

# Pension design and the failed economics of squirrels

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1. The simple argument
2. How does economic reciprocity work?
3. How reliable is reciprocity?
4. Conclusions

# 1 The simple argument

Analysis of pensions is often complicated because it concentrates on financial flows

For many purposes it simplifies to focus on output of goods and services

Starting point: goods and services consumed by pensioners have to be produced mainly by younger workers

In that sense interactions between generations are inevitable

the nature and characteristics of those interactions

# Some definitions

## PAYG and funding

A Pay-As-You-Go (PAYG) pension plan pays benefit out of current revenues

A funded plan pays benefits out of accumulated funds

Pub economics: something that is obviously right, and everyone knows is right wrong

# A shockingly enduring example of pub economics

Some examples eventually fade (few now deny that smoking damages health)

Others die

In the present case the argument that

# Independence and failure of the squirrels model

Pensioners are interested in consumption, not money

Only two ways of organising consumption for ones older self

- Store current production during work life

- Build a claim on future production

Storing current production faces problems

- Cost

## 2 How does economic reciprocity work?

Because of lockdown, Qantas is doing well making circular flights from Sydney

I shall take a leaf out of their book and do a couple of circuits

## 2.1 A parable: three economies

### Case 1: a single commodity, food

Grows on top of tall trees which only the young can climb and is perishable, hence cannot be stored (in his seminal article Samuelson (1958) uses the example of

## Case 3: two commodities: food and ladders

Young people harvest less food for themselves but, crucially, use the resulting free time to build

# Population ageing

Suppose that life expectancy increases, other things unchanged, so the number of retirees rises

## Case 1:

With number of workers and production technology constant, unchanged chocolate harvest must be shared among more people

Thus average consumption must fall – workers, pensioners, or both have to consume less

## Case 2:

Again, output remains unchanged

A larger older generation will try to protect their consumption through their accumulation of cowrie shells, but a likely result is that the value of cowrie shells will fall, i.e. food price inflation

Again, workers, pensioners or both have to consume less

## Case 3:

In this case, output rises

If it rises enough, average consumption does not have to fall, thus neither workers nor pensioners have to consume less

## 2.2 Back to economics: the Turner Test

If there are problems in paying for pensions there are **four and only four** solutions

Lower average monthly pensions

Later retirement at the same monthly pension (another way of reducing pensions)

Higher contributions

Policies to increase national output

Any proposal to improve pension finance that does not involve one or more of these approaches is illusory

# PAYG pensions

# Funding with no increase in productive assets

This is Case 2

Simplest case: workers save in cash; after they retire

Desired pensioner consumption exceeds desired saving by workers

Excess demand in the goods market causes price inflation, reducing the

Thus workers do not get the real pension they expect

The same is true also in more complex cases

Bonds: if workers save in bonds

Desired bond sales by pensioners exceeds desired purchases of bonds by workers

Excess supply in the bond market reduces bond prices, reducing pension accumulations and hence

# How much difference does an open economy make?

The idea

Pensioners can consume goods made abroad if they can organize a claim on

# Funding via increased productive assets

This is Case 3: if investment in productive assets increases output enough, the analysis in the previous slide becomes:

## Cash accumulation

Decline in the savings rate increases aggregate demand

But if supply has increased sufficiently, no effect on prices

Thus pensioners get the real pension they expect

## Asset accumulation

Wages generally keep pace with output

Rising wages imply rising demand for financial assets, hence little effect on asset  $\$RD$



# Broader policies to increase output

Increasing the productivity of each worker,  
through

- (1) Investment in more and/or better physical capital
- (2) Higher investment in human capital, including that of older workers

Increasing the number of workers from each  
age cohort

# 3 How reliable is reciprocity?

## Three questions

Does accumulating assets always increase output?

Is funding safe?

Is more saving the right policy?

# 3.1 Does accumulating assets always work?

Answer: often, but not always or necessarily

Three links: higher saving, leads to higher

## 3.2 Is funding safe?

Answer: often but not always; ditto PAYG pensions

Sometimes argued that funded pensions, because based on explicit property rights, are safer than PAYG arrangements, which can be vulnerable to short-term political pressures

PAYG plans can be run badly (many examples) or well

Governments can reduce real return to pension funds: they can require fund managers to hold low-yield government financial assets; or they can reduce or withdraw tax privileges. Or they may appropriate pension fund assets with no or inadequate compensation

In political economy terms, the issue turns on whether pensioners are better able to fight for their share of national output as recipients of current tax revenues or as owners of capital

PAYG mechanism makes clear both the quarrel over output shares and the dependence of pensioners on younger workers

Funding hides both issues, but does not remove them



# Bad government can cause problems for any pension design

PAYG: profligate promises, e.g. Greece

Funded pensions: appropriating pension fund assets with inadequate compensation, e.g.

Argentina, Hungary

Strategic incoherence, e.g. the UK

Up to age 55: policy based on the assumption that people cannot be relied on to make good choices, hence nudges like auto-enrolment into NEST

Age 55+: policy based on assumption that people can be relied on to make good choices, hence pension freedom

# Strategic incoherence

could undermine auto-enrolment and leave us with a pensions crisis. *If the government was worried about obesity but*

# 3.3 Is more saving the right policy?

Answer: often, but not always or necessarily

## Dynamic efficiency

Yes, in a country that saves too little ([Economist article](#))

That is often the case but not always (China)

Sounds nerdy, but saving in China in the early 2000s (about 50% of GDP) was a significant element in the global imbalances that contributed to the 2008 financial and economic crisis

## Intergenerational distribution

To increase growth, funding has to increase investment

Increased investment now means less consumption now and more consumption later

That is often but not always the right policy: in Asher *et al.* (2005) written for the government of China, Peter Diamond and I argue that with high growth rates, increased saving by poorer workers today to make future richer generations even richer is bad policy

# But higher saving does not necessarily require funded pensions

Funded individual accounts are one way to organise saving, but not the only way

Within the pension system options include

- Fully-funded individual accounts from competing providers (Chile, Australia)

- Simpler, cheaper individual accounts with less choice (US Thrift Savings Plan, UK NEST pensions)

- Fully-funded industry plans (Netherlands)

- Partially funded national plans (Canada, Sweden)

- Partially-funded sub-national plans with risk sharing (New Brunswick)

Outside the pension system:

- Government debt

- Sovereign wealth fund

## 4 Conclusion: Where does this get us on reciprocity?

Pensioners consume goods mostly produced by younger workers

Younger workers use capital accumulated by older workers; that capital makes younger workers more productive, hence with higher wages

The scale of the exchange depends on

had saved and (b) the extent and effectiveness with which those savings were channelled into productive investment



# vampire die?

Answer: partly because of the vultures

Over a full career, a 1% annual management charge reduces a pension accumulation (and hence the resulting pension) by 20%

# References

Mukul Asher, Nicholas Barr, Peter Diamond, Edwin Lim and James Mirrlees (2005), *Social Security Reform in China: Issues and Options*, Policy Study of the China Economic Research and Advisory Programme, [http://econ.lse.ac.uk/staff/nb/Barr\\_SocialSecurityStudy2005.pdf](http://econ.lse.ac.uk/staff/nb/Barr_SocialSecurityStudy2005.pdf)

Nicholas *Three Banks Review*, No 124, December, pp. 27-55, reprinted in N. Barr (ed.) *Economic Theory and the Welfare State*, Edward Elgar Library in Critical Writings in Economics, 2001, Vol. II, pp. 83-111

Nicholas Barr (2000), [Reforming Pensions: Myths, Truths, and Policy Choices](#) WP/00/139, International Monetary Fund.

*International Social Security Review*, Vol. 62, No. 2, pp. 5-29 (also in French, German and Spanish)

Nicholas Barr and Peter Diamond (2010), *Pension Reform: A Short Guide*, New York and Oxford: Oxford University Press, (also in Chinese, Spanish and Polish)

Timothy Besley (2020), *Econometrica*, Vol. 88, No. 4 (July, 2020), 1307-1335

Timothy Besley and Torsten Persson (2014),