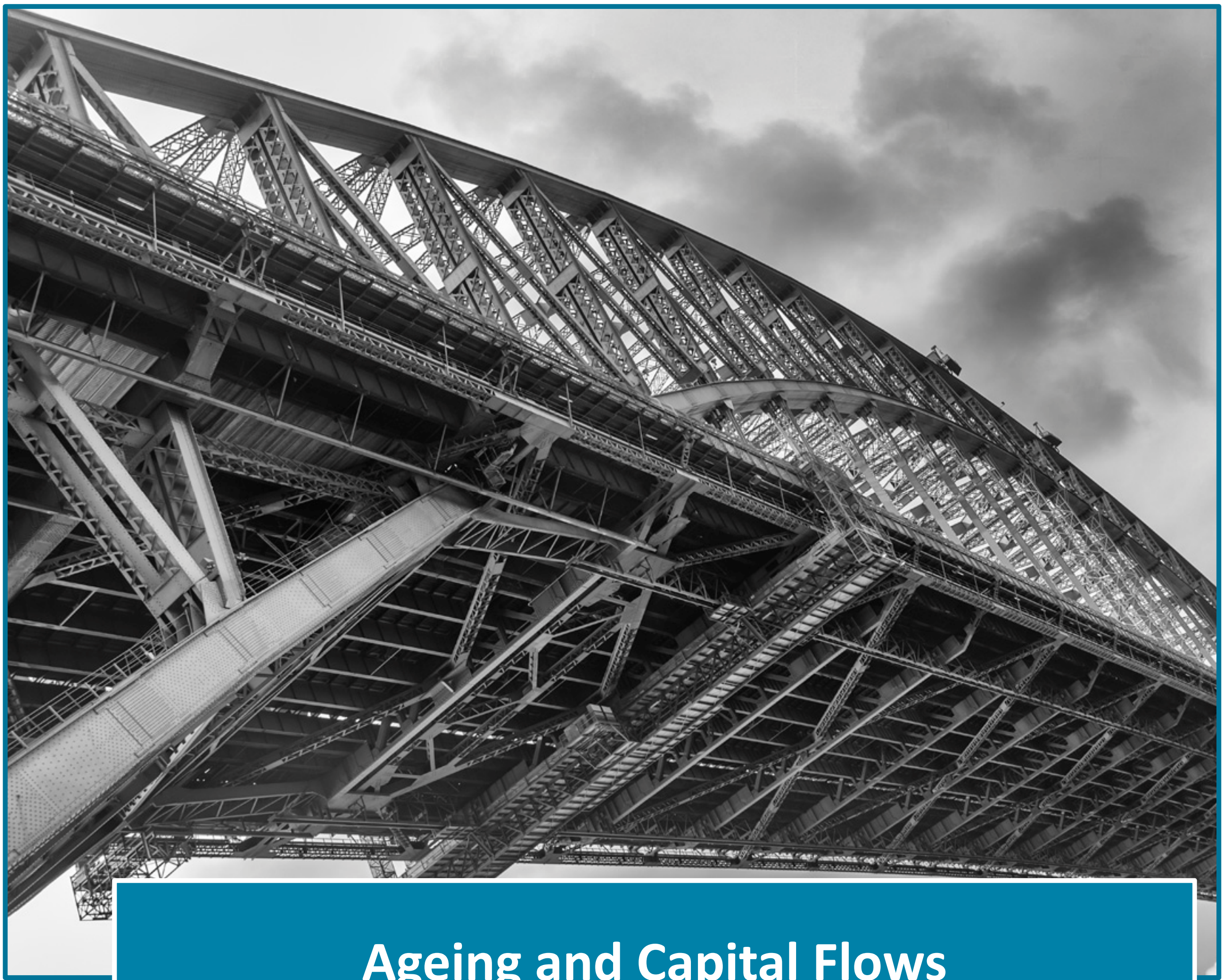


Ageing and Capital Flows

Financial System Inquiry

Sydney
Level 1
2 Martin Place
Sydney NSW 2000
T +61 2 9293 3700
F +61 2 9233 5847

Melbourne
Level 20
303 Collins Street
Melbourne VIC 3000
T +61 3 8621 4100
F +61 3 8621 4111

ABN 35 003 186 883
AFSL 239 191

ricewarner.com

Table of Contents

Report commissioned by:

Actuaries Institute
Level 2
50 Carrington Street
Sydney NSW 2000, Australia
t +61 (0) 2 9233 3466 | f +61 (0) 2 9233 3446
actuaries@actuaries.asn.au | www.actuaries.asn.au

1. Executive Summary

1.1 Brief

The Financial System Inquiry (FSI) approached the Actuaries Institute to provide some modelling on the impact of demographic changes on external capital flows as a result of our ageing population.

The Actuaries Institute has asked Rice Warner to conduct the modelling based on the model developed to produce the results for our annual *Superannuation Market Projections*[1].

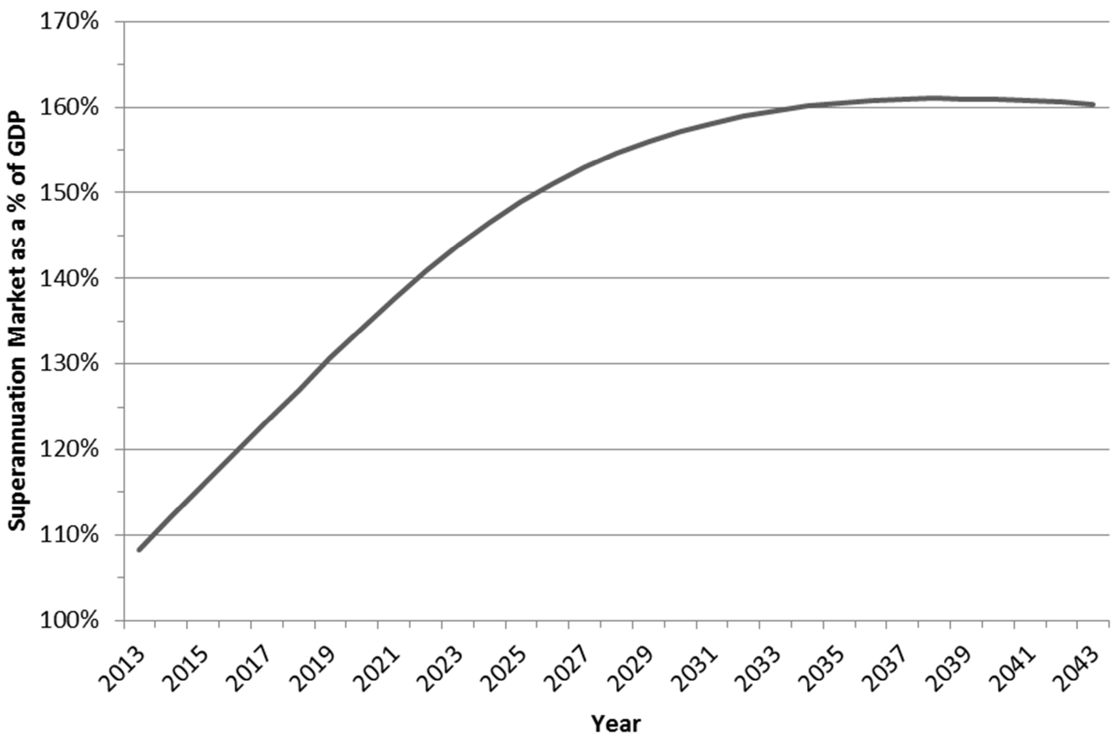
1.2 Size of superannuation sector

The superannuation market has grown sharply in recent years. As at 30 June 2013, funds under management sat at $1.6 trillion up from only $530 billion 10 years ago.

The sector is projected to grow at a compound rate of 14.5% p.a. (nominal) in the 30 years to 2043. Assets will then be more than $5 trillion. This continued rapid growth is likely to see superannuation growing in importance in the economy. Superannuation assets represent close to 108% of GDP in 2013 and are projected to plateau at 160% of GDP by the end of the projection period.

Note that our model is deterministic and provides a central estimate of market projections. Stochastic projections have not been undertaken.

Graph 1. 30 year projected superannuation assets as a percentage of GDP (2013 dollars)



[1] *Superannuation Market Projections - December 2013*

1.3 Shift from Accumulation to pension phase

As the population ages, not only is the superannuation industry expected to grow, but the composition of the industry will also change. Currently, members in the pension phase (that is, those who have retired) account for 30.4% of total superannuation assets as at 30 June 2013. This percentage is expected to grow to 43.7% of assets in 30 years.

The relative growth in importance for this sector reflects the ageing of Australia's population and the maturation of the industry. Assets in respect of retired members will grow as the baby boomers retire and, following that, the next generation of members will retire having had superannuation for their entire working career.

1.4 Savings outside superannuation

Savings outside superannuation account for $2.3 trillion in assets. This market is larger than the superannuation market, however, most of it is directly held by investors:

- 46.7% of personal investments are in the form of directly held investment properties.
- Directly held cash and term deposits account for 33.8% of personal investments.
- Directly held investments in equities account for 11.1% of personal investments.
- Investment master trusts and wrap platforms account for 4.8% of personal investments, but if directly held investment property is excluded, investment master trusts and wrap platforms account for 9.0% of the remaining market.

The market is projected to grow to $4.6 trillion in assets by 30 June 2028, which is a compound growth rate of 4.8% a year. The rate of growth varies by the type of asset (see Table 18) in section 7.4

1.5 Asset allocation of superannuation funds

The typical default option for an APRA regulated superannuation fund follows a 70/30 growth to defensive asset allocation. With the introduction of MySuper, many funds have had the opportunity to rethink their asset allocation. In particular, many commercial providers have introduced lifecycle options which reduce the member's exposure to growth assets as they age.

Industry Funds with their positions as default funds under awards have more security of cash flow and are less exposed to member and employer switching. They can therefore hold higher proportions of Direct Property and infrastructure (included in Other assets in Table 22).

The SMSF sector has a vastly different asset allocation to the rest of the industry, with close to half of the assets in Australian equities and almost a third of assets in cash (and term deposits). This reflects the preference of many SMSF members for domestic listed investments – largely to benefit from franking credits. Retired SMSF members hold about half of all SMSF assets and many members of this cohort have a preference for the stable income and supporting guarantees of term deposits.

1.6 Impact of change

The ageing of the population, the concurrent maturation of the superannuation market and the structural changes within that market will produce significant systemic changes in the volume of capital and its allocation.

The key changes that can be expected over the next thirty years are:

- The assets within the superannuation industry will grow significantly in real terms from about $1.6 trillion at June 2013 to more than $5 trillion in 30 years.
- This asset base will also grow as a proportion of GDP from 108% in 2013 and will stabilise at around 160% of GDP in 30 years.
- This stabilisation will reflect the maturation of the market with some 44% of assets being held in the pension phase at that stage.
- The average age of pensioners will rise.
- There will be a small number of large funds. It is difficult to predict the exact number, but if 10 funds had 60% of the assets, they would average $300 billion each (in present value).
- The SMSF sector will lose its share of the overall market as it moves increasingly to supporting members in the pension phase.

These changes can be expected to have the following impacts:

- The gradual maturation of the market in the mid 2030s will see net real cash flows move towards neutrality as pension drawdowns compensate for contribution inflows. Asset growth will trend to reflect population and economic growth and inflation.
- The much larger proportion of assets held in the pension phase due to this maturation will also be reflected in aggregate asset allocations across the market because of the need by pensioners for greater capital value security.
- This need for stability will also impact the choices of products by pensioners which will in turn impact aggregate asset allocations. Changes that can be expected include:
  - An increase in the proportion of total assets held in defensive asset categories like government and corporate bonds.
  - This move to defensive assets will be driven firstly by the increasing numbers of members moving into the pension phase, but will be driven further as these members age and become even less risk tolerant.
  - There will be greater and increasing use made of defensive overlays to protect members against significant asset value falls. These will include the growing use of sophisticated derivative strategies which will in turn require greater depth in derivative markets. They will also include the use of balance sheet guarantees (by insurers and banks) that will require the expansion of the capital bases of the providers.
  - The growing and ageing pensioner base will also see an increasing interest in products that protect against longevity risk (i.e. outliving one's assets). Annuities are currently the only products providing this protection by pooling the longevity risk – with earlier deaths subsidising later deaths. There will therefore be an increasing interest in lifetime annuities which will in turn increase the demand for and use of fixed interest assets like government and corporate bonds.
  - The demand for annuities may also see a demand for innovative structures around other stable cash flow investments like infrastructure.
- The growth in the size of the market as a proportion of GDP will require greater allocations to overseas assets in general. The allocation profiles of these assets will be similar to existing sovereign funds.

- With the consolidation of the market, there will be a shift to more illiquid investments as the very large funds will have significant, stable and predictable cash flows. Investments in infrastructure and property will grow. Over the next decade, this may be directed within Australia due to past under-investment and new opportunities. Recent sales of ports and freeway infrastructure have demonstrated both the superannuation market's capacity and appetite for these assets. This will undoubtedly continue and could strengthen over this period. As domestic demand is met, investment in these and other categories will need to expand overseas.

  It may well also be possible to open other public infrastructure assets to investment by superannuation funds. Public Private Partnerships should also be suitable for developing the extra health and aged care facilities that will be required by the ageing population.

1.7 Impact of Choice

The asset allocation of SMSFs is different from that of pooled funds. Over time, they might converge as online trading platforms open up to easier access for direct investments such as international equities and listed infrastructure trusts (which might mirror the structure of listed property trusts).

Already, the ASX has set up an online facility for managed funds which will be available to retail investors including SMSFs. We expect this will be broadened to other asset classes in time.

We believe SMSFs will have an appetite for illiquid investments as they invest long term and are not concerned about short-term asset volatility. There has been recent growth in property assets within this segment.

This report was prepared and peer reviewed for the Financial Services Inquiry (FSI) by the following consultants.

Prepared by

Michael Rice
CEO
Telephone: (02) 9293 3704
michael.rice@ricewarner.com

Peer Reviewed by

Alun Stevens
Senior Consultant
Telephone: (03) 8621 4105
alun.stevens@ricewarner.com

27 May 2014

2. Scope of Work

2.1 Background

The FSI is charged with examining how the financial system could be positioned to best meet Australia's evolving needs and support Australia's economic growth. As the population ages, the superannuation sector will shift from the accumulation phase it is in presently to the retirement phase as a large part of the population retires. This process will likely have a significant bearing on asset allocation and the flow of funds within the economy – and, in particular, on capital flows with the rest of the world.

2.2 Objective

The Committee would like to explore how Australia's demographic trends will affect Australia's external capital flows, from changes to the behaviour and influence of the superannuation sector as it shifts from the accumulation phase to the retirement phase. The work would address the following questions:

- How will Australia's demographic trends and the associated shift in superannuation fund activity (from accumulation to retirement) affect broader sectoral saving trends in the Australian economy?
- How will these changes be reflected in the pattern of asset allocation of Australian savings (particularly by superannuation funds)?
- How will the changes above be reflected in the type/amount of funding that is available to the Australian economy, and what will be the implications for the size and nature of cross-border capital flows?

2.3 Scope

The work should identify the major shifts in sectoral saving trends in the Australian economy, and how this will change patterns of asset allocation, the flow of funds and external funding.

It is outside the scope of this report to comment on potential policy options to address the issues.

3. Overview of Australian Superannuation market

3.1 Segmentation of superannuation

Section 3.1 of this report has been taken from a report prepared for the Australian Bankers Association and included as an appendix to its submission to the FSI. The text is included here for completeness.

There are three homogenous groups which together comprise the superannuation industry. While all are governed by the same legislation, the different characteristics of these groups mean that each has a different profile in some critical areas.

The groups are:

- not for profit employer-sponsored funds ($643 billion)
- commercial funds ($465 billion)
- self-managed superannuation funds ($507 billion).

The current and projected size of the three generic segments is set out below, including the major product types within each. Assets include defined benefit and defined contribution structures. Rice Warner estimates the market will grow at a compound annual growth rate of 8.1% over the next 15 years and 14.1% over the next 30 years.

3.1.1 Corporate funds

Corporate funds were once the main channel for superannuation in Australia. However, the growth of mandatory employer superannuation contributions and the shift from defined benefits has led to most employers closing their corporate funds.

According to APRA, there were 108 corporate funds as at 30 June 2013, a reduction from the 1,862 that existed a decade earlier. Rice Warner expects all remaining corporate funds to be wound up over the next 15 years.

As corporate funds close, members and assets have been transferred to funds which cater for multiple employers, such as industry funds (in the Not for Profit segment) or master trusts (in the Commercial segment). Sunsuper is an industry fund that caters for corporate sub-plans. Plum and Mercer are the two best examples of corporate master funds. Further, many large companies (typically with fund assets exceeding $20m) became a quarantined sub-plan often with their own investment and insurance arrangements – but without any trustee representation.

The recent legislation requiring all funds to hold a MySuper licence also led to many corporations closing down their fund. In addition, many of the corporate sub-plans have converted their arrangements to a standard MySuper offer where the trustees manage the default investments.

There are only about 30 tailored MySuper products where the companies decided to maintain their existing structure (as a sub-plan) and still control the investment strategy. These funds all have assets exceeding $100 million.

Corporate funds are characterised by high average balances and a higher percentage of members approaching retirement. Some employers pay more than the required mandatory contribution rate.

The consequences of these structural features are that:

- Corporate funds represent a small and a declining share of the market.
- The defined benefit component of this segment represents a declining share of the segment.
- We anticipate all stand-alone corporate funds will close within 15 years.
- Most have high average benefits and an older membership profile. Those with defined benefit pensions generally retain these older members as they move into retirement, but those with lump sum benefits generally lose the members and the assets causing negative cash flows.
- Those with negative cash flows need to invest more conservatively with an emphasis on liquidity and a matching of assets to cash flow. These funds generally have high allocations to fixed interest and cash.

3.1.2 Public sector funds

The Federal and State governments (and their agencies) all have defined contribution funds. Some funds pay high contribution rates. For example, the Queensland government pays 13% of salaries and the Federal Government pays 15.4%

As a result of high contribution rates and long periods of employment, these funds tend to have higher than average balances. While all governments used to have defined benefit funds, all the major funds have been closed to new members. The results are similar to those described for Corporate funds. The defined benefit sections of many of these funds are not growing and some are declining as older members leave. This decline, and the desire to match assets with liabilities, however, forces the funds to invest for liquidity.

3.1.3 Industry funds

Most industry funds were created after a 1985 centralised wage decision to grant employees a 3% superannuation contribution. At that time, 60% of the population had no superannuation so many workers started with nothing. As a result, this segment has the lowest average balances.

These funds receive mandatory employer contributions under industrial awards. This provides a guaranteed strong cash flow which allows the funds to invest in illiquid assets and have a long-term investment perspective.

3.1.4 Commercial funds

This segment is described as 'retail' by APRA but it contains a mixture of retail and wholesale funds.

These products are offered by organisations which manage superannuation as a business for profit. AMP and the four wealth management subsidiaries of the large banks hold a significant share of the assets in this segment.

As well as employer-sponsored superannuation, this segment manages money for individuals (including self-employed persons). It also provides separate pension products for individuals whereas pensions tend to be held in the same fund in other segments.

3.2 Past growth

Superannuation growth has been rapid in Australia over the last decade. The growth has been underpinned by the mandatory employer contributions as well as the shift of assets into self-managed superannuation funds which have become the preferred savings vehicle of many wealthier Australians.

Superannuation assets are growing twice as fast as GDP. We believe assets will peak at about 160% of GDP in the mid-2030s (see section 5).

The composition of the industry is changing too. Industry funds and SMSFs have grown strongly at the expense of the commercial sector and corporate funds. Table 1 shows the change in size of the market between 1998and 2013 and the Compound Annual Growth Rate (CAGR) over that period.

Table 1. Changes in industry assets over last 15 years

Assets	June 1998*	June 2013	CAGR
Superannuation assets ($b)	360.3	1,617.0	10.5%
GDP ($b)	703.3	1,493.2#	5.1%
Superannuation assets as percentage of GDP	51.2%	108.3%	
Industry funds ($b)	32.7	329.7	16.7%
Corporate funds ($b)	63.8	67.8	0.4%

*Sourced from *APRA 'Insights Celebrating 10 years of Superannuation Data Collection Issue 2 2007'.*
#ABS Cat. 5206.0 Chain Volume GDP and related measures.

There has been a reduction in the number of superannuation funds in all segments. The trend is particularly apparent in the corporate sector where all but 108 companies have ceased managing their own superannuation arrangements. We expect this trend will continue in future. The current number of funds (apart from APRA small funds) is 325 and we expect this to fall to about 180 in five years. It is conceivable that the number of funds in 30 years will be no more than 20 which implies much larger funds with significantly higher concentrations of risk, assets and membership.

Table 2. Changes in number of funds over last 15 years

Number of funds	June 1998*	June 2013#	CAGR
Corporate	3,898	108	-21.3%
Public sector	76	36	-4.9%
Industry funds	172	56	-7.2%
Commercial	328	125	-6.2%
TOTAL of APRA-regulated funds (ignoring small funds)	4,474	325	-16%
Small funds (mainly SMSFs)	173,116	512,312	7.5%

*Sourced from *APRA 'Insights Celebrating 10 years of Superannuation Data Collection Issue 2 2007'.*
#APRA Quarterly Statistics June 2013 and ATO SMSF Statistics June 2013.

The industry is relatively inefficient with too many accounts – more than two per member. There is much industry commentary on the 'average account balances' but this usually ignores the difference between account balances and member balances (combining all accounts for a member). The size of member accounts is heavily skewed so the median balance is much lower than the mean.

Table 3. Changes in industry assets over 15 years

Miscellaneous	June 1998*	June 2013	CAGR (%)
No of member accounts (m)	18.2	31.4#	3.7
Average size of corporate fund ($m)	16.4	627.8	27.5
Average size of industry fund ($m)	190.1	5,887.1	25.7
Average account balance	16,800	51,400	7.7
Average member balance	35,280	95,100	6.8

*Sourced from APRA *'Insights Celebrating 10 years of Superannuation Data Collection Issue 2 2007'*.
#See Appendix D.2 (Demographic Assumptions).

Table 4. Superannuation assets 2003, 2013 (nominal dollars)

Market segment	10 years ago 30 June 2003		Today 30 June 2013	
	($M)	(%)	($M)	(%)
Not-for-Profit Funds				
Corporate Funds	57,539	10.8	67,804	4.2
Industry Funds	56,015	10.5	329,678	20.4
Public Sector Funds	106,769	20.0	245,576	15.2
Not-for-Profit Funds	**220,324**	**41.3**	**643,058**	**39.8**
Commercial Funds				
Employer Master Trusts	45,000	8.4	116,771	7.2
Personal Superannuation	96,836	18.1	182,731	11.3
Commercial Retirement Products*	45,838	8.6	158,632	9.8
Retirement Savings Accounts	3,575	0.7	1,900	0.1
Eligible Rollover Funds	3,721	0.7	5,468	0.3
Unallocated Reserves^	9,500	1.8	1,407	0.1
Commercial Funds	**204,470**	**38.3**	**466,910**	**28.9**
Self-Managed Super Funds	**109,086**	**20.4**	**507,200**	**31.4**
Total superannuation market	**533,880**	**-**	**1,617,169**	**-**

^ This amount is held within the statutory funds of life insurance companies to back annuities and capital guaranteed business.

3.3 Superannuation products

3.3.1 Accumulation funds

The majority of Australians are in accumulation funds (also called defined contribution funds as the contributions are set as a fixed amount). The retirement outcome is uncertain for these members under these arrangements as they do not receive any guarantees relating to the benefit.

All industry funds and commercial (retail) were set up as accumulation funds, though some are able to manage defined benefit arrangements.

3.3.2 MySuper products

Most member accounts are held in MySuper products which have a standard investment strategy. All these funds offer a choice of investment strategies for members who want to select and option suited to their personal circumstances. We have estimated the assets held in MySuper accounts to be as follows:

Table 5. Estimated MySuper assets at 30 June 2013

Market segment	Pre-retirement assets			Retirement	Total market	
	Choice	MySuper		Choice	All	MySuper
	($M)	($M)	(%)	($M)	($M)	(%)
Not-for-Profit Funds						
Corporate Funds	9,621	54,521	85.0	3,661	67,804	80.4
Industry Funds	45,397	257,248	85.0	27,034	329,678	78.0
Public Sector Funds	28,696	162,608	85.0	54,272	245,576	66.2
Subtotal Not-for-Profit Funds	**83,714**	**474,377**	**85.0**	**84,967**	**643,058**	**73.8**
Commercial Funds						
Employer Master Trusts	17,516	99,255	85.0	0	116,771	85.0
Personal Superannuation	182,731	0	0.0	0	182,731	0.0
Commercial Retirement Products	0	0	0.0	158,632	158,632	0.0
Retirement Savings Accounts	1,900	0	0.0	0	1,900	0.0
Eligible Rollover Funds	820	4,648	85.0	0	5,468	85.0
Subtotal Commercial Funds	**202,967**	**103,903**	**33.9**	**158,632**	**465,503**	**22.3**
Subtotal Self-Managed Super Funds	**258,672**	**0**	**0.0**	**248,528**	**507,200**	**0.0**
Total superannuation market	**545,353**	**578,281**	**51.5**	**492,128**	**1,615,761**	**35.8**

3.3.3 Defined benefit funds

Defined benefit funds provide a retirement benefit based on a formula, usually linked to salary in the last three to five years of work. These funds can provide a lump sum at retirement or a pension. Both types exist in Australia and some funds offer a choice between a lump sum and a pension.

Most companies and all governments have closed their defined benefits to new members. Only a few remain open, including the Military fund (for defence personnel) which is sponsored by the Federal government and ESSS, the fund for emergency services workers in Victoria.

Whilst they are not a separate segment of the market, legacy defined benefit funds represent a significant amount of superannuation assets. These funds were set up by governments or larger employers so are placed in the Corporate and Public Sector segments.

These funds exist in the Not for Profit and Commercial segments but not in the SMSF segment. Usually they are managed by governments or large corporations.

All the State governments and several large companies (such as Australia Post) have closed defined benefit funds. Most of these will experience negative cash flow now or in the next few years.

As the guarantees are borne by the employer, the members are not concerned about the assets matching the liabilities.

3.3.4 Pension phase

Retirement assets currently account for 30.4% of the superannuation market and we expect this proportion to grow as the baby-boomer generation retires.

Table 6. Total retirement market (2013 dollars)

Market segment	Today	
	30 June 2013	
	($M)	(%)
Corporate Funds	3,661	0.7
Industry Funds	27,034	5.5
Public Sector Funds	54,272	11.0
Subtotal Not-for-Profit funds	**84,967**	**17.3**
Commercial Retirement Products	**158,632**	**32.2**
SMSFs	**248,528**	**50.5**
Total retirement market	**492,128**	**100.0**

Note the Public Sector assets would be larger if the PSS, CSS and Military Funds retained their pension accounts within these funds. However, pensions for these funds are paid out of consolidated revenue and are not regulated (or counted) by APRA.

4. Basis of projections

4.1 Background

Every year, Rice Warner analyses the size and composition of the superannuation industry and projects forward assets and membership annually for the next 15 years.

The report focuses on the aggregate level of superannuation assets broken down into:

- Assets held on behalf of the pre-retirement population and the retired population. The latter includes Transition to Retirement pensions.
- The various market segments where the funds are held, the flow of funds by destination (type of fund) and by source (type of contribution).
- Account balances by age and gender for both the pre-retirement and retirement population.

All detailed results are expressed in present values (deflated to 2013 dollars) as they provide a more realistic and sensible assessment of future growth. The present values are determined by discounting the future nominal values by 3% per year, the assumed underlying inflation rate.

4.2 Model structure

The projection is based on a demographic model of the Australian population (the *Population Model*). A *Membership Model* builds on the Population Model to project the number of accounts into the future, by industry sector, age, gender, *account function* (primary, secondary and unneeded) and *membership status* (active, inactive and retired).

The projected assets are generated by an *Assets Model,* which projects account balances into the future. The Assets Model relies on the output from the Membership Model and thus, allows for the demographic change within each market segment.

Within each model, the year-to-year changes (e.g. change in membership) are analysed into components (e.g. new entrants and retirements), which are projected separately into the future based on the assumptions. These projections take into account:

- past trends and how these are likely to continue in future
- interrelationships between components, for example, linking total benefits paid to the number of retirees in the model.

4.2.1 Source of data

The starting point for the projections presented in this report is the superannuation market as at 30 June 2013. The major distribution of assets by market segment was sourced from two reports prepared by APRA *(Australian Prudential Regulation Authority):*

- *Annual Superannuation Bulletin, June 2012*
- *Quarterly Superannuation Performance, June 2013.*

The APRA statistics are segmented as follows:

- superannuation managed by retail providers (which Rice Warner consider to be Commercial Funds)

- small funds (mainly Self-Managed Superannuation Funds)
- Employer-Sponsored Superannuation, namely Corporate, Industry and Public Sector Funds, which Rice Warner has collectively named 'Not-for-Profit Funds'.

The commercial segment (APRA's *Retail* category) can be broken into several subcomponents, which has been done based on published data and Rice Warner research. Also, some adjustments have been made to APRA's breakdown:

- Several funds have been reclassified that display characteristics that are more suited to other segments (see Appendix D.1 Classification of funds). The totals have been adjusted for the respective sectors accordingly.
- Retirement Savings Account assets and assets managed under the *Life Insurance Act* (mainly annuity products) in the total for the superannuation industry have been included.

A description of each segment is set out in Appendix A (Glossary).

4.2.2 Population model

The *Population Model* produces a projection of the Australian population by age and sex, for the following items:

- *Stock* items:
  - size of the population
  - number employed.
- *Flow* items:
  - deaths
  - immigrants
  - emigrants
  - new labour
  - retirements
  - transfers from employed to unemployed.

The model is based on a projection[2] of the Australian population undertaken by the *Australian Bureau of Statistics (ABS).* The projections have been built as follows:

- Estimation of the number of emigrants and immigrants in each year from statistics published by the *Australian Government Department of Immigration and Citizenship*.
- Projected labour force participation rates published in a report[3] by the *Australian Government Productivity Commission* to derive a projection of the labour force have been used.
- The age-by-age pattern in participation rates to estimate and project transfers into and out of the labour force have been considered.

[2] *Population Projections, Australia, 2012-2101, ABS catalogue number 3222.0, Medium Series*
[3] Productivity Commission Research Report: *Economic Implications of an Ageing Australia, April 2005*

4.2.3 Membership Model

The *Membership Model* projects the demographic profile of each market segment into the future, segmenting accounts by age, gender, membership status and account function.

Membership status can be active, inactive or retired (as detailed in Table 7) and all accounts are allocated to one of these categories for the purposes of these projections. The allocation of accounts is based on a market survey that Rice Warner conducts each year. The survey covers detailed membership, assets and cash flow information.

Table 7. Membership status

Status	Description
Active (A)	Active accounts, i.e. accounts which receive regular contributions
Inactive (I)	Inactive accounts, i.e. accounts which are neither active nor retired
Retired (R)	Retired members, i.e. fund pensioners

All accounts are also allocated to an account function category, which can be primary, secondary or unneeded (as detailed in Table 8).

Table 8. Account function

Function	Description
Primary	Primary accounts, i.e. the main superannuation account of each individual
Secondary	Secondary accounts, i.e. accounts held in addition to primary accounts, for legitimate reasons
Unneeded	Unneeded accounts, i.e. accounts held in addition to primary accounts, but which are not needed and can be consolidated - this includes 'lost' accounts

Clearly, all active accounts are primary accounts, but there are also some inactive primary accounts belonging to members who are not currently employed. It is assumed that each person in the employed labour force has an active account and each person of working age has one primary account.

There is no differentiation between regular member accounts and spouse accounts.

All model equations operate at an 'age-gender-function-status' level. The basic model equation, at each age, gender, function and status, for a particular market segment, is:

$$\text{Members}(t+1) = \text{Members}(t) + \text{New Entrants}(t) - \text{Deaths}(t) + \text{Migrants}(t) - \text{Retirements}(t) + \text{Transfers}(t)^{4}$$

[4] Note that disablements are allowed for under Retirements and Transfers rather than under calculated Deaths

These components are described in Table 9.

Table 9. Model components

Component	Description
New entrants	Represents the number of new accounts created over the projection period.
Deaths	Represents the number of accounts closed as a result of death of the account holder over the projection period.
Migrants	Represents the net number of accounts created as a result of net overseas migration into Australia over the projection period.
Retirements	Represents the number of accounts closed as a result of the member retiring over the projection period.
Transfers	Represents the number of accounts created/closed as a result of members transferring between market segments. The model allows separately for: ▪ transfers as members consolidate unneeded accounts into active accounts ▪ transfers as members change employment ▪ transfers of Corporate Funds to Industry Funds and Master Trusts ▪ transfers of Public Sector Funds to Industry Funds and Master Trusts ▪ transfers from all segments to Eligible Rollover Funds ▪ transfers into Self-Managed Superannuation Funds.

4.2.4 Assets Model

The *Assets Model* projects the account balances for each market segment and relies on input from the Membership Model. The basic model, for a particular market segment, is:

Assets(t+1) = Assets(t) + Contributions(t) – Fees(t) – Premiums(t) – Benefits(t) + Earnings(t) – Tax(t) + Transfers(t)

These components are described in Table 10.

Table 10. Assets model components

Component	Description
Contributions	Represents all superannuation contributions (gross of fees and tax) received over the projection period. The projection allows separately for: ▪ pre-tax contributions (such as employer and salary sacrifice contributions) ▪ member contributions ▪ Government co-contributions.
Fees	Represents all fees/expenses paid over the projection period, including fees deducted from investment earnings.
Premiums	Represents life insurance premiums paid over the projection period.
Benefits	Represents all benefits paid over the projection period. The model projects separately: ▪ death benefits ▪ retirement lump sums ▪ rollovers to retail pension/annuity products at retirement ▪ pension benefits.
Earnings	Represents the amount of investment income earned over the projection period, gross of fees and tax.
Tax	Represents tax paid on contributions received and investment income earned over the projection period.
Transfers	Represents transfers of accounts to/from other segments. The model allows separately for: ▪ transfers as members consolidate unneeded accounts into active accounts ▪ transfers as members change employment ▪ transfers of Corporate Funds to Industry Funds and Employer Master Trusts ▪ transfers of Public Sector Funds to Industry Funds and Employer Master Trusts ▪ transfers from all segments to Eligible Rollover Funds ▪ transfers into Self-Managed Superannuation Funds.

5. Projected size of superannuation market

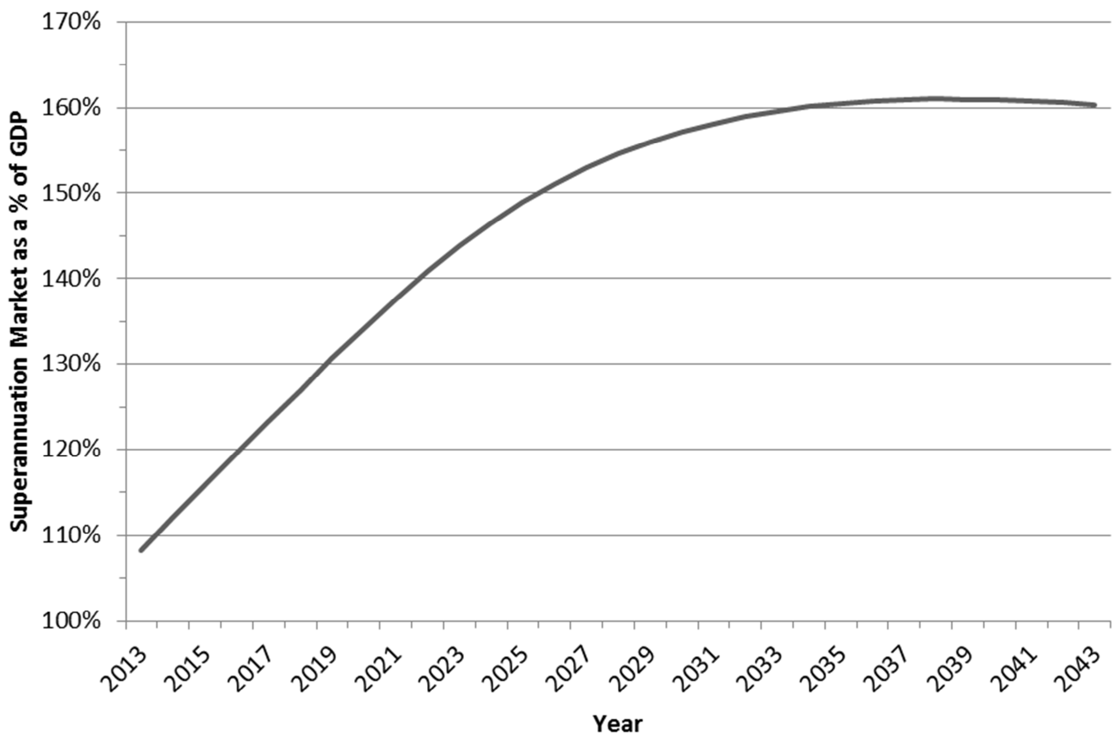
5.1 Superannuation relative to GDP

Rice Warner produces an annual report (*Superannuation Market Projections*) projecting forward assets and membership for 15 years. The latest report used 1 July 2013 as its starting point.

We have extended these projections for an additional 15 years so that they now finish on 30 June 2043. We have then compared our projections with Treasury projections of GDP from the 2010 Intergenerational Report. The results show that superannuation assets are currently over 100% of gross domestic product (GDP); this is projected to grow to over 160% of GDP as the industry matures. In about 2038-39, the industry will mature and drawdowns will begin to outstrip new contributions. We predict that the industry will begin to decline in size relative to GDP.

In Graph 2, Projected GDP has been estimated using smoothed growth rates from Treasury's 2010 Intergenerational Report and applying these to GDP as at 30 June 2013 as published by the ABS.

Graph 2. 30 year projected superannuation assets as a percentage of GDP (2013 dollars)*



5.2 Projected assets

In Table 11, assets are projected by segment. In practice, the environment will change rapidly over the next decade and we expect the subdivision between funds will also be impacted by new forces. It is likely that we will end up with three key types of fund, namely default funds (MySuper), choice (SMSF's will be the main type of choice product) and pensions.

The Compound Annual Growth Rate (CAGR) in the table is based on nominal dollars.

Table 11. Summary of projections results (2013 dollars) – 30 years

Market segment	Today 30 June 2013 ($M)	Today 30 June 2013 (%)	In 15 years 30 June 2028 ($M)	In 15 years 30 June 2028 (%)	In 30 years 30 June 2043 ($M)	In 30 years 30 June 2043 (%)	CAGR^ (% p.a.)
Corporate Funds	67,804	4.2	0	0.0	0	0.0	-100.0
Industry Funds	329,678	20.4	830,713	24.8	1,293,614	25.5	16.2
Public Sector Funds	245,576	15.2	429,842	12.8	632,131	12.5	13.0
Not-for-Profit Funds	**643,058**	**39.8**	**1,260,555**	**37.6**	**1,925,745**	**38.0**	**14.1**
Commercial Funds	**466,910**	**28.9**	**1,092,446**	**32.6**	**1,886,806**	**37.3**	**16.4**
Self-Managed Super Funds	**507,200**	**31.4**	**1,000,177**	**29.8**	**1,251,149**	**24.7**	**12.7**
Total superannuation market	**1,617,169#**		**3,353,178**		**5,063,700**		**14.5**

The total of $1,617,169 at 30 June 2013 comprises $1,123,634 pre-retirement assets and $492,128 of retirement assets. Table 14 shows the progression of assets in pension phase. The detailed year-by-year tables are set out in Appendix A

5.3 Projected number of members

The projected number of pre-retirement accounts is expected to increase marginally over the 30 year period. This is the net effect of school leavers and migrants entering the superannuation system and the baby boomers moving into the retirement phase.

Table 12 and Table 13 summarise the projected number of preretirement members by age and gender. These numbers are based on ABS population forecasts, together with forecasts of population workforce participation. Growth for females is projected to be higher than males (off a lower base).

Table 12. Projected number of pre-retirement members by age – males ('000)

Age group	Males 2013	2018	2028	2033	2038	2043
15-19	483	493	533	583	626	656
20-24	825	825	835	898	971	1,034
25-29	926	955	951	961	1,028	1,103
30-34	909	1,008	1,033	1,026	1,036	1,103
35-39	848	969	1,065	1,087	1,079	1,089
40-44	886	891	1,010	1,104	1,125	1,116
45-49	796	908	913	1,031	1,123	1,143
50-54	804	801	911	916	1,033	1,124
55-59	706	728	772	899	904	1,018
60-64	528	487	508	592	695	698
65-69	293	259	252	273	312	361
70-74	66	64	62	66	73	78

Total	**8,070**	**8,388**	**8,845**	**9,436**	**10,005**	**10,523**

Table 13. Projected number of pre-retirement members by age – females ('000)

Age group	Females					
	2013	2018	2028	2033	2038	2043
15-19	484	498	535	586	0	659
20-24	753	797	813	870	941	1,003
25-29	794	880	927	944	1,004	1,077
30-34	746	878	964	1,013	1,031	1,090
35-39	706	798	930	1,018	1,068	1,086
40-44	778	742	834	966	1,055	1,106
45-49	734	798	761	852	985	1,074
50-54	744	741	804	768	859	990
55-59	630	663	657	714	682	766
60-64	415	406	429	425	463	443
65-69	172	161	164	179	178	195
70-74	27	27	29	32	36	36
Total	**6,984**	**7,391**	**7,848**	**8,367**	**8,301**	**9,526**

There are about 31 million superannuation accounts held by the 15 million pre-retirement members and the 2 million pensioners.

5.4 Sensitivity of results

The sensitivity of our 15 year projections results is given in Table 14. Note it is difficult to separate the impact of the SG and voluntary contributions given that mandatory Superannuation Guarantee, salary sacrifice and additional employer contributions are all reported as 'employer contributions'.

Table 14. Variation in assumptions in 2013 dollars

Assumption set	Projected assets 30 June 2028	Difference from base projection	Difference from base projection
	($B)		(%)
Base projection	**3,353**	-	-
Gross investment return +1%	3,661	308	9.2
Gross investment return -1%	3,076	-278	-8.3
Gross investment return +1% and salary inflation +1%	3,831	478	14.3
Gross investment return -1% and salary inflation -1%	2,931	-422	-12.6
Expense rates +0.25%	3,283	-71	-2.1
Expense rates -0.25%	3,426	72	2.2
Contribution levels + 20%	3,791	438	13.1
Contribution levels - 20%	2,915	-438	-13.1

6. Shift from Accumulation to pension phase

6.1 Retirement assets

The retirement assets at 30 June 2013 are $492,128 billion which is about 30.4% of all superannuation assets.

We predict retirement assets will increase to $2,215 billion at 30 June 2043. This would result in the retirement market share of total superannuation fund assets increasing to 43.7% at 30 June 2043.

The relative growth in importance for this sector reflects the ageing of Australia's population and the maturation of the industry. Assets in respect of retired members will grow as the baby boomers retire (and shift to pensions) and following that, most members will retire having had superannuation for their entire working career.

Retirement funds in the Public Sector segment will remain relatively flat in terms of market share. Industry Funds will gain market share as they further develop their pension product offerings.

We expect SMSFs to lose a small amount of market share. This is a reflection of the proportion of SMSF assets that is already in the retirement phase (greater than for any other sector), the significant growth in retirement assets in other segments over the projection period and the deaths of existing SMSF pensioners (who may have large balances).

Further, pension payments and the growth in payments from the SMSF sector are proportionally greater than for other sectors which impacts on the overall market share of assets.

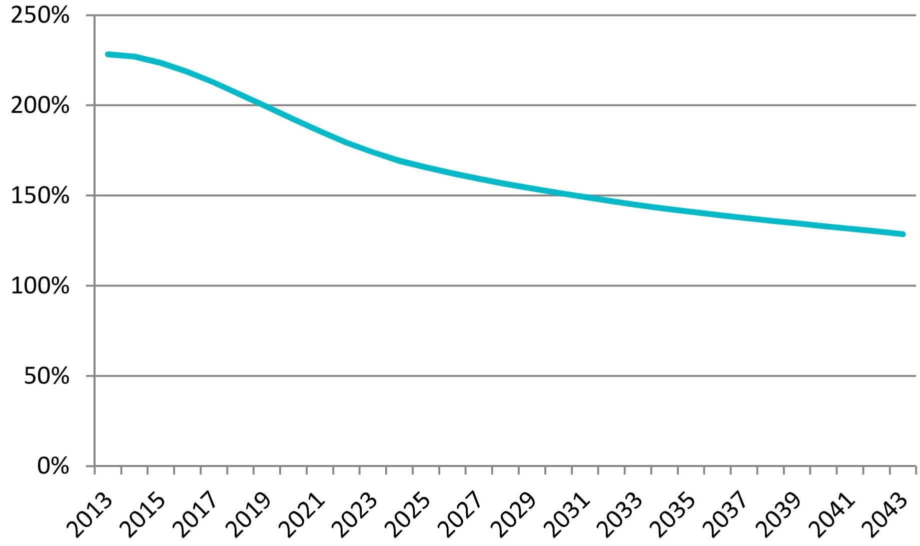
Table 15. Retirement projections results (2013 dollars) – 30 years

Market segment	Today		In 15 years		In 30 years		CAGR^
	30 June 2013		30 June 2028		30 June 2043		
	($M)	(%)	($M)	(%)	($M)	(%)	(% p.a.)
Corporate Funds	3,661	0.7	0	0.0	0	0.0	-100.0
Industry Funds	27,034	5.5	232,923	17.8	445,215	20.1	27.9
Public Sector Funds	54,272	11.0	139,104	10.6	243,599	11.0	17.3
Not-for-Profit Funds	**84,967**	**17.3**	**372,027**	**28.5**	**688,814**	**31.1**	**22.0**
Commercial Retirement Products	**158,632**	**32.2**	**349,373**	**26.7**	**707,591**	**31.9**	**17.2**
Self-Managed Super Funds	**248,528**	**50.5**	**586,168**	**44.8**	**818,596**	**37.0**	**9.1**
Total retirement market	**492,128**		**1,307,567**		**2,215,001**		**14.9**
Retirement assets as percentage of all superannuation assets		**30.4**		**39.0**		**43.7**	

^ CAGR – Compound annual growth rate (based on nominal dollars).

Graph 3 shows the projected ratio of accumulation to pension assets over 30 years.

Graph 3. Ratio of accumulation to pension members over time



6.2 Retirement members

Table 16 and Table 17 show the projected number of retirement members by age and gender. These are members in the pension divisions of funds who have rolled their superannuation benefits into a pension product or annuity. This also includes some members who have transition to retirement accounts (and who may also be shown as pre-retirement members for their accumulation accounts).

There is strong growth expected in the number of retirement accounts. It is estimated that the number of accounts will almost double over the coming decade as the baby boomers continue to move into the retirement years.

However, the growth in the number of accounts will not be uniform across all age groups. By 1 July 2024, the preservation age will have increased to 60 and the 55 to 59 age group will comprise a smaller percentage of all retirement members (not everyone in this age group will have a transition to retirement account).

Contrary to population numbers, the current number of female pensioners above age 75 is lower than the number of males. This reflects past superannuation savings practices. Women retiring with small balances tend to take lump sums or spend their pensions in the early years of retirement.

Table 16. Projected number of retirement members by age – males ('000)

Age group	Males					
	2013	2018	2028	2033	2038	2043
55 - 59	19	89	58	52	51	59
60 - 64	110	230	318	255	275	270
65 - 69	252	242	350	438	403	448
70 - 74	267	336	348	429	515	501
75 - 79	158	264	347	360	428	510
80 - 84	82	126	215	286	300	360
85 - 89	44	53	85	148	199	211
90+	18	26	34	53	92	133
Total	**950**	**1,367**	**1,754**	**2,021**	**2,263**	**2,492**

Table 17. Projected number of retirement members by age – females ('000)

Age group	Females					
	2013	2018	2028	2033	2038	2043
55 - 59	38	88	99	114	113	129
60 - 64	188	230	316	331	375	367
65 - 69	344	315	366	455	472	523
70 - 74	254	395	387	429	518	536
75 - 79	105	248	390	386	424	511
80 - 84	29	91	218	345	343	379
85 - 89	14	22	70	168	267	266
90+	8	10	16	46	116	199
Total	**981**	**1,400**	**1,862**	**2,274**	**2,628**	**2,909**

6.3 Drawdowns

APRA statistics show that drawdowns averaged 7.7% of pension assets at 30 June 2013 (these statistics are unavailable by age). Minimum pension payments vary from 4% - 14% depending on age suggesting that the average pensioner does not draw down significantly more than the minimum required.

7. Savings outside superannuation

7.1 Background

Rice Warner also analyses the personal investments market in Australia and provides projections of the market for the next 15 years.[5] We have not prepared 30 year figures for this report

In its broadest sense, the personal investments market includes all investment assets held by individuals, either directly or through trust or company arrangements. It excludes assets held in superannuation or pension funds. It also excludes assets such as the family home and personal effects. Section 2 (Introduction) provides details of the scope of investments captured within this report.

7.2 The current personal investments market

Table 18 provides a breakdown of the personal investments market at 30 June 2013.

Table 18. Personal investments at 30 June 2013 – look through basis

	Cash	Term Deposits	Australian Equities	International Equities	Fixed interest and Loans	Investment Property	Others	Total
	($million)							
Wrap platforms*								
Directly held assets	4,329	4,728	18,283	1,547	0	1,566	0	**30,454**
Managed Investments	806	264	5,538	3,892	2,737	1,088	1,324	**15,649**
Sub-total wrap platforms	5,135	4,992	23,821	5,439	2,737	2,654	1,324	**46,103**
Non-superannuation master trusts#	16,598	2,713	23,327	7,856	8,368	2,671	1,374	**62,908**
Life investment products	2,092	1,540	3,812	1,966	12,965	936	20	**23,332**
Directly held by households	769,771		253,040^		58,300	1,061,564	0	**2,142,675**
Total Personal Investments	**802,842**		**319,262**		**82,370**	**1,067,825**	**2,718**	**2,275,017**

* Excluding wrap platform business held by SMSFs.
# Including managed investments held on master trust platforms or directly.
^ The amount of directly held equities excludes $292 billion of holdings in private non-financial corporations.

Table 18 demonstrates some key characteristics of the current personal investments market:

- 46.7% of personal investments are in the form of directly held investment properties.
- Directly held cash and term deposits account for 33.8% of personal investments.
- Direct investment in equities account for 11.1% of personal investments.
- Investment master trusts and wrap platforms account for 4.8% of personal investments, but if directly held investment property is excluded, investment master trusts and wrap platforms account for 9.0% of the remaining market.
- Personal investments held on wrap platforms are approximately 42% of total investments within wrap and investment master trusts (up from 38% last year) and 2.0% of overall personal investments (up from 1.4% last year), reflecting its significant growth potential.

[5] We have not prepared 30 year projections as it requires a fair amount of work. We could do so within a few weeks if it were required.

- Cash and term deposits constitute approximately 22.0% of the assets on wrap platforms, while Australian and international equities constitute approximately 63.5%.

7.3 Market trends and developments

The personal investments market is extremely dynamic with a number of forces interacting to drive its development both in the short and long term. These include:

- Short term:
  - Investor sentiment is recovering from the focus on investment risk in the aftermath of the GFC, and the United States and European debt crises.
  - The Future of Financial Advice (FoFA) changes.
  - The impact of reduced concessional contributions caps on superannuation contributions and the expected increase in the superannuation guarantee from 9% to 12%.
  - Stimulus measures applied by various central banks holding interest rates at close to zero.
- Longer term:
  - Demographic changes including the shift of the ageing baby boomers into retirement followed by large generational transfers of wealth on their death.
  - Increasing financial knowledge and sophistication of investors that has supported the development of more sophisticated investment products.
  - Changes in the distribution of investment products, including accountants moving into financial planning and direct distribution leveraging online advice and associated planning tools.
  - Technological developments and platform evolution, improving accessability and lowering costs, also leading to the development of tax optimisation services.
  - The growth of Exchange Traded Funds (ETFs) and Managed Discretionary Accounts (MDAs) and innovative new investment products in the area of infrastructure bonds, corporate debt and hedge funds.
  - Changes to international tax treaties affecting issues such as overseas withholding tax and the development of the 'Asian Region Funds Passport'.

7.4 Market projections

Table 19 shows the projected breakdown of personal investments by platform at five yearly intervals to 30 June 2028.

Table 19. Personal investments by platform over the 15 years to 30 June 2028 – in 2013 dollars

	2013	2018	2023	2028	Annual growth rate
	($million)				
Wrap platforms*					
Wrap platform directly held assets	30,454	81,862	156,650	259,374	15.4%
Wrap platform managed investments	15,649	32,126	55,423	86,840	12.1%
Sub-total wrap platforms	46,103	113,988	212,073	346,214	14.4%
Non-superannuation master trusts#	62,908	71,770	78,052	80,978	1.7%
Life investment products	23,332	27,333	30,752	33,375	2.4%
Directly held by households	2,142,675	2,740,099	3,404,165	4,139,363	4.5%
Total personal investments	**2,275,017**	**2,953,190**	**3,725,042**	**4,599,930**	4.8%

* Excluding wrap platform business held by SMSFs.
# Including managed investments held on master trust platforms or directly.

Table 20 shows a breakdown of the projected personal investment market at 30 June 2028 by type of platform (including direct investment) and asset class.

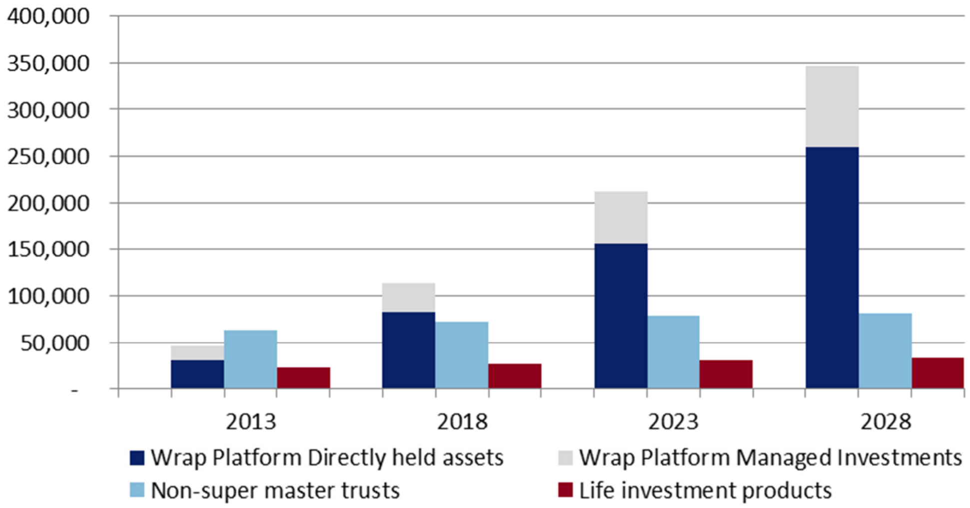
Table 20. Personal investments at 30 June 2028 – look through basis, in 2013 dollars

	Cash	Term Deposits	Australian Equities	International Equities	Fixed interest and Loans	Investment Property	Others	Total
	($million)							
Wrap platforms*								
Directly held assets	30,994	33,848	80,038	89,271	13,800	11,423	0	**259,374**
Managed Investments	2,710	889	19,748	24,968	21,342	3,804	13,379	**86,840**
Sub-total wrap platforms	33,704	34,737	99,786	114,239	35,142	15,226	13,379	**346,214**
Non-superannuation master trusts#	5,170	845	40,271	12,437	11,589	1,188	9,477	**80,978**
Life investment products	1,007	742	7,085	3,664	20,158	576	143	**33,375**
Directly held by households	1,303,774		711,502		163,108	1,960,979	0	**4,139,363**
Total Personal Investments	**1,379,979**		**988,984**		**229,996**	**1,977,970**	**23,000**	**4,599,930**

* Excluding wrap platform business held by SMSFs.
# Including managed investments held on master trust platforms or directly.

Graph 4 shows the projected breakdown of personal investments by platform, excluding investments held by households directly[6].

Graph 4. Personal investments by platform over the 15 years to 30 June 2028 – in 2013 dollars



7.5 Commentary on personal investments

The projections of the personal investments market assume growth in line with projected net household savings, reflecting our views on the impact of the forces driving change as discussed previously. Specifically, we make the following assumptions:

- A decrease in cash and term deposits directly held by households, reflecting the anticipated reversion of investor sentiment, while cash and term deposits held on wrap platforms will increase due to the expansion of wrap platforms. The net effect is that by 30 June 2028, total cash and term deposits will reduce from 35% to 30%, as a proportion of overall personal investments.
- The market share of assets held on wrap and similar platforms at 30 June 2028 will be 5.5% higher compared to its current level. Of this, 4.3% will be due to higher volumes of directly held assets (including ETFs) and 1.2% due to higher volumes of managed investments, driven by innovative new products and the improvements of transaction and settlement services.

  Of the overall 5.5% higher market share, 3.4% will be due to increased equity holdings, 1.0% will be due to increased cash and term deposit holdings and 1.0% due to increased holdings in fixed interest, property security and other investments.
- Equities directly held by households and on wrap platforms will increase as the cost of trading and administering such investments reduces, while products such as ETFs continue to increase in popularity. As a result, by 30 June 2028, total equity holdings (including ETFs) will increase from 14.0% to 21.5% of overall personal investments.

  We have assumed that two-thirds of this increase will be related to an increase in international equity holdings, due to better accessibility and lower costs.
- The level of fixed interest security holdings will return to its historical average, increasing from 3.6% to 5.0% of personal investments. Fixed interest securities held on wrap platforms will increase by 0.6% of personal investments. These changes will be driven by deregulation of the retail market for corporate bonds, the increasing attractiveness of retail investors as a source of

[6] Even in 2028, directly held assets are expected to constitute 90% of the market.

capital for Australian banks under the Basel III changes[7] and a growing appetite for debt finance amongst Australian corporations more broadly.

- Non-superannuation master trusts and life investment products will decline as wrap platforms take over. As a result, by 30 June 2028, the market share of these products will be 1.0% and 0.3% lower respectively compared to their current levels.
- Directly held property as a proportion of overall personal investments will reduce by 4.0%. Growth will occur due to superannuation becoming relatively less attractive for high income earners and lower interest rates in the short to medium term. However, this will be somewhat offset by investors gearing property less and yields being under pressure due to property prices and costs rising faster than rents.
- We estimate the share of alternative investments will grow from 0.1% to 0.5% of the market. All growth is expected to occur within managed portfolios.

Whilst any set of projections can only reflect the veracity of the inputs, these assumptions represent Rice Warner's considered view regarding the potential development of the personal investments market.

7.6 Note on investment properties

ABS Household Wealth Distribution 2009/2010[8]*,* showing the net[9] value for investment properties of \$99,700 averaged across all Australian households[10]. While the total value of properties is \$136,400, the outstanding mortgage on these properties is 26.8% of the value of the property on average.

APRA monthly bank statistics report the value of current outstanding loans to households for investment properties to be \$389,311 million as at June 2013.

Based on the data above, the estimated total net value of investment properties at 30 June 2013 is \$1,061,564 (equal to 389,311 / 26.8% - 389,311).

[7] Lower capital charge for retail deposits relative to wholesale deposits for banks.
[8] *65540DO001_200910 Household Wealth and Wealth Distribution, Australia, 2009–10.*
[9] Net of mortgage debt.
[10] The *ABS December 2011 release of Australian Social Trends (4102.0 - Australian Social Trends, Dec 2011)* indicated that, in 2009-2010, 21.0% of households owned property other than their own home, when averaged across all Australian households.

8. Asset allocation of superannuation funds

8.1 Expected earnings by segment

Australian superannuation funds, using the guidance of expert asset consultants, take into account a number of factors when building a portfolio of investments for the fund's default strategy (MySuper).

These include:

- The expected returns of each asset class
- The volatility of each asset class
- Correlations between asset classes in market downturns
- The reduced volatility from building a diversified portfolio
- The value of franking credits on Australian listed equities
- The cash flow of the fund (which impacts on the level of unlisted assets which are illiquid)
- The desire to invest internationally to share in global growth

We have compiled the expected outcomes over ten years by combining the views of several fund managers and asset consultants. These results partly indicate why Australian funds have high levels of growth assets and little fixed interest investments.

Table 21. Average annual investment earnings assumptions (10 year period)

Asset Class	(%)
Australian Shares (gross of imputation credits)	8.8
International Shares	8.5
Listed Property	8.2
Direct Property	7.9
Australian Fixed Interest	5.4
International Fixed Interest	5.1
Cash	4.7

8.2 Allocation by segment

The asset allocation for the industry is given in Table 21. The figures were derived from allocations published in the *APRA Superannuation Bulletin, June 2012* and the *ATO Self-Managed Super Fund Statistics, June 2013*.

Table 22. Asset allocation by sector – 30 June 2013

Sector	Australian Equities	International Equities	Listed Property	Direct Property	Australian Fixed interest	International Fixed Interest	Cash	Other
	(%)							
Corporate Funds	31.0	27.0	2.0	7.0	12.0	5.0	8.0	8.0
Industry Funds	30.0	22.0	1.0	10.0	7.0	5.0	5.0	19.0
Public Sector Funds	24.0	24.0	3.0	7.0	7.0	6.0	12.0	17.0
Self-Managed Super Funds	49.1	0.8	7.6	7.6	1.4	0.0	30.5	3.1
Employer Master Trusts	27.0	22.0	4.0	3.0	14.0	6.0	14.0	10.0
Personal Superannuation	27.0	22.0	4.0	3.0	14.0	6.0	14.0	10.0
Commercial Retirement Products	24.1	19.6	3.6	2.7	15.9	6.8	15.9	11.4
Retirement Savings Accounts	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0
Eligible Rollover Funds	27.0	22.0	4.0	3.0	14.0	6.0	14.0	10.0

Note: 'Cash' includes bank term deposits; 'Other' includes infrastructure

The typical default option for an APRA regulated superannuation fund follows a 70/30 growth to defensive asset allocation. With the introduction of MySuper, many funds have had the opportunity to rethink their asset allocation. In particular, many commercial providers have introduced lifecycle options which reduce the member's exposure to growth assets as they age.

The SMSF sector has a vastly different asset allocation to the rest of the industry, with close to half of the assets in Australian equities and almost a third of assets in cash (which is largely term deposits with banks). This reflects the fact that:

- SMSF investors have a preference for domestic assets
- SMSF investors have a preference for listed investments (with the exception of investment properties in a small number of funds)
- As half of the SMSF market is in the pension phase, there is a high allocation to cash and term deposits. This reflects the conservatism of many retirees.

There is also a noticeable difference between Industry funds and Commercial funds in their allocations to illiquid assets. Industry Funds with their positions as default funds under awards have more security of cash flow and are less exposed to member and employer switching. They can therefore hold higher proportions of Direct Property and infrastructure (included in 'Other' assets in Table 22).

We can also observe that members receiving pensions in other sectors of the market tend to have a more conservative asset allocation than those building up their assets. This reflects the members' need for liquidity and capital preservation. Portfolios tend to follow a more balanced (50/50) or capital stable (30/70) approach.

8.3 Allocation of pension assets

Rice Warner does not hold aggregate statistics on the asset allocation of pension assets across the entire industry. The approach to default investments varies for account based pensions and some funds do not offer a default but force members to choose an investment option on opening the product. For those funds that do operate a default, the default option is usually one of either:

- The default accumulation option
- A defensive 30/70 'capital stable' option, or
- 100% cash.

Some Mysuper products have decreasing levels of growth assets over the later years of retirement.

We expect that overall the asset allocation of pensions is likely to be a balanced 50/50 type portfolio. With the introduction of life-stage investment options by many funds, we expect that the allocation to growth assets will fall over time.

8.4 Overseas assets

APRA and ATO statistics show that roughly 25% of assets are currently invested overseas. Our projections assume that the current allocation does not change over time for each segment as given in Table 22. As the industry grows it is possible that allocations to overseas investments may be driven higher due to reduced capacity in the Australian market for funds to invest the assets.

9. Impact of change

9.1 Key outcomes

The ageing of the population, the concurrent maturation of the superannuation market and the structural changes within that market will produce significant systemic changes in the volume of capital and its allocation. The key changes that can be expected over the next thirty years are:

- The assets within the superannuation industry will grow significantly in real terms from about $1.6 trillion at June 2013 to more than $5 trillion in 30 years.
- This asset base will also grow as a proportion of GDP from 108% in 2013 and will stabilise at around 160% of GDP in 30 years.
- This stabilisation will reflect the maturation of the market with some 44% of assets being held in the pension phase at that stage.
- The average age of pensioners will rise.
- There will be a small number of large funds. It is difficult to predict the exact number, but if 10 funds had 60% of the assets, they would average $300 billion each.
- The SMSF sector will lose its share of the overall market as it moves increasingly to supporting members in the pension phase.

9.2 Impacts

These changes can be expected to have the following impacts:

- The maturation of the market will see net real cash flows move towards neutrality as pension drawdowns compensate for contribution inflows. Asset growth will trend to reflect population and economic growth and inflation.
- The much larger proportion of assets held in the pension phase due to this maturation will also be reflected in aggregate asset allocations across the market because of the need by pensioners for greater capital value security. This need for stability will also impact the choices of products by pensioners which will in turn impact aggregate asset allocations. Changes that can be expected include:
  - An increase in the proportion of total assets held in defensive asset categories like government and corporate bonds. The extent of this change will also be dependent on the depth of the markets in these assets.

    The depth of these markets will depend on factors outside the superannuation market. The demand for government debt has historically been low because of low government borrowing requirements. With higher and more sustained deficits, there will be a larger and deeper market.

    The corporate bond market has suffered from low overseas interest rates and relatively high deposit rates from banks to support their domestic lending. Borrowers have found overseas markets cheaper and deeper while lenders have found bank deposits more attractive. A rise in overseas interest rates relative to Australia would improve the local bond market and tap into ready demand.

  - This move to defensive assets will be driven firstly by the increasing numbers of members moving into the pension phase, but will be driven further as these members age and become even less risk tolerant.
  - There will be greater and increasing use made of defensive overlays to protect members against significant asset value falls. These will include the growing use of sophisticated derivative strategies which will in turn require greater depth in derivative markets. They will also include the use of balance sheet guarantees (by insurers and banks) that will require the expansion of the capital bases of the providers.
  - The growing and ageing pensioner base will also see an increasing interest in products that protect against longevity risk (ie outliving one's assets). Annuities are currently the only products providing this protection by pooling the longevity risk – with earlier deaths subsidising later deaths. There will therefore be an increasing interest in lifetime annuities which will in turn increase the demand for and use of fixed interest assets like government and corporate bonds.
  - The demand for annuities may also see a demand for innovative structures around other stable cash flow investments like infrastructure.
- The growth in the size of the market as a proportion of GDP will require greater allocations to overseas assets in general. The allocation profiles of these assets will be similar to existing sovereign funds.
- With the consolidation of the market, there will be a shift to more illiquid investments as the very large funds will have significant, stable and predictable cash flows. Investments in infrastructure and property will grow. Over the next decade, this may be directed within Australia due to past under-investment and new opportunities. Recent sales of ports and freeway infrastructure have demonstrated both the superannuation market's capacity and appetite for these assets. This will undoubtedly continue and could strengthen over this period.

  As domestic demand is met, investment in these and other categories will need to expand overseas.

  It may well also be possible to open other public infrastructure assets to investment by superannuation funds. Public Private Partnerships should also be suitable for developing the extra health and aged care facilities that will be required by the ageing population.

9.3 Impact of Choice

The asset allocation of SMSFs is different from that of pooled funds. Over time, they might converge as online trading platforms open up to easier access for direct investments such as international equities, listed infrastructure trusts (which might mirror the structure of listed property trusts).

Already, the ASX has set up an online facility for managed funds which will be available to retail investors including SMSFs. We expect this will be broadened to other asset classes in time.

We believe SMSFs will have an appetite for illiquid investments as they invest long term and are not concerned about short-term asset volatility. There has been recent growth in property assets within this segment.

Appendix A Superannuation – detailed tables

Table 23. Projections results (2013 dollars) – 30 years detailed table

Year from 1 July	FUM (start of period)			Contributions			Benefits			Other Changes			Tax		Net Transfers	Net Change	FUM (end of period)
	Total	Pre Retirement	Post Retirement	Employer	Member	Government	Death Benefits	Retirement Lump Sums	Retirement Pensions	Gross Earnings	Insurance Premiums	Fees	On Contributions	On Earnings			
	($M)																
2013	1,615,761	1,123,634	492,128	75,622	41,659	1,421	(10,956)	(7,943)	(32,556)	116,007	(5,439)	(19,269)	(7,985)	(9,223)	-	141,340	1,707,966
2014	1,707,966	1,185,628	522,338	77,149	45,877	1,398	(11,595)	(7,877)	(35,056)	122,499	(6,321)	(19,327)	(9,735)	(9,706)	-	147,306	1,803,365
2015	1,803,365	1,246,024	557,340	79,334	49,826	1,373	(12,312)	(7,743)	(37,922)	129,196	(7,067)	(19,517)	(10,009)	(10,171)	-	154,987	1,903,553
2016	1,903,553	1,305,961	597,592	82,777	53,197	1,348	(13,190)	(7,403)	(41,186)	136,170	(7,437)	(19,809)	(10,473)	(10,629)	-	163,364	2,009,077
2017	2,009,077	1,366,591	642,486	87,586	56,129	1,321	(14,155)	(7,134)	(44,873)	143,470	(7,811)	(19,737)	(11,096)	(11,084)	-	172,617	2,120,645
2018	2,120,645	1,427,449	693,196	92,504	58,727	1,293	(15,199)	(6,700)	(48,959)	151,123	(8,022)	(19,652)	(11,819)	(11,540)	-	181,756	2,237,968
2019	2,237,968	1,489,872	748,096	97,519	60,880	1,264	(16,316)	(6,232)	(53,449)	159,110	(8,243)	(19,607)	(12,556)	(12,000)	-	190,370	2,360,362
2020	2,360,362	1,552,792	807,569	101,387	61,850	1,234	(17,492)	(5,606)	(58,267)	167,346	(8,463)	(19,495)	(13,125)	(12,461)	-	196,908	2,485,633
2021	2,485,633	1,615,720	869,913	105,262	62,607	1,205	(18,788)	(4,967)	(63,420)	175,746	(8,684)	(19,311)	(13,706)	(12,918)	-	203,026	2,613,283
2022	2,613,283	1,677,594	935,689	106,317	63,205	1,175	(20,127)	(5,055)	(68,651)	184,205	(8,904)	(19,122)	(13,859)	(13,376)	-	205,808	2,739,957
2023	2,739,957	1,739,951	1,000,005	107,357	63,766	1,146	(21,493)	(5,298)	(74,002)	192,610	(9,132)	(18,920)	(14,007)	(13,834)	-	208,193	2,865,291
2024	2,865,291	1,800,620	1,064,671	108,401	64,292	1,118	(22,878)	(5,296)	(79,268)	200,988	(9,361)	(18,529)	(14,178)	(14,301)	-	210,988	2,989,729
2025	2,989,729	1,864,004	1,125,725	109,640	64,899	1,093	(24,281)	(5,521)	(84,608)	209,342	(9,597)	(18,967)	(14,234)	(14,778)	-	212,988	3,112,513
2026	3,112,513	1,925,720	1,186,793	110,828	65,660	1,067	(25,810)	(5,741)	(89,956)	217,592	(9,826)	(19,565)	(14,325)	(15,248)	-	214,676	3,233,384
2027	3,233,384	1,985,858	1,247,527	112,730	66,521	1,047	(27,338)	(5,948)	(95,261)	225,840	(10,050)	(20,137)	(14,531)	(15,717)	-	217,156	3,353,178
2028	3,353,178	2,045,611	1,307,567	114,714	67,475	1,027	(28,854)	(6,192)	(100,550)	234,031	(10,267)	(21,309)	(14,750)	(16,184)	-	219,142	3,471,440
2029	3,471,440	2,104,018	1,367,422	116,764	68,473	1,007	(30,345)	(6,428)	(105,834)	242,150	(10,492)	(22,099)	(14,977)	(16,645)	-	221,574	3,588,654
2030	3,588,654	2,161,268	1,427,385	118,872	69,507	989	(31,814)	(6,674)	(111,102)	250,208	(10,726)	(22,888)	(15,214)	(17,098)	-	224,059	3,704,901
2031	3,704,901	2,217,559	1,487,342	121,036	70,546	970	(33,251)	(6,921)	(116,375)	258,201	(10,968)	(23,675)	(15,460)	(17,543)	-	226,561	3,820,228
2032	3,820,228	2,272,407	1,547,821	123,259	71,583	952	(34,648)	(7,157)	(121,607)	266,129	(11,219)	(24,459)	(15,715)	(17,982)	-	229,137	3,934,735
2033	3,934,735	2,326,909	1,607,826	125,550	72,627	934	(35,998)	(7,401)	(126,812)	273,988	(11,644)	(25,240)	(15,983)	(18,416)	-	231,605	4,048,338
2034	4,048,338	2,380,935	1,667,403	127,917	73,693	916	(37,299)	(7,650)	(132,009)	281,791	(11,591)	(26,019)	(16,289)	(18,847)	-	234,614	4,161,598

Year from 1 July	FUM (start of period)			Contributions			Benefits			Other Changes			Tax		Net Transfers	Net Change	FUM (end of period)
	Total	Pre Retirement	Post Retirement	Employer	Member	Government	Death Benefits	Retirement Lump Sums	Retirement Pensions	Gross Earnings	Insurance Premiums	Fees	On Contributions	On Earnings			
	($M)																
2035	4,161,598	2,434,681	1,726,917	130,361	74,822	899	(38,552)	(7,893)	(137,193)	289,557	(11,627)	(26,797)	(16,731)	(19,275)	-	237,570	4,274,471
2036	4,274,471	2,488,102	1,786,368	132,883	76,023	882	(39,748)	(8,130)	(142,378)	297,284	(11,929)	(27,581)	(17,043)	(19,698)	-	240,567	4,387,010
2037	4,387,010	2,541,061	1,845,949	135,494	77,350	865	(40,896)	(8,363)	(147,566)	304,992	(12,241)	(28,363)	(17,368)	(20,117)	-	243,786	4,499,443
2038	4,499,443	2,593,593	1,905,849	138,181	78,758	849	(41,989)	(8,595)	(152,761)	312,693	(12,566)	(29,146)	(17,705)	(20,533)	-	247,187	4,611,951
2039	4,611,951	2,645,799	1,966,153	140,934	80,205	833	(43,037)	(8,846)	(157,996)	320,397	(12,902)	(29,930)	(18,052)	(20,945)	-	250,662	4,724,607
2040	4,724,607	2,697,349	2,027,258	143,730	81,657	818	(44,046)	(9,093)	(163,271)	328,108	(13,251)	(30,715)	(18,407)	(21,351)	-	254,179	4,837,447
2041	4,837,447	2,748,351	2,089,096	146,558	83,105	803	(45,020)	(9,335)	(168,589)	335,825	(13,613)	(31,502)	(18,767)	(21,753)	-	257,713	4,950,483
2042	4,950,483	2,798,730	2,151,753	149,414	84,555	788	(45,973)	(9,585)	(173,946)	343,545	(13,989)	(32,289)	(19,132)	(22,149)	-	261,239	5,063,700
2043	5,063,700	2,848,699	2,215,001														

Table 24. Retirement projections results (2013 dollars) – Entire market - 30 years detailed table

Year from 1 July	FUM (start of period)			Contributions			Benefits			Other Changes			Tax		Net Transfers	Net Change	FUM (end of period)
	Total	Pre Retirement	Post Retirement	Employer	Member	Government	Death Benefits	Retirement Lump Sums	Retirement Pensions	Gross Earnings	Insurance Premiums	Fees	On Contributions	On Earnings			
	($M)																
2013	492,128	-	492,128	-	-	-	(6,984)	-	(32,556)	35,062	-	(6,287)	-	-	55,972	45,208	522,338
2014	522,338	-	522,338	-	-	-	(7,375)	-	(35,056)	37,323	-	(6,332)	-	-	62,404	50,963	557,340
2015	557,340	-	557,340	-	-	-	(7,840)	-	(37,922)	39,930	-	(6,586)	-	-	69,743	57,325	597,592
2016	597,592	-	597,592	-	-	-	(8,439)	-	(41,186)	42,879	-	(6,959)	-	-	76,932	63,227	642,486
2017	642,486	-	642,486	-	-	-	(9,133)	-	(44,873)	46,190	-	(7,019)	-	-	85,293	70,457	693,196
2018	693,196	-	693,196	-	-	-	(9,929)	-	(48,959)	49,845	-	(7,098)	-	-	92,349	76,208	748,096
2019	748,096	-	748,096	-	-	-	(10,823)	-	(53,449)	53,803	-	(7,172)	-	-	100,114	82,473	807,569
2020	807,569	-	807,569	-	-	-	(11,818)	-	(58,267)	58,017	-	(7,233)	-	-	106,444	87,143	869,913
2021	869,913	-	869,913	-	-	-	(12,949)	-	(63,420)	62,448	-	(7,275)	-	-	113,667	92,470	935,689
2022	935,689	-	935,689	-	-	-	(14,164)	-	(68,651)	66,943	-	(7,378)	-	-	116,182	92,933	1,000,005
2023	1,000,005	-	1,000,005	-	-	-	(15,432)	-	(74,002)	71,399	-	(7,416)	-	-	120,639	95,188	1,064,671

RICEWARNER
Insight like no other

Year from 1 July	FUM (start of period)			Contributions			Benefits			Other Changes			Tax		Net Transfers	Net Change	FUM (end of period)
	Total	Pre Retirement	Post Retirement	Employer	Member	Government	Death Benefits	Retirement Lump Sums	Retirement Pensions	Gross Earnings	Insurance Premiums	Fees	On Contributions	On Earnings			
	($M)																
2024	1,064,671	-	1,064,671	-	-	-	(16,735)	-	(79,268)	75,742	-	(7,404)	-	-	121,100	93,435	1,125,725
2025	1,125,725	-	1,125,725	-	-	-	(18,049)	-	(84,608)	79,975	-	(7,013)	-	-	124,948	95,253	1,186,793
2026	1,186,793	-	1,186,793	-	-	-	(19,455)	-	(89,956)	84,187	-	(7,176)	-	-	129,119	96,720	1,247,527
2027	1,247,527	-	1,247,527	-	-	-	(20,858)	-	(95,261)	88,394	-	(7,336)	-	-	132,872	97,812	1,307,567
2028	1,307,567	-	1,307,567	-	-	-	(22,236)	-	(100,550)	92,566	-	(8,093)	-	-	137,710	99,397	1,367,422
2029	1,367,422	-	1,367,422	-	-	-	(23,595)	-	(105,834)	96,731	-	(8,474)	-	-	142,449	101,277	1,427,385
2030	1,427,385	-	1,427,385	-	-	-	(24,933)	-	(111,102)	100,894	-	(8,857)	-	-	147,041	103,043	1,487,342
2031	1,487,342	-	1,487,342	-	-	-	(26,242)	-	(116,375)	105,070	-	(9,244)	-	-	152,136	105,345	1,547,821
2032	1,547,821	-	1,547,821	-	-	-	(27,520)	-	(121,607)	109,242	-	(9,636)	-	-	156,173	106,652	1,607,826
2033	1,607,826	-	1,607,826	-	-	-	(28,757)	-	(126,812)	113,379	-	(10,028)	-	-	160,209	107,991	1,667,403
2034	1,667,403	-	1,667,403	-	-	-	(29,956)	-	(132,009)	117,495	-	(10,419)	-	-	164,577	109,688	1,726,917
2035	1,726,917	-	1,726,917	-	-	-	(31,112)	-	(137,193)	121,603	-	(10,812)	-	-	168,898	111,384	1,786,368
2036	1,786,368	-	1,786,368	-	-	-	(32,221)	-	(142,378)	125,709	-	(11,207)	-	-	173,370	113,272	1,845,949
2037	1,845,949	-	1,845,949	-	-	-	(33,290)	-	(147,566)	129,827	-	(11,605)	-	-	177,992	115,358	1,905,849
2038	1,905,849	-	1,905,849	-	-	-	(34,316)	-	(152,761)	133,966	-	(12,007)	-	-	182,656	117,538	1,966,153
2039	1,966,153	-	1,966,153	-	-	-	(35,305)	-	(157,996)	138,144	-	(12,414)	-	-	187,705	120,135	2,027,258
2040	2,027,258	-	2,027,258	-	-	-	(36,262)	-	(163,271)	142,372	-	(12,829)	-	-	192,674	122,684	2,089,096
2041	2,089,096	-	2,089,096	-	-	-	(37,194)	-	(168,589)	146,650	-	(13,250)	-	-	197,725	125,343	2,151,753
2042	2,151,753	-	2,151,753	-	-	-	(38,110)	-	(173,946)	150,975	-	(13,678)	-	-	202,555	127,795	2,215,001
2043	2,215,001	-	2,215,001														