Superannuation policy: how to cope between now and the nursing home

Background paper for seminar at ANU, 9 May 2008.

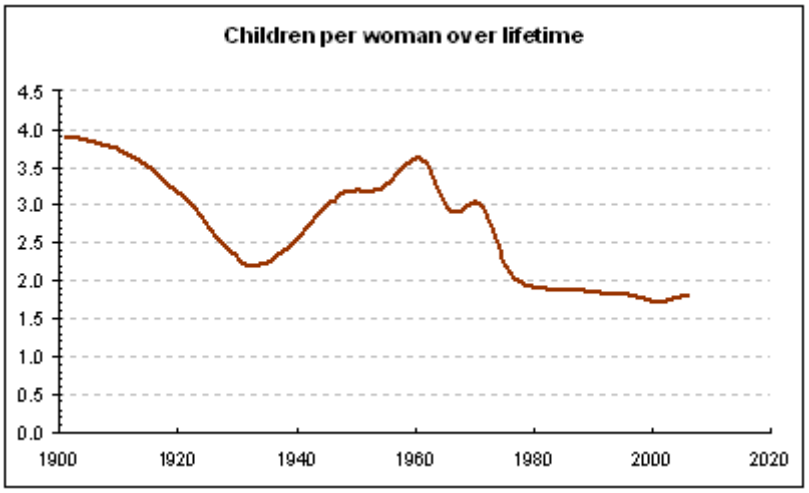
Policy context of superannuation

History

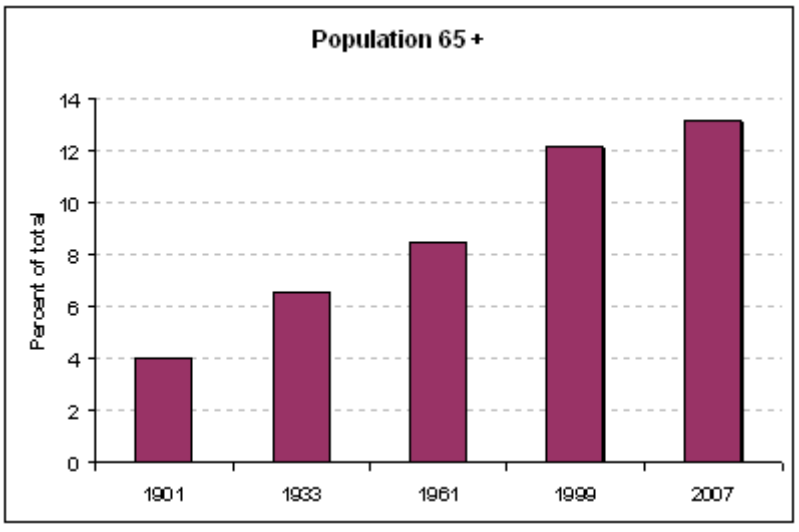
Superannuation in Australia dates from the mid nineteenth century, when some large corporations and government departments started paying pensions to their long-serving employees.

Although the need to bring pensions under common eligibility was one of the issues at the time of Federation (the Constitution specifically gives the Commonwealth powers over age pensions) it was not until 1908 that the Commonwealth introduced a universal age pension. This was, and remains, a defined benefit scheme (now linked at 25 percent of male average total earnings), but, apart from a brief period from 1973 to1975, it has always been means tested.

By the mid twentieth century most public servants and some corporate employees were in defined benefit schemes, but others were left out.

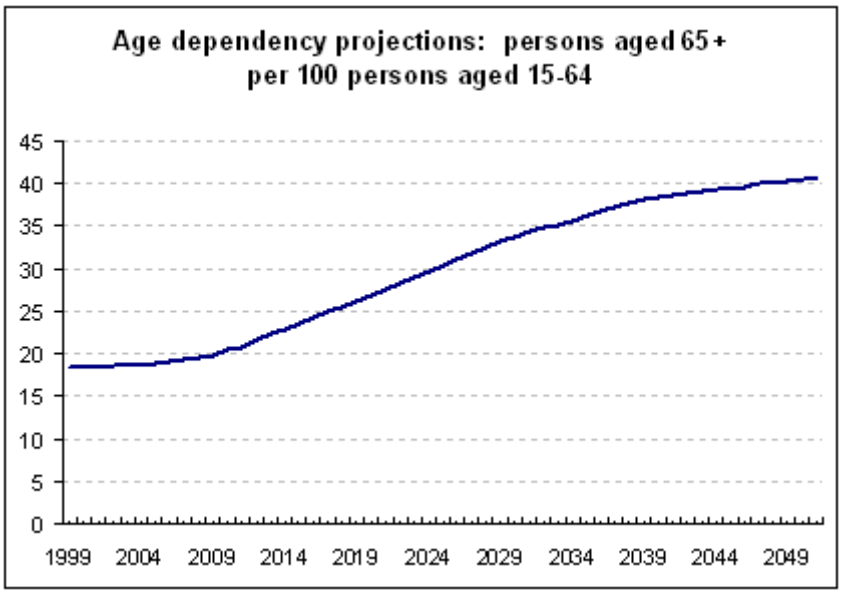


By the 1970s public policy debates became concerned with long term retirement incomes and the budgetary stress of the age pension. In the early 1990s the Commonwealth started long term fiscal projections in its *Intergenerational Reports*. The latest (2007) Report projects age pension spending to rise from 2.5 percent of GDP in 2006-07 to 4.4 percent of GDP in 2046-07.



The causes were many. Fertility was falling. Female wages were rising, leading to a higher opportunity cost of children. Fertility had fallen below the long term replacement rate of 2.3 children per woman. People were living longer. And immigration, while high in absolute numbers, was much lower as a percentage of the

population and the "young" immigrants of the 1950s were now ageing. As a result the age dependency ratio was projected to rise.

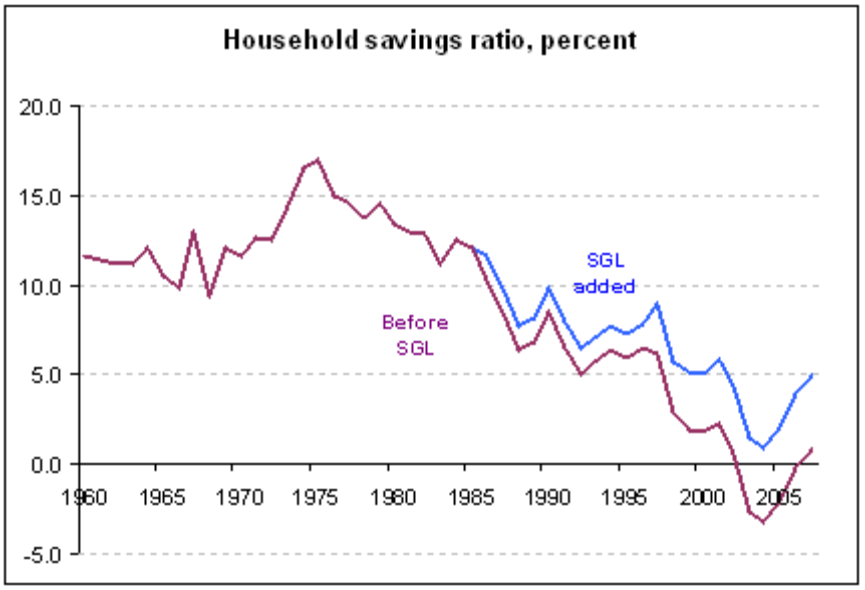


In 1974 the Hancock Inquiry recommended a national superannuation scheme, but this was not taken up.

By the early 1980s firms (and later public sector employers) moved from *defined benefit* to *defined contribution* schemes, shifting actuarial and investment risk on to individuals. (In many cases, including universities, defined benefit schemes were grandfathered.) By 2006 only 790 000 (mainly older) people had any defined benefit accounts. The Commonwealth responded mainly by tightening the pension means tests, but retained the defined benefit design of the age pension.

It was not demographic pressure, however, which brought the Commonwealth into compulsion for private sector superannuation. By 1986 the economy was in a positive feedback loop, with high inflation feeding into high wages as laid out in the Hawke Government's Accord, which in turn fed into demand and high inflation. The pragmatic response was to award a six percent pay rise split between a three percent wage rise and three percent award-based superannuation.

In 1992 the Commonwealth became committed to raising the rate to nine percent by 2003, and it has remained at that level since. It was ostensibly designed to provide workers with 40 percent of pre-retirement incomes (it should easily overshoot that target). It has stayed at that level, but there have been extra inducements, such as co-contributions and generous tax breaks on retirement incomes introduced in the 2006-07 Budget.



Another consideration was the need to mobilize savings. By the 1990s there was concern at a low level of savings. The Fitzgerald Report was released in 1993 when savings were significantly higher than they are now. It appears, as foreshadowed by Fitzgerald, that superannuation had tended to displace other forms of household saving.

Why compulsion?

If we are rational in our decision-making, in choosing between immediate and deferred consumption, why do we need compulsory superannuation? After all, in economic theory, we should be able to choose rationally between present and future consumption; our discount rate for future consumption should roughly balance the return we can get on investments.[1]

But we know we suffer what behavioural economists call "frailty of will". Left to our own resources we are apt to look back and wish we had made different choices earlier in our lives. Some economists, such as Avner Offer suggest prosperity itself has diminished our capacity for self-control.[2] David Laibson, of Harvard University, has developed a models of our behaviour which he describes as "quasi hyperbolic discounting".[3] In plain language we put a very high premium on consumption today rather than tomorrow, but tomorrow we will be rational. The trouble is, as the song goes, tomorrow never comes.

To illustrate this bias Laibson puts pairs of questions such as:

A) Would you prefer $1000 now or $1100 in three months time?

B) Would you prefer $1000 in three months time or $1100 in six months time?

People show impatience in response to question A, but patience in response to B.

We know we have problems in self-control, and many of us adopt mechanisms – "self binding mechanisms" – as a discipline on ourselves.[4] Some join Christmas savings clubs, some ask their employers to deduct excess PAYG taxation, some pre-pay gym membership to establish a commitment to exercise (even if cannot reduce the pain we can reduce the marginal financial cost of exercise).

There are situations in which we appoint the government as our agent to exercise such control. We readily accept compulsion to use seat belts, for example. Superannuation is in the same category.

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1. Economists will recognize this as a simplification. There is no reason why personal discount rates should equate to market returns. In fact, the whole concept of a personal discount rate is a very difficult one.

2. Avner Offer *The Challenge of Affluence: Self-control and well-being in the United States and Britain since 1950* (Oxford 2006).

3. David Laibson "Golden eggs and hyperbolic discounting" *Quarterly Journal of Economics*, May 1997,

4. See Thomas Schelling "The Intimate Contest for Self-command" in Thomas Schelling *Choice and Consequence: Perspectives of an Errant Economist* (Harvard 1984).

Getting personal

Adequacy

In early 2008, there is renewed debate on the adequacy or otherwise of nine percent superannuation.

Certainly, with compulsory superannuation having been in operation for only a few years, few people have significant balances. The average account balance in 2006 was only $32 000.

Superannuation funds -- assets and accounts 20006

	Number of member accounts '000	Assets $ billion	Assets/account
Corporate	606	52.4	86 000
Industry	9 793	150.5	15 000
Public sector	2 899	152.0	52 000
Retail	14 974	298.4	20 000
Small	627	214.8	343 000
Life office funds		43.9	
Total	28 899	912.0	32 000

The reason there are more accounts (29 million) than people (21 million) is that some people have multiple accounts. Across 21 million people the average balance is in the order of $43 000, and across 14 million adults the average balance is around $65 000.

One does not need a great deal of financial sophistication to realize that $65 000 isn't going to support a prosperous retirement.

To describe the classification, the corporate funds are ones operated by large employers. Industry funds are operated on an industry basis, usually with joint union/industry association governance. (Many are open to outside members.) Retail funds are those one can buy from large financial institutions. "Small" funds are DIY self-managed funds; it is evident from the table that these tend to be held by those with reasonably large balances.

But how much is enough?

There are precise formulae and heuristics (rough, simplified formulae) to answer that question. But first, a digression into one of the most important but generally overlooked formulae in financial math:

Real interest rate = Nominal interest rate – Inflation[5]

The nominal rate is the one you see posted in bank advertisements.

To understand the relationship, imagine you are trustee for an endowment of $1 000 000, which is to fund a scholarship in perpetuity. You invest it in bank bills at 7.5 percent, and inflation is 3.0 percent. How much can you draw each year without depleting the real value of your capital?

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5. Strictly, the real rate relates to *expected* inflation. And the full formula is:
real rate = (1 + nominal rate)/(1 + inflation) – 1

You will get $75 000 in interest in the first year. But inflation of 3.0 percent will have reduced the value of the endowment by $30 000, which is the amount you will have to pay back to the fund to maintain its real value. Therefore your drawing for the scholarship can be:

$75 000 – $30 000 = $45 000

Or more easily, you could have said the real interest rate is:

7.5 percent – 3.0 percent = 4.5 percent

From here on, and in all meaningful discussion of superannuation and investment products, it is useful to think only in real terms. Forget about inflation. If inflation is high, nominal interest rates will be high. It's the real return on investment that counts.

But what is a reasonable rate of return?

As Donald Horne pointed out, Australia has had an extraordinary run of luck over its short life as a nation. The figures below are indicative of that run.

Selected real average annual investment returns – Australia

	1900 to 2000	1980 to 2000	1987 to 2007
Interest on cash or risk-free bonds	0.7%	4.3%	4.7%
Equity premium	7.1%	4.8%	3.3%
Equities	7.8%	9.1%	8.0%
Return on mixed 70/30 portfolio	5.7%	7.7%	7.0%

Sources: Columns 1 and 2 from Elroy Dimson, Paul Marsh, Mike Staunton *Triumph of the Optimists: 101 Years of Global Investment Returns* Princeton 2002. Column 3 from Goldman Sachs J B Were.

Only those living in an unreal world expect the future to replicate the returns we have enjoyed since 1980 – a period of catch up economic reform and of strong demand for mineral resources. Even our 100 year return is high by world standards, thanks to immigration, natural resources, and an (almost) absence of war on our land. Most conservative planners, looking at superannuation, work on figures between 4 and 6 percent.

The good news is that, from a lump sum, we can draw more than interest only (unless we want to leave it all to our children!). The amount we can draw each year is given by the annuity formula:

$$Drawing = \frac{S \times r}{\left(1 - \frac{1}{(1+r)^n}\right)}$$

Where S = amount invested, r = return or interest rate, and n = number of years

To put these figures into some perspective, the table below shows the amount a year we can draw off an investment of $100 000 at various rates of return for various number of years.

Drawing off $100 000 over n years

	Real return		
Years	4%	5%	6%
1	104 000	105 000	106 000
2	53 020	53 780	54 544
3	36 035	36 721	37 411
4	27 549	28 201	28 859
5	22 463	23 097	23 740
6	19 076	19 702	20 336
7	16 661	17 282	17 914
8	14 853	15 472	16 104
9	13 449	14 069	14 702
10	12 329	12 950	13 587
11	11 415	12 039	12 679
12	10 655	11 283	11 928
13	10 014	10 646	11 296
14	9 467	10 102	10 758
15	8 994	9 634	10 296
16	8 582	9 227	9 895
17	8 220	8 870	9 544
18	7 899	8 555	9 236
19	7 614	8 275	8 962
20	7 358	8 024	8 718
21	7 128	7 800	8 500
22	6 920	7 597	8 305
23	6 731	7 414	8 128
24	6 559	7 247	7 968
25	6 401	7 095	7 823

For example, if you have $100 000, an get a return of 5.0 percent, and want it to spin out over 20 years, you could draw just over $8 000 a year. If you wanted to have enough to provide an income of $40 000, you would need around $500 000.

I should give one warning here. In converting from nominal to real rates we subtracted inflation. In the example above, the $500 000 invested over 20 years gives you enough to sustain expenditure at the real rate of $40 000 a year. That allows for no rise in living standards. Perhaps (if you want to avoid envy of your children's living standards) you should plan even more conservatively if you want your living standards to rise at, say, one percent a year. To do this, you would need to subtract another one percent from your expected return – in this case you would be able to draw only $7 358 per $100 000 invested. You would need around $550 000 to sustain a $40 000 living standard which keeps up with rising standards.

To put the years into perspective, at age 65 male life expectancy is 18 years; female life expectancy is 21 years. If you plan using these figures and die young, your children will have something for a wake (or a new BMW). If you live longer, there's always the pension. Of

course, you can buy a complying pension from a financial institution, who, for a fee, will cover the actuarial risk associated with your life expectancy.

Getting to adequacy

There is no simple formula, but there are calculators on websites such as ASIC's FIDO website. http://www.fido.gov.au/fido/fido.nsf

Your accumulation will be a function of:

- your contributions – 9.0 percent for most employees, possibly supplemented by additional employer contributions, salary sacrifice and any government co-contributions for low income earners;
- the age when you start work and when you finish;
- breaks from work, including child bearing and caring, unemployment, study etc. The younger you are when you break the more the loss of earnings;
- your earning profile. If your starting and finishing salary are much the same (e.g. a professional or tradesperson) you will accumulate more than someone with an earning gradient (e.g. one who moves up through the ranks) because of the power of early contributions;
- your choice of investment – capital stable, growth etc. In general, for the long term one should choose growth assets. Capital stable choices give secure but low returns;
- the returns from your fund – although, over the long term, the returns tend to converge;
- the fees charged by your fund.

Remember what we said about returns – a conservative plan is to budget on returns between 4 percent and 6 percent. But, for most products, fees are levied as a percentage of accumulation, in effect reducing the return.

A fee of 1.0 percent may sound low, but if your expected real return is 5.0 percent, then a 1.0 percent fee reduces your return to 4.0 percent, a 20 percent reduction in earning.

To illustrate the effect of fees, using a calculator from which the FIDO calculator was developed, consider someone with unbroken work with a salary of $60 000 from age 23 to 65, and a standard 9 percent contribution. The effect of fees on an investment with a real return of 5 percent is shown in the following table:

Fees (percent of capital)	Accumulation	Amount foregone as a result of fees
0.0%	$532 000	$0
0.5%	$476 000	$56 000
1.0%	$426 000	$106 000
1.5%	$383 000	$149 000
2.0%	$344 000	$188 000

It is also of interest to model the effect of this person taking a break. A five year break at age 30 reduces the accumulation to $441 000, a cost of $91 000 (on the zero fee case). That is because the contributions made at early ages have a long time to earn interest.

Also, early retirement is costly. If the same person retires at age 60 rather than 65 his or her accumulation reduces to $410 000, a cost of $122 000. That is because the balances by age 60 are high, and the early retiree loses five years of earning.

The effect of fees

Fees count. In times of high nominal returns, even high fees of one to two percent may go unnoticed. When returns turn down contributors start to notice. If, as seems likely, 2007-08 is a year of low returns, fees will stand out as a major issue.

In general, fees in industry funds are much lower than fees in retail funds. Industry funds have fairly simple fee structures, ranging from around 0.55 percent through to 0.95 percent of account balance. In addition there is a small fixed administrative fee, generally between $50 and $100.

In retail products fees are much more complex. Fees vary with account balances and with employer size. Typically fees for popular retail master trusts vary between 1.30 and 1.85 percent of account balance. Those individuals who walk in off the street without the backing of a large employer – the self-employed, or those depositing an inheritance into a new account – are likely to pay a very high fee.

In addition, there can be a trailing commission payable to a financial planner. In most cases those planners are commission salespeople, with a strong financial incentive to push clients to products with the highest commission – which also comes off the account balance. There is a small handful of genuine planners who charge fee-for-service, but they find it hard to compete with those who offer "free" advice. Returning to our example above, an "adviser service fee" of just 0.15 percent can cost that individual $18 000 in final accumulation – rather expensive compared with fee-for-service advice.

Policy issues

Increase the 9 percent?

At the time of writing (early 2008), there is a great deal of debate about the desirability or otherwise of increasing the superannuation contribution rate to 12 percent or even 15 percent.

There is a glib attraction to such proposals. Particularly in an overheated economy, sequestering away wage rises and committed tax cuts to superannuation reduces demand-induced inflationary pressures. (This is the same environment as existed in 1986.)

But, as can be demonstrated with calculators, for someone with long and unbroken employment, in a fund with low fees, the present 9 percent is quite adequate. Our notional contributor with a pre tax income of $60 000 ($47 000 after tax) would accumulate around $500 000, enough to fund 20 years of tax-free retirement drawings of around $40 000.

Of course such a person may be atypical in a world where broken employment becomes the norm, but the point is that a "one size fits all" increase is going to leave many people with skewed lifetime incomes.

Typically, our mid-life years are those of maximum demand, as we pay off mortgages and house modifications and pay expenses associated with children – often with the added cost of one earner on a reduced or zero salary. Our later years see very much reduced demand. And typically, in our 50s or 60s, an inheritance may come our way.

This distortion is worsened by the tax changes introduced in the 2007-08 Budget, which abolished almost all taxes on retirement products. There was a strong case for simplification of retirement regulations; they were unbelievably complex. And there is a strong case against imposing full taxation on drawings, because these drawings are in part capital rather than income. But complete exemption from taxation is hard to justify – as is the absence of inheritance taxes. (A couple of generations ago we were considerate enough to die at a time when our children could do with some extra cash. Now we hang on until they don't really need it.)

Because superannuation fund balances are low, these concessions are not costly in the short run, but, unless they are reversed, they will become very costly, and could have the perverse effect of encouraging many high income earners and beneficiaries of inheritances to choose early retirement. This is an outcome of a budgetary process which is concerned only with four year cash outlays, and of a dying government desperately trying to secure the gray vote (as if older people don't care about the welfare of future generations). The *Intergenerational Report* conveniently does not cover the cost of superannuation tax concessions.

One possibility is that a higher rate becomes a default for all employees, with the choice of opting out. Research and practical examples, ranging from retirement saving through to organ donations, shows that "opt out" schemes (also called "soft compulsion) have vastly better retention than "opt in" schemes. (We already have "opt in" superannuation, with generous treatment of salary sacrifice, self-employed contributions, and co-contributions.) But there is no guarantee that those opting out would be those who can afford to opt out; in fact they are likely to be those with the highest immediate needs.

Another problem with higher contributions is that it becomes a honeypot for the financial services sector, already taking a huge cut of our superannuation. With balances now around $1 000 billion, a one percent fee is equivalent to $10 billion a year, or one percent of GDP. Higher contributions give more opportunity for funds to mask their fees behind high nominal accumulations.

Self-managed funds

Although retail funds tend to charge lower fees for higher balances, there is still a cross-subsidy in most products from those with high balances to those with low balances. Even a two percent fee on the average $32 000 account is only $640 a year, which is unlikely to be adequate to cover all management expenses.

Because of this cross-subsidy, those with significant balances have a strong incentive to set up their own fund. A couple, with combined superannuation assets of $400 000, even if they can find a low cost fund, would still pay around $2 000 a year in fees. Depending on how people arrange their affairs (contracting management to a professional or truly using DIY) the accounting and auditing cost of a self-managed fund can be as low as $2 000 a year, plus the opportunity cost of time associated with managing the fund.

Self-managed funds are a thorn in the side of the financial sector, and, indeed, some of their warnings about poor practices in self-managed funds have validity. But they keep some competitive pressure on the industry – which is why the industry is calling for more regulatory hurdles for self-managed funds.

Choice of funds

The freedom to choose has many problems, particularly for unsophisticated investors (and doesn't that describe most of us?). We are subject to many biases in our investment decisions – inadequate or excess diversification, overconfidence or conservatism, extrapolation of trends and endowment. Behavioural research shows all these biases in operation. To elaborate:

- *inadequate diversification* – we fail to spread our investments. This is particularly manifest in the USA where retirement savings are less regulated; many employees in that country invest heavily in the stock of their own employer, thus aggravating the risk in the event of the firm failing. People in self-managed funds run a risk of holding too small a spread of investments.
- *excess diversification* – some people believe that holding multiple accounts, or having complex "wrap" products which allocate funds to different entities, reduces risk, but often these entities are all investing in the same general diversified mixture. The cost is in the high fees from multiple holdings.
- *overconfidence* – in general, we are overconfident in our abilities as cooks, lovers, drivers – and investors. This overconfidence may lead many who know a little but not enough about investment, to set up self-managed funds.
- *conservatism* (the opposite to overconfidence) – we are often unsettled by the volatility of returns on equities, and retreat to low return products such as fixed interest. But over the long term there is an higher return on equities (the "equity premium"). Conservatism makes sense in the short term if we know we may shortly have to make a significant drawing from our fund, but in the long term products described as "capital stable" or "fixed interest" do not perform well. Also, many people don't do valid comparisons of equities and fixed interest products. A fixed

interest product paying 6.0 percent will generally give a poorer return than an equity paying 4.0 percent dividend, because dividends generally rise over time, often ahead of inflation. (Again, this is why an understanding of nominal and real returns is important.)

- *extrapolation of trends* – we often buy and sell on the basis of observed trends rather than on future prospects. Herds generally finish up in the slaughterhouse.
- *endowment* (or *defaults*) – we tend to hold on to those things we have, even if we would not necessarily make such a choice if we didn't have them. Similarly, we take the easy default option. Overwhelmingly we tend to stick with the employer's choice of fund. Employers, too, have problems with fund choice, for they bear the administrative costs of multiple contributions. One possible solution to that problem is to have superannuation accounts handled through a central clearing house, which could also alert people to potential problems such as poor investment choices, high fees or the cost of holding multiple accounts.

Another trap is that many products come bundled with life and disability insurance. There are stages in life when life insurance is a wise choice, but it is hardly necessary for those without dependents. One strong behavioural bias is a tendency to over-purchase insurance.

In sum, we have choice, but it is in a market for which most of us are poorly prepared.

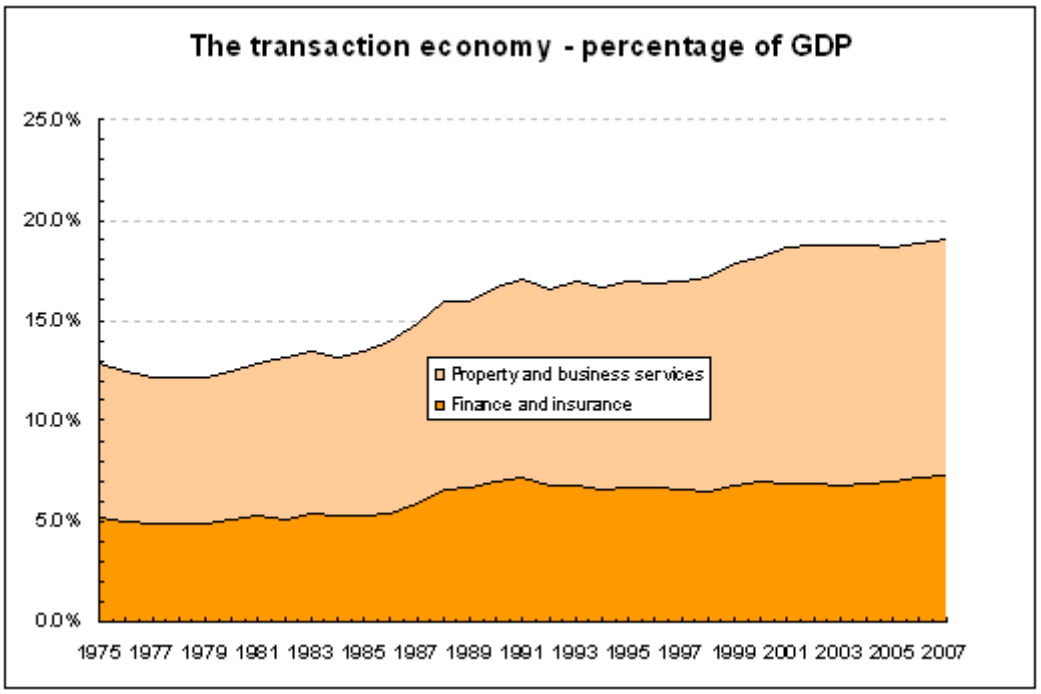
A new feudalism?

In Shakespeare's *Hamlet*, Polonius gratuitously advises Laertes "Neither borrower nor lender be", but most Australians, in their working years, become both. We borrow funds from the financial sector for housing, and send them to the financial sector for superannuation. The financial sector does well with spreads and commissions on both legs of the round trip.

Admittedly there is a difference in the flows, with mortgage finance being debt, while superannuation is equity. But there are two policy points.

First, we are paying heavily to support the financial sector. By 2007 we were paying $3 500 a head to the sector "finance and insurance" and $5 600 to the related sector "property and business services". That's about $9 000 a head or $24 000 a household. Those measures are net "value added", including commissions, spreads between interest paid and interest received, account keeping services, legal fees etc. Not all are paid directly by consumers, but they get passed through in the prices of all goods and services.

That's serious money, dwarfing our outlays on gasoline and around twice what we spend on food. And it's been growing, in spite of the huge advances in information technology which should have brought so much productivity improvement to this sector. Any advanced economy needs these services, but at what stage do we conclude our productive sectors can bear only so much overhead?



Another consequence at the household level relates to liquid assets. Superannuation savings are sequestered, unavailable until retirement. As shown by household savings data, we have tended to use superannuation to displace other savings.

When we have no reserve of liquid funds, we lose some of our autonomy. For example:

- it's hard to walk out of a poor job and look for another (particularly when we haven't worked long enough to accumulate leave) if our pay packet is fully committed;
- we don't have the option of paying cash for cars and major appliances. Finance packages offered by car dealers and retail shops are very expensive;
- we may have to use expensive credit card debt to pay for contingencies, such as emergency travel, house repairs or medical expenses;
- we cannot put together an adequate deposit for a house, possibly resorting to risky and expensive mortgage products;
- we cannot afford any level of self-insurance. We have to take out comprehensive car insurance for example, rather than simple third party property insurance.

I refer to our debt situation as a new feudalism, for we yield much of our autonomy to the finance sector, and we become more tightly bound to our existing employer. This is not to blame superannuation for our loss of liquidity, but it has contributed to that situation.

Investment imbalances

With wages at approximately 54 percent of GDP, a 9 percent of superannuation pushes almost 5 percent of GDP into investment, offset by withdrawals. In addition there are the returns on accumulated investment.

In 2005-06 the net funds flow into superannuation was $149 billion, equivalent to around 15 percent of GDP.

There can emerge problems when there is an easy and assured flow of funds into capital markets. In short, those who make investment decisions become lazy. Share prices can rise simply because of demand, rather than because of any underlying change in the value of firms (asset price inflation).

Also, in an economy which many economists say has underinvested in public goods, it is possible that superannuation investments are crowding out public good investments, the dividends of which accrue not in cash terms but in terms of services to the community.

Real resources

Governments and financial planners are obsessed with adequacy – our ability to accumulate the half million dollars or so to see us through retirement.

But there is insufficient attention to the real resources we will need in our dotage. No matter how much money we have, if the things we need in our old age are unavailable we will have to go without.

The market can and will respond with certain goods and services we need in our old age – Harley Davidson motorcycles, recordings of Crosby, Stills, Nash and Young and the Grateful Dead, duffel coats, ... But there are some things which take a long time to supply, and which require some degree of government planning. These include health services and urban design.

An ageing population will need more medical practitioners, specialized nurses, physiotherapists, podiatrists and other health care workers. These professions all require long periods of classroom and on-the-job training, and if future demand is to be met there needs to be planning in education authorities.

Even more lead time is required in housing and urban design, for people who cannot or do not wish to drive long distances to shops or to maintain large houses. Our cities and housing may have to be significantly re-shaped, and that takes time. That may be the greatest area of neglected policy.