

The great Australian Superannuation Ponzi Scheme?

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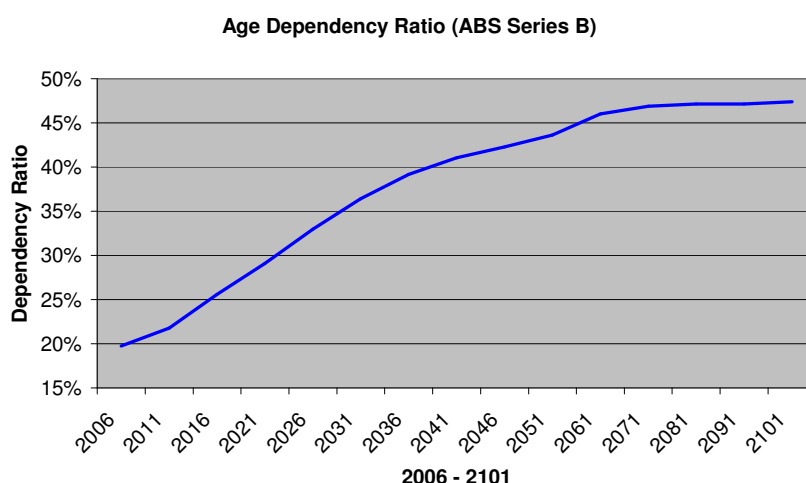
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Summary: Has the home bias of Australian superannuation investment to Australian Equities led to what is effectively a Ponzi scheme which will collapse as increasing numbers of retirees look to withdraw their savings or convert them to lower risk assets? This paper argues that the answer is “yes” and uses recent analysis from MSCI Barra to make the case.

The Bernard Madoff investment scandal focussed world attention on the world’s biggest, US\$64 billion¹, Ponzi Scheme. A Ponzi scheme uses the investments of later contributors to pay returns to early contributors². Is Australian superannuation effectively a Ponzi scheme on an even bigger scale than Madoff’s?

Between December 1989 and December 2009, Australian Superannuation assets grew from \$78 billion to \$1,020 billion³, a compound annual growth rate of 14%. One of the major drivers of this growth has been the compulsory superannuation guarantee levy⁴.

Superannuation would have the characteristics of a Ponzi scheme if when early contributors retire, their withdrawals from their super are being supported by the contributions of non-retired contributors. Ponzi schemes unravel when the level of withdrawals exceed new contributions. This point could well be reached in the not too distant future as the ageing of the population leads to the ratio of retirees to contributors increasing, a condition similar to the trend observed in the age dependency ratio, or the percentage of over 65s to working age (taken as 15-64 age) population⁵:



Inverting the dependency ratio there were, for example, 5.1 working people for each aged person in 2006 and this is projected to drop to about 2.3 in 2051.

¹ http://en.wikipedia.org/wiki/Madoff_investment_scandal

² Oxford English Dictionary

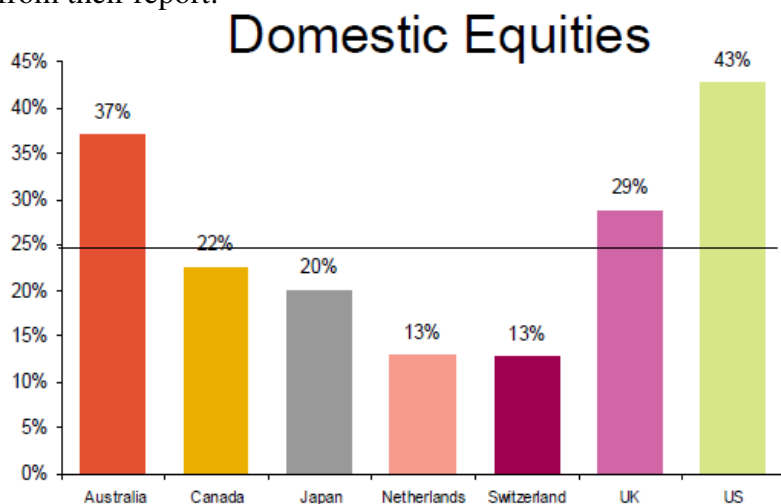
³ Australian Bureau of Statistics release 5655.0

⁴ <http://www.apra.gov.au/insight/upload/history-of-superannuation.pdf>

⁵ Derived from “Population Statistics 2006-21001”, Australian Bureau Statistics 3222.0, 2008

With most superannuation in Australia being individual accumulation scheme accounts, the contributions of one member do not directly affect the benefits of another⁶, however the flow of contributions can inflate the asset values of the accounts of other members. It is this effect that, in the case of one particular asset class, Australian listed equities, leads to the investment habits of superannuation funds having the characteristics of a Ponzi scheme.

Most Australian superannuation scheme trustees feel obliged to allocate large proportions of the money under their trust to Australian (ASX listed) equities. Where members are given a choice of asset allocation, the default asset allocation typically also involves a large proportion of Australian equities. There may be rational reasons for such allocations but here we just note the fact that the aggregate allocation to Australian equities by all superannuation funds was 32% (which is lower than in the graph below due to compositional and sourcing differences) as of December 2009⁷, which is up from 27% in 1999 and 23% in 1989. Further, we note that this preference for domestic equities is second only to the USA in a survey of global pension asset allocations undertaken by Towers Watson⁸ as shown in the following chart extracted from their report:



If the feeling of obligation to invest in Australian equities is not matched by a supply of suitable equities, then the effect of the large money flows will be to increase the price of the assets. This price support works as long as the flow of money continues. The statistics over the last decade are telling. Between December 1999 and 2009, superannuation investment in Australian equities rose from \$83 billion to \$323 billion. In the same period, the market capitalization of Australian listed shares rose from \$654 billion⁹ to \$1,403 billion¹⁰. Thus superannuation fund holdings in Australian equities have risen from 13% to 23% of the total. Clearly the growth of

⁶ For group account based schemes, in particular, defined benefit schemes, the situation is potentially worse with contributing members possibly shoring up the pensions of retired members, or, if the scheme actuary has done their job properly, the burden will fall to company shareholders or, in the case of a government scheme, tax payers.

⁷ Australian Bureau of Statistics release 5655.0 This excludes listed equities in Unit Trusts and may include some unlisted equities (further research with the ABS required). The numbers in reference 15 below differ but to an extent that is immaterial to the argument.

⁸ 2010 Global Pension Asset Study, Towers Watson: www.towerswatson.com/research/972

⁹ <http://www.world-exchanges.org/files/statistics/excel/EQUITY399.XLS>

¹⁰ http://www.asx.com.au/research/market_info/historical_equity_data.htm

Australian superannuation allocations to Australia equity has exceeded the growth of the stock market as measured by market capitalisation.

Similarly, the allocation of superannuation to Australian equities has exceeded the growth of the number of companies available for investment on the ASX. Unfortunately ASX data only goes back to March 2002, when there were 1496 companies listed on the exchange¹¹. In December 2009 there were 2181 listed companies, an increase by a factor of 1.5 times over March 2002. In the same period the allocation of superannuation funds to Australian equities had grown by a factor of 3.3.

These statistics by themselves do not necessarily prove the case that the flows of superannuation money into Australian equities are inflating prices in the manner of a Ponzi scheme, which would collapse when retirees exceed contributors. It may be that the listed companies are growing in underlying economic value at a sufficient rate to accommodate the fund flows so that when the retirees look to sell equities there will be willing buyers from continuing contributors and overseas institutional investors to maintain prices. However, some recent evidence from MSCI Barra¹² indicates that this may not be the case.

The MSCI Barra research breaks down the returns on various equity markets into five components:

Total Return = Inflation + Growth in real book value + Growth in Price/Book ratio + Dividend income + Residual.

For example, over the total period covered in the report, 1975 – 2009, the total return per annum on the Australian share market breaks down as

Total Return	14.3%
Inflation	5.5%
Growth in real book value	1.2%
Growth in Price/Book ratio	2.7%
Dividend income	4.4%
Residual	0.7%

The components of the total return coming from growth in the real book value and dividend income represent real growth in underlying economic value as mentioned above. Growth in the Price/Book ratio is growth due to upward revaluation of book value.

Of the countries studied by MSCI Barra, Australia has one of the highest components due to growth of the price to book ratio. In the period 1990 to 2009 it has the highest component coming from growth of this valuation ratio:

¹¹ http://www.asx.com.au/research/market_info/historical_equity_data.htm

¹² MSCI Barra “What drives long-term equity returns?” January 2010
[www.msribarra.com/research/articles/2010/What%20Drives%20Long%20Term%20Equity%20Returns%20\(Jan%202010\).pdf](http://www.msribarra.com/research/articles/2010/What%20Drives%20Long%20Term%20Equity%20Returns%20(Jan%202010).pdf)

Australia	1.6%
World	-1.9%
USA	-0.3%
Europe	-0.9%
Japan	-0.1%
UK	-0.2%

The increase in valuation effect in Australia is significant as 1.6% per annum compounded over 20 years totals 37%. Assuming this valuation effect applied to the whole Australian equity market, its impact at 30 September 2009 (the end date of the MSCI Barra analysis) would have been to increase the market capitalisation of Australian equities by \$364 billion, an amount that makes even Madoff's Ponzi scheme seem small.

There thus appears to be evidence that Australian superannuation funds are continuing to invest a large proportion of their investable funds into Australian listed equities, even though the market has not grown at a rate sufficient to absorb these funds without inflating valuations. The recently proposed increase in the superannuation guarantee charge from 9% to 12% will only compound the problem unless something changes.

This situation could be remedied by existing Australian listed companies creating more underlying economic value or, perhaps more realistically, by the creation of more Australian listed companies to create new economic value. However, for the latter to occur, new companies have to be born and funded through their early years and while we have seen that Australian superannuation funds invest vast amounts of money in Australian listed companies, they invest minimal amounts in creating new companies.

A recent paper by Kaplan and Lerner¹³ makes the following observation regarding venture capital (VC) in the USA: "Since 1999, over 60% of IPOs have been VC backed. This is an extraordinary percentage considering that only 1/6th of 1% of all companies are VC-backed. In only two years of these years, have fewer than 50% of IPOs been VC-backed." In the US it thus appears that venture capital is instrumental in creating new listed companies, so how is Australia placed in this regard?

The following chart¹⁴ shows the total amount invested into Australian venture capital from all sources, not all of which are superannuation funds. The \$263 million invested in venture capital in fiscal year 2009 can be compared with the \$112 billion of new superannuation contributions¹⁵ made in the same period of which, presumably, based on overall asset allocations, some \$30 billion was invested in Australian listed

¹³ S N Kaplan & J Lerner, "It Ain't Broke: The Past, Present, and Future of Venture Capital"

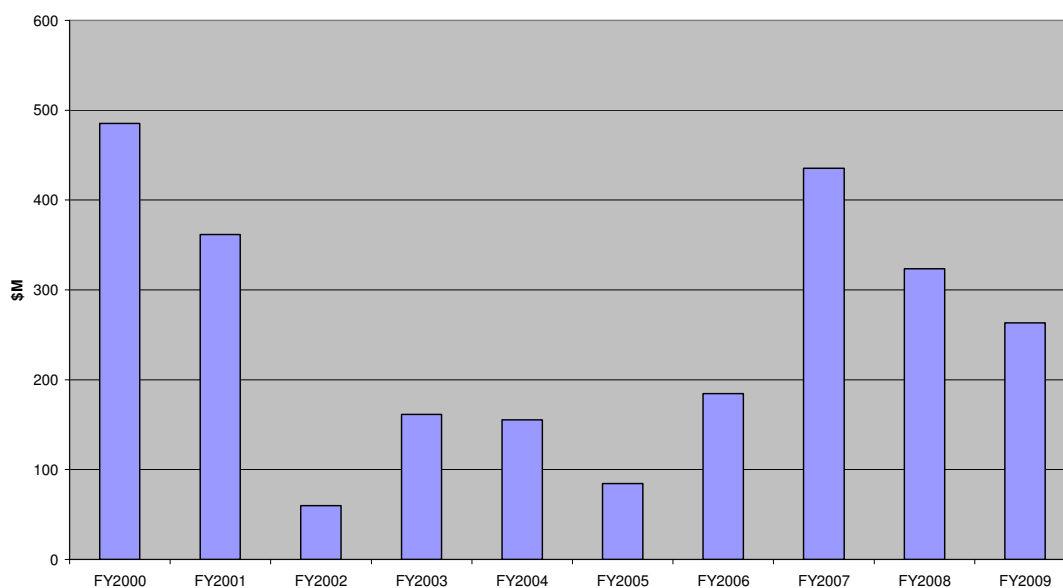
<http://faculty.chicagobooth.edu/steven.kaplan/research/kaplanlerner.pdf>

¹⁴ http://avcal.com.au/sites/default/files/general-files/AVCAL_Yearbook2009_0.pdf

¹⁵ <http://www.apra.gov.au/Statistics/upload/June-2009-Annual-Superannuation-Bulletin-PDF.pdf>

equities. Even if all of the venture capital fund investment for 2009 had come from superannuation inflows it would have represented only 0.23% of the total inflow.

Venture Capital Funds Raised



If superannuation is not going to be the biggest Ponzi scheme of all time, Trustees need to consider allocating a larger proportion of the funds under their charge to the creation of new companies. (Note that they could also reallocate from Australian Equities to other asset classes but this selling would likely bring forward the realisation of the Ponzi scheme.) A large superannuation fund investing into a widely diversified portfolio of early stage investments would expect some of the investments to fail and some to go on to become new major public companies. Taking a long term view of superannuation investment, funds could hold such investments through their evolution from start-ups to major companies, avoiding intermediation and transaction costs. Such costs are a significant part of the current situation in which superannuation funds devote a large proportion of their assets to simply trading listed Australian equities, with the occasional private equity transaction resulting in even higher transaction costs as public companies are taken private and then, after a while relisted, such as happened with Coles Myer/Myer¹⁶.

While most Ponzi schemes are fraudulent attempts to increase the wealth of their perpetrators, there is no suggestion that the Trustees of superannuation schemes and their advisors are looking to enrich themselves by allocating large amounts of funds to Australian listed equities, irrespective of the underlying value. However, they are taking the easy route. Just as the strength of the IBM brand was once exemplified by the saying "No one ever got fired for buying IBM"¹⁷, so also might one say "No Trustee or advisor was ever fired for investing in Australian Equities". Taking the decision to invest in the creation of new Australian companies, by comparison, requires courage. Let us hope for the sake of the forthcoming boom of Australian retirees that more have the courage before it is too late.

¹⁶ The author thanks his former colleague, Peter Curtis, now Senior Investment Manager at Australian Super for this observation.

¹⁷ <http://en.wikipedia.org/wiki/Brand>