



# AIST MERCER SUPER TRACKER

## HOW THE SUPER SYSTEM STACKS UP ON FAIRNESS, ADEQUACY, AND SUSTAINABILITY

MARCH 2015



# CONTENTS

1. INTRODUCTION .....	1
2. A SUMMARY OF THE RESULTS.....	3
• THE CONSTRUCTION OF THE TRACKER.....	4
3. ADEQUACY.....	5
• NET RETIREMENT INCOME .....	5
• EQUITY OF GOVERNMENT SUPPORT.....	6
• GENDER GAP.....	8
• COVERAGE OF SUPERANNUATION .....	10
• LEVEL OF PERSONAL CONTRIBUTIONS .....	11
4. SUSTAINABILITY .....	12
• COST OF GOVERNMENT SUPPORT .....	12
• LEVEL OF SUPERANNUATION ASSETS.....	13
• LABOUR FORCE PARTICIPATION RATES.....	14
• LENGTH OF RETIREMENT .....	14
• AGE PENSIONER POPULATION .....	16
5. APPENDIX 1 – SCORING DETAILS FOR EACH INDICATOR .....	17
6. APPENDIX 2 – MODELLING ASSUMPTIONS.....	19
7. APPENDIX 3 – BENCHMARKING THE TAXATION OF SUPERANNUATION.....	26



# 1 INTRODUCTION

Superannuation is now a fundamental part of Australian society with compulsory employer contributions, a level of assets larger than our GDP, and a growing emphasis on the provision of retirement income as the baby boomers leave the workforce. However is the super system achieving its objectives?

The recent Financial System Inquiry commented that “superannuation is not delivering retirement income efficiently” and made several recommendations to “lift the value of the superannuation system and retirement incomes.”<sup>1</sup> Although the Inquiry made several recommendations to improve the superannuation system, the Final Report did not set out clear measurable objectives to track the progress of the system over time.

The Inquiry also commented that “the tax concessions in the superannuation system are not well targeted to achieve provision of retirement incomes.” This topic will be addressed during 2015 in the Tax White Paper process. However it is important that we adopt an holistic long-term perspective to this topic rather than a short-term view.

Within this context, the AIST and Mercer have developed the Super Tracker to assess the progress of Australia’s retirement income system based on the available evidence and to make important contributions to the discussion about the system’s ongoing development, including the fairness of the taxation arrangements. It should be noted that as this Tracker has a total system perspective, it is not considering the position of particular superannuation funds or individuals.

As the overall retirement system is reviewed, it must also be recognised that the superannuation system does not have a single objective that can be easily measured. It is more complicated than that!

We will therefore consider several indicators under two broad headings:

- **Adequacy** – what can be measured to indicate whether all working Australians are likely to receive an adequate benefit in retirement, allowing for both superannuation and the age pension.
- **Sustainability** – what can be measured to indicate whether the retirement system as a whole is likely to continue to operate in a sustainable manner over many decades into the future.

---

<sup>1</sup> Commonwealth of Australia, *Financial System Inquiry Final Report 2014*, Executive summary.

There will always be a natural tension between adequacy and sustainability. After all, very generous benefits today are unlikely to be sustainable into the future, particularly in the context of our ageing population. On the other hand, it is possible to develop a very sustainable system that provides very modest benefits that do not meet the needs of retirees. Neither outcome is desirable. It is therefore important to recognise the importance of both providing adequate benefits and long-term sustainability.

A second important distinction in the measurement of any retirement system is the difference between macroeconomic effects and the impact at the personal (or micro) level. Both are important. Hence the AIST Mercer Super Tracker will consider the movement in certain macroeconomic measures, such as the value and fairness of tax concessions and the level of assets within the economy, as well as measures that affect individuals such as net retirement income and the gender gap. Although it is impractical to measure every individual's total superannuation balance, these micro measures will provide an indication on how various policy proposals will affect retirement benefits at the personal level.

Although an important purpose of the AIST Mercer Super Tracker is to consider and measure the current arrangements, the indicators used will also enable an analysis and assessment of various proposals relating to a range of issues concerning the fairness, adequacy, and sustainability of the system into the future. Such evidence-based and objective analysis will provide an important contribution to the ongoing discussion about the development of Australia's retirement income system.

# 2 A SUMMARY OF THE RESULTS

The initial score for the AIST Mercer Super Tracker is 64.9 out of a possible 100.

A score of 64.9 recognises that the Australian superannuation system has many attractive features, as evidenced by its second placing in the 2014 Melbourne Mercer Global Pension Index.<sup>2</sup> However the individual scores indicate there remain areas such as equity, gender, and age pension dependency that can be enhanced so that improved benefits can be provided to retiring Australians in a sustainable way.

The following table shows the ten indicators used and their respective scores. The weightings used for each indicator are shown in Appendix 1.

The Adequacy measures indicate there are several areas of the Australian superannuation system that could be improved to provide more adequate benefits. These include a fairer spread of the combined cost of the superannuation tax concessions and the age pension, a closing of the gender gap in respect of superannuation benefits, an improvement in superannuation coverage, and more voluntary (or personal) contributions.

Indicator	Score (out of 10)
<i>Adequacy measures</i>	
Net retirement income for median income earners	8.48
Equity measure of government support	3.32
Gender gap	6.26
Coverage of superannuation	8.08
Level of personal contributions	5.58
<i>Sustainability measures</i>	
Total cost of government support <sup>3</sup>	7.42
Current level of super assets	7.83
Labour force participation at older ages	5.53
Length of retirement	6.16
Age pensioner population	5.33

<sup>2</sup> The Melbourne Mercer Global Pension Index compares retirement income systems in 25 countries using international data and responses from Mercer consultants based in each country. In contrast, the AIST Mercer Super Tracker focuses on Australia and considers some relevant indicators in more detail than is possible in an international comparison.

<sup>3</sup> The total cost of government support includes the costs of both age-related pensions and superannuation tax concessions. The calculation of the value of these concessions is discussed in detail in Appendix 3.



The Sustainability measures indicate there are additional areas of the overall system that could be improved to ensure that the system remains sustainable over the longer term. These include improving labour force participation at older ages, adjusting some of the design features in response to longer life expectancies, and ensuring that the overall cost to Government (including the age pension) does not increase materially, when expressed as a percentage of GDP.

Chapters 3 and 4 discuss each item in more detail while Appendix 1 shows additional information about the scoring system.

## THE CONSTRUCTION OF THE TRACKER

The construction of any tracker or index inevitably raises questions about the indicators, the weightings given to each indicator, and the scoring methodology. There is no 'correct' answer as there are many views about the features of a good retirement income system. Nevertheless we have concentrated on items that we regard as important as well as measurable outcomes from any retirement income system. Appendix 1 provides all the data used so that readers may calculate the effects of changing the weights of each indicator.



## NET RETIREMENT INCOME

### Description

The fundamental purpose of any retirement income must be to provide an adequate income to older individuals who have retired from the workforce. The modelling of the likely level of income an individual will receive in retirement from their superannuation is based on several assumptions including their entry age to the workforce, their ongoing participation in the workforce, the level of contributions, the level of investment earnings, the retirement age, as well as future taxes and costs. In addition, the individual may be eligible to receive income from Australia's means-tested age pension.

For the purpose of these calculations we have used as a base income, the median income<sup>4</sup> received by those in full-time work, averaged across males and females. This means that the net retirement income for each scenario (that is, for males and females, full-time and part-time workers), will be expressed as a percentage of this net (after-tax) median income for full-time workers.

For full-time workers, we have assumed an entry age of 20, a retirement age of 67 (that is, the projected pension eligibility age), and employer contributions at the legislated SG rates from 2014–15. For part-time workers, we have allowed for different labour force participation rates based on the latest data. All assumptions are outlined in Appendix 2.

The net retirement income has been calculated assuming that 10% of the superannuation benefit is immediately consumed at retirement and the balance is rolled over into an account-based pension, where the legislated minimum income is withdrawn in the first year of retirement. A part age pension may also be payable.

The maximum score is achieved if the net retirement income in the first year of retirement is 70% of the median income for full-time workers. A zero score would be achieved if the net retirement income was less than 20%. This is the same range as used in the Melbourne Mercer Global Pension Index.

### Findings

The net retirement income for a full-time male worker is projected to be 67.6% of the after-tax median income for full-time workers (averaged for males and females). This represents a good outcome and indicates that a worker who receives 12% SG for most of his career (under the current legislation) is likely to receive an adequate retirement income.

However the story is different for part-time workers and full-time female workers. In each case, the net retirement income is between 55.1% and 62.1% of the median income. The reasons for these lower results are twofold:

---

<sup>4</sup> We are using median incomes as this reflects the middle income for full-time workers. Note that average income figures are higher due to the effect of very high incomes.

- The median income for full-time female workers is 82.0% of the median income for full-time male workers so that SG contributions are correspondingly reduced.<sup>5</sup>
- Part-time workers spend less time in the labour force so their SG contributions (when expressed in dollars) are also lower.

Notwithstanding these effects, the means-tested age pension helps close the gap.

### Weighting

These results represent the major outcome of any retirement income system and as such this indicator has a weighting of 20% in the Super Tracker. This weighting is split evenly between males and females although part-time female workers have a stronger weighting than part-time male workers, thereby reflecting reality.

---

<sup>5</sup> If average incomes are considered, the average income for full-time female workers is 78.6% of the average income for full-time male workers.

<sup>6</sup> The Final Report into Australia's tax system noted that "The essential reason for treating lifetime, long-term savings more favourably is that income taxation creates a bias against savings, particularly long-term savings. Taxes on savings income, including the taxation of inflationary gains, can discriminate against taxpayers who choose to defer consumption and save."

## EQUITY OF GOVERNMENT SUPPORT

### Description

The Australian Government supports the provision of retirement income in two major ways:

- Taxation concessions in respect of superannuation contributions and investment earnings.
- The means-tested age pension.

Obviously, if taxation concessions were to be reduced or removed, then the net superannuation benefits would also be reduced leading to an increase in future age pension costs. It is therefore important to consider an overall perspective when considering the cost to Government and the fairness of this total level of support.

This indicator calculates and compares the value of this total support across the lifetime of eight individuals with different incomes.

In considering the value of the taxation concessions, there is considerable discussion about the appropriate benchmark for long-term savings such as superannuation and this is further explored in Appendix 3. Based on the work carried by the Henry Tax Review,<sup>6</sup> a reasonable measure to determine the value of the tax concessions is to assume that employer contributions should be fully taxed and that investment income should be taxed at 60% of the individual's marginal rate.

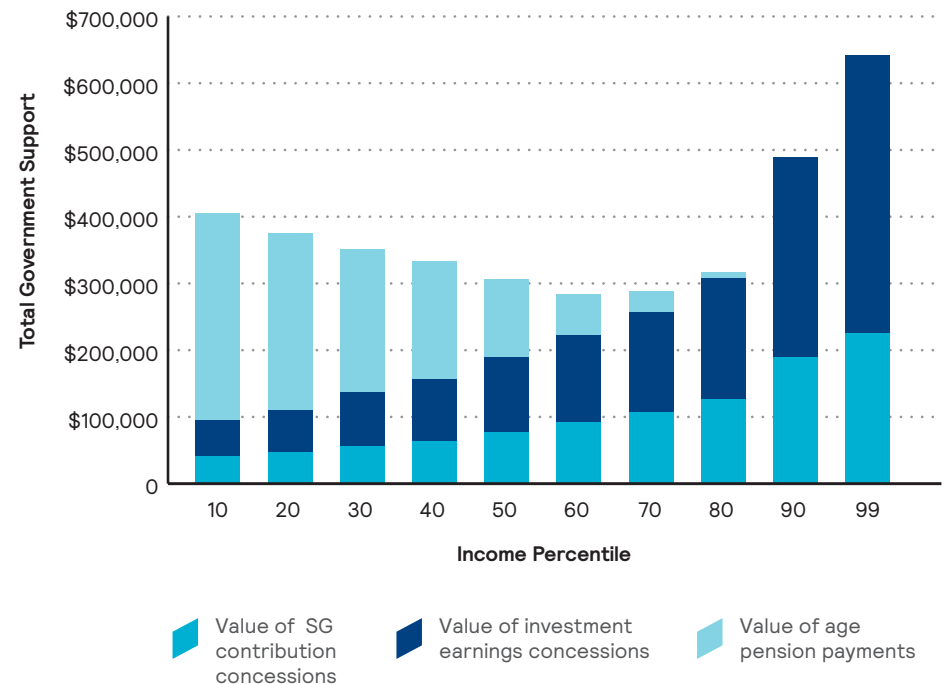
Of course, even after calculating the total cost to Government at each income level, the question arises as to what is the correct or most equitable distribution of these costs. This measure looks at the variation across income levels and assumes that a level result is a good outcome while a skewed result (in either direction) is not desirable. That is, each individual should receive a similar level of support, when expressed in dollars, whether that be through the age pension or superannuation tax concessions.

This means that the maximum score is achieved if the coefficient of variation across the different income levels is zero. A coefficient of variation of 0.5 or higher results in a zero score.

### Findings

The following graph shows the level of total support across a lifetime at ten income levels.<sup>7</sup> These income levels represent the first to ninth income decile for full-time workers as well as an estimate of the 99th percentile. In the calculation of the coefficient of variation the first and second income deciles have been ignored as these low income earners are likely to rely heavily on the age pension for their retirement income – that is, superannuation is relatively unimportant.

We have also assumed that an individual stays within a particular income decile throughout their career. Of course, in practice, this is not true. Almost every worker will pass through at least a couple of income deciles during their career. However, this means that their overall career position can be considered to be some mix from the results for several income deciles.



<sup>7</sup> These figures assume the individuals enter the workforce on 1 July 2014 and receive SG contributions under the current legislation.

It is noted that the total support from the Government decreases as incomes rise because the long-term cost of the age pension drops at a faster rate than the increasing cost of tax concessions. However at higher incomes, when very limited age pension costs are expected, the total cost increases. Nevertheless, it is worth noting that the total support received over a lifetime with incomes at the 80th percentile is similar to that received at the 50th percentile and less than that received by those at lower incomes.

As mentioned earlier, these calculations assume that an individual receives the same percentile income throughout their working career. In practice, this is unlikely for most individuals. Even an income earner at the 90th or 99th percentiles later in their career is likely to have spent some years receiving a lower income.

Similarly, an individual whose final income is at say the 60th percentile is likely to have spent some years receiving lower incomes so that their final position may be a combination of results from the 30th to 60th percentiles.

### Weighting

The distribution of total government support for retirement income across incomes represents a key feature of any retirement system. As such, this indicator has a weighting of 15% in the Super Tracker.

## GENDER GAP

### Description

It is recognised there exists a significant difference between the average superannuation benefit received by males and females. The major reasons for this difference are:

- Female participation rate in the labour market is about 82% of the male rate.<sup>8</sup>
- A much higher percentage of females (45%) work part-time compared to males (16%).
- Average earnings for females are lower than for males. For those in the full-time labour force, female earnings are 78.6% of male earnings.

Recent developments suggest that some of these differences may be reducing but these changes will take many years to have any significant effect on the average benefits provided to female retirees.

The maximum score is achieved if there is no gender gap in respect of superannuation benefits; that is, the average female benefit is 100% of the average male benefit.

---

<sup>8</sup> ABS 6291.0.55.001, Table 01.

## Findings

Two approaches have been adopted to determine the size of the gender gap in Australia.

The first is to use 2011–12 ABS data specifically compiled for ASFA, which showed that the average superannuation balance for males was \$112,000 compared to \$68,600 for females.<sup>9</sup> In other words, the average female balance was 61.25% of the average male balance across all ages.

The second approach is to consider the projected superannuation balances at age 67 (the future pension age) for males and females (allowing for both full-time and part-time workers), which were calculated for the net retirement income indicator discussed above. The average female balance for a full-time and part-time worker is 64.0% of the average male balance.<sup>10</sup>

Clearly, whether one considers the actual data (which is a little dated) or the modelling, average superannuation benefits received by females are less than two-thirds of those received by males. This gender gap means that many women will receive inadequate retirement benefits.

Although it is not recognised in the score, it is worth noting that this gender gap is offset, to some extent, by Australia's means-tested age pension. Using the net retirement income for single persons discussed earlier, which allows for a part age pension (where appropriate), males who have worked full time receive total retirement income 8.9% higher than females. The difference for part-timers is 12.2%. That is, the means-tested age pension reduces the earnings-related superannuation gender gap for single persons. However this offset is not necessarily achieved for couples as the age pension payable will also be affected by the partner's superannuation benefit.

## Weighting

The differences between superannuation benefits available to males and females represent an important indicator in the provision of adequate benefits in any retirement system. As such, this indicator has a weighting of 10% in the Super Tracker.

---

<sup>9</sup> ASFA (2014), *An update on the level and distribution of retirement savings*.

<sup>10</sup> The methodology used is similar to that adopted by the EU (The Gender Gap in Pensions in the EU by F Bettio, P Tinios, and G Betti) in their definition of the gender gap in pensions, although they consider pensions and not the accumulated benefit.

## COVERAGE OF SUPERANNUATION

### Description

A higher level of superannuation coverage among the working age population increases the likelihood that more individuals will receive an adequate retirement benefit.

Currently Australia has mandatory employer contributions for employees who earn more than \$450 per month. However this means that some casual employees receive no superannuation, including many self-employed who do not contribute to superannuation.

The maximum score is achieved if more than 80% of the working age population are covered by superannuation. This objective recognises that coverage of 100% is not a realistic aim.

### Findings

According to the OECD,<sup>11</sup> 68.5% of working-age Australians (aged 15–64) are covered by private pension (or superannuation) schemes.<sup>12</sup> Although this is a good result on the global scene, other countries with mandatory arrangements have higher percentages including the Netherlands (88.0%), Iceland (84.8%), Denmark (83.7%), and Israel (81.8%). Hence there is scope for Australia to broaden its coverage and thereby provide superannuation to an increased percentage of the population.

### Weighting

Superannuation coverage represents a useful indicator in measuring the success of any retirement system as increased coverage is likely to lead to a higher proportion of the population with adequate benefits. This indicator has a weighting of 2.5% in the Super Tracker.

---

<sup>11</sup> OECD (2013), *Pensions at a Glance 2013: OECD and G20 Indicators*, p.189.

<sup>12</sup> The percentage for Australia may appear low given our SG system but it should be noted that the SG does not apply to the self-employed. Further the 15–64 age group will include some young people who have not yet entered the workforce and some retirees who have withdrawn their benefit.

## LEVEL OF PERSONAL CONTRIBUTIONS

### Description

Mandatory contributions, such as Australia's Superannuation Guarantee, provide a good base for the provision of adequate benefits. However it is also recognised that voluntary contributions are often needed to "top up" this base so that the final benefit is sufficient to provide an adequate income for a dignified retirement.

Therefore personal contributions, whether salary sacrifice contributions or after-tax contributions, represent an important measure in the provision of adequate benefits. They also represent an important indicator of the community's confidence in the system.

The maximum score is achieved if the level of personal contributions, as measured by APRA, reaches 3% of GDP for the last 12 months, which is almost double the current level.

### Findings

Recent APRA statistics<sup>13</sup> show that personal after-tax contributions for the 12 months to 30 September 2014 were \$20.5 billion compared to total employer contributions during the same period of \$75.1 billion.

This APRA data shows the level of personal contributions, including salary sacrifice contributions, was 1.67% of GDP.

### Weighting

The level of voluntary (or personal) contributions represents an appropriate indicator in measuring the community's acceptance of any retirement system. As with coverage, this indicator has a weighting of 2.5% in the Super Tracker.

---

13 APRA (2014), *Statistics Quarterly Superannuation Performance*, Table 1a.



## COST OF GOVERNMENT SUPPORT

### Description

The Australian Government supports the provision of retirement income in several ways including superannuation tax concessions and the provision of the age and service pensions. In broad terms, one of the objectives of the tax concessions is to reduce these pension costs in the future. As the Financial System Inquiry noted, the Government should seek broad agreement on the following primary objective for the superannuation system: “to provide income in retirement to substitute or supplement the Age Pension.”

It should be noted that these two forms of government support are targeted at different generations. The age and service pensions are only available to older Australians who meet certain eligibility requirements and means tests. On the other hand, the tax concessions relating to contributions and investment income are primarily received by those accumulating superannuation during the preretirement years. These concessions increase the value of benefits, which should reduce the cost to the government budget in future years.

The measurement of this cost is difficult as the pension payments reflect an immediate cost whereas the concessions reflect an investment to reduce future costs. Strictly speaking, the two items should not be added together.

However, both items have an immediate effect on the Government’s fiscal position and therefore to obtain a measure of the total cost (and one that can be measured regularly) we will sum the costs of the pension payments with the value of the superannuation tax concessions, as discussed in Appendix 3.

The maximum score is achieved if this combined cost in the latest financial year is no more than 2% of GDP, which represents a cost lower than any OECD economy.

In view of the ageing population we will also consider the future by considering the projected age pension cost in 2050, expressed as a percentage of GDP. Again a maximum score is achieved if this projected cost is no more than 2% of GDP. The minimum score is achieved if the cost is more than 12% of GDP, which represents slightly more than the average of the projected cost of public pension expenditure for OECD countries in 2050.<sup>14</sup>

It is interesting to note that the average public pension expenditure across the OECD countries is expected to rise from 9.5% of GDP in 2015 to 11.7% of GDP in 2050.<sup>15</sup> The projected Australian figure of 4.9% in 2050 is the second lowest of the 28 countries.

---

<sup>14</sup> OECD (2014), *Pensions Outlook 2014*, Figure 2.5.

<sup>15</sup> Ibid.

## Findings

Age-related pension payments, including the age pension and similar payments to veterans and war widows, are expected to increase from 3.6% of GDP in 2015 to 4.9% of GDP in 2050<sup>16</sup> according to the OECD. Interestingly, the 2010 Intergenerational Report projected that these age-related pension payments were projected to increase to 3.9% of GDP in 2049–50.<sup>17</sup> Whatever the actual figure turns out to be, it appears certain that the cost to the Australian Government of age-related pension payments will be much lower than almost every other OECD economy.

The cost of superannuation tax concessions, as described in Appendix 3, are much lower than the age-related pension costs and are estimated to be \$21.0 billion (or 1.33% of GDP) in 2013–14.

It should be recognised that the need for some tax concessions for superannuation has been recognised by the Henry Tax Review and in a recent ACOSS paper.<sup>18</sup> Reasons include the need to compensate members for the lack of access to their savings, the desire to encourage additional savings over and above the mandatory level, and the potential mobility of investments compared to other taxable income such as wages.

---

<sup>16</sup> Ibid.

<sup>17</sup> Treasury (2010), *Intergenerational Report 2010*, p. 59.

<sup>18</sup> Australian Council of Social Service (2015), *Tax: Are we paying our fair share?*, p. 9.

## Weighting

The cost to Government of supporting Australia's retirement income system represents a key long-term indicator of its sustainability. Therefore this indicator has a weighting of 15% in the Super Tracker.

## LEVEL OF SUPERANNUATION ASSETS

### Description

The level of superannuation assets invested for the future payment of retirement and other benefits, expressed as a percentage of GDP, represents a good indicator of the level of funding currently set aside for the future. The level of these assets depends on the level of contributions from employers and members, the level of investment earnings (which, in turn, is affected by asset allocation), and taxation and costs.

The maximum score is achieved when the level of assets reaches 150% of GDP. According to the latest OECD data, only the Netherlands has assets in autonomous pension funds that exceed 150% of GDP.

### Findings

Australia has the fourth largest pool of pension fund assets in the world. This strong outcome has been enhanced by the introduction of the Superannuation Guarantee from 1992.

As at September 2014, the value of superannuation fund assets represents 117% of Australia's GDP.

### Weighting

The level of funding future benefits, as represented by the level of assets, is a fundamental measure of the system's sustainability. Therefore this indicator has a weighting of 10% in the Super Tracker.

## LABOUR FORCE PARTICIPATION RATES

### Description

Increased labour force participation rates at older ages means that individuals are retiring later. This development has three significant benefits to improve the sustainability of the overall retirement income system. They are a reduction in the length of retirement; further superannuation contributions; and perhaps most important of all, additional investment earnings when the accumulated benefit is near its peak.

We will consider the labour force participation rates for the following three age groups: ages 55–59, 60–64 and 65 and over. Naturally it is expected that the labour force participation rates will decline with age so the maximum scores are achieved if these participation rates are 85%, 65%, and 20%, respectively.

### Findings

The latest ABS data<sup>19</sup> show that the combined labour force participation rates (that is, for males and females) are 73.1% for ages 55–59, 53.7% for ages 60–64, and 12.4% for ages 65 and over. These rates have increased in recent years (particularly for females) although they remain below some other OECD countries. For example, the participation rate for 55- to 64-year-olds is 76.8% in Sweden, 72.6% in Switzerland, and 68.6% in Japan compared to Australia's figure of 63.5%.<sup>20</sup>

### Weighting

Labour force participation rates at older ages represent a measure of both workforce participation and retirement. Clearly later retirement improves the sustainability of any retirement income system. Therefore this indicator has a weighting of 10% in the Super Tracker.

---

<sup>19</sup> ABS 6291.0.00.55.001, Table 01.

<sup>20</sup> International Labour Organization (2013), *Key Indicators of the Labour Market*, 8th edition, ILO.

## LENGTH OF RETIREMENT

### Description

The length of retirement is one of the most critical factors in determining the value of total retirement income needed by an individual as well as the long-term sustainability of the overall system. The number of years in retirement cannot be predicted accurately in advance for an individual as their time of death is unknown. However, for the system as whole, there are some indicators that can be used. These are the average retirement age and the average life expectancy from that age.

Australia does not have a normal retirement age. In fact, individuals retire and access their superannuation at many ages ranging from the current preservation age of 55 to beyond age 70. As a proxy for the retirement age, we shall use the eligibility age for the age pension. Although this is not perfect, it is expected that as the pension eligibility age rises, the average retirement age will also increase.

The maximum score will be achieved if the average life expectancy at the pension eligibility age today is 15 years, which was the male life expectancy at age 65 in the late 1980s.

However sustainability should also be about the future. We will therefore consider the projected situation in 20 years' time. For this calculation, we shall calculate the difference between the projected life expectancy at birth in 20 years' time and the legislated pension eligibility age at that time.

The maximum score will be achieved if this difference is 13 years or less. This lower objective is due to the fact that we are considering life expectancy at birth and not the pension age. That is, we allow for the fact that not everyone will reach pension age.

### Findings

The life expectancy at age 65 for Australians is 19.22 for males and 22.05 for females. This has increased by 4.6 years for males and 3.5 years for females during the last 25 years.<sup>21</sup>

The United Nations projects that the average life expectancy for Australian babies born in 2035–40 will be 85.87 years compared to the current figure of 82.19 years. This projection places Australia as one of the top five countries in the world for life expectancy.

### Weighting

As with labour force participation rates at older ages, the length of retirement represents an important indicator for the sustainability of any retirement income system. Therefore this indicator also has a weighting of 10% in the Super Tracker.

---

21 Australian Government Actuary (2014), *Australian Life Tables 2010–12*.

## AGE PENSIONER POPULATION

### Description

An important objective of the Australian superannuation system is to reduce the future costs of age pension payments. However as the Australian system is a means-tested system with a gradual reduction in the age pension as an individual's assets or income increases, the total number of age pensioners does not give the full picture. That is, as the superannuation system matures, we would expect the number of full pensioners to reduce whilst the proportion of aged Australians receiving a part pension may actually increase. That result could be a good outcome as it would indicate that the total cost of age pension is lower than it would otherwise be, even if the number of age pensioners is not reducing.

We will therefore consider the percentages of the aged population who are receiving a full or part pension now and the expected percentages in 2050 when the superannuation system has matured.

The maximum score is achieved if the percentage of the aged population receiving a full pension is 25%, where a part pensioner is given a half weighting. This figure recognises that it is impractical to aim for a figure below 25% as there will always exist some older Australians who need to receive the full age pension.

### Findings

Currently about 50% of the aged population receive a full pension with another 30% receiving a part pension. These seemingly high figures are not surprising given that the Superannuation Guarantee did not commence until 1992 and that none of the current aged population will have received the SG for their full working career.

In contrast, by 2050 it is expected that many retired Australians will have had superannuation throughout their career. Hence, one would expect reduced age pension expenditure to reduce. Projections suggest that about 30% will be receiving the full pension in 2050 with 50% receiving a part pension.<sup>22</sup> These future percentages could be affected by changes to either superannuation legislation or the means testing rules.

### Weighting

A decline in the percentage of the aged population receiving a full pension represents a clear indicator of the success of mandatory superannuation. Therefore this indicator, which supplements the previous cost indicator, has a weighting of 5% in the Super Tracker.

---

<sup>22</sup> National Commission of Audit (2014), *Towards Responsible Government*, p. 81.

# 5 APPENDIX 1 – SCORING DETAILS FOR EACH INDICATOR

## ADEQUACY MEASURES

Indicator	Overall Weighting	Scoring range		Result	Score (/10)
		Minimum	Maximum		
Net Retirement Income					
• Full-time male.	7.5%	20%	70%	67.6%	9.5
• Full-time female.	5.0%	20%	70%	62.1%	8.4
• Part-time male.	2.5%	20%	70%	61.8%	8.4
• Part-time female.	5.0%	20%	70%	55.1%	7.0
Equity measure of government support	15.0%	0.5	0.0	0.334	3.3
Gender gap					
• ABS data.	5.0%	0%	100%	61.3%	6.1
• Projections.	5.0%	0%	100%	64.0%	6.4
Coverage of superannuation	2.5%	20%	80%	68.5%	8.1
Level of personal contributions (% of GDP)	2.5%	0%	3%	1.7%	5.6

## SUSTAINABILITY MEASURES

Indicator	Overall Weighting	Scoring range		Result	Score (/10)
		Minimum	Maximum		
Total cost of government support (% GDP)					
• Total cost today.	10.0%	2%	14%	4.9%	7.6
• Projected pension cost.	5.0%	2%	12%	4.9%	7.1
Level of super assets (% GDP)	10.0%	0%	150%	117%	7.8
Labour force participation at older ages					
• Ages 55–59.	4.0%	60%	85%	73.1%	5.2
• Ages 60–64.	4.0%	40%	65%	53.7%	5.5
• Ages 65 and over	2.0%	0%	20%	12.4%	6.2
Length of retirement (years)					
• Today.	5.0%	30	15	20.7	6.2
• In 20 years (projected).	5.0%	28	13	18.9	6.1
Age pensioner population (full/part pensioners)					
• Today.	2.5%	25%	100%	50%/30%	4.7
• In 2050.	2.5%	25%	100%	30%/50%	6.0



# 6 APPENDIX 2 – MODELLING ASSUMPTIONS

## ECONOMIC ASSUMPTIONS

**Inflation:** 2.5% pa

This is the midpoint of the Reserve Bank's target for monetary policy in Australia which is to achieve an inflation rate of 2–3%, on average, over the cycle.

**Net investment returns** (that is, after investment expenses and taxes)

Pre-retirement years: 7.0% pa

Post-retirement years: 6.5% pa

The pre-retirement return is based on the average MySuper portfolio.<sup>23</sup> Retirees are expected to have a slightly more conservative investment profile.

**Salary increase:** 3.5% pa

With the global economy under significant pressure and the Australian economy restructuring, together with the pressures of an ageing population, a slightly lower wage growth than historical averages is assumed for the future.

**Deflator:** 3.5% pa

The use of the long-term salary increase rate to value an individual's superannuation benefit at retirement will ensure they are expressed in real dollars. This rate is also used to value the long-term cost to Government of the superannuation tax concessions and future age pension payments.

## DEMOGRAPHIC ASSUMPTIONS

**Entry age and retirement age**

Entry age to the labour force: 20

Retirement age: 67

The OECD defines a full career as entering the labour market at 20 and working until standard pension eligibility age.<sup>24</sup> In the Australian labour market, the labour force participation rate increases from 53.7% for 15- to 19-year-olds to 77.6% for 20- to 24-year-olds, and then to 82.4% for 25- to 34-year-olds. Therefore most individuals have entered the workforce by age 20 or 21.

Although the current pension eligibility age is age 65, it is legislated to reach 67 by 1 July 2023.

**Age of death**

The current life expectancies for a 67-year-old are 17.62 (males) and 20.33 (females).<sup>25</sup> However we need to consider a 20-year-old entering the workforce now and reaching age 67 in 2061. The Life Tables show figures for improvements in life expectancies for a 65-year-old in 2060 of 5.4 years for males and 4.8 years for females, using the average of the 25-year and 125-year improvements from ALT. Using similar results for a 67-year-old, this leads to a life expectancy of 90 for males (that is, 23 years in retirement) and 92 for females (that is, 25 years in retirement). We will therefore assume a date of death of 91.

23 APRA, *MySuper Statistics Selected Feature*, June 2014, Table E.

24 OECD (2013), *Pensions at a Glance 2013: OECD and G20 Indicators*, p. 132.

25 Australian Government Actuary (2014), *Australian Life Tables 2010–12*.

## AGE PENSION

The current level of the full age pension for a single person is \$854.30 per fortnight or \$22,212 per annum.

However payment of the age pension is subject to an income test and an assets test, with the lower amount payable.

### Indexation of pension

Currently the age pension is indexed to male wages under most circumstances. However, the Government has indicated a desire to index it to prices. Indeed most developed countries index their pension to prices.

We have therefore adopted a middle position, namely indexation at 3% pa; that is, half way between prices and wages.

### Income test

The income test applies to income above \$160 per fortnight (that is, a threshold of \$4,160 pa). It is reduced at the rate of 50 cents for every dollar above this level. The assumed level of income is based on a deemed income, which is determined as 1.75% on the first \$48,000 of financial assets and 3.25% on assets above this level. The balance in a retiree's superannuation account is treated as a financial asset.

### Assets test

For homeowners, the assets test applies to assets above a threshold of \$202,000. The assets test applies to assets above this level, with the pension reducing at the rate of 3.9%. This means that no pension is payable when the assets for a single person exceed \$771,750.

### Indexation of thresholds

Historically the income and assets tests thresholds have been increased with wages. However the Government has frozen the threshold for the assets test for three years from 1 July 2017.

After allowing for this three-year freeze, we shall assume that the thresholds will be indexed at 3% pa; halfway between prices and wages.

## SUPERANNUATION MODEL

### Financial year

It is assumed that the individual enters the workforce on 1 July 2014 when the SG increased to 9.5%. It is also assumed that the SG will increase in the following way:

- 9.5% from 1 July 2014 to 30 June 2021 (years 1–7).
- 10% from 1 July 2021 to 30 June 2022 (year 8).
- 10.5% from 1 July 2022 to 30 June 2023 (year 9).
- 11% from 1 July 2023 to 30 June 2024 (year 10).
- 11.5% from 1 July 2024 to 30 June 2025 (year 11).
- 12% from 1 July 2025 (years 12 and beyond).

### Consumption at retirement

At retirement it is assumed that the retiree immediately consumes 10% of their retirement benefit with the remaining balance rolled over into an account-based pension.

It is also assumed that the retiree is a homeowner and has no financial assets beyond their superannuation. However we will assume that the retiree has other assets (for example, a car, house contents, etc.) that do not generate an income but are considered assets for the assets test. The value of these assets will increase by income decile at the rate of \$10,000 per decile. This level of nonfinancial assets is indexed at the salary increase rate.

### Drawdown from account-based pension

It is assumed that the retiree will draw down from their account-based pension each year using the prescribed minimum rate. Currently the minimum rates are as follows:

Ages 67–74	5%	(years 1–8 in retirement)
Ages 75–79	6%	(years 9–13 in retirement)
Ages 80–84	7%	(years 14–18 in retirement)
Ages 85–89	9%	(years 19–23 in retirement)
Ages 90–94	11%	(years 24–28 in retirement)
Ages 95+	14%	(years 29 and beyond)

Note: The last percentage is not relevant given the assumed age of death of 91.

## INCOME TAX RATES

The following income tax rates (which include the 2% Medicare levy and 2% Budget repair levy for three years) are used for the first two years.

### 2014-15

\$0-\$18,200	nil
\$18,201-\$37,000	21% for income > \$18,200
\$37,001-\$80,000	\$3,948 + 34.5% for income > \$37,000
\$80,001-\$180,000	\$18,783 + 39% for income > \$80,000
\$180,000 +	\$57,783 + 49% for income > \$180,000

### 2015-16

\$0-\$19,400	nil
\$19,401-\$37,000	21% for income > \$19,400
\$37,001-\$80,000	\$3,696 + 35% for income > \$37,000
\$80,001-\$180,000	\$18,746 + 39% for income > \$80,000
\$180,000 +	\$57,746 + 49% for income > \$180,000

Indexation of tax thresholds: no indexation for five years, and then at price inflation.

<sup>26</sup> Div 293 tax commences at \$300,000, but this includes concessional contributions. Hence it has been reduced by the concessional cap as most high income earners are likely to reach the cap. In practice this affects the 99th income percentile from age 37 onwards, assuming SG contributions only.

## TAX ON SUPERANNUATION CONTRIBUTIONS, INVESTMENT INCOME, AND BENEFITS

<b>Employer contributions</b>	15% except for: <ul style="list-style-type: none"> <li>• 0% where income is less than \$37,000 until 30 June 2017.</li> <li>• 30% where income is greater than \$270,000<sup>26</sup> (not indexed for five years, and then at price inflation).</li> <li>• 49% for employer contributions that exceed the cap.</li> </ul>
-------------------------------	--

### Investment income

Accumulation	A net tax rate of 9% based on the portfolio discussed earlier
--------------	---

Post retirement	Tax exempt
-----------------	------------

### Benefits

Pension payments	Tax exempt
------------------	------------

Death benefit	5.67% which is one third of the 17% tax (including Medicare) payable when the remaining balance is paid to nonfinancial dependants
---------------	--

### Concessional contribution cap

For the 2014-15 year, the cap is \$30,000.

This cap will be indexed to wages but will only increase in \$5,000 jumps.

## SUPERANNUATION FEES AND COSTS

**Administration fees:** \$75 pa (indexed to prices) plus 0.15% of assets  
This fee is based on the current fees for the largest MySuper products.

### Insurance costs

The following fees are based on the standard insurance offerings provided by the largest MySuper products. It assumes that the individual will not opt out or increase their insurance coverage.

Age	Annual cost
20–24	\$235
25–34	\$330
35–59	\$410
60–66	\$350

These costs are indexed to salary growth.

## INCOME DECILES

The following table shows the annual incomes for full-time workers.<sup>27</sup> They have been increased by 4% to provide a starting income as at 1 July 2014.

Decile	Males	Females	Persons
1st decile	\$38,397	\$35,152	\$37,856
2nd decile	\$45,968	\$40,560	\$43,264
3rd decile	\$54,080	\$45,968	\$49,754
4th decile	\$59,488	\$50,565	\$54,080
5th decile (median)	\$67,600	\$55,432	\$62,354
6th decile	\$78,416	\$62,192	\$71,494
7th decile	\$89,556	\$70,520	\$82,148
8th decile	\$108,160	\$83,175	\$97,452
9th decile	\$139,851	\$102,752	\$125,898
<b>Mean</b>	<b>\$83,445</b>	<b>\$65,599</b>	<b>\$76,848</b>

The median income is \$67,600 for males and \$55,400 for females, which provides an average median of \$61,500.

<sup>27</sup> ABS (2013), *Employee Earnings, Benefits and Trade Union Membership*, 6310.0, August.

The starting salaries for the income deciles are shown below:

Income decile	Income (rounded to nearest \$100)
1st decile	\$37,900
2nd decile	\$43,300
3rd decile	\$49,800
4th decile	\$54,100
5th decile (median)	\$62,400
6th decile	\$71,500
7th decile	\$82,100
8th decile	\$97,500
9th decile	\$125,900

However it is also necessary to consider incomes above the 90th percentile (that is, the 9th decile).

The following table shows the 99th percentile for taxable income<sup>28</sup> for different age groups.

Age bracket	99th percentile (persons)
18-24	\$131,863
25-29	\$155,270
30-34	\$212,890
35-39	\$324,942
40-44	\$418,737
45-49	\$435,906
50-54	\$426,071
55-59	\$428,789
60-64	\$408,089

<sup>28</sup> ATO (2014), *Taxation Statistics 2011-12*.

The Taxation Statistics also show that at very high income less than two-thirds of taxable income is from wages and salaries. Therefore in this extreme case, we will consider an individual who commences on a salary of \$100,000 at age 20, which then increases at 5% pa in real terms (that is, in addition to the normal 3.5% pa wages growth) until it reaches about \$265,000 at age 40 (in today's dollars). From this point on, the salary increases at the normal 3.5% pa.

It is also noted that due to additional nonsalary income, it is assumed that this individual will be subject to the additional 15% tax on employer contributions (that is, Division 293) from age 37.

## PART-TIME WORKERS

Based on labour force participation rates at various ages, the following part-time profiles have been assumed:

Females	
Ages 20–29	Full-time for 10 years
Ages 30–34	Out of the work force for 5 years
Ages 35–44	Part-time for 10 years
Ages 45–54	Full-time for 10 years
Ages 55–62	Part-time for 8 years
Age 63	Retirement

Males	
Ages 20–54	Full-time for 35 years
Ages 55–63	Part-time for 9 years
Age 64	Retirement

When working part time, we assume earnings at 50% of the full-time level.

It is assumed that all part-time workers will immediately consume 10% of their benefit at retirement and then withdraw an income equal to the age pension from their account-based pension through to the pension age.

## EQUITY MEASURE

The Equity Measure will consider the total cost to Government for eight individuals; namely from the third to ninth income deciles plus the 99th income percentile.

The first and second income deciles will be ignored as these full-time income earners receive very limited benefit from the super tax concessions and are expected to receive the age pension in full. Furthermore, some of these individuals will spend relatively few years at these income levels.



## BACKGROUND

Superannuation is normally taxed at one or more of the following three points:

1. When contributions are made by employers, employees, or the self-employed into the superannuation fund.
2. When the superannuation fund earns investment income in a variety of forms including interest payments, dividends, property rentals, and realized capital gains or losses.
3. When benefits are paid to fund members or their dependants in the form of a lump sum or regular pension payments.

It has become common practice to use a summary to describe the taxation of superannuation (or pensions) at one or more of these points where

**T** represents tax at personal income tax rates;

**t** represents tax at concessional rates (that is, less than personal income tax rates); and

**E** represents exemption from taxation.

## CURRENT AUSTRALIAN PRACTICE

The taxation of superannuation<sup>29</sup> in Australia is unique and can be described as a ttE approach as described below:

1. Contributions from employers and the self-employed are taxed at the concessional rate of 15%, which is less than personal income tax rates, which commence at 19% for those earning more than \$18,200 in 2014–15. Through the provision of the Low Income Super Contribution, most of this tax is, in effect, repaid for those earning below \$37,000 until 30 June 2017.
2. Investment income is also taxed at the concessional rate of 15% with a tax rate of 10% on realized capital gains.
3. Benefits paid to those aged 60 and over are exempt from tax, except where any benefit remaining on death (for example, the balance in an account-based pension) is not paid to a spouse or financial dependant. Such payments are normally subject to a 15% tax.

---

<sup>29</sup> This brief description represents the position for most superannuation fund members. There are some exempt public sector schemes that pay untaxed benefits where there is no tax on contributions but the benefits are taxed in the hands of the recipient. For the purposes of this report, these arrangements are ignored as they are becoming less important over time.

## BENCHMARKS

As outlined in the Retirement Income Consultation Paper<sup>30</sup> produced by the Henry Tax Review there are several approaches to benchmarking the concessions provided to superannuation. Hence, before considering the value and distribution of the tax concessions provided under the current arrangements, it is important to determine the most appropriate benchmark.

### The comprehensive income tax benchmark

Under this approach, the benchmark is the taxation used for normal savings such as the taxation of interest earned in a bank account. That is a TTE approach, as described below:

1. Contributions would be Taxed in full at the individual's personal income tax rate when received by the superannuation fund.
2. Investment income would be Taxed in full at the individual's personal income tax rate when received by the superannuation fund.
3. Benefits are Exempt from tax when received by the retiree as all contributions and investment income have been previously fully taxed.

Although this benchmark has been used by Treasury for many years to estimate the value of the taxation concessions to superannuation in its annual Taxation Expenditures Statement, it is not considered a valid benchmark for many reasons, including:

- Taxation is normally paid when an individual receives income. Superannuation contributions and investment income are not received by the individual but by the superannuation fund.
- Superannuation is compulsorily preserved and is therefore not accessible or received by the individual during their working years. As the Henry Review noted,<sup>31</sup> the tax concessions may be seen as compensation for the inability by the individual to use these savings for other purposes.
- Superannuation benefits are not always allocated to individuals due to the pooling of longevity risk through defined benefit pensions, lifetime annuities, or group self annuitisation (as recently advocated by the Financial System Inquiry).
- Benefits are not fully tax exempt in Australia as the balance of any account-based pension (after death) is normally taxed at 15% when passed onto a nondependant.
- There are many other savings and investment opportunities available to individuals where investment income is not subject to full marginal tax rates. These include capital gains, geared investments, and investing through a lower income partner.

---

<sup>30</sup> Australia's future tax system (2008), *Retirement income consultation paper*, December, p. 25.

<sup>31</sup> *Ibid.*, p. 23.

## The post-paid expenditure tax benchmark

It is common practice in many countries to adopt an EET approach to the taxation of pensions or superannuation so that benefits are only taxed when received. This can be explained as follows:

1. Contributions are Exempt from tax when received by the pension fund.
2. Investment income is Exempt from tax when received by the pension fund.
3. Benefits are Taxed in full when received by the retiree. For pensions, this means taxation at personal income tax rates.

This approach is known as the post-paid expenditure tax benchmark. However as marginal tax rates are generally lower in retirement than during working years, this difference in income tax rates can be considered to be a significant concession arising from the use of this benchmark.

## The pre-paid expenditure tax benchmark

This concern with lower tax rates in retirement leads to the development of the pre-paid expenditure tax benchmark, which can be described as the TEE approach, as follows:

1. Contributions would be Taxed in full at the individual's personal income tax rate when received by the superannuation fund.

2. Investment income is Exempt from tax when received by the superannuation fund.
3. Benefits are Exempt from tax when received by the retiree.

The pre-paid expenditure tax benchmark is identical to the post-tax expenditure benchmark if there is no reduction in personal income tax rates following retirement. This result can be shown through the following simple example.

### Example

Let us assume a contribution of \$100 earns 7% pa for 20 years, which results in a final benefit of \$386.97. If the benefit is then taxed at 20%, the net benefit is \$309.57. That is, the tax of \$77.40 represents a 20% tax on both the contribution and investment income.

On the other hand, if the contribution is taxed at 20% at the outset and there is no tax on the final benefit, the result is identical. Does this suggest that the investment income escaped tax? Not really, as there was 20% less investment income due to the reduced contribution. In addition, it should be noted that the tax of \$20 at the outset was paid 20 years earlier than the tax on the final benefit. Or to put it another way, the present value of a future tax payment of \$77.40 discounted at 7% pa is \$20.

## SUMMARY

The following table summarises the above approaches.


Name	Taxation approach (in summary)			Comments
	Employer contributions	Investment income	Benefits	
Current in Australia	Taxed at 15%	Taxed at 15% during accumulation; 0% for pensions	Exempt	
Comprehensive income	Taxed in full	Taxed in full	Exempt	Used by Treasury in Taxation Expenditures Statement
Post-paid expenditure	Exempt	Exempt	Taxed in full	Common overseas
Pre-paid expenditure	Taxed in full	Exempt	Exempt	

## THE APPROACH ADOPTED IN THIS RESEARCH

We begin with the comprehensive income approach as used by Treasury, which taxes contributions and investment earnings at full marginal tax rates. However as the Henry Report noted, there is a bias in the tax system against long-term savings such as superannuation and it suggested two reasons for favourable treatment.

The first reason is that taxing investment earnings means that the effective rate of tax on the real value of saving increases the longer the asset is held. Hence, the benchmark adopted in this study is that 60% of investment earnings should be taxed at the full rate. This has a similar effect to taxing real investment earnings, as distinct from nominal investment earnings. This is a reasonable outcome for longer-term savings such as superannuation.

The second reason for more favourable tax treatment is that superannuation is a form of deferred income. People should be taxed on superannuation at the rate that would apply if their income had been spread over their entire life rather than merely over their working life. This is an income-smoothing argument. As noted above, most retirees have a lower income tax rate than during their working years. Hence as we assume full taxation on contributions during the working years, we have assumed a zero tax rate on income received during the retirement years. For most individuals, this represents a reasonable balance over a lifetime.



Disclaimer: This report is presented as a basis for discussion only. Although every effort has been made to ensure the accuracy and completeness of the material in this report, the authors give no warranty in that regard and accept no liability for any loss or damage incurred through the use of, or reliance upon, this report or the information contained therein.



MERCER