than one employer can contribute to a member’s savings pot
Assessment

• These approaches respect the lessons from the economics of information and behavioural economics
  • Simplify choice for workers
  • Auto-enrolment or mandatory
• Keep administrative costs low
• But DC plans have a major downside: being fully funded, they can share risk only between current participants
• Partially-funded plans allow wider risk sharing
5.4 NDC pensions

- Mimic individual funded accounts, but on a Pay-As-You-Go or partially-funded basis
- Workers’ contributions this year mostly pay this year’s pensions
- The government keeps a record of individual contributions, each year attributing a notional interest rate to each worker’s accumulation
- When the worker retires, his/her notional accumulation is converted into an annuity based on the remaining life expectancy of his/her birth cohort
Potential advantages of NDC

- Simple from viewpoint of the worker
- Centrally administered, hence low administrative costs
- Avoids much of the risk of funded individual accounts, since avoids volatility of capital markets
- Does not require the institutional capacity to manage funded schemes
- Increased saving may be the wrong policy (China), or people may not want to save in a pension system
- NDC can be the basis for a future move towards fuller funding; thus may have advantages as a starting point
- Country examples: Sweden, Poland, Latvia
When are funded pensions desirable?

Two strategic questions

• Is a move toward funding optimal?
  – Does the move increase output
    • By increasing saving in a country that is short of saving, and/or
    • By strengthening capital markets, improving the efficiency with which savings are channelled into investment?
  – Does the move have desirable intergenerational redistributive effects?

• Is a move toward funding feasible? Are economic conditions and institutional capacity such that a country can implement schemes that are
  • Safe, and
  • Administratively cheap?
5.5 Thoughtful risk sharing

• Risk-sharing during accrual
• Protection of pensions in payment
  • Indexation of benefits
  • Adjustment to economic turbulence
6 Conclusion
Analytical errors to avoid

Do not

• Argue for a single, dominant policy
• Give undue weight to one purpose of pensions – they all matter
• Make improper use of first-best analysis
  • Undue reliance on choice and competition
  • Undue reliance on incentive structures
• Ignore considerations of risk sharing
• Ignore distributional effects
Lessons for pension design

• As economic and institutional capacity increases, the range of feasible options widens

• But more complex is not necessarily better; New Zealand has a simple system out of choice, not constraint
What really matters?

• Only two things really matter
  – **Output growth:**
    • PAYG and funding are merely different financial mechanisms for organising claims on future output
    • Thus arguments about pension reform should focus on output
  – **Effective government**: necessary for all types of pension

• These are core however pensions are organised
References

For a summary of the issues

Barr, Nicholas (2012), The Economics of the Welfare State, OUP, Ch. 7


For broader discussion

Barr, Nicholas and Diamond, Peter (2008), Reforming pensions: Principles and policy choices, New York and Oxford: OUP.


