Review of the KiwiSaver Fund Manager Market Dynamics and Allocation of Assets

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September 2015

THE TREASURY
Kaitohutohu Kaupapa Rawa

New Zealand Government

Erratum September 2015: A previous version of this paper included incorrect information on the returns to the Government Superannuation Fund (page 62) and included an inaccurate statement about the investment horizon and mandate of that fund (page 68). These have now been corrected.

Erratum June 2016: A previous version of this paper contained text in the Executive Summary (page 1) which did not accurately reflect the data presented on international fee comparisons (page 46).

ISBN: 978-0-908337-06-4 (Online)

The Treasury URL at September 2015 for this document is
http://www.treasury.govt.nz/publications/research-policy/tp/kiwisaver
The PURL for this document is http://purl.oclc.org/nzt/p-1791

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Executive Summary

Kiwisaver has grown at a rapid rate since its introduction and makes up a growing share of household financial assets. This review sets out to make observations about the competitiveness and efficiency of the market for fund managers in addition to documenting the asset allocation and performance of the scheme as a whole. This report will form an analytical basis for future policy advice on KiwiSaver settings and the fund manager market.

KiwiSaver's investment performance is important as it represents a growing share of households' wealth and retirement income outcomes depend on an efficient fund management system. Regardless of whether or not KiwiSaver has increased aggregate savings, it has resulted in a change in household balance sheet composition with an allocation to portfolio investments which will only grow over time. This will have implications for capital formation in the economy. We forecast that the assets under management (AUM) will grow rapidly to around $70 billion by 2020.

We address the productive efficiency of the fund manager market through a number of different approaches. Overall, the market appears to be competitive, however, with a growing level of concentration. Concentration *per se* is not concerning as economies of scale exist in funds management which should, in theory, lead to cost reductions and efficiency gains. Financial capability of KiwiSaver members will be critical to ensuring the benefits of such economies of scale are captured by consumers. Certain trends, such as a growing significance of large banks, could detract from this and should be monitored to ensure that contestability in the market exists. Fee levels appear to be in the upper half of comparator countries and well above the extremely low fees available in some markets.

In aggregate, the returns to members have not outperformed benchmarks chosen by us and are mixed compared to the investment performance of the Crown financial institutions. The portfolio of assets in KiwiSaver is heavily weighted toward income assets relative to growth assets (56% income to 44% growth), in contrast with other comparable superannuation and savings vehicles in New Zealand and overseas which could lead to less than optimal future retirement incomes. Home bias of KiwiSaver assets is decreasing with disproportionate growth in allocations to overseas assets which has benefits for risk management reasons.

1 Background and Motivation

1.1 The KiwiSaver Scheme

New Zealand's incentivised, voluntary defined contribution retirement savings scheme KiwiSaver has been in existence since 2006 and schemes have accepted contributions since 2 July 2007. The legislative purpose contained in section 3 of the KiwiSaver Act 2006 sets out three aims for a principally workplace-based savings scheme:

- Encourage a long-term savings habit and asset accumulation by individuals who are not in a position to enjoy standards of living in retirement similar to those in pre-retirement.
- Increase individuals' well-being and financial independence, particularly in retirement.
- Provide retirement benefits.

In plain language, KiwiSaver's purpose is to create a workplace-based savings system to maximise accumulation of wealth and develop a savings habit to give individuals in retirement a standard of living comparable to that in pre-retirement. KiwiSaver's design features are similar to many voluntary defined contribution schemes internationally: it is essentially an opt-out workplace savings scheme with employer and employee contributions in addition to Government incentive payments to encourage membership. The auto-enrolment facility has been very successful in promoting high rates of enrolment.[1] Contributions are locked in (with few exceptions) until age 65, whereupon they can be withdrawn at will. The scheme has similar objectives to many state-supported retirement savings schemes: to provide retirement benefits and smooth consumption over individuals' lifetimes.

While not a specific purpose in the KiwiSaver Act, market participants, the Government and policy makers have recognised two further objectives to KiwiSaver:[2] (i) increasing levels of domestic saving and (ii) contributing to capital market development by pre-funding a greater level of future retirement income and channelling a greater proportion of domestic savings into financial assets. KiwiSaver was also promoted as a means to promote capital market development as a second order benefit in addition to boosting household savings.

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1 See OECD (2014); IRD (2015).

2 See Capital Market Development Taskforce (2009); Savings Working Group (2011); the changes to KiwiSaver announced in Budget 2011 (available here: http://beehive.govt.nz/release/fact-sheet-%E2%80%93-kiwisaver-changes); Inland Revenue (2007).

1.2 Motivation of this Review

The KiwiSaver Act sets out to achieve its legislative objectives in the accumulation phase by enabling the establishment of privately-run schemes to facilitate individuals' saving, principally via workplace-based contributions channelled to the fund managers by Inland Revenue. The Government also provides significant financial subsidies[3] to encourage membership and ongoing contributions which are also paid from Inland Revenue to managers.

The model selected for KiwiSaver involves private providers of fund management services competing to manage members' contributions (and the Government KiwiSaver subsidies) subject to the constraints and conditions in the KiwiSaver Act and other applicable financial markets and securities regulations. In addition to creating a market for KiwiSaver funds management, the Government has created a framework of additional interventions in that market related to the administration of the scheme, the auto-enrolment function, conduct regulation of providers, financial subsidies to encourage membership and the appointment of default provider funds for individuals who do make an active choice of fund manager.

Various reviews of KiwiSaver have been conducted since its inception, however, no recent reviews have focussed on the productive efficiency of the KiwiSaver fund manager market in meeting the aims for the scheme, nor has any review examined the allocative efficiency of KiwiSaver in capital markets. We have three motivating factors for this study: providing an evidence base to test the primary policy objectives for KiwiSaver (see below 1.2.1), documenting the effects of KiwiSaver on capital markets (see below 1.2.2), and making comparisons between KiwiSaver and international equivalents (see below 1.2.3).

1.2.1 Providing an evidence base to test the primary objectives

The KiwiSaver system is based on assumptions that the private provider market model of competing fund managers with a range of investment choices for individual savers will perform efficiently. It assumes that market discipline will be enforced on fund managers which will maximise consumer outcomes in terms of the service delivery to members, fee levels and the performance of investments. In turn, it is expected that the objectives of the KiwiSaver Act (and other policy objectives) will be met.

In order to test these assumptions it is necessary to understand how the KiwiSaver fund manager market operates (competitiveness and efficiency) and also how returns and asset allocations compare.

[3] A $1,000 "kick-start" payment upon opening a KiwiSaver account (that applied up until 22 May 2015 and was removed at Budget 2015) and annual member tax credits (MTC) at 50c for every $1 contributed up to a maximum of $523.

New Zealanders have been contributing savings to KiwiSaver schemes for over seven years. The fund management market has grown in significance and maturity. However, although market studies have been undertaken,[4] policy makers could improve their **understanding** of the **dynamics** of the KiwiSaver fund manager market. In particular we have sought to improve knowledge of:

- Analytical data on funds management market (size of fund managers' portfolios, membership numbers and market share.
- The competitiveness of the KiwiSaver fund manager market, including with regard to price, service and barriers to entry and whether this leads to optimal outcomes for KiwiSaver members (in the form of lower fees and better service).
- The competitive dynamic of fund managers across fund investment style and status (default/non-default).
- The profits of fund managers: how these compare internationally and the responsiveness to market pressures.

In respect of the asset allocations of KiwiSaver funds, gaps exist in our knowledge of:

- Analytical data on the dispersion across asset classes.
- Performance (asset appreciation) of KiwiSaver as a whole relative to appropriate benchmarks.
- The efficiency of the supply of financial capital intermediated by KiwiSaver.

1.2.2 Documenting the effects of KiwiSaver on capital markets

In light of the second order policy goal associated with KiwiSaver to deepen New Zealand's capital markets, we found it necessary to document the degree of understanding the impact of KiwiSaver on domestic capital markets. To the extent possible, we have sought further information on:

- The implications in domestic capital markets from KiwiSaver growth.
- Effect of increased saving via KiwiSaver on equity markets and individual (listed) firms.

Evaluation and analysis of the early years of KiwiSaver has already been carried out. A Ministry of Economic Development and PricewaterhouseCoopers (2008) study comprehensively reviewed the effect of KiwiSaver in relation to the superannuation and managed funds market and the wider financial services sector. A later Ministry of Economic Development (2010) study used the same framework and surveyed 24 KiwiSaver providers reaching a view that KiwiSaver has had little impact on capital markets in New Zealand.

[4] See Ministry of Economic Development and Pricewaterhouse Coopers (2008); Ministry of Economic Development (2010).

1.2.3 International context

Furthermore, international trends in pension policy have encouraged us to improve our understanding of the KiwiSaver fund management system and asset allocation trends in the New Zealand economy. The Australian Financial System Inquiry has taken particular interest in the Australian superannuation system, in particular the levels of fees and suitability of investment options for savers. The Inquiry noted in its July 2014 Interim Report[5] and December 2014 Final Report,[6] that the efficiency of the Australian superannuation system was undermined by very high fees and a distinct lack of competition between fund managers on price. Other policy reviews of capital markets policies have also identified the growing significance of direct contribution pension funds in financial systems of developed countries[7] and in respect of long-term investment markets.[8]

1.3 Objectives of this Review

Given that a large number of policies intervene in the KiwiSaver market, solving our information deficiency in KiwiSaver should ultimately help officials provide **better informed current and future policy advice** and assist any assessment of whether the KiwiSaver model continues to meet legislative and policy goals.

This report set out with the following objectives:

- Collect and review the available information on the KiwiSaver fund manager market by using standard techniques and international comparisons to make empirical observations about the competitiveness and efficiency of the market.
- In the case of the asset allocation trends for KiwiSaver, use standard benchmarks to compare the New Zealand KiwiSaver situation to overseas jurisdictions and accepted finance theory.
- Provide an **initial** assessment whether the private provider model has fulfilled the legislative objectives of the KiwiSaver Act by:
  - Operating in an economically efficient and competitive manner.
  - Providing for maximum retirement income outcomes by generating adequate returns for members.
- Provide an overview of how are KiwiSaver asset allocations affect domestic capital markets in New Zealand and the supply of financial capital.

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5 Australian Government Financial System Inquiry (2014a).

6 Australian Government Financial System Inquiry (2014b).

7 Pricewaterhouse Coopers (2013).

8 The 2014 G20 had a particular focus on improving the capabilities and institutions for investment, including facilitating the long-term financing from institutional investors such as pension funds.

- Observe the trends and implications of greater saving via KiwiSaver.
- Observe any other second order benefits in capital markets from KiwiSaver.

Ultimately, this report set out to provide an empirical information base to address whether KiwiSaver under its current design contributes to higher living standards by improving economic performance and maintaining a stable and sustainable macroeconomic outlook.

2 Policy Settings and Interventions

KiwiSaver is a voluntary scheme subject to Government administration and regulatory oversight. The principal governing legislation is the KiwiSaver Act 2006. Other securities laws and regulations also apply to the funds management market in which KiwiSaver is provided. The policy settings and the effect of these interventions on the fund manager market and the asset allocation of members' savings is set out below.

2.1 KiwiSaver policy as a whole

The Government's decision in 2005 to create a workplace-based and state-supported institutionalised saving system with incentives and automatic enrolment features changed the status quo of saving flows in the economy as empirical research by Law, Meehan and Scobie (2011) and evaluation by IRD (2015) has shown and as theory would suggest.

The saving options available to individuals prior to KiwiSaver included, *inter alia*, housing equity, bank deposits, bonds, debentures, mutual funds, listed debt and equity, life insurance policies and also debt repayments and investment in unlisted equity and unincorporated enterprises (eg, farms). With the introduction of KiwiSaver and the available incentives encouraging membership it was expected that some additional saving would result. A degree of re-directed saving from pre-existing saving options was also expected.

The only empirical quantitative study of the effects of KiwiSaver on national saving by Law, Meehan and Scobie (2011) showed that the scheme has resulted in approximately one-third additional private saving (albeit at considerable cost to the Crown). Limited information exists about the extent of reallocation of saving in the economy. One crude measure is to examine the stock of household savings reflected in aggregate household balance sheets. However, this method is limited in its relevance as it is difficult to control for other factors such relative changes in asset prices, eg, housing and land, general economic factors or exogenous effects.

2.2 Administration of the scheme

The administration of the KiwiSaver scheme is carried out by the Inland Revenue, with contributions paid via the PAYE system and using existing relationships with employers. Inland Revenue in turn holds those funds in a holding account and distributes the funds to the member's nominated KiwiSaver provider. Inland Revenue has a direct legal relationship with KiwiSaver schemes under scheme provider agreements under which the administrative requirements are set out.

Automatic enrolment into the scheme and any subsequent opt-out is administered by Inland Revenue upon an employee commencing a new job. Allocation of schemes to those members who either have not chosen their own or joined an employer-chosen scheme is carried out by Inland Revenue to a number of default schemes, on a consecutive basis.

Inland Revenue's oversight over the administration of the scheme also extends to the enforcement against employers of non-payment of employer contributions.

Inland Revenue acts to ensure that the administration of system is smooth and that its interventions have only limited impact on the competition between providers for members. Switching between providers is made easier for members with standardised notification and transition arrangements carried out by the new fund manager.

Enrolment in the scheme

Salary and wage earners are automatically enrolled upon starting a new job and must actively opt-out within eight weeks. The Inland Revenue deducts employee contributions during this period so workers can see the effect of KiwiSaver on take-home pay. These features ensure that participation among those workers who would not have taken an active step to seek out a retirement savings scheme (ie, inertia) is improved. The automatic enrolment process itself also capitalises on inertia, as once enrolled, members are less likely to take the active steps required to opt-out.

Other methods of enrolment include employees opting-in via their employer's nominated scheme or directly via a KiwiSaver provider. Direct enrolment is also available for all New Zealand citizens and residents (with some exceptions), therefore this includes the self-employed and those aged under 18.

Contribution rates

Following enrolment, employees are required to contribute a minimum of 3% of gross salary or wages with 4% and 8% also offered as options for automatic deductions from pay. Employers are required to contribute an additional 3% of an employee's gross salary or wages which provides a financial incentive for non-member employees to join.

The options available as minimum contribution rates by Government policy influence the rate at which members contribute even after the minimum rate changes. Reductions in the minimum contribution rate in the past have resulted in the majority of members continuing to contribute at the previous (higher) minimum rate.[9]

Incentives and tax

KiwiSaver members receive financial incentives. A $1,000 kick start cash payment (removed from 22 May 2015) promotes enrolment and an annual maximum $521.43 tax credit is intended to incentivise ongoing contributions. Tax is payable on KiwiSaver investment earnings at the prescribed investor rate (up to a maximum of 28%). Withdrawals are not taxed.

KiwiSaver provider admission and ongoing conduct monitoring

KiwiSaver providers are admitted to the scheme provided they comply with the relevant sections in Part 4 of the KiwiSaver Act. Registration occurs upon application to the Financial

[9] IRD (2015)

Markets Authority (FMA) and providers are registered with the FMA.[10] KiwiSaver schemes are established under trust deeds. The fund manager makes investment decisions and receives fees and the trustee holds the assets via a custodian on behalf of the members and oversees the manager in the first instance to ensure separation of investment decisions and ownership of assets.

KiwiSaver providers are required to be licensed by the FMA which also carries out ongoing compliance and conduct monitoring of KiwiSaver fund managers, trustees, financial advisers selling KiwiSaver funds as financial products and other financial market participants which deal in underlying securities held by KiwiSaver funds. The primary laws under which the FMA carries out this conduct monitoring role are the KiwiSaver Act 2006, Financial Markets Conduct Act 2013, Securities Act 1978, Financial Advisers Act 2008 and related legislation and regulations.

The FMA maintains a register of providers and schemes and collects disclosures pursuant to the KiwiSaver (Disclosure) Regulations 2013, publishing these on a quarterly basis on their website and in the FMA KiwiSaver annual reports. This has important implications for transparency of funds under management and the fees and other charges providers levy on members.

Some of these regulatory matters impose frictions on competition between fund managers. The rules relating to identification of clients which are required to be completed when a customer joins or switches to a new fund can impose a transaction cost that dissuades members from changing. There is also a trade-off between regulatory oversight with its associated set-up costs such as preparing legal documents and the barriers to entry for new KiwiSaver funds/providers.

KiwiSaver default funds

Generally speaking, the KiwiSaver fund managers compete with one another to manage the assets of members. The exception to the general rule of direct competition for members is the default provider regime. Individuals who are automatically enrolled upon starting a new job and who have not actively chosen a provider or whose employer has not appointed a provider are provisionally enrolled with a default provider on a sequential basis. Default providers were appointed for a seven year term upon the creation of KiwiSaver and new providers (nine) were appointed effective from 1 July 2014.

The original policy intent was that the default funds would be shorter term holding accounts in response to the inertia automatically enrolled members experience, until an active choice is made about a fund suited to their needs. In the early years of KiwiSaver, there was also a policy motivation to ensure that KiwiSaver was a stable savings vehicle and avoid investor losses associated with volatility.[11] Additionally, the default funds needed to have lower fees since members had not actively chosen the provider. Accordingly, the Government elected to set the investment direction for default KiwiSaver funds as 'conservative' meaning that these

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10 See Financial Markets Authority register: http://www.fma.govt.nz/laws-we-enforce/registers/kiwisaver-schemes-register/?start=20

11 Ministry of Business Innovation and Employment (2012).

invested in cash, fixed interest and other lower risk assets for a relatively lower management fee. Under the instruments of appointment issued by the Government to default providers, KiwiSaver default funds are required to retain a conservative investment approach and limit allocation to growth assets within a 15 to 25% range.

The default funds have a large share of the market. As of June 2014, the (then) five default funds held 26% of total KiwiSaver AUM and 22% of members were automatically enrolled into one of these schemes. The five funds were from AMP, ANZ, ASB, Fisher Funds and Mercer. However, the market share of the default funds has decreased over time, as the default funds held 35% of total AUM four years earlier in December 2010.

From 1 July 2014, nine providers will offer default funds for the next seven year period (up from the six appointed in 2007). These new default providers were appointed following a competitive tender process managed by the Ministry of Business Innovation and Employment (MBIE) that evaluated technical competency, balance sheet strength, governance structures, member education initiatives and fee levels.

The Government's appointment of the default providers is a significant intervention in the market for provision of KiwiSaver funds management to individuals who fail to make an active choice. However, given the auto-enrolment settings of KiwiSaver, it is not clear that the counter-factual for the default fund system would be a market failure. Individuals who are auto-enrolled into a default fund might be myopic or happy to have minimised their search costs by relying on the Government's choice of default manager. The default provider system accompanied the launching of KiwiSaver and ensured the existence of providers with a minimum standard of service provision and costs. The default provider system also aligned with the behavioural design features of KiwiSaver auto-enrolment, ensuring that take-up was not hindered by individuals' failure to actively choose a fund following being automatically co-opted into the scheme.

The 'default status' granted by the Government gives the providers certainty of member growth via the auto-enrolment system which minimises marketing costs for those firms. Once a member is assigned to a particular provider, that provider can market its other (potentially more costly) fund products. Providers with default status also actively market this fact, promoting the Government approval as attractive to potential customers. This demonstrates the spillover benefits of default provider status that exist beyond the flow of new customers via the auto-enrolment system.

Fund/Provider switching

Members may switch between schemes freely. Switching is carried out at a practical level by a saver choosing a new scheme which in turn provides notice to the Inland Revenue and the old scheme of the desire to switch. Upon receiving such notice, the old scheme must action the transfer within 35 days or any longer period agreed between the providers of the old and new schemes.

3 KiwiSaver in Context of the New Zealand Economy

KiwiSaver has grown much faster than Government officials' forecasts from when the scheme was designed in 2005.[12] Those original forecasts – which acknowledged the difficulty in forecasting a then untested scheme – anticipated 25% of 18-65 year olds numbering 680,000 joining the scheme by 2013/14. In fact, KiwiSaver assets under management total $22.8 billion as of June 2014 with membership in the same period reaching 2.3 million members.[13] In the context of the New Zealand economy, KiwiSaver represents a significant change in the channelling of savings to financial assets. This can be seen in the below figure 1 which illustrates the growth in KiwiSaver among managed fund assets. Recent analysis by the Treasury[14] has highlighted the growing significance of KiwiSaver funds for the supply of capital in the economy, representing a significant change in the channelling of saving. This analysis – as figure 2 – shows an expected growth in funds under management to $70 billion or 23% of GDP by 2020 and growth in the share of offshore assets in members' portfolios. In the following, we illustrate the significance of KiwiSaver in the economy and in financial markets, based on Treasury analysis of various data sources.[15]

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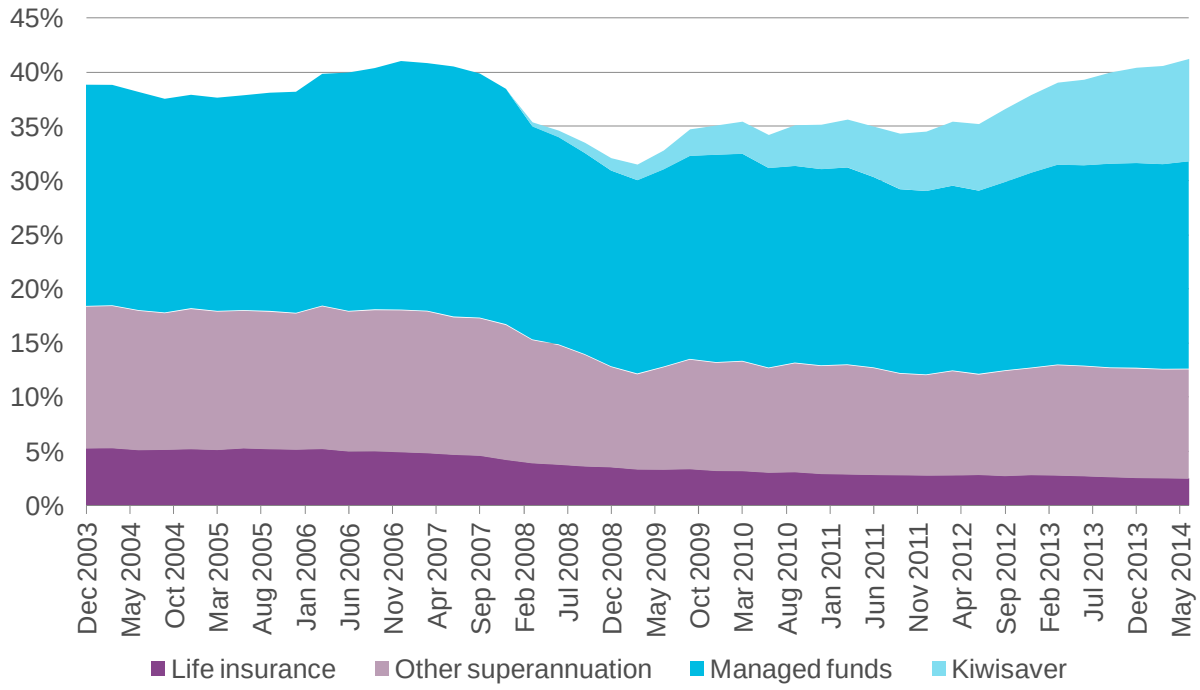
12 New Zealand Treasury (2005).

13 As of June 2015, AUM totalled $29.7 billion (RBNZ) and membership was 2.53 million members.

14 New Zealand Treasury (2014).

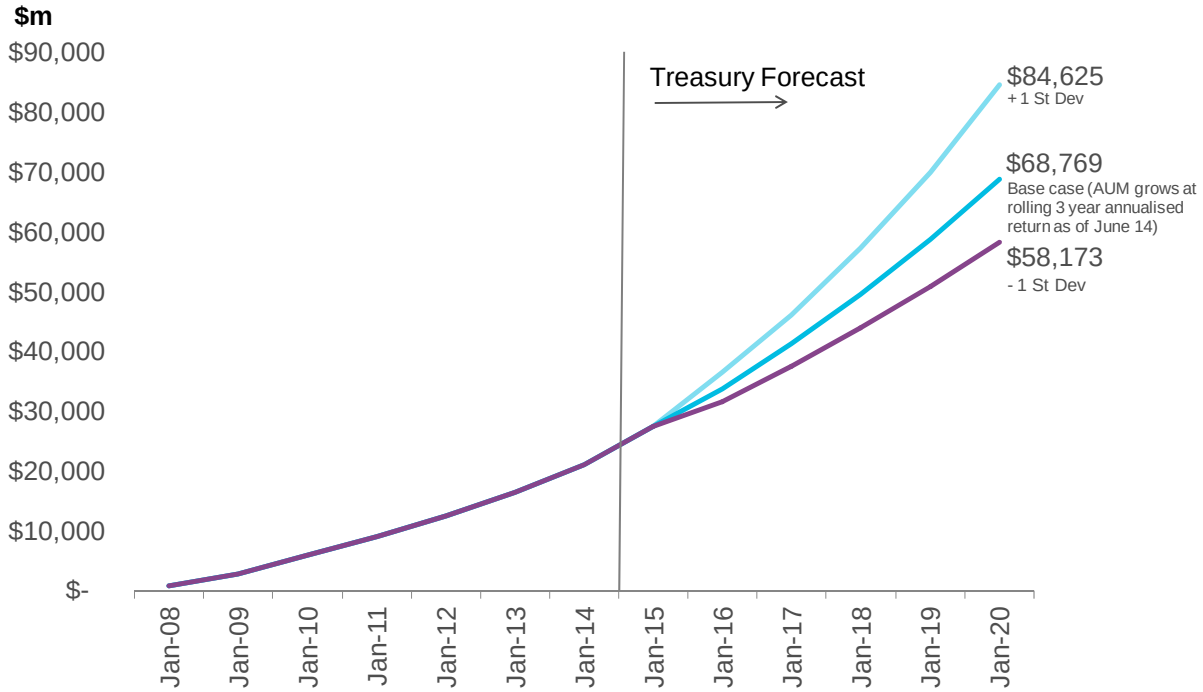
15 Morningstar's quarterly reports contained the most granular and detailed historical data which were collated into a singular dataset enabling time-series analysis. Difficulties experienced included the changing in reporting of fees in 2012 and the development of reporting over the years. Our analysis is available on request. Limited data from FMA (for four quarters) has also been incorporated. Additionally, data was assembled from Statistics NZ and the Reserve Bank of New Zealand in order to complete the report and fill any gaps not covered in the Morningstar data.

Figure 1: Managed Funds in New Zealand as a % of GDP



Source: Reserve Bank of New Zealand

Figure 2: Actual and Forecast Growth in KiwiSaver Assets Under Management

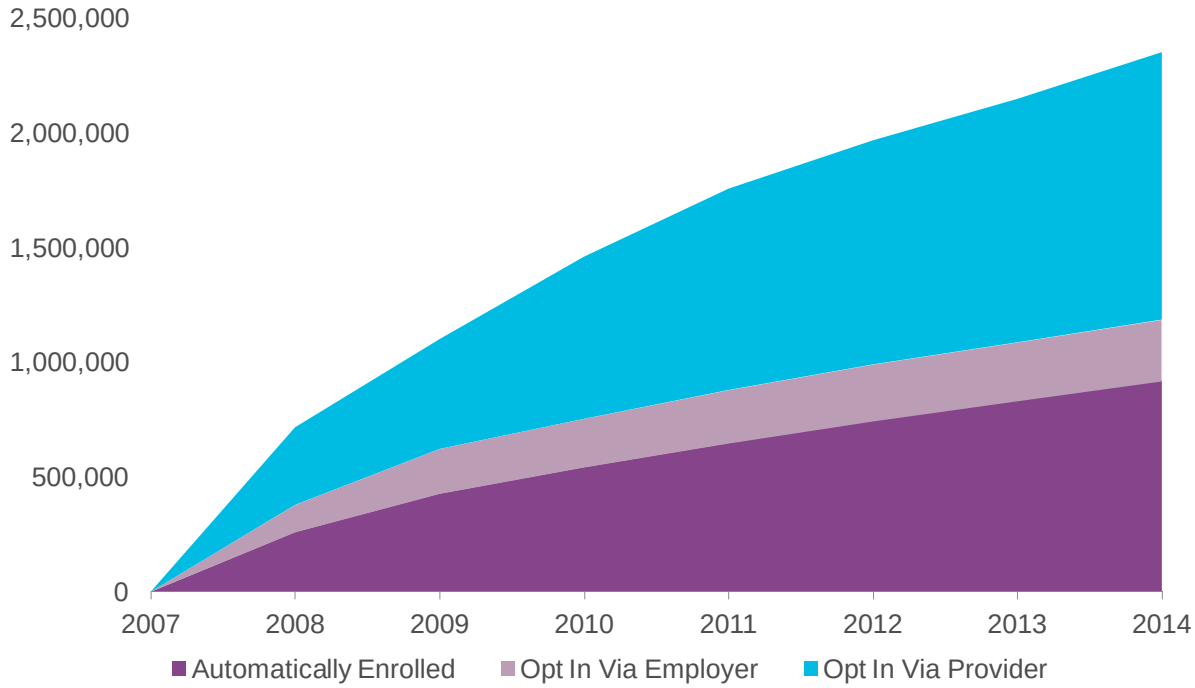


Source: Reserve Bank of New Zealand, Treasury analysis
Based on Treasury forecasts (Half-Year Economic and Fiscal Update 2014) and the Treasury Fiscal Strategy Model

3.1.1 Membership size

Membership growth was rapid in the first few years of KiwiSaver, but has since settled at a lower rate of growth. Membership as of June 2014 is around 2.3 million (2.5 million as of March 2015).[16] The majority of KiwiSaver members have actively opted in via providers with a significant number also being automatically opted in.

Figure 3: Cumulative membership by enrolment method, 2007-2014



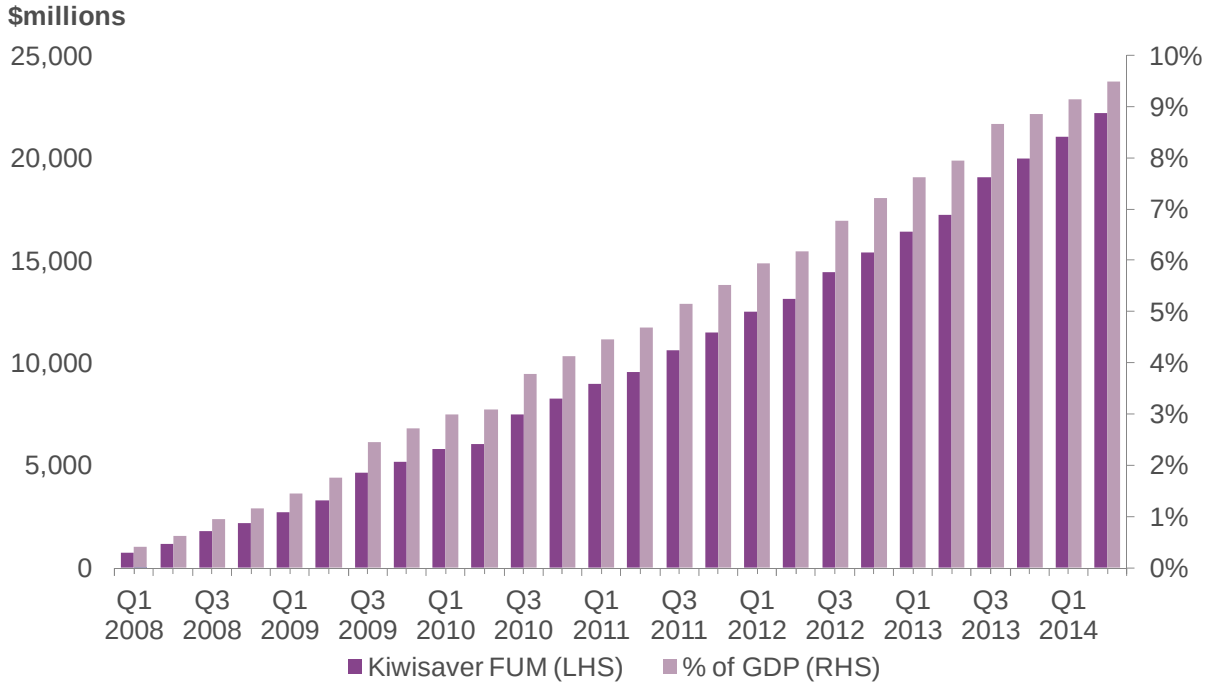
Source: Statistics NZ

3.1.2 Market size

As of June 2014, over $22 billion assets under management (AUM) were held in KiwiSaver schemes, representing over 9% of GDP.

16 See Inland Revenue Monthly KiwiSaver statistics, available at: http://www.kiwisaver.govt.nz/statistics/monthly/

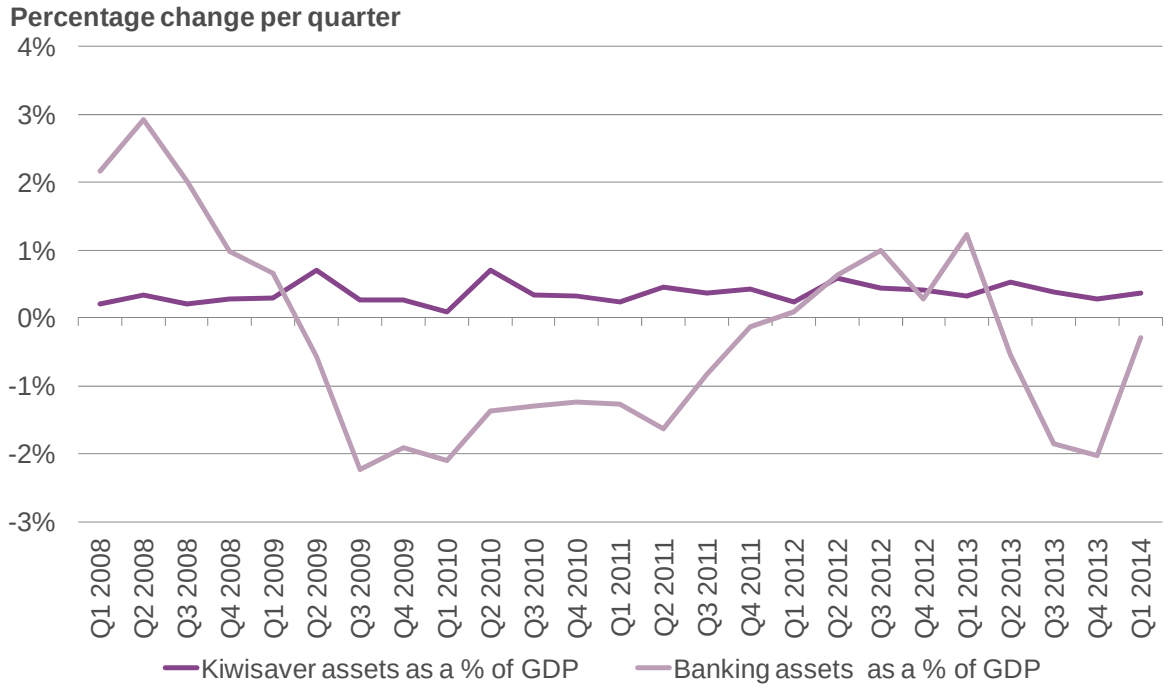
Figure 4: KiwiSaver assets under management, 2008-14



Source: Fund manager quarterly statements as disclosed to FMA, Statistics New Zealand

Growth in KiwiSaver assets has been steady since inception due to the predictable nature of regular workplace contributions. In contrast, the growth in the assets in the New Zealand banking sector has been much more volatile over the same period. KiwiSaver could therefore be seen to provide a more steady stream of capital to business, possibly with a stabilising effect on economic activity.

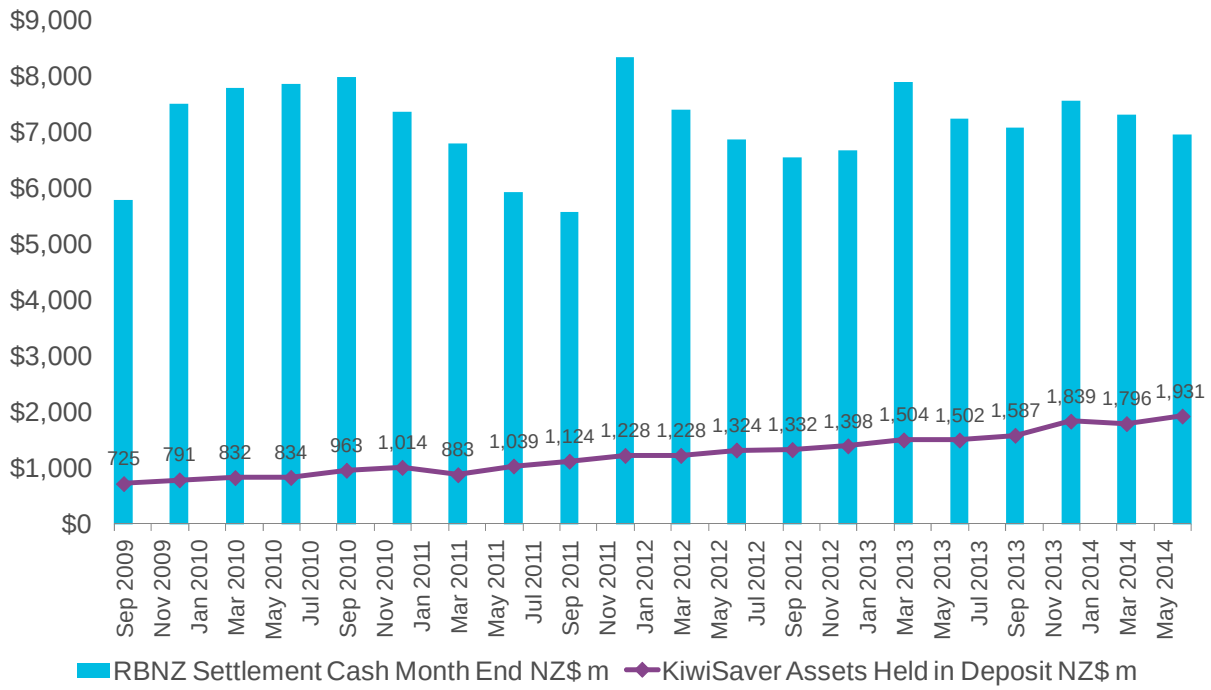
Figure 5: Quarterly growth in KiwiSaver and banking assets as a % of GDP



Sources: Inland Revenue and Reserve Bank of New Zealand

Moreover, the level of cash deposits held by KiwiSaver fund managers on behalf of investors has also steadily risen. This has important implications for financial stability and resilience of the New Zealand economy. The Reserve Bank settlement cash level[17] has ranged between $7 and $11 billion with money market conditions whereas KiwiSaver cash deposits have risen in a more predictable manner and represent a stable source of liquidity for the financial system. Cash and cash equivalents held by KiwiSaver funds have more than doubled in size since 2007 and as of June 2014, the most liquid part of KiwiSaver portfolios accounted for just under $ 2 billion[18].

Figure 6: Cash and cash equivalent KiwiSaver assets and Reserve Bank settlement cash level



Source: Reserve Bank of New Zealand and Treasury analysis

3.1.3 Contribution to household net wealth

The best evidence on the additionality of KiwiSaver for national saving from Law, Meehan and Scobie (2011) suggests that only one-third of saving based on a flow measure is 'new'. The evidence also suggests that the effect of KiwiSaver on increasing net wealth is poor. Regardless of this evidence (from the very early stages of KiwiSaver), it is apparent that households are reallocating saving to KiwiSaver (eg, to take advantage of Government subsidies) or making some additional saving via KiwiSaver and household balance sheet composition is likely to change to feature a greater degree of financial assets in managed funds. As illustrated in figures 7 and 8 below, the growth of KiwiSaver over the seven years since inception has meant that it represents a growing proportion of household financial wealth.

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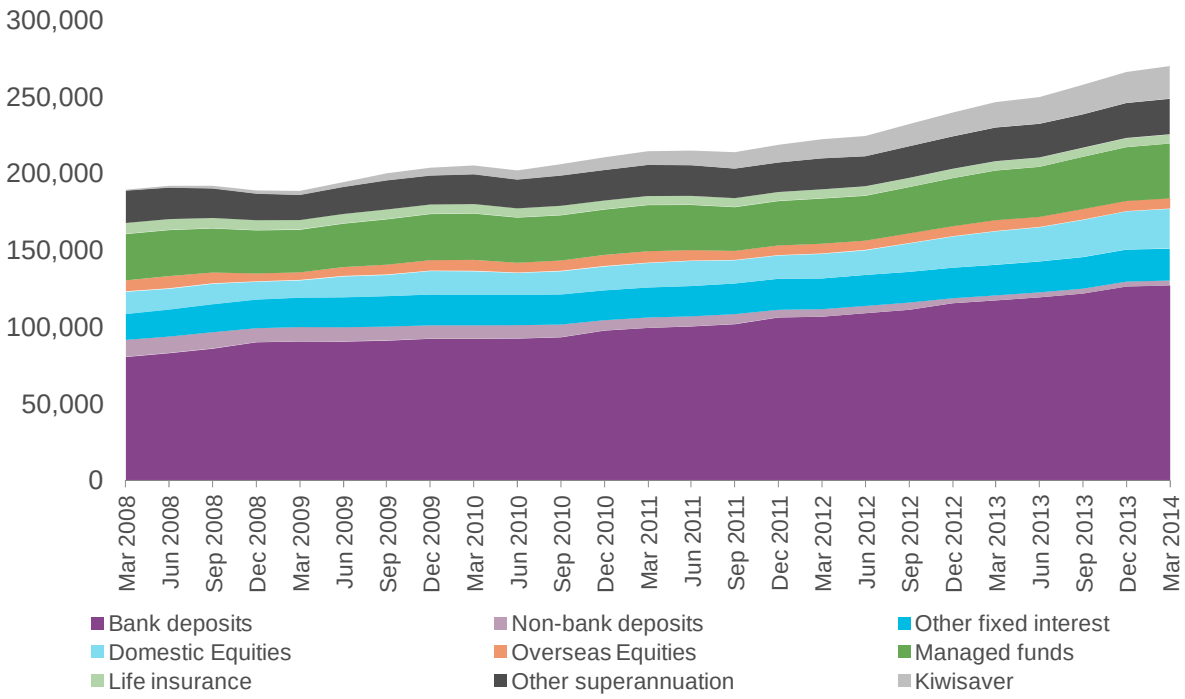
17 The Reserve Bank maintains a 'fully cashed up' system where a certain level of settlement cash is maintained. With this system there is essentially enough cash to enable banks to efficiently settle day-to-day settlement obligations.

18 Currently, bank providers do not face any restrictions regarding investing KiwiSaver assets in cash or cash equivalents with related entities.

An important caveat in any discussion of household balance sheets is that the official statistics have only recently been made complete. Equity in unincorporated enterprises and unlisted corporations were until recently not captured in Reserve Bank official statistics and in any case are based on estimates. Equity in unincorporated enterprises and unlisted corporations are estimated at $312 billion for June 2014, which is 80% of total household investment in equity and investment funds (or 50% of total household financial assets).[19]

This informal capital formation by households should intuitively form a significant part of the capital markets in New Zealand due to the share of farms and SMEs in the economy. An important implication for a reallocation of household savings to KiwiSaver could be a reduction in the traditional informal capital investment in farms and SMEs over time.

Figure 7: Household financial wealth 2007-2014 ($millions)

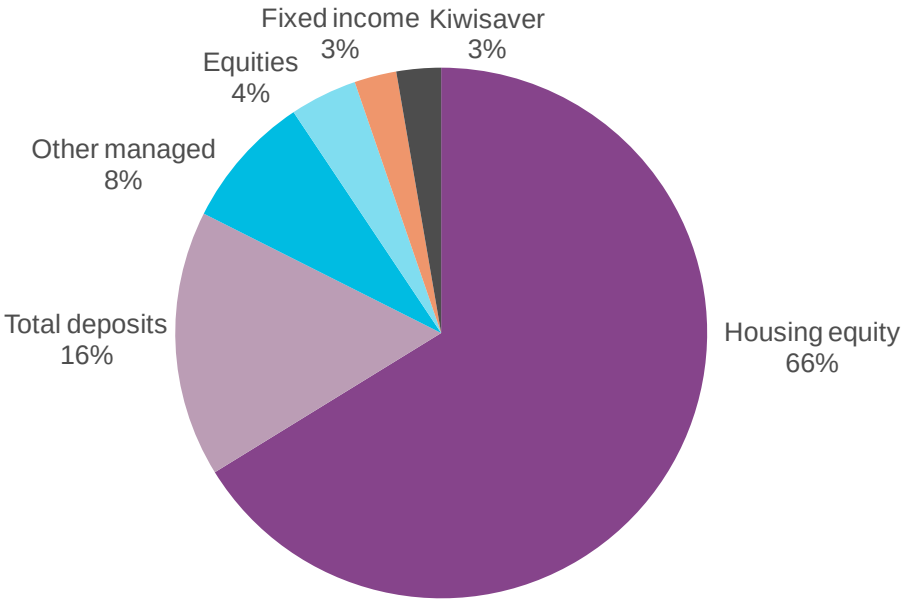


Source: Reserve Bank of New Zealand, exlcudes equity in housing and land, equity in unlisted and unincorporated entities.

KiwiSaver is, however, still in its infancy. Figure 8 below shows that, as of June 2014, KiwiSaver represents 3% of total household wealth which, even if housing equity is excluded, is still a small share of household financial assets.

[19] For the methodology of these estimates, see Briggs (2012) and Reserve Bank (2015).

Figure 8: Composition of household wealth, June 2014



Source: Reserve Bank of New Zealand

3.1.4 KiwiSaver contributions

As shown in figure 9 below, total annual contributions from members (and employers) topped $4 billion in the year ending June 2014, much higher than the $1 billion in the year ended June 2008.

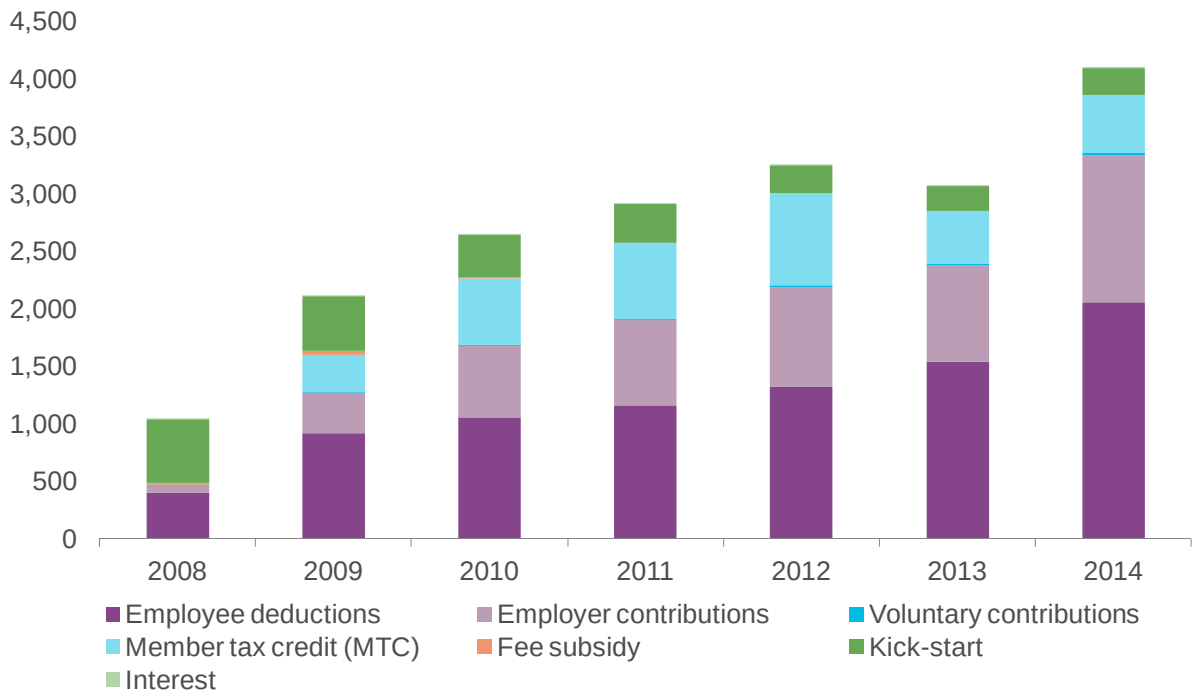
Figure 9: Break-down of annual KiwiSaver contributions, 2008-2014

Source: Statistics NZ

The Government has contributed a substantial amount to KiwiSaver accounts via tax credits (currently $521.43 pa) and the (now removed) one-off $1,000 kick-start payments, in order to incentivise participation. In June 2008, the Crown's contribution to KiwiSaver represented over half the total payments to providers. However, this has fallen to just over 20% in June 2013. The main fall in Crown contributions seen between 2012 and 2013 resulted from the halving of the Member Tax Credit as of July 2012 (announced in Budget 2011).

Figure 10 below gives a further breakdown of the source of payments into KiwiSaver. The Government kick-start payments have fallen as member growth has slowed while employee contributions have increased as a proportion of contributions. The change in minimum employee contribution rate from 2% to 3% in April 2013 may also have had an effect.

Figure 10: Detailed break-down of annual KiwiSaver contributions, 2008-2014 ($millions)



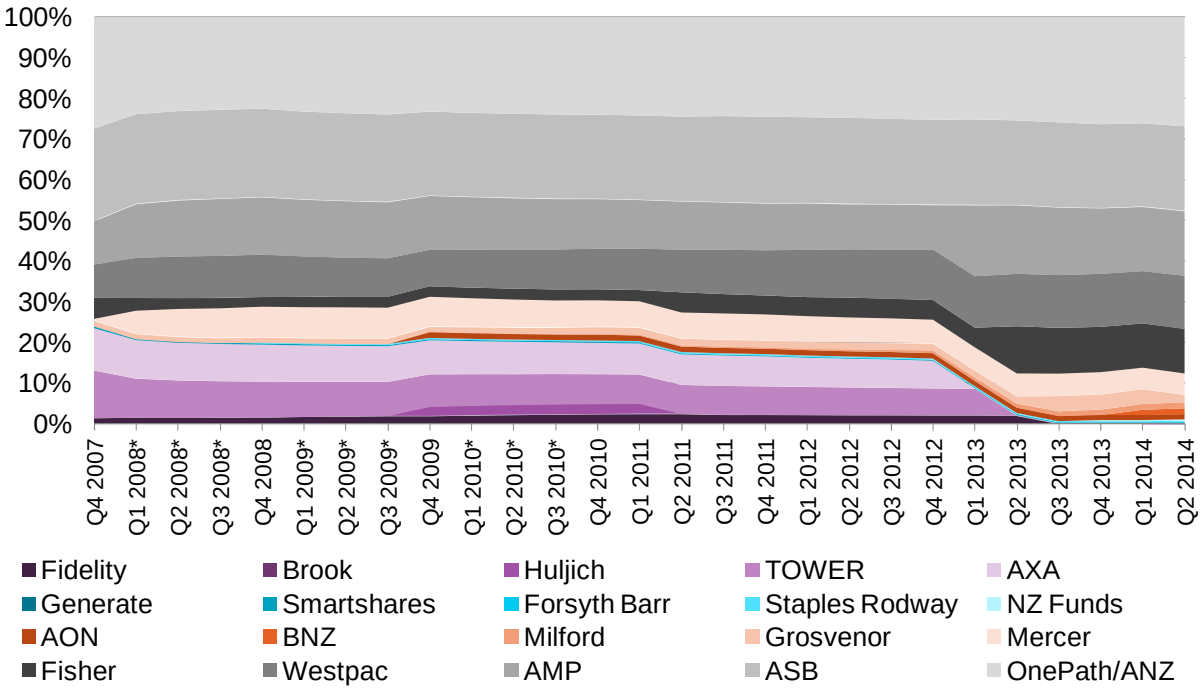
Source: Statistics NZ

3.2 KiwiSaver providers

Since inception in 2007, there has been significant consolidation in the KiwiSaver provider market. There have also been new entrants to the market. The providers with default fund options have dominated the market in terms of both members and AUM, although there is one provider in the top five by AUM that was not a default from 2007-2014 (Westpac – which became a default provider from 1 July 2014).

Figure 11 below displays each provider's total AUM growth since 2007. The M&A activity in the market is also visible, such as AMP's acquisition of AXA and Fisher Funds' takeover of Tower in 2013. As of June 2014, using Morningstar data which excludes GMI/Kiwibank, the six largest KiwiSaver providers controlled 93% of the total assets under management:

Figure 11: KiwiSaver AUM market share per provider 2007-2014



* Linearly interpolated based on annual data.
Source: Morningstar quarterly reports (**excludes** Kiwibank/Gareth Morgan Investments)

3.3 Significance of KiwiSaver funds in domestic capital markets

One of the policy outcomes associated with KiwiSaver's development was increased domestic investment in public debt and equity markets. This has indeed been the case as KiwiSaver funds under management have grown and exposure to the domestic capital markets has followed.

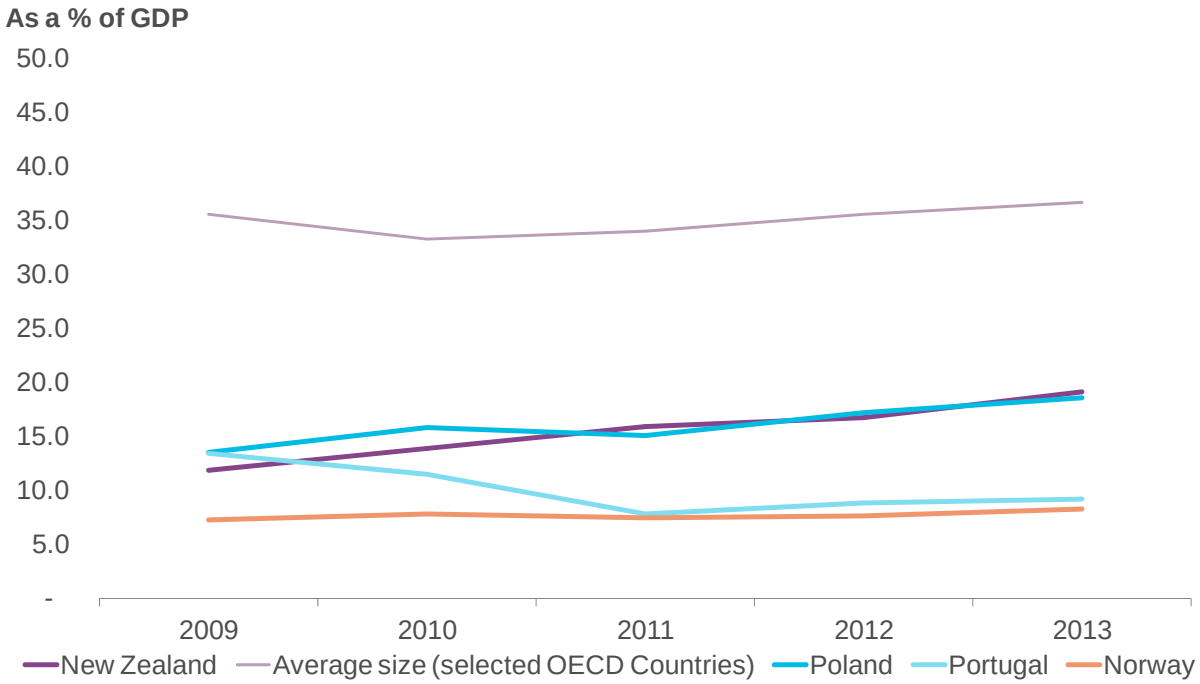
3.3.1 KiwiSaver capital gaining significance

The growth of KiwiSaver relative to other managed funds, life insurance and superannuation assets has been stark, as figure 1 in section 3 above illustrates. These funds (with the exception of KiwiSaver) have remained relatively flat in nominal terms over the last 10 years with KiwiSaver boosting this form of financial assets in the national accounts. As figure 2 in section 3 above shows, KiwiSaver funds under management have increased significantly since its inception in 2007 and will continue growing to around $70 billion by 2020.

While KiwiSaver assets are growing, the size of pension funds relative to the size of the economy remains much smaller than OECD peers. In OECD countries for 2013, the average of pension

funds size relative to GDP was 36.6%[20]. In New Zealand, total pension fund assets comprised 19.1% of GDP in 2013. However, this ratio for New Zealand has steadily risen since 2009:

Figure 12: OECD Country Pension Fund Assets Relative to the Size of the Economy 2009-2013



Source: Pension in Focus 2014, OECD

3.3.2 KiwiSaver capital in New Zealand public markets

As mentioned above, the size of total managed fund assets in New Zealand nearly doubled over the past decade which is mostly attributable to the growth of KiwiSaver. The media, investment management industry and academic commentary in addition to PwC (2008) and MED (2010) support the conclusion that KiwiSaver has supported the New Zealand funds management industry in this early period. This is confirmed by our feedback from KiwiSaver providers in interviews. It is difficult to measure the impact of KiwiSaver on domestic capital markets in real terms as stock prices and composition of shareholder registries are driven by a number of factors. The growth of listed company market capitalisation in New Zealand and any causal effect from KiwiSaver assets under management and investment in New Zealand equity assets cannot be accurately determined.

In the last decade, New Zealand listed companies' total market capitalisation as a percentage of GDP has been around 42% and stabilising at this level in recent years.[21] KiwiSaver total assets under management have been grown at an average rate of 8% year on year and investments in New Zealand public stock market stands at NZ$2.17 billion as of June 2014 or 0.9% of GDP.

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[20] Simple average of selected 36 OECD countries for 2013. The weighted average of the same sample is 84.2%.

[21] According to World Bank's data, total market capitalization of listed companies in New Zealand is at the low end of the spectrum among developed economies. Norway shares the same status.

We should expect KiwiSaver funds and fund managers to play a bigger role in shaping New Zealand domestic markets over time. This could be via large blocks of shares held by funds with similar (long-term) investment strategies or activist fund manager investors displacing widely dispersed retail investors. Growing significance of KiwiSaver funds could bring along influence on the boards of companies through shareholder advocacy at shareholder meetings and in respect of corporate actions. Accurate data to assess this institutional influence is not available, however, the best proxy we have is the level of 'institutional'[22] ownership as analysed in Goldman Sachs' Annual NZX Ownership Survey and S&P Capital IQ data shown in table 1 and figure 13, respectively, below. The data illustrates that managed fund holdings of NZX stocks have risen since KiwiSaver began, although the NZX10 data does not show any trends of greater or lesser institutional investment.

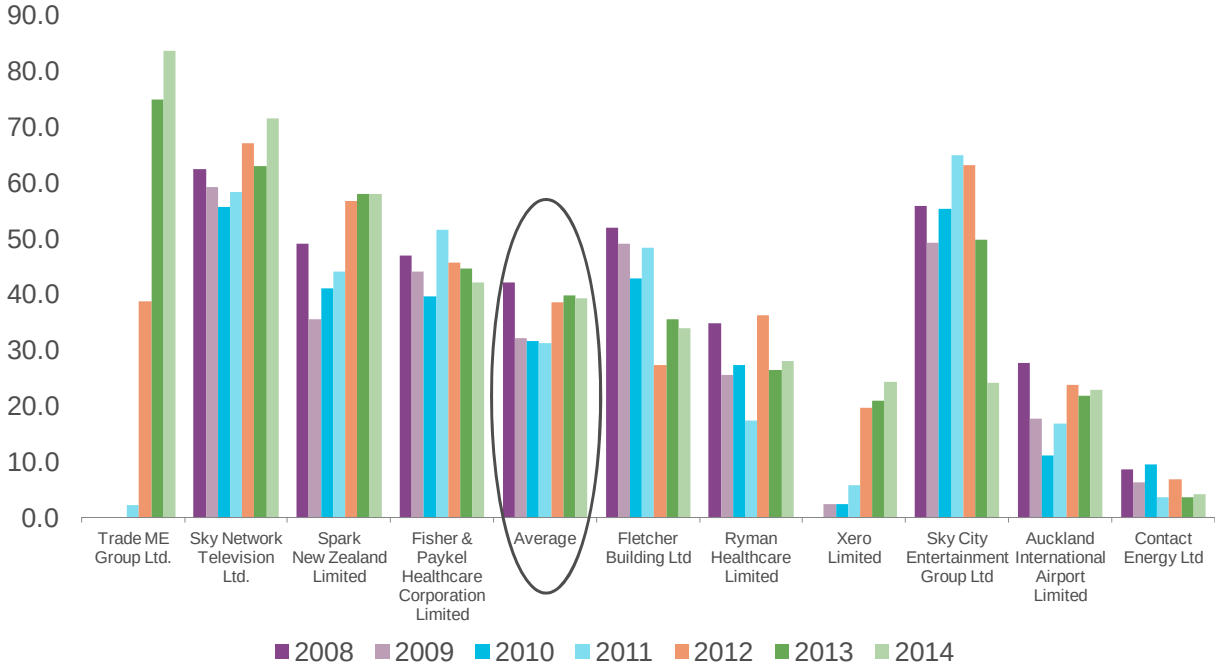
Table 1: Goldman Sachs NZX Ownership Survey data

Exhibit 2: Ownership structure of sample NZX primary listings

	Mar-04	Mar-05	Mar-06	Mar-07	Jun-09	Jun-10	Jun-11	Jun-12	Jun-13	Jun-14
NZ Managed Funds	16.1%	15.6%	16.7%	15.8%	19.1%	20.5%	22.3%	23.5%	23.2%	22.1%
NZ Strategic Stakes	15.1%	17.1%	16.0%	16.6%	21.1%	21.3%	18.4%	18.0%	17.9%	18.5%
Offshore Strategic Stakes	16.5%	15.9%	12.0%	13.2%	15.2%	13.1%	13.2%	13.0%	8.6%	7.3%
Other Offshore Owners	29.5%	28.4%	29.4%	25.9%	22.9%	23.0%	22.7%	22.1%	24.4%	25.8%
NZ Retail Investors	22.7%	23.0%	26.0%	28.4%	21.7%	22.1%	23.4%	23.3%	25.9%	26.4%
Total Foreign Ownership	**46.0%**	**44.3%**	**41.4%**	**39.1%**	**38.1%**	**36.1%**	**35.9%**	**35.1%**	**33.1%**	**33.0%**

Source: Goldman Sachs Global Investment Research, RBNZ, IRESS, Marlin Investor Relations

Figure 13: S&P Capital IQ institutional investor ownership NZX10



Source: S&P Capital IQ and Treasury analysis

On average, institutional investors own about 40% of NZX10 companies and their holdings have grown somewhat in significance from 2008 to 2014 on average for all NZX10

22 Capital IQ define institutional investors as investment managers, insurance companies, government pension sponsors, and family offices. KiwiSaver investments cannot be singled out due to limited data.

companies. Especially for those companies that have a concentrated ownership base, we found institutional ownership has grown even more notably over the period. Institutional investors have a prominent presence in newer technology companies TradeMe and Xero. In contrast, institutional ownership in infrastructure and telecommunication companies is less significant. Energy companies are largely owned by non-institutional investors.

3.3.3 KiwiSaver in private capital markets

While the size of total managed fund assets in New Zealand has nearly doubled over the past decade, there has been very limited investment by KiwiSaver funds in private equity, other private investment markets and direct investment in infrastructure. The New Zealand venture capital market has seen negligible investment by KiwiSaver funds, with the NZVCA stating, "*the KiwiSaver scheme has yet to contribute to the pool of capital available to private business*."[23] We find that this is due to the risk profile of private investment opportunities, the inherent illiquidity of private equity and VC investment and the legal requirement in the KiwiSaver Act to liquidate and transfer a member's funds within 35 days. The higher costs and deferred performance fees for managers and limited partners associated with private equity and VC investment is also a factor. We also understand from KiwiSaver fund managers that uniform valuation methods are not used for private equity investments leading to differing unit pricing between funds invested in the same alternative assets. However, with greater scale in KiwiSaver and hence larger pools of liquid assets, there may be further investment in alternative investments and international trends support this.[24]

[23] NZVCA (2013).

[24] OCED (2014).

4 Economic Efficiency and Competitiveness of Fund Manager Market

The market for fund management services for KiwiSaver members is examined in the following section. We have addressed the structure of the market, including an analysis of concentration levels. The dynamics of the market are reviewed with reference to the role of the different sub-markets of default and non-default providers and major banks, market power of individual managers, barriers to entry and the trend of market consolidation. Based on limited data, we reviewed the profitability of fund managers in comparison to domestic and international fund managers. We conducted statistical analysis of the determinants of fund success to test the trends observed. Price-based competition is also reviewed with regression analysis of the determinants of fees reviewed. Non-price based competition and switching rates rounds out the review with a qualitative review of non-price based scheme features such as customer service and product innovation, and a look into the levels of switching in the KiwiSaver market.

4.1 Assessing the Efficiency of the KiwiSaver Fund Manager Market

The theoretical perfect market with optimal consumer outcomes in funds management would feature workable competition between managers with respect to fees, customer service and investment performance combined with fund managers who have reached a large enough size to take advantage of economies of scale and pass on these cost savings to members. We briefly outline the theory and evidence for both competition and economies of scale in the economics of fund management.

4.1.1 Competition theory

Economic theory suggests that in a market for funds management with perfect competition and perfect information about fees and risks of investment, the level of fees would reach market equilibrium where the supply curve for funds management services meets the consumer demand curve. However, the funds management industry has a number of unique features which differentiate it from such a theoretical model. Firstly, the consumers of funds management services do not have perfect information because fee information is often very opaque with fee levels often only calculable on an ex-post basis. Secondly, consumers do not typically possess optimal financial skills to assess risk and potential return profiles of different managed fund products, which are not homogenous. Furthermore, investment funds are close substitutes for one another but they are not perfect substitutes due to differences such as fund structure, fees, and investment objectives. Nevertheless, we do know that funds compete with one another for customers on the basis of fees, performance and other

factors such as history and stability, despite this competition being less than perfect. A more sensible method for evaluating competition is to assess the extent of workable competition and contestability which is the method applied in this paper.

4.1.2 Economies of scale

Theory of the economics of firm size also suggests that in a competitive environment, a fund manager's administrative costs per customer should decrease with an increase in the size of the fund due to economies of scale until the point at which the marginal cost of an additional customer is equal to the marginal revenue. This is because many production inputs and expenses are fixed and are typically large investments (physical establishment, registration, legal and regulatory compliance, marketing platforms and networks). Variable costs should in theory be relatively small as these mainly relate to account management and reporting which can be automated and replicated. In theory, therefore, as KiwiSaver fund managers grow by attracting customers and consolidating via mergers and acquisitions, lower fees for individual consumers should result. Furthermore, as outlined in section 3 above, fees are generally split into a fixed dollar amount and variable amount based on funds under management. Variable fee revenue should therefore grow as a function of fund asset size, while costs should increase at a lesser rate.

Previous assessments of KiwiSaver by MED (2010) and PwC (2008) only reviewed the state of competition in the market and did not evaluate the existence of economies of scale nor the impact of economies of scale on the firm dynamics and profitability of KiwiSaver fund managers. Therefore we have focussed attention on the effects of economies of scale as well as competition in the market.

Empirical evidence of economies of scale in funds management

Empirical literature suggests that economies of scale do in fact exist in funds management, including in highly competitive markets. The U.S Security and Exchange Commission (2000) found that as assets increased, the operating ratio declined; funds that are part of large fund families tended to have lower management expense ratios than funds that were part of small fund families; and finally there are differences in economies of scale for different asset classes. This is supported by LaPlante (2001), which controlled for numerous factors and found a negative relationship for expense ratios and fund size for equity and bond funds. Collins and Gallagher (2011) analysed the trends in the expenses and fees and fund size of mutual funds over the preceding two decades also finding a negative relationship which was smaller for equity funds but larger for bond and money market funds. Malhorta et al (2007) found differences in cost efficiencies in the mutual fund industry from 1998 to 2003. Economies of scale varied greatly and did not remain the same year to year. Conversely, Indro et al (1999) found that an optimal level of assets that minimises expenses to investors exists for US equity funds – for the years 1993-1995 this was US$ 3.5 billion.

Latzo (1999) also confirms the existence of economies of scale from a cross-sectional sample of 2,610 mutual funds. Schaefer and Maurer (2013) found economies of scale for German investment management companies and that the average investment management company faces an increase in costs of 0.71% for a 1% increase in assets under management. The ratio is greater for small to mid-sized firms. Economies of scope are more pronounced for large investment management companies, in particular between different types of retail security fund.

Banko et al (2010) also established that costs to investors are reduced by the economies of scope for fixed-income investors associated with large-asset managers, who supervise many funds over multiple fixed-income investment styles. However, they found no evidence of economies of scope for equity funds.

These findings are supported by Zera and Madura (2001), Bikker (2013) and Bikker et al (2010). The latter carried out a cross-country comparison of Australia, Canada, the Netherlands and the United States for the period 2004-2008 and found evidence of economies of scale (confirming earlier studies) noting that a 1% increase in customers would result in an increase in a fund manager's costs of 0.76%. Likewise, Agostini, Saavedra and Willington (2012) found that the Chilean pension funds market possessed significant economies of scale. In the Australian context, Bateman and Mitchell (2004) reviewed the 1998-1999 annual reports of all 1,920 Australian superannuation plans under APRA's jurisdiction found that a 1% increase in assets resulted in an approximate 0.5% increase in costs.

The literature is **very clear** on the relationship between increases in mutual fund size and costs. As funds grow in size, the costs increase at a lesser rate, which confirms that economies of scale do exist in funds management and this should also hold for New Zealand KiwiSaver funds. Economies of scope also exist. As funds under management in KiwiSaver funds grow, the overwhelming evidence suggests that average costs per customer should reduce.

4.1.3 The structure-conduct-performance framework

In this section 4 we utilise the structure-conduct-performance framework to analyse the fund manager market. The framework is a standard tool in industrial organisation theory. This enables us to form an initial view of the performance of the KiwiSaver market and the potential benefits to consumers and the advancement of public policy goals. The structure of the market is the set of variables which affect the behaviour of the sellers (fund managers) and buyers (members, customers). This includes the extent to which supply is concentrated, the extent of competition and barriers to entry. The conduct of fund managers and members amongst themselves and each other examines strategic behaviour such as pricing, investment, marketing and other non-price factors. Performance of the fund manager market reviews the profitability as a proxy for efficiency and the dynamics of member and fund movement within the market.

4.2 Structure of the KiwiSaver Market

In the seven years of the existence of KiwiSaver, a number of factors can be observed relating to the competitiveness of the fund manager market. The KiwiSaver funds management market is moderately concentrated – a group of six banks and financial services firms account for over 90% of AUM. In addition, the providers that manage default schemes hold a significant place in the market, with five such managers controlling approximately 70% of AUM up to June 2014 and upon the appointment of nine managers from 1 July 2014, that increased to over 90% of AUM. Over time, the number of significant providers has reduced, as M&A activity and consolidation occurred.

In order to determine the effects of these features of the market structure and the competitiveness and efficiency of the market, we have applied standard measures of competitiveness, examined any market power of certain sub-groups of managers and made observations about trends in consolidation, barriers to entry and market power.

4.2.1 Market concentration

The KiwiSaver market has changed since 2010 when the Commission reviewed the AMP/AXA merger and made observations about competition in the market. Market concentration is an indicator of competition levels in a market. Economic theory[25] suggests that a market with high levels of competition should have a low level of market concentration, with market power being distributed amongst a large number of firms rather than being held by a minority. Conversely, empirical study has shown that a high concentration index for an industry is a signal of a high price-cost margin.[26] However, there are economic tradeoffs in assessing market concentration, especially in smaller economies; balancing a concentrated market with cost savings from economies of scale. We examine conventional market concentration measures below to assess competition:

Three-firm concentration and largest firm market share

In respect of reviewing a merger or acquisition of firms in a market, the New Zealand Commerce Commission uses, amongst other tools, a three-firm concentration ratio as an indicator of market concentration by combining the market shares of the three largest firms and measuring that market share as a percentage of the total size of the market. A transaction is less likely to raise competition concerns and thereby require a clearance application if the transaction would result in a market with a three-firm concentration of below 70% and the firm in question has a market share of less than 40%, or the three-firm concentration is above 70% and the market share of the merged entity is less than 20%.[27]

Applying the three-firm concentration ratio and largest firm market share test to the New Zealand KiwiSaver market illustrates that OnePath/ANZ, ASB and (post-merger) AMP have respective 23%, 19% and 13% market shares and the combined three firm concentration ratio is 56%. The current market structure would not raise competition concerns, *per se*, under the Commission's guidelines.

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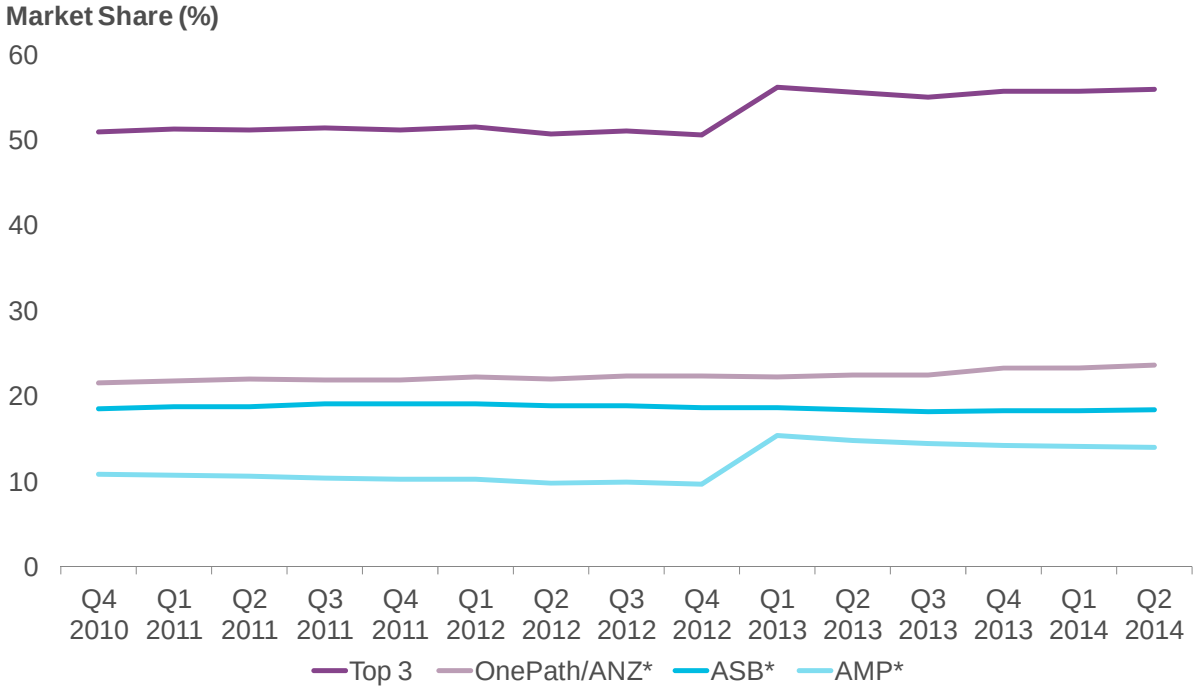
25 Viscusi, Vernon and Harrington (2000).

26 Domowitz, Hubbard and Petersen (1986).

27 Commerce Commission (2013).

Figure 14: KiwiSaver three firm concentration ratio and largest firm market share



Source: Morningstar Quarterly reports 2010-2014
Note that a merger between AMP and AXA came into effect in early 2013.

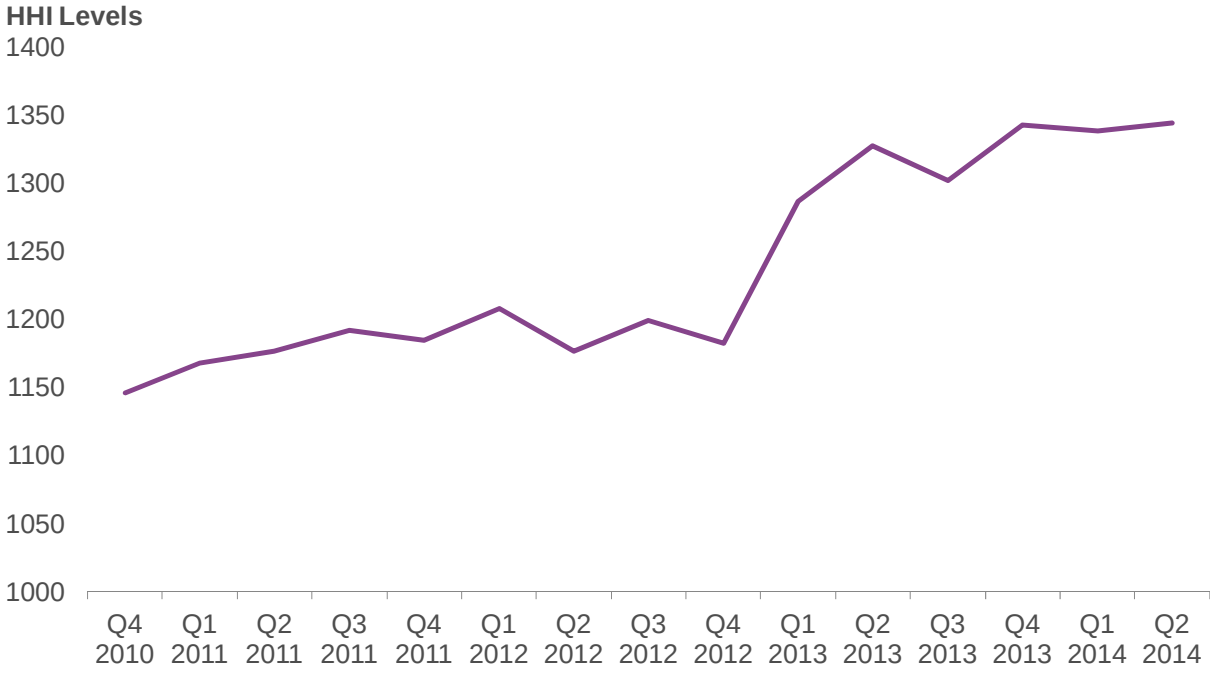
Herfindahl-Hirschman Index concentration measure

The Herfindahl-Hirschman Index (HHI) is a conventional method of determining market concentration used, *inter alia*, by the US Department of Justice in anti-trust (competition) matters.[28] When applied to the KiwiSaver fund management market, the HHI illustrates a growing concentration since 2010.[29]

[28] HHI is calculated by squaring the market share of all the firms in the market and then taking the sum of these resulting numbers.

[29] In competition analysis, a lower HHI indicates lower concentration, whilst a higher HHI indicates higher concentration, ranging from 0 to 10,000.

Figure 15: Time-series: KiwiSaver HHI 2010-14



Source: Morningstar for Total provider AUM and Reserve Bank of New Zealand for total AUM per quarter

The US Department of Justice's Horizontal Merger Guidelines categories of concentration[30] would place the KiwiSaver market as 'unconcentrated' with an average HHI of 1209 over the seven years since inception, below the limit of 1500. The sharp increase in Q2 2013 is likely to be due to M&A activity; AMP acquired AXA and Fisher Funds acquired Tower Investments, which increased their market share by 5.7% and 6% respectively.

The KiwiSaver fund manager market is less concentrated and accordingly more competitive on the HHI measure than the New Zealand banking sector. New Zealand has four large banks controlling approximately 85% of banking assets. By total assets, the HHI for the banking sector was 2045 as at March 2014 compared to a HHI measure of 1305 for KiwiSaver for the same period.

Market concentration by asset class

KiwiSaver fund managers compete not only in the provider 'brand' level market, but also at a fund to fund level within asset classes. By applying an HHI analysis to individual asset classes using the classifications of Morningstar, we find that 'aggressive' and 'moderate' funds are somewhat more concentrated than the balanced and growth funds and that concentration has increased over time in all asset classes by varying degrees. Concentration in different asset class markets can be tempered by competition between funds in adjacent asset classes. Therefore, high market concentration in one asset class need not signal a lack of competitiveness *per se*.

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30 See United States Department of Justice and the Federal Trade Commission (2010). A result of 1500 or less is considered to be an unconcentrated market, 1500-2500 moderately concentrated market and a result of 2500 or greater to be a highly concentrated market place.

In the market for aggressive funds, Fisher Funds control nearly 60% of the market, up from 41% in 2010. This may be related to the acquisition by Fisher Funds of Tower asset management in 2013. There are 11 aggressive funds in total which make up 6 % of the total AUM in KiwiSaver. The fee levels for aggressive funds are also typically among the highest due to the higher transaction costs associated with the active management and exposure to particular investment classes.

Figure 16: Market Concentration by asset class, 2010-14

Source: Morningstar for total provider AUM and Reserve Bank of New Zealand for total AUM per quarter

International comparison of concentration

An international comparison is useful to gauge the level of market concentration and therefore competition of KiwiSaver. While the **size** of Australia's superannuation sector is very large, the degree of concentration in the industry is relatively low: the five largest and ten largest Australian superannuation funds by assets in 2013 accounted for 16% and 27% of total industry assets, respectively.[31] In comparison, the top 6 providers by AUM in the KiwiSaver account for 91% of the market. The HHI of the top 200 largest Australian superannuation funds is 319[32], compared to a HHI level of around 1340 for KiwiSaver.

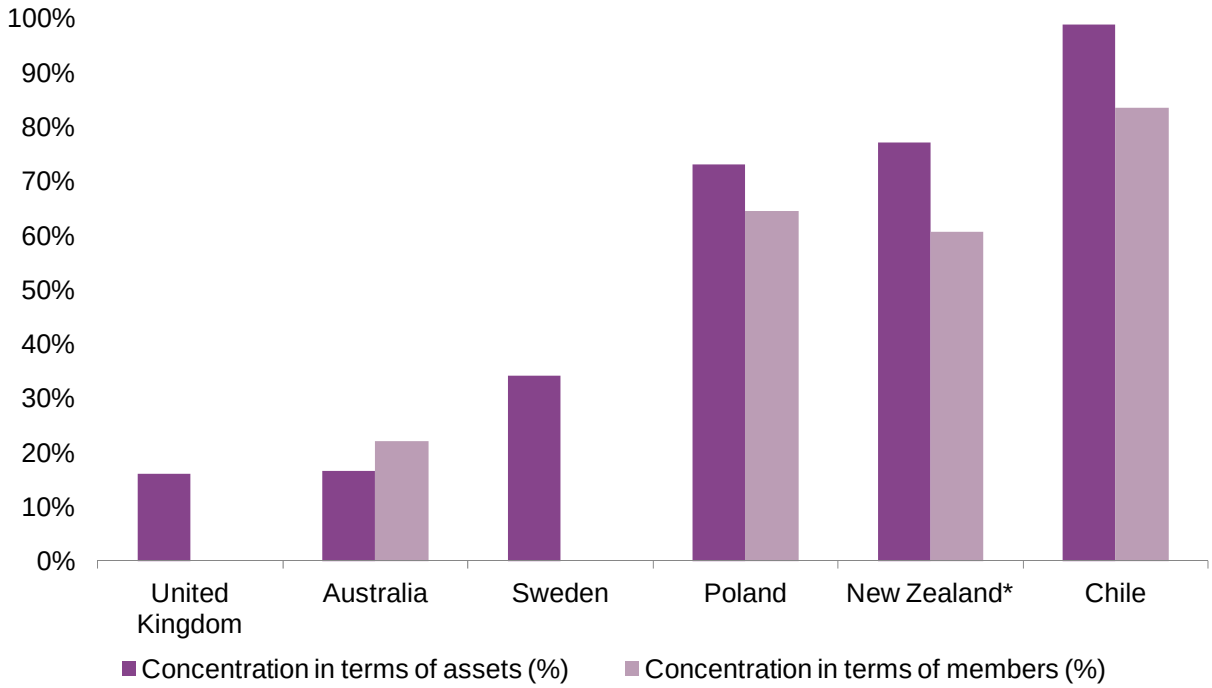
31 Reserve Bank of Australia (2014).

32 Calculated using data from Australian Prudential Regulation Authority (2013).

Additionally, Chile has a similar pension system to KiwiSaver and concentration in the Chilean market has fluctuated over time. The HHI measure in Chile has risen from 1300 in the mid 1990's to 2200 in 2006, during which the number of firms dropped from 21 in 1994 to only 6 in 2006.[33] This occurred as a result of a number of mergers and acquisitions as the industry consolidated.

A comparison between selected OECD countries that have similarities to New Zealand is made in figure 17 although the data does not differentiate between defined benefit (DB) and defined contribution (DC) schemes in these countries, the pension market in these countries are dominated by strong defined contribution schemes. This analysis uses a simple 'Top Five' approach in which it gauges the concentration of the market by examining the proportion of the market that is represented by the top five firms, in terms of both AUM and member numbers.[34] New Zealand's KiwiSaver system ranks behind only Chile on assets concentration and behind only Chile and Poland on member concentration.

Figure 17: International comparison of largest 5 firm's market concentration - 2013



Source: OECD Global Pension Statistics 2013
These countries were chosen as they are developed countries and have pension markets with similar characteristcs to New Zealand's KiwiSaver.

33 Agostini, Saavedra and Willington (2014).

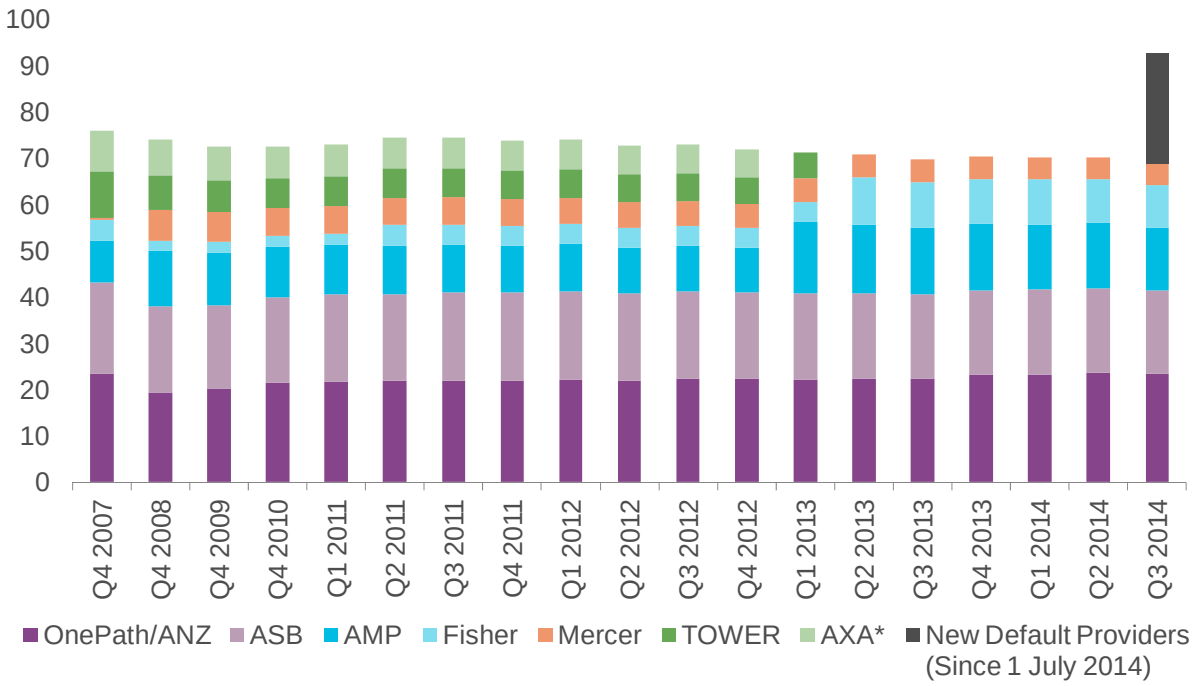
34 The OECD has no member data for both the UK and Sweden.

4.2.2 Market share of Default Funds and Providers

The default funds offered by a select group of providers appointed by the Government have a large share of the market. As of June 2014, the (then) five default funds from AMP, ANZ, ASB, Fisher Funds and Mercer held 26% of total KiwiSaver AUM and 22% of members were automatically enrolled into one of these schemes. However, the market share of the default funds has decreased over time, as these funds held 35% of total AUM four years earlier in December 2010. Although the AUM in default funds may be falling, the market share of the **parent** provider companies that offer the default funds has been increasing as membership and AUM of other funds offered by those fund managers increases.

KiwiSaver providers that offer a default fund have dominated the KiwiSaver market since inception controlling around 70% of AUM, as figure 18 below shows, however for the seven years to 2014, this decreased moderately. In July 2014 an additional four providers were appointed to provide default funds which has resulted in the now nine providers accounting for just over 90% of AUM.

Figure 18: Time series of total market share of fund managers with a default fund 2007-14



Sources: Morningstar for total provider AUM and Reserve Bank of New Zealand for total AUM per quarter

4.2.3 Market share of major banks

The four largest banks (ASB, ANZ, BNZ and Westpac) control 87% of the retail and commercial banking market measured in terms of total banking assets. With the addition of Kiwibank, that rises to 91%. New Zealand's major banks have achieved significant penetration of the market since the outset of KiwiSaver. This contrasts with Australia's superannuation system, where the big four major banks had less initial success in the superannuation market and increased their presence via acquisitions in the early 2000s.

The major banks possess a significant advantage to other providers due to their retail sales channels. The financial advice rules applicable to major banks' staff (and staff of larger financial services firms that are KiwiSaver providers) differs from the requirements applicable to financial advice provided by other financial advisers including independents. Major banks are all 'qualifying financial entities' (QFEs) meaning that customers do not need to receive advice from individuals who are authorised financial advisers; it suffices to receive financial advice from a bank employee.[35] The evidence collected by the FMA indicates that banks' QFE status is related to a variety of sales practices that illustrate the commercial advantage to banks of their existing direct links to customers. FMA (2014) noted that banks were engaging in the following:

- asking customers if they would like to be able to access their KiwiSaver information online alongside other bank account information, without explaining that this will mean the customers must transfer to the bank's KiwiSaver product
- stating that an application for credit (eg, student loan, credit card, mortgage or other) will be more favourably considered if the customer transfers their KiwiSaver to the bank
- signing customers up for a credit card, personal loan or other products and providing a KiwiSaver transfer form alongside other documentation for signing, leading to customers inadvertently agreeing to transfer their KiwiSaver to the bank.

The five largest New Zealand banks controlled 65% of the AUM in the KiwiSaver market in 2014 as shown in figure 19 below. This is an increase on the 59% share in 2007.
New Zealand's major banks have an extensive physical branch network and therefore a retail sales channel which is not available to other retail insurance and superannuation financial institutions. Numerous media reports[36] in addition to the Commerce Commission[37] have noted the direct sales strategy of the major banks, for example packaging KiwiSaver products with other financial products such as mortgages, insurance and personal banking so that the consumer has all their personal finance products with one institution.

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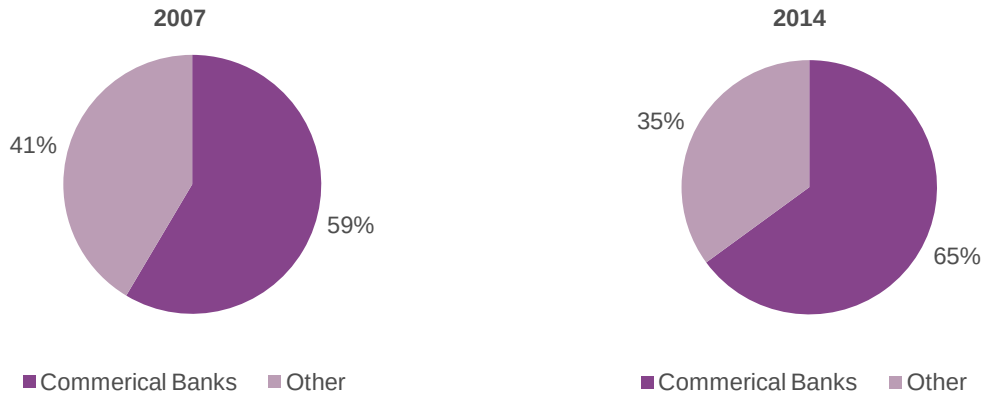
35 FMA (2014).

36 Eg, media reports available here: http://www.scoop.co.nz/stories/BU1410/S00027/kiwisaver-providers-warned-over-sharp-sales-practises.htm; http://www.nzherald.co.nz/personal-finance/news/article.cfm?c_id=12&objectid=11324977; http://www.stuff.co.nz/business/money/10580847/Fears-over-KiwiSaver-incentives

37 Commerce Commission, Merger clearance decision No. 694 dated 18 June 2010, para. 51.

Figure 19: KiwiSaver market share of major banks - 2007 and 2014

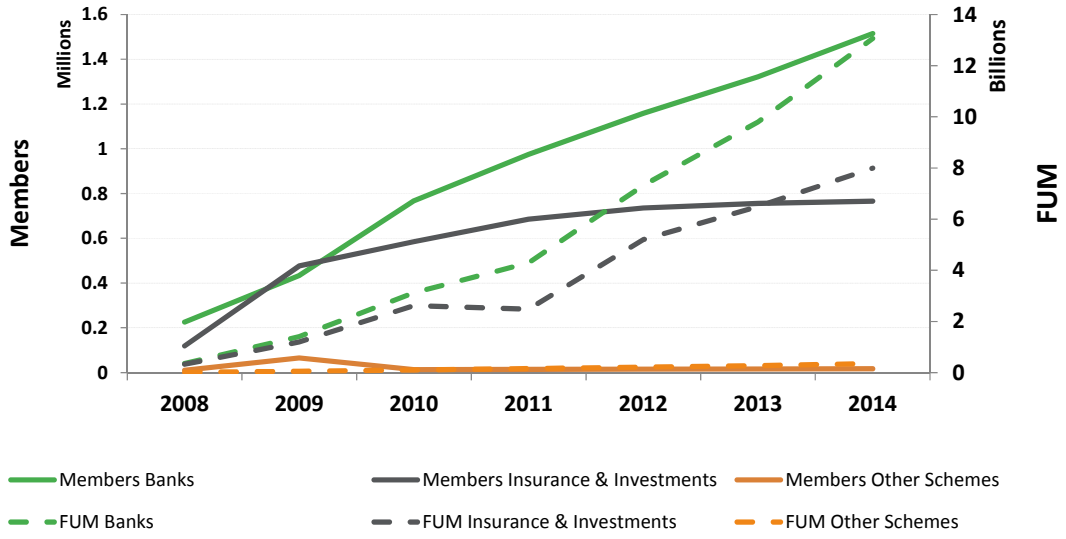


Sources: Morningstar and fund manager quarterly statements disclosed to FMA

The market share of major banks could also increase as a result of the appointment of additional banks as default KiwiSaver providers in 2014. Of the major banks, only ASB and ANZ were appointed as part of the initial six default providers for the initial seven-year term from 2007. In 2014, the nine appointments for the next seven-year term included all five major banks (ASB, ANZ, BNZ, Kiwibank and Westpac).

Banks' KiwiSaver market share relative to other types of financial services firms has been noted by the Financial Markets Authority and their analysis in 2015 shows that banks' growth in membership and AUM is outstripping the growth by other firms.

Figure 20: Growth of banks' KiwiSaver business: customers and FUM



Source: Financial Markets Authority analysis

4.2.4 Market contestability (barriers to entry)

Potential competitors to the incumbent KiwiSaver providers enforce a degree of market discipline. However, this is negated to the extent that there are barriers to entry for new providers. Barriers to entry in the KiwiSaver funds management sector exist in two respects: Firstly, Government policy creates regulatory and economic barriers for firms to enter (and exit) the market such as meeting registration conditions, establishing the infrastructure to participate in the administrative system and complying with securities law and accounting obligations. Secondly, branding/marketing advantages, scale economies and absolute cost advantages held by firms already in the market comprise further barriers. Therefore, the incumbent firms which established themselves at the commencement of KiwiSaver in mid-2007 should enjoy an advantage to a completely new entrant.

Despite the barriers to entry imposed by policy and the considerable cost and efficiency disadvantage faced by new firms, there have been a small number of new firms entering the KiwiSaver market since inception. Twelve provider firms commenced operations from 2008 onwards (ie, after the commencement of KiwiSaver in mid-2007), of which four were restricted providers.[38] The remaining eight providers account for just over 4% of total AUM and 5% of total members, as of June 2014.[39] Of these more recent entrants, four firms stand out as having established themselves with significant market share. Although a number of regulatory and structural conditions must be met, the evidence of several cases of successful new entry suggest that those conditions can be met or are not excessively onerous.

NZ Funds KiwiSaver scheme (registered October 2010), Milford Asset Management (registered March 2010), Kiwibank (registered May 2010) and Bank of New Zealand (registered January 2013) account for 93% of the new provider AUM and 95% of new provider members. These four firms have all established themselves with growing market share.

Milford has grown to control a substantial share of AUM (seventh overall), overtaking one of the original providers AON, although it had an advantage by absorbing one of AON's funds when entering the market. The company continues to have a strong profile via the regular market commentary provided its Executive Director in the media. Milford already had a strong position as an institutional investor and funds management business. Kiwibank established its own KiwiSaver scheme in May 2010 which experienced early growth. However, Kiwibank cemented a more significant place in the market when in January 2012 it acquired Gareth Morgan Investment's KiwiSaver business (which had itself existed since mid-2007). BNZ was the only major bank not to establish a KiwiSaver scheme in 2007 and launched a BNZ branded scheme (managed by Russell Investments) in 2013. NZ Funds also joined the market late and has experienced rapid early growth in the sector. Kiwibank and BNZ both have extensive retail networks with direct marketing access to their banking customers for sales of KiwiSaver products. The common factor among the successful schemes established after 2007 is that each had an existing standing in the financial services marketplace.

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38 A restricted provider is a non-retail scheme that has certain requirements in order to become a member such as being a part of an occupation or profession.

39 See FMA KiwiSaver schemes register, available here: https://fma.govt.nz/compliance/lists-and-registers/kiwisaver-schemes-register/

A useful contrast which illustrates the difference that a large retail presence makes is the experiences of BNZ and Generate KiwiSaver which both established KiwiSaver schemes at a similar time in 2013. BNZ managed almost $300 million while Generate's total AUM amounted to $12 million as of June 2014. BNZ became a default provider in 2014, further cementing its position in the market.

The fact these firms have managed to enter and compete in the market suggests that there is an element of contestability in the KiwiSaver market, however, that success is linked to an existing standing and brand in financial services or banking. The fact that small firms have entered and remained in the market with relatively small AUM amounts suggests that the fixed costs of entry as a KiwiSaver provider are not prohibitively high nor does it appear that there are regulatory barriers which prevent new KiwiSaver providers entering the market.

Commerce Commission assessment of competition in KiwiSaver

The New Zealand competition authority, the Commerce Commission, reviewed the merger of AXA Asia Pacific Holdings Limited (AXA) by AMP Limited (AMP) in 2010. The Commission assessed the impact on competition in the retail funds management market, which included corporate and personal superannuation schemes, unit trusts, other retail fund products, in addition to KiwiSaver. The transaction involved AMP acquiring AXA's New Zealand life insurance, financial planning, retail investment platforms, wholesale funds management and retail funds management businesses, including KiwiSaver funds. In its Decision No. 694 dated 18 June 2010, the Commerce Commission found that there was sufficient competition from the existing market to constrain the combined company and that a merger would not substantially lessen competition. In general, the Commerce Commission found that strong competition characterised the retail funds management market. The market share of the combined entity fell beneath the 'safe harbour' limit of 40% and the three-firm concentration ratio for the market was also within the Commission's 70%.

The Commerce Commission focussed a lot of its attention in the decision on the 34% of the new members that a combined AXA/AMP would be assigned as default funds (compared to the each of the other four default funds' 17% allocation), however, that this was offset by three countervailing factors. Firstly, the combined AMP/AXA market share was similar to two other managers. Secondly, the branch network of major banks provided a competitive advantage over AMP/AXA. Thirdly, the Commission admitted that "*[AMP/AXA] were each losing a significant number of those that are enrolled in their KiwiSaver schemes via the default path*" to other competitors. The Commission's ultimate view was that there was "***intense***" competition for KiwiSaver funds.

4.2.5 Market consolidation

Takeovers/Mergers of funds

Market efficiency changes can also be observed in the takeover and merger activity in the KiwiSaver market. The most significant merger to date was in 2013 when AMP acquired AXA and was left in the unique position of being in control of two default funds which it later choose to merge together. The mergers and acquisitions in the KiwiSaver industry appear to be mainly driven by firms seeking the benefits of economies of scale and firms seeking specialisation benefits. We comment on these in the table below.[40]

[40] Based on Morningstar quarterly data, not all takeovers and mergers captured.

Table 2: KiwiSaver closed and merged providers

Closed/Merged Providers	Date	Media Coverage and Reports
Huljich takeover by Fisher	Mid 2011	The shareholders of Huljich Wealth management have decided to move on; citing increasing compliance costs and regulation mean that economies of scale will be more important. In addition, Peter Huljich, Managing director, stepped down in 2010 after pleading guilty to a charge of misleading investors. http://www.fisherfunds.co.nz/fisher-funds-purchases-huljich-kiwisaver/
AXA takeover by AMP	The acquisition was completed in 2011 but the merger was not fully completed until 2013.	The deal involves AMP taking 100% of AXA Asia Pacific, merging its Australian and New Zealand businesses with those of AMP, and divesting AXA Asia Pacific's Asian businesses to France's AXA SA. AMP and AXA combined are expected to create stiff competition for Australia's big four banks - ANZ, Westpac, National Australia Bank and Commonwealth Bank of Australia - in the wealth management market. Following the merger in 2011, "*The AMP group currently provides two KiwiSaver schemes and we'd like to offer our members one KiwiSaver scheme going forward, featuring the great investment choices and services you'd expect from a company like AMP*," - Jack Regan, Managing Director, AMP New Zealand. http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=10710999
Tower takeover by Fisher	Mid 2013	"*TOWER's decision to sell its fund management business has created the opportunity for Fisher Funds to attain scale that will provide efficiencies in the management of clients' funds while still allowing for the high quality personalised service that we are known for*." – Carmel Fisher, Fisher Funds Managing Director Tower's scaling back of its business comes as cornerstone shareholder Guinness Peat Group liquidates its portfolio. http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=10867815
Fidelity takeover by Grosvenor	Mid 2013	"*This is about two successful New Zealand owned companies working in a strategic alliance that allows them to focus on what each of them does best,*" "The transaction also puts the combined organisations in a strong position to gain default provider status in the future." – Allan Yeo, Grosvenor Managing Director http://www.interest.co.nz/kiwisaver/65282/strategic-alliance-between-grosvenor-and-fidelity-life-announced-giving-grosvenor-st
Brook ceased operations and managed a wind-down	Mid 2014	Brook Asset Management is to close, completing the collapse which began with the departure of its star fund managers in 2008. No attempt will be made to sell the business, with the closure being described as a managed wind-down of the funds. Macquarie said the decision to wind up Brook followed a strategic review of the company which concluded that "*expectations for achieving a business of scale are not possible in the medium term*" http://www.stuff.co.nz/business/industries/9904730/Brook-Asset-Mgmt-shuts-up-shop

Source: Morningstar quarterly reports and news articles referenced

4.2.6 Member transfers between managers

Financial literacy

Financial literacy is important in the market dynamics of KiwiSaver as financially literate customers are able to enforce market discipline on providers through increased knowledge. A perfectly competitive market assumes perfect information, and thus any increase in information and knowledge of consumers is likely to help enforce the competitive elements of the market.

Some recent Government policies have contributed to a higher awareness of fees and return levels. The KiwiSaver FundFinder tool on the Commission for Financial Capability ("Sorted") website[41] has usage statistics which show that there have been only modest numbers of page views and time spent on the site.[42] The FundFinder calculator performs a very useful function in aggregating all returns, fees, age and investment direction information in one place with simple functionality enabling comparisons. Other resources such as newspaper tables or ratings services are often more subjective or lack mechanisms to make like for like comparisons. Since perfect competition (while not realistic nor achievable) requires perfect information among consumers, the better the quality and quantity of information available to enable informed choice of funds, the greater the ability for consumers to put pressure on provides to compete with each other.

In addition, the FMA surveyed over 1000 people as part of "Money Week" in October 2014 to assess financial literacy rates of the New Zealand public.[43] The FMA data reflects a less than optimal level of financial literacy with respect to KiwiSaver. Survey respondents appeared to not understand the riskiness of KiwiSaver: 42% of respondents believed that KiwiSaver is guaranteed and 66% thought that a KiwiSaver Growth fund was medium to low risk. The implications of lower financial literacy are that incumbents have increased market power in relation to the less informed and have less pressure on pricing and service provision levels. It is therefore encouraging that the CFFC is focussing on greater levels of consumer financial literacy for KiwiSaver.

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41 Calculator available at: http://fundfinder.sorted.org.nz/

42 There were 1.6 million page views in the 16 months (to April 2015) the calculator has been in existence, with the average visit duration of five minutes and 73% of the visitors new to the site.

43 FMA (2014).

Historic transfer and switching rates

Average yearly scheme transfers were volatile in the early years of KiwiSaver, with the transfer[44] rate just below 10% in 2010. The rate has now stabilised at an average of 6.5% over the past 4 years, with minor fluctuations around this level. This is slightly higher than Australia, where an average of 5.1% of superannuation products is likely to be moved in the next 12 months.[45] Approximately $1.4 billion was transferred between KiwiSaver schemes as members changed provider in the year to 31 March 2014 when excluding merger activity[46], which is around 6% of total KiwiSaver AUM.[47] In addition, around $573 million dollars was switched[48] between different schemes internally, around 2.5% of total AUM. Currently, the majority of providers do not charge fees for members transferring from one provider to another. Five providers charge for transfers and the fees range from $25 to $100 according to the FundFinder website.

On one hand, the mobility of members' funds is beneficial for having an efficient market due to increased competition for attracting customers amongst providers. This could lead to lower fees and better services for KiwiSaver members. As mentioned above, new disclosure requirements introduced by the government should have increased transparency and comparability leading to a downward pressure on fees through improved competition and the threat of member switching.

On the other hand, the Australian Financial System Inquiry explained the drawbacks of transfers; "*[m]any funds allow members to change their investment allocation frequently, often at short notice and generally at low or no cost to the member. Although member engagement should be encouraged, this behaviour can add to fund costs due to the need to rebalance investment allocations in the short term. It can also affect member returns by increasing the need for funds to hold liquid assets*."[49]

It is important to distinguish between switching that is member initiated and switching that is provider driven. The ability of members to switch is fundamental to an efficient market where members having the power to enforce market discipline of providers. Provider driven switching, on the other hand, customers may be enticed into KiwiSaver schemes unknowingly, has the reverse effect. Finally, transfers can present additional costs in the form of liquidity requirements, and constant asset reallocation. This could undermine final retirement outcomes in the form of lower KiwiSaver balances.

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44 IRD define a 'transfer' as a change from one scheme (ie, provider) to another.

45 Roy Morgan (2014).

46 The total transfer figure was $3.57bn when including merger activity.

47 FMA KiwiSaver Annual Report (2014), Appendix 7, p.29.

48 IRD define a 'switch' as a change of investment profiles/funds within a scheme.

49 Australian Government Financial System Inquiry (2014a).

4.3 Conduct in the KiwiSaver Fund Management Market

4.3.1 KiwiSaver fees

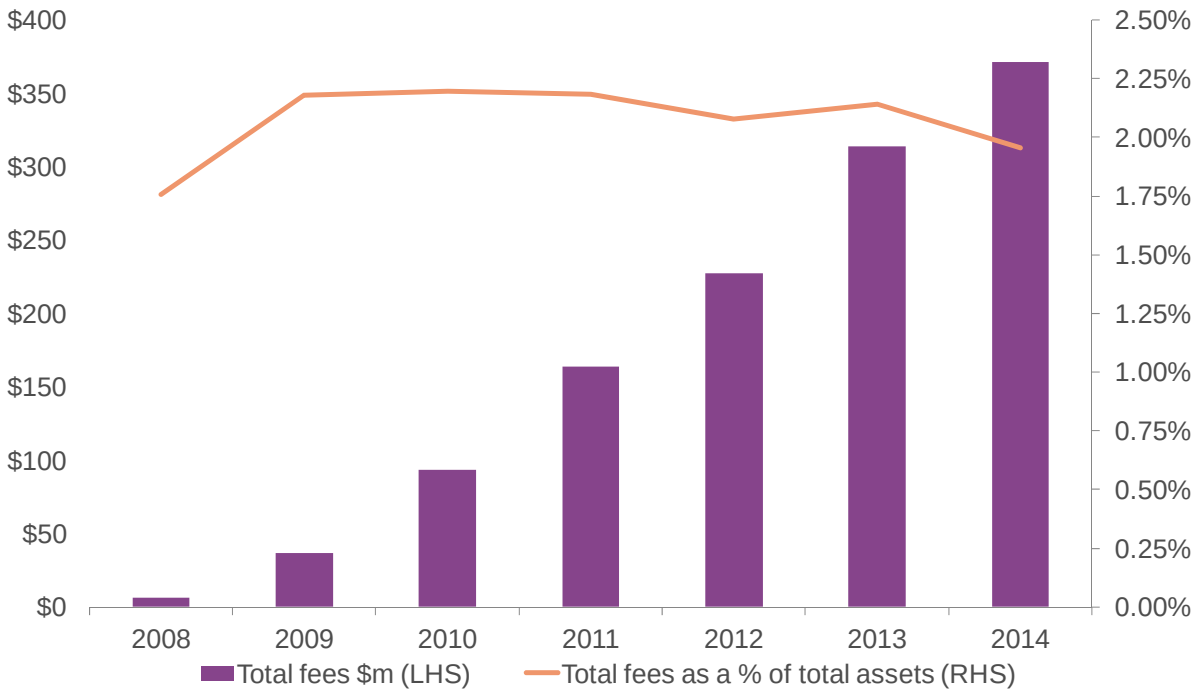
In the following we review the type and degree of KiwiSaver fees using fund manager quarterly statements disclosed to the FMA and also Morningstar data, how these have developed over time, the determinants of fees from a statistical analysis, and finally how they compare internationally. The level of fees charged to investors in direct contribution mutual and retirement saving funds has a drastic effect on ultimate returns and therefore retirement income outcomes.[50]

KiwiSaver providers automatically deduct their fees from an individual's KiwiSaver account balance for management and administration. Fees are charged on more than just the costs of providing the investment return (so-called management fees). Administration fees relate to trustee and custodian costs and legal costs. Management fee levels vary depending on the provider, fund risk level and asset classes and the account balance of the member. There is also no universal definition of all the different fees charged by different providers – many use different names for fees which results in fee levels being generally opaque.

Total fees in dollar terms have risen over the period. Total fees as a percentage of total assets have fallen from around 2.2% of total assets in 2009 to 1.95% in 2014. This is consistent with economies of scale and some competition leading to lower input costs and lower fees.

[50] Recent evidence from the U.S. reinforces this. Ayres and Curtis (2014) reviewed over 3,500 U.S. 401(k) retirement funds with more than US$120 billion in assets and found that fees were high enough to wipe out any tax benefit of the plans and on average members paid a 100 basis points (1%) more in fees that retail index funds available to all investors.

Figure 21: Total KiwiSaver fees over time 2008-14



Source: Financial Markets Authority

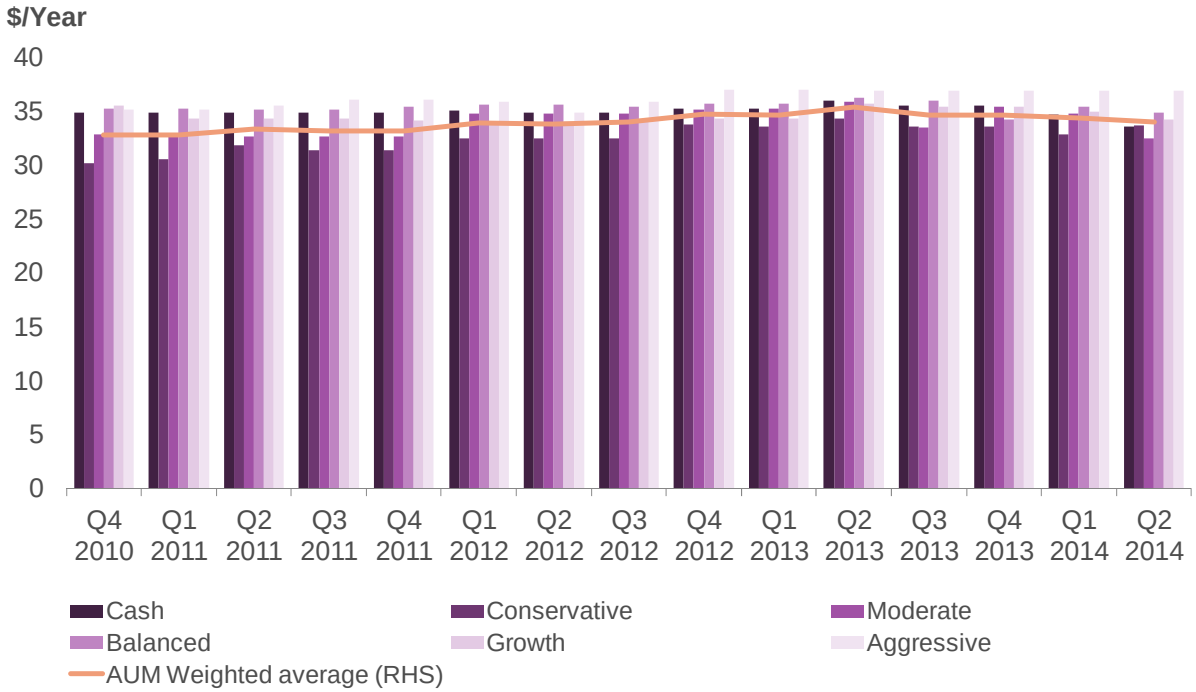
Broadly speaking KiwiSaver management fees can be separated into two types:

- **Fixed fees**: the membership fees that do not vary based on the fund balance or performance, usually assessed as a fixed dollar amount per annum.
- **Variable fees**: the fees that are applied as a percentage of funds under management, including management and performance fees.

Fixed Fees per Asset Class

Fixed fees have remained fairly constant over the three years to 2013, increasing slightly in nominal terms. Fixed fees for conservative funds have grown the most over the three year period analysed, increasing by just under 14% in three years to $34 p.a. Aggressive funds have marginally had the highest fixed fees over the period, but overall the variation of fixed fees across time and asset classes has not be substantial. Interestingly, the fixed fees for the cash asset class are higher than the conservative and moderate class consistently through the time period examined.

Figure 22: KiwiSaver annual fixed fees per asset class, 2010-14

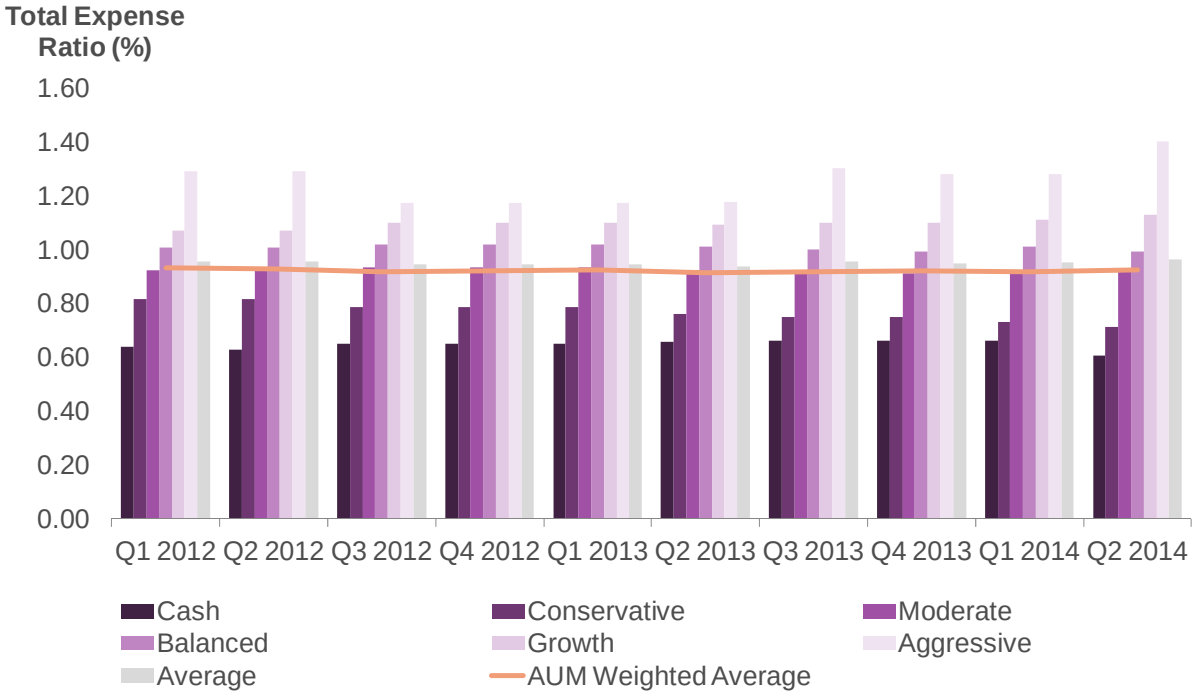


Source: Morningstar

Total fees (including variable fees)

In order to assess the variable fee component in KiwiSaver funds, and how this forms part of total fees charged, we analyse the Total Expense Ratio (TER). TER is commonly used as a measure of total fees as it provides a ratio which encompasses all the fees associated with a fund into one number. TER is the ratio of total fees to funds under management, expressed as a percentage and provides the most accurate method of comparing fees and changes between providers and the actual economic cost to the consumer of the fees. TER differs from 'total fee' measures which simply capture the total monetary value of fees. The KiwiSaver (Periodic Disclosure) Regulations 2013 now require providers to disclose TER in quarterly disclosure statements and annual reports to the FMA. The TER information disclosed to the FMA is used in the Fund Finder online calculator and fund comparison tool (http://fundfinder.sorted.org.nz/).

Figure 23: KiwiSaver TER fees per asset class, 2012-14 (% p.a.)



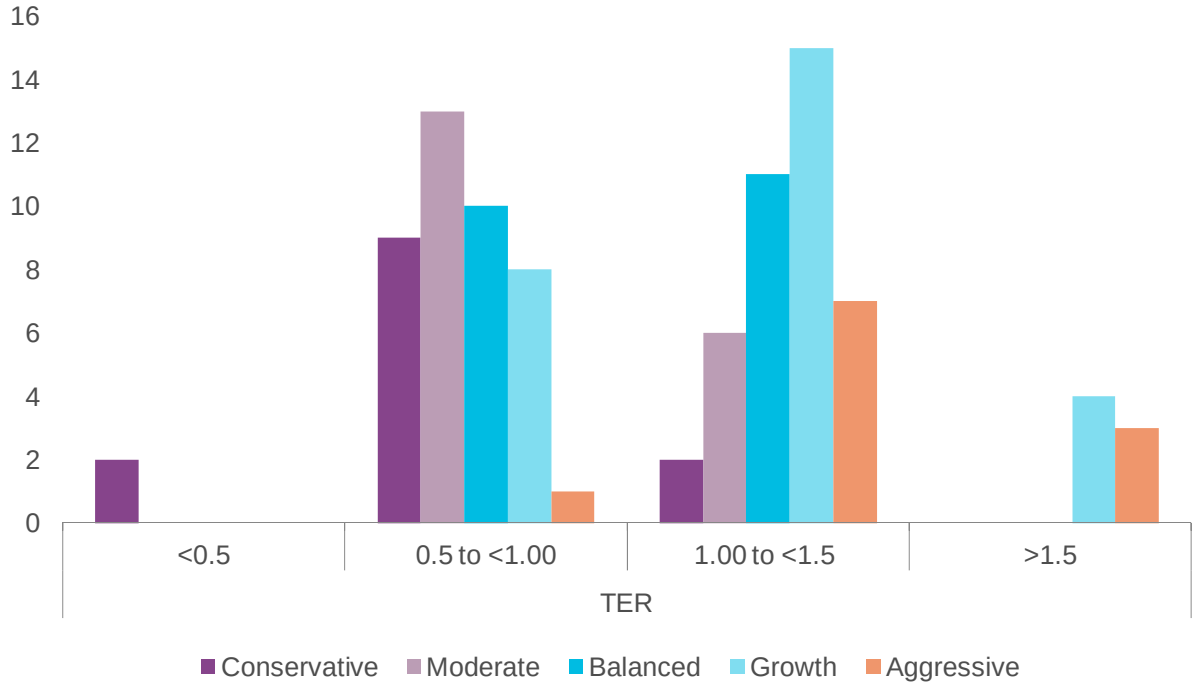
Source: Morningstar

The TER tends to increase in nominal terms in line with the amount of management required for each fund. Simple cash funds which entail little management should tend to have the lowest variable fees. In contrast, aggressive funds in theory involve more investment research costs and active management effort, and therefore have higher fees. Furthermore, the variable fees for aggressive funds seem the most volatile, which likely represents the impact of performance-based fees on total variable fees for aggressive funds.

The majority of fees range from 0.5% to 1.5%, as shown in figure 24 below. As expected, conservative funds are skewed towards lower TER values with the converse true for growth and aggressive funds. Currently there is an even split of 41 schemes in each of the middle categories. However, this data is created using the Morningstar survey which captures most but not all funds. When using the public fund manager quarterly disclosure statements (as disclosed to FMA), we see that fees are more concentrated at higher levels of TER.

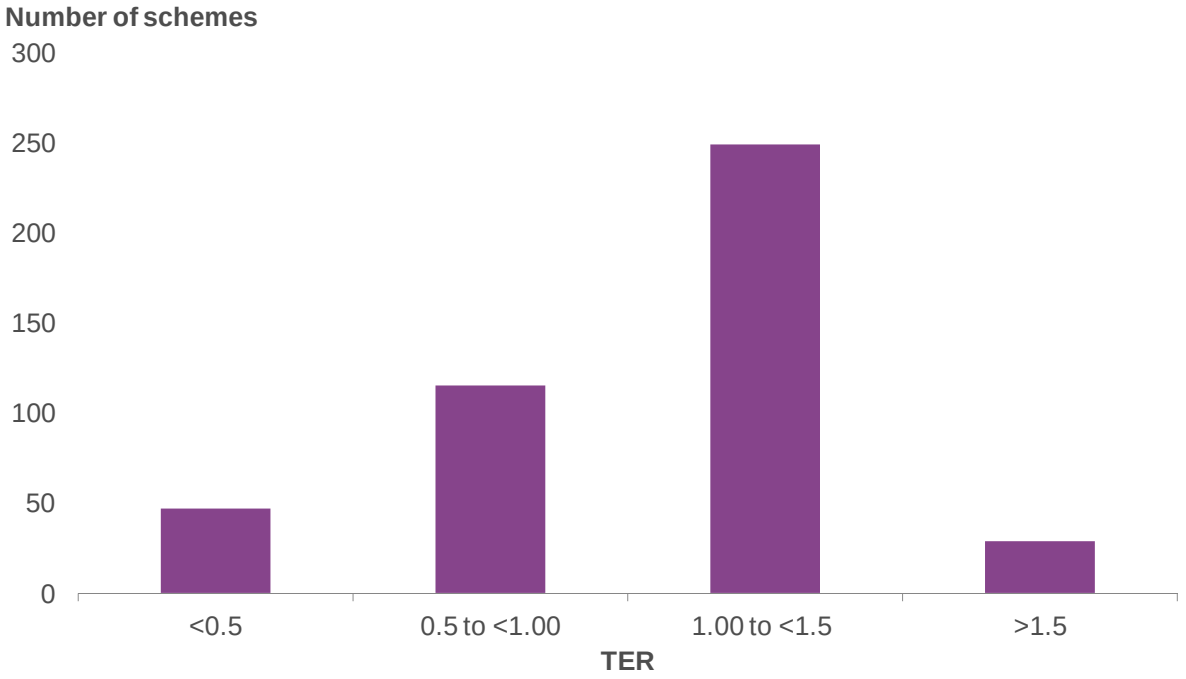
These fees are still very high compared to the mutual fund fees available to retail investors in the United States and other larger markets. The United States market should be the baseline for lowest fund costs since it is the largest mutual fund market and exposed to the largest and most liquid public securities exchanges. The current average expense ratio for the ten largest mutual funds by assets in the United States is 0.22% offered by a range of growth and income funds and dominated by passive index tracking funds offered by Vanguard.

Figure 24: KiwiSaver TER by asset class, June 2014



Source: Morningstar June 2014 Quarterly report

Figure 25: FMA KiwiSaver Fee Distribution, June 2014

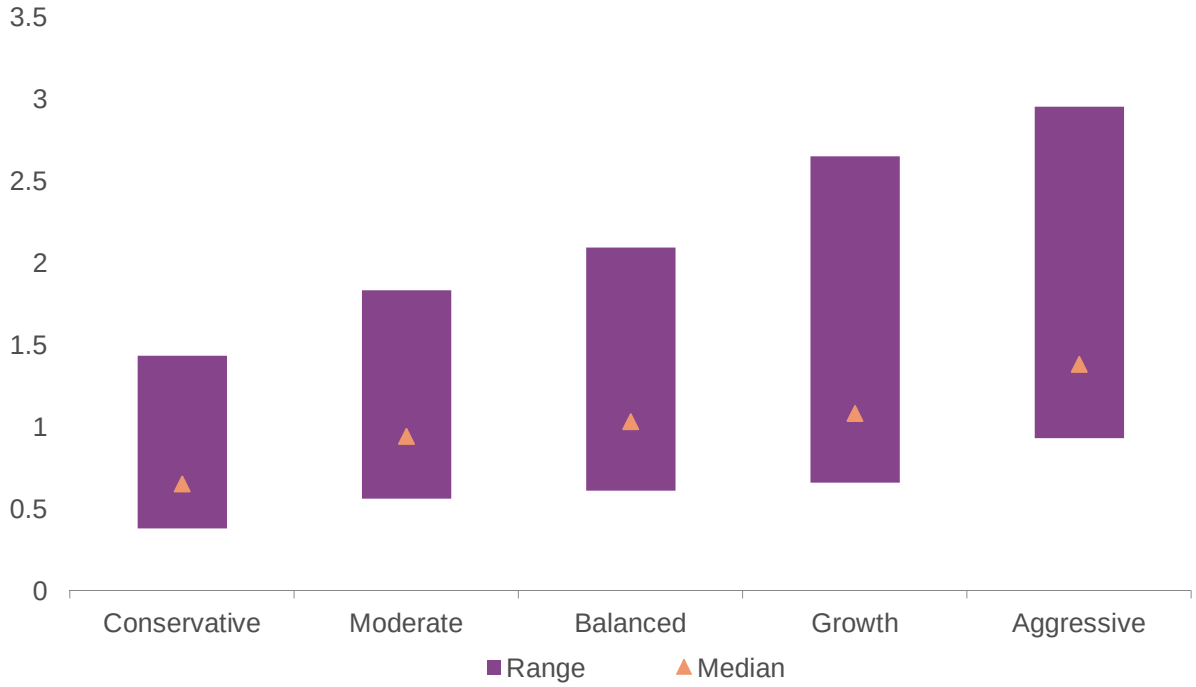


Source: Fund manager quarterly statements disclosed to FMA, June 2014

Fees within asset classes (across schemes)

However, fees within asset classes are not uniform and there are some large variances in TER between schemes in the same asset class. Figure 26 below shows that the biggest difference in fees is seen in the growth and aggressive asset classes, and the range is greater, as the risk of the asset class increases. For example, fees vary between 0.66% (ANZ Default Balanced Growth fund) and 1.99% (Staples Rodway Growth fund) in the growth asset class. Furthermore, median TER per asset class increases as the risk of the asset class increases.

Figure 26: KiwiSaver Total Expense Ratio Range per Asset class, June 2014 (%)

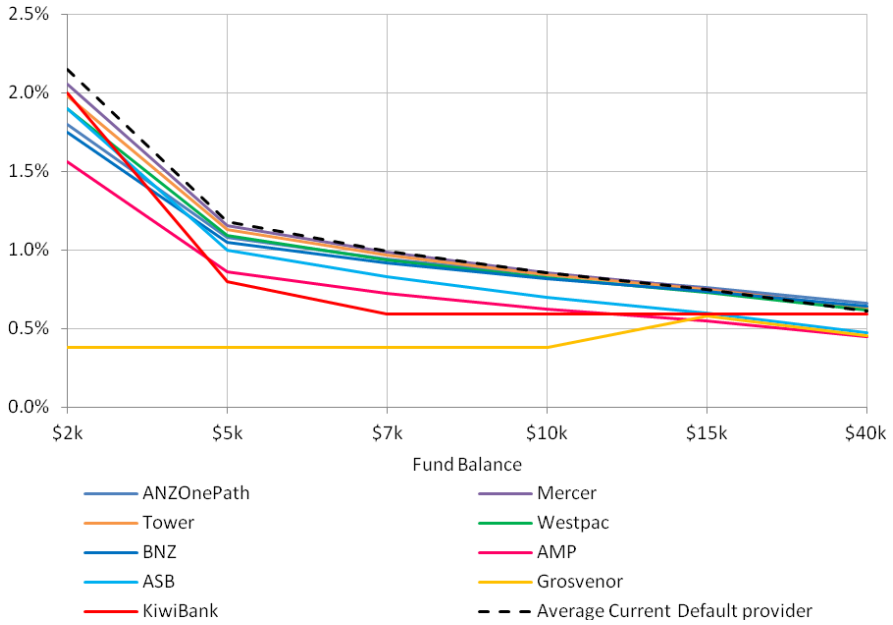


Source: Morningstar June 2014 Quarterly report

Default provider fees

Default KiwiSaver providers were appointed for a second seven-year term from 1 July 2014. The number of default schemes increased from five to nine. The Government's request for proposal for applicants for default provider status assessed applicants on the fees they charged, weighting these by 30% of the overall score. One result of the process was a lowering in the average fees for default funds. A $7,000 (around median in mid-2014) balance in the new default funds will have a total fee on average of $56 dollars a year compared to the previous average default fee of around $69. The graph below demonstrates the reduction in fees for each provider at various account balances.

Figure 27: Total annual fees (fixed plus variable) as a percentage of different fund balances as of the renewed term for default providers (1 July 2014)



Note: "Average Current Default" means the average for the **previous** (five) default providers.

Source: Treasury analysis; MBIE

4.3.2 International comparisons of fees

An international comparison of fees is useful to provide some context to the competitiveness and efficiency of the KiwiSaver fund manager market. However, a comparison of fees across countries is very complex for several reasons, which include:

- different reporting methods for fees and costs across jurisdictions
- the structure of fees, with different systems charging a range of fees
- the design of pension scheme which means that they may be required to perform different tasks in different jurisdictions
- how embedded and mature a pension scheme is in a particular country.[51]

In order to provide a like-with-like comparison of pension systems, researchers have compared the total operating costs to the assets managed in international pension systems. The total operating costs of private pension systems include all costs of administration and investment management involved in the process of transforming pension contributions into retirement benefits, which is similar to the TER methodology used in this report.[52] This methodology is adopted by the OECD to analyse the efficiency of private pension schemes.

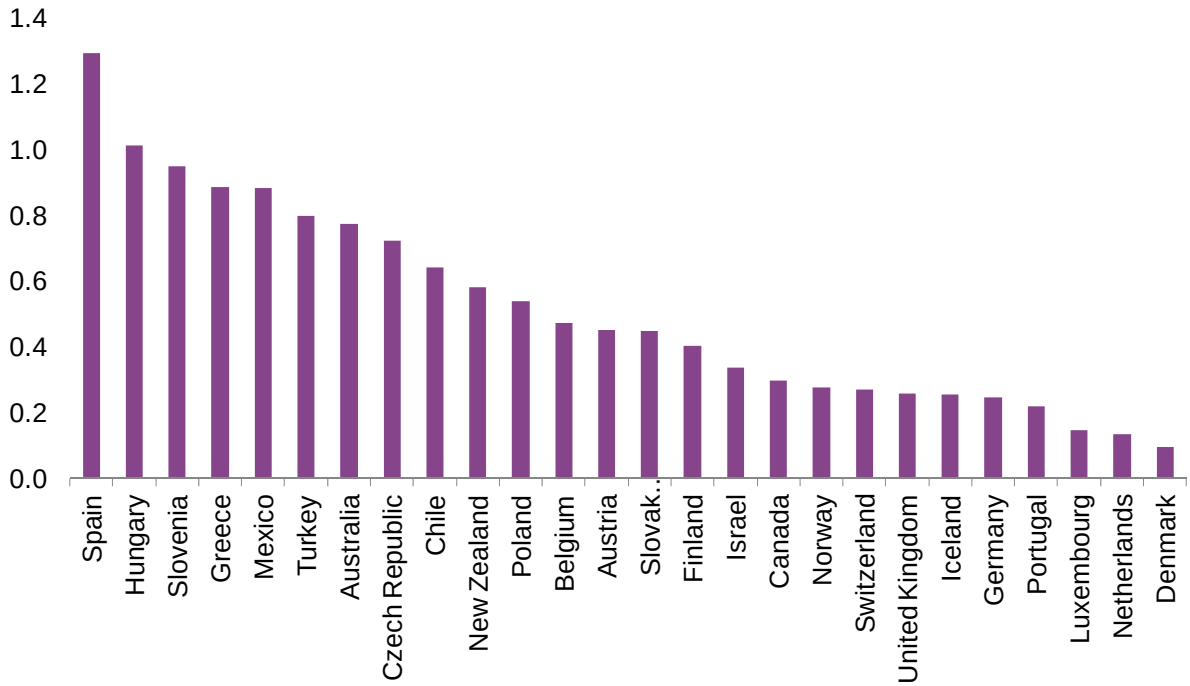
51 See Ionescu and Robles (2014).

52 In New Zealand, fund managers report one single ratio to cover all fees (TER), and this practice is not commonplace in the rest of the world. Instead the OECD incorporates all the costs of administration and investment management, which make up the bulk of fees, to gain a similar result.

The OECD data in figure 28 below shows New Zealand in the upper half of the sample countries. However, this data includes data for all the pension schemes in any particular country, thus combining DC and DB systems. This somewhat skews the results as DB systems tend to have lower fees than DC systems and thus any country with a high proportion of DB funds may be misrepresented on the graph below. DC pension schemes also tend to have higher costs than DB due to individual member accounts and more allocation to growth assets.

New Zealand's total operating costs are around the median as a percentage of total assets. Despite the limitations of comparison, this data provides a good proxy for the efficiency of the pension schemes in the country as a whole. As mentioned above, countries with defined-contribution systems and those with large numbers of small funds appear to have higher operating costs than countries with only a few funds offering defined benefit, hybrid, or collective defined-contribution pension arrangements. For instance, operating costs accounted for 1.3% of assets under management in Spain, 1.0% in Hungary, 0.9% in Slovenia, Greece and Mexico, 0.8% in Australia and Turkey, and 0.7% in the Czech Republic. On the other hand, they accounted for less than 0.3% of total assets in Germany (0.2%), Portugal (0.2%), Luxembourg (0.1%), the Netherlands (0.1%) and Denmark (0.1%).

Figure 28: Pension funds operating expenses as a percentage of total assets, 2011



Source: OECD pensions at a glance 2013

Australian fee levels

In comparison to fee levels for superannuation funds in Australia, KiwiSaver fees appear to be lower on average. The Australian Financial System Inquiry found in 2014 that the operating costs of Australia's superannuation funds are among the highest for the OECD, and a 2010 review entitled "Super System Review" concluded that superannuation fees were "*too high*". In addition, the Australian FSC (2013) FSC report found that that the overall fees for the whole superannuation industry in the year to June 2013, expressed as a percentage of assets, averaged 1.12%. This is a reduction from 1.20% in 2011. However, the Australian system more than doubled in real terms and the average fund grew six fold over the last decade, yet fees have only declined modestly and expense ratios hardly changed. Moreover, since members now have larger fund balances they are paying more than they used to as fund size has grown rapidly, whilst fees have declined slightly. Expenses per account holder rose by 50%, from $550 in 2004, to $820 in 2013 (in 2013 dollars and excluding self-managed funds). Fees per account holder rose by 51%, from about $870 in 2004 to over $1300 in 2013 (also in 2013 dollars, excluding self-managed funds).

4.3.3 Regression analysis of determinants of fees

In order to explore how KiwiSaver fund managers set prices for their funds, we carried out a statistical analysis of the relationship between fee levels and market dynamics. We examine which factors determine fee levels and the importance of those factors. In order to analyse these factors, we conducted a statistical regression. The methodology, approach, and data sources can be found in Appendix 3. We use Total Expense Ratio (TER) to capture the pricing behaviour of KiwiSaver funds. Our regression analysis looks at a number of factors that might influence pricing behaviour of fund managers to assess potential aspects of the efficiency of the KiwiSaver market.

Table 3: Summary of statistical analysis of determinants of KiwiSaver fees

Fee Determinant	Result
Fund Size	We do find evidence of economies of scale at the individual fund level. When controlling for default status, fees tend to fall as fund size increases. Also, as suggested by economic theory, the observed rate of decline in fees does tend to diminish as a fund gets larger.
Fund Family size	There is some evidence of a negative relationship between fund family (provider) size and TER, although this probably reflects the effect of lower-fee and lower cost default providers as opposed to economies of scale.
Fund one year return and KiwiSaver market return	Our analysis does find a statistically significant positive relationship between returns and fees. This supports the literature in part that suggests that higher fees are justified by higher returns.
Provider age	Similarly, we find some evidence that fees tend to reduce over a fund's lifetime, at a rate of around 3bps per annum when controlling for other factors.

Fee Determinant	Result
Type of fund	As expected, the fund type has a strong statistical impact of fees, with 'cash' funds being consistently cheaper than conservative, whilst 'balanced', 'growth' and 'other' funds are more expensive.
Default or default affiliated funds	We also see that default funds have significantly lower fees when controlling for other factors. This observation also holds, albeit not as strongly, for those other funds offered by default providers.
Whether a provider was a bank	The evidence suggests that banks offer more competitive fees when holding other factors constant.
Impact of the introduction of the fund finder calculator on the www.sorted.co.nz website in late 2013.	Finally, our results found no statistically significant effects of the introduction of fund finder calculator in late 2013 on fees, or on the sensitivity of fees to fund performance.

The results from our regression analysis are consistent with those found in other empirical studies of mutual funds and fund managers outlined in the section 4.1. As suggested by economic theory and by Zera and Madura (2001), the observed rate of decline in fees does tend to diminish as a fund gets larger but there is clear evidence of economies of scale in the KiwiSaver market. In addition, our analysis shows that fees also decrease over a fund's lifetime which is consistent with economic literature. However, a large body of academic research challenges the argument that high-fee funds are justified by superior performance and that in fact, on average, high fees lead to suboptimal outcomes on vesting.[53]

4.3.4 Non-price conduct

This section will examine other conduct, aside fees, used to attract customers. This includes fund management strategies, customer service, product innovation, branding/marketing channels, and additional offerings. It is hard to quantify the effects that these factors have on members and the competition between providers so we focus on qualitative analysis and outlining the ways in which providers are competing other than on price.

Funds management strategies

Fund managers in New Zealand that provide KiwiSaver investment management services vary in size and scale. Larger fund managers have full range of investment products on offer (ie, different investment strategies, multi and single sector funds) whereas smaller managers focus on particular niches and strategies. In order to gain an overview of the processes and philosophy applied by fund managers to over 90% of AUM, we have examined ten of the largest providers to understand investment philosophy and processes. This comprises the nine providers with default funds appointed from July 2014 with the addition of Milford Asset Management Limited. They encompass the majority of the market and investment styles. We review managers' investment philosophy, style and how they implement and structure their portfolios. The table below summarises the key findings from this exercise.

[53] See Council on Foreign Relations (2009).

Table 6: Summary of Fundamental Study of New Zealand Fund Managers

Investment Philosophy and Style	Investment Process	Risk Governance	Performance Benchmarking
• Belief in long term investing • General belief in active management • Outperformance measured against a market benchmark • Focus on cost control • Different views on adding value at asset class level versus via security selection • Different processes of fundamental analysis • Views on using external managers vary • Favour or less of home bias	• Emphasis on quality of researches • Qualitative centric versus quantitative • Most allocations adjustment actively done at asset class level • Some using active management complemented by index tracking • Currency exposure managed either actively or passively • Views on using derivatives to gain security / market exposure vary	• Risk factors identified and internal control in place: • Interest rate risk • Currency risk • Credit risk • Investee entity risk • Liquidity risk • Key person risk • Operational risk • Legislative and regulatory risk	• Returns looked at by compared to a market index or indices • Benchmarks for individual fund products not universally disclosed • Some fund managers disclose benchmarks by asset classes

As summarised in the table, New Zealand fund managers label themselves as long term investors and typically recommend a five to seven year investment horizon. We also found there is a general belief in active management either via a top-down approach (ie, asset class allocation) or a bottom-up fundamental research driven (ie, security selection) or a combination of both. However, a small number of managers put emphasis on passive investment management (ie, indexing).

Emphasis on cost control is frequently cited in fund managers' investment statements. In terms of in-house and utilisation of third party managers, the views are divided among KiwiSaver providers with some having strong belief in a value-added manager of manager approach and some focusing on managing funds in-house.

In a defined contribution plan, investment risk ultimately lies with plan members not the investment manager. All KiwiSaver providers have risk governance in place to deal with market risk, credit risk and to some extent, operation risk. There are different ways to deal with foreign currency risk. Some managers passively hedge foreign currency exposure while others take active positions.[54] It is common that KiwiSaver providers' investment performance is measured against a selected benchmark. Managers return numbers are compared to a market index or indices. Detailed findings are contained in Appendix 1.

[54] We noted that New Zealand managers' hedging decisions tend to be asset class dependent with foreign currency fixed income largely being fully hedged and overseas equities remaining un-hedged.

Default funds' strategy

Due to their prominence in the sector, we have undertaken a closer review of the nine default funds. These nine default funds account for 25% of total KiwiSaver AUM and 20% of KiwiSaver members. The table below gives a summary of the structure of those providers with default funds.[55]

Table 7: Default Providers' KiwiSaver Business Model

Default Provider	Default Scheme	Default Investment Product (Portfolio)	Multi-manager for Default Product	Fund of Funds Products within Scheme
AMP	AMP KiwiSaver Scheme	AMP Default Fund	N	3
ANZ	ANZ Default KiwiSaver Scheme	the Conservative Fund	N	N
ASB	ASB KiwiSaver Scheme	the Conservative Fund	N	N
BNZ	BNZ KiwiSaver Scheme	the Conservative Fund	Y	N
BT Funds	Westpac KiwiSaver Scheme	the Defensive Fund	N	N
Fisher	Fisher Funds 2 KiwiSaver Scheme	Fisher Funds 2 KiwiSaver Scheme Cash Enhanced Fund	Y	N
Grosvenor	Grosvenor KiwiSaver Scheme	Default Saver Fund	N	N
Kiwibank	Kiwi Wealth KiwiSaver Scheme	Default Investment Portfolio	Y	N
Mercer	Mercer KiwiSaver Scheme	Mercer KiwiSaver Conservative Portfolio	N	3

Most default providers manage their default schemes in-house. However, BNZ, Fisher and Kiwibank use external managers, with BNZ's manager being completely outside BNZ (Russell).[56] AMP and Mercer both offer fund of funds products within their KiwiSaver schemes. Quarterly disclosure data reported to FMA suggests the fund of funds investment model tends to be the most 'expensive' option among KiwiSaver funds. The data suggests annual fees for fund of funds products are approximately 50 basis points per annum more compared with in-house funds.

[55] In terms of the actual management of KiwiSaver investments, there are three operational levels, namely, provider, scheme and product level.

[56] Being a bank provider with a relatively less established investment function, BNZ uses Russell Investments as external manager for its default KiwiSaver product. Fisher and Kiwibank on the other hand having third party mangers are largely due to corporate internal arrangements.

Customer service

The service that providers offer investors is important and can be used as a way to compete with other firms. Both Canstar and the Fund Finder online tool acknowledge the service offered as a way to differentiate between provider offerings. The Fund Finder tool evaluates the quantity of services offered whilst Canstar weights the features as 30% of their final classification of a fund rating. The following table offers an indication of what is required to achieve a top five star rating from Canstar.

Table 8: KiwiSaver customer service – characteristics of Canstar five star rated providers

Provider	Rationale
ASB	• Full online application • Mobile app • Detailed educational material through its website and YouTube videos
BNZ	• Ability to apply online • Account information accessible through BNZ internet banking • Ability to convert Fly Buys points into contributions
Grosvenor	• Large number of investment options • Complimentary financial advice
Kiwibank KiwiWealth	• Full online application • Monthly return statistics • Easy-to-use mobile app • Large number of financial advisors available free of charge
Mercer	• Ease-of-use and capability of online platform • Online retirement planning tool
NZX Smartshares	• Easy to navigate website • Questionnaire to help members find their ideal KiwiSaver scheme • Account accessible online and ability to view current account balances

Source: Canstar ratings report 2014

Product innovation

There have been some innovations in the market in which some providers use to differentiate themselves. The first of these is the introduction of 'life-cycle' schemes which that automatically allocate and adjust fund choice based on age over time. Sustainable and ethical investment choices have developed as an alternative choice for investors over time growing from one in 2007 to six in 2012. Passive or index tracking investment options have grown in significance in the market with ASB, Superlife and Smartshares Smartkiwi (the latter two now both part of the NZX group) offering lower fees. A final product innovation by Craigs Investment Partners gives investors the ability to individually select from a wide range of funds, often with single assets as investments, which comes close to a self-managed fund.

Branding and marketing channels

Providers with a physical presence actively market their schemes through branch networks, as we note above in respect of the major banks. Banks and other non-specialist KiwiSaver providers bundle other financial products such as mortgages or life insurance with KiwiSaver. This cross-selling tactic provides a competitive advantage for firms which offer a range of financial products.

Financial advisers

Under the Financial Advisers Act 2008, advisers have certain disclosure and suitability of advice requirements to comply with. It appears from data collected by FMA that independent financial advisers are not significantly influencing the enrolment rate of KiwiSaver members. FMA analysis suggests that most new enrolees (four out of five) enrol via banks with the remainder mostly joining via other financial services firms.[57] These entities are generally registered with the FMA as 'qualifying financial entities' (QFEs) under the Financial Advisors Act. This means that employees of the firm can give class and personalised advice to investors in respect of KiwiSaver products provided or promoted by that QFE without being individually registered as an adviser.

There is an inherent principal-agent problem with financial advisers and the commission model used to remunerate advisers. Financial advice regulation seeks to ensure that the negative consequences of the mismatch of incentives between adviser remuneration (usually paid by the fund provider) and the best interests of the client are minimised. The data suggests that the role of independent financial advisers is minimal in new enrolments in KiwiSaver and therefore that competitive pressure from financial advisers using their comparative advantage at selecting the most optimal fund on the basis of risk, return and cost (fees) also appears to be minimal. The forthcoming Government review of the Financial Advisers Act is expected to review the role of advisers as intermediaries for KiwiSaver fund products.

Additional offerings

Providers may use a range of additional offerings to entice investors into having a KiwiSaver account with them. An example of this is offering a linked accidental death benefit alongside a KiwiSaver account, as an additional feature of the provider's offerings and to distinguish itself from other competitors. In addition some providers offer investors the opportunity to extend their savings to include non-KiwiSaver savings and take out insurance to meet their insurance needs. Some providers allow airline loyalty scheme points to convert to contributions.

[57] FMA (2015) KiwiSaver enrolment data, unpublished.

4.4 Financial performance of KiwiSaver fund managers

Excessive profits by firms in a market are an indication of a lack of competition. We reviewed, as a case study, the six largest providers by AUM. We analysed the profitability of these firms using net profit margin and return on assets (ROA) ratios. Net profit margin and ROA provide a comparative and accurate analysis of the levels of profitability in the market, due to their simplicity and wide spread acceptance.[58] Ideally this analysis could have been completed using economic value add rather than book value because asset values of fund managers bear little relationship to the economic capital invested in the fund manager. Additionally, we were limited by data availability on performance of subsidiary fund manager entities within financial institutions.

We produced net profit margin and ROA ratios using the respective KiwiSaver providers' asset manager annual report data. There are possible deficiencies in this data as it is not always possible to accurately attribute the profits identified directly to the particular asset manager's KiwiSaver business unit (and these could be attributable to other lines of business within the asset manager). Only one provider – ASB – separates its different asset management revenue streams to reveal that 67% of the fee revenue received by ASB Groups investment limited is attributable to KiwiSaver.[59] That same share of revenue may not be replicated among all six providers we analysed.

Additionally, it is not possible to compare all asset managers due to differences in size and revenue streams. As a result, the ratios we have produced below may not be a fair comparison and are indicative only. A final issue is that this analysis is static in the sense that it only examines the most recent annual report, and thus it may not represent the true profitability of these firms over time. Despite all of these limitations, the analysis is the best possible with publicly available data and is still useful as a proxy to gauge the profitability levels of the wider funds management market, which KiwiSaver undoubtedly plays a growing role in. We have tested these findings directly with fund managers in interviews. The methodology and results are presented and discussed in full in Appendix 4.

4.4.1 Profitability of the six largest providers

We reviewed the profitability of six largest KiwiSaver providers as far as possible by determining their net profit margin and ROA for one year – ending 30 June 2014. We also compared these to the international funds management firms IOOF, Aberdeen and Blackrock.[60]

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58 The return on assets ratio was chosen over return on equity as it better captures the economic capital that has been invested and the return it is generating, and it is independent of the capital structure of the providers - many of which are wholly-owned subsidiaries.

59 ASB Group Investments Annual Report (2013).

60 Blackrock has been chosen as it is the world largest asset manager; Aberdeen as it is a moderate size asset manager, with a specialist pension arm; and IOOF as it is a comparable Australian firm. Harbour Asset Management was also chosen as it is a small local New Zealand Asset management company so it provides some domestic context.

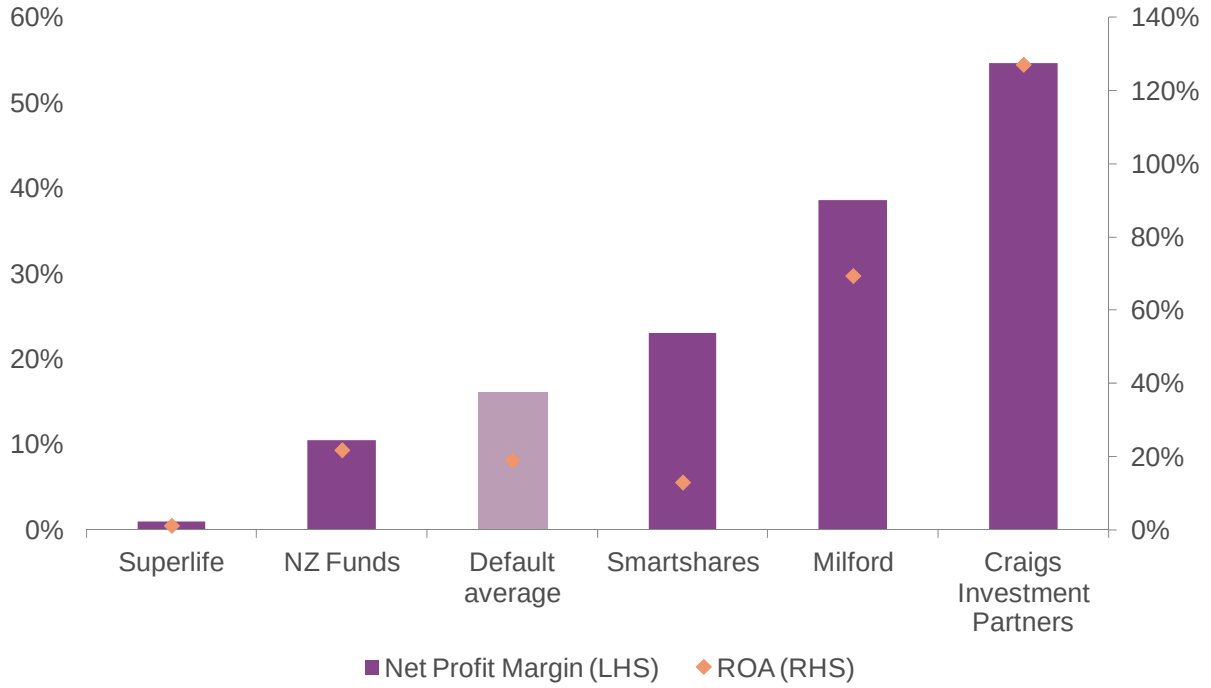
Overall, there is a lot of variance in the net profit margins of the six firms examined. ANZ, Fisher and Westpac all appear to have very high profit ratios in excess of 25% while AMP, ASB and Mercer had a much lower ratio of around 7%. On closer inspection, it may be that high costs are a reason for lower ratios for AMP, ASB and Mercer. For example, ASB spent six times as much on distribution expenses year on year than the year previous.

ROA appears to be less variable among all six firms reviewed. Our analysis suggests that New Zealand's KiwiSaver managers are not as profitable on average as the selected international asset managers. Although the large international asset managers Blackrock and Aberdeen in the UK have a higher average net profit margin, three of the largest six KiwiSaver providers have similar net profit margins.

4.4.2 Profitability of default providers vs rest of market

We have also attempted to compare the levels of profitability of default providers with a selection of other firms chosen to capture different aspects of the market. Figure 29 below shows the average net profit margin and ROA of the nine default KiwiSaver providers with other participants in the market.

Figure 29: Default provider profitability compared to a selection of the rest of the market



Source: Fund manager annual reports and Treasury analysis

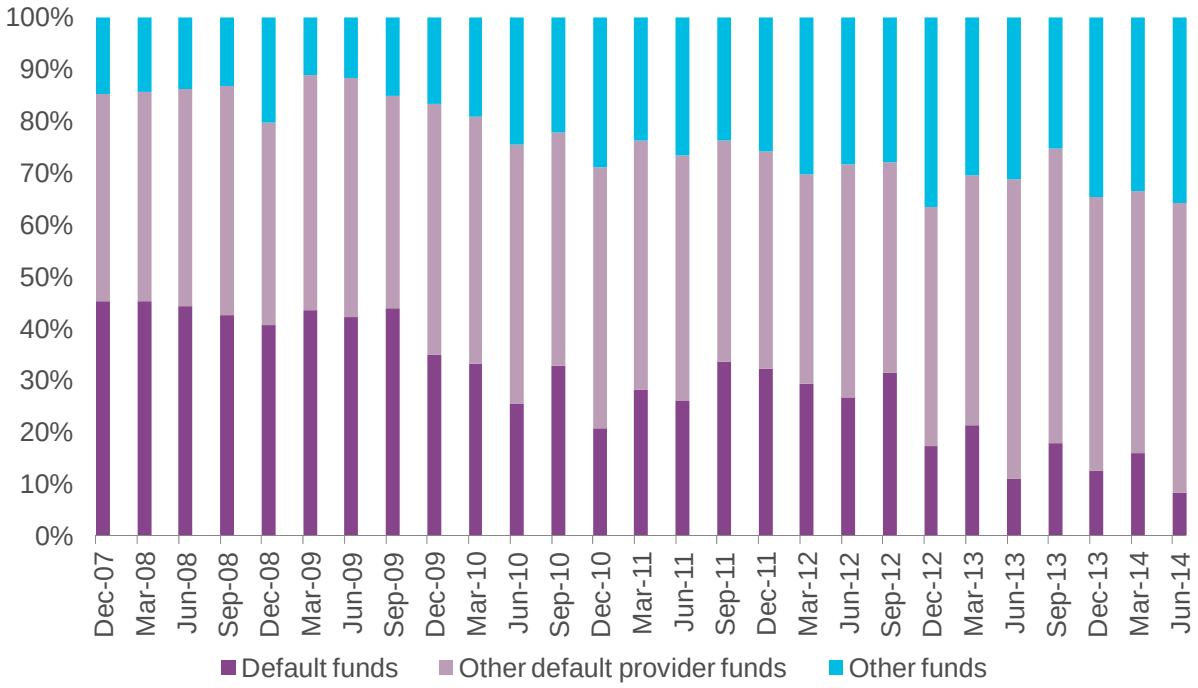
There are varying levels of profitability in the rest of the market once the nine default providers have been excluded. It is important to note that these firms are a lot smaller in terms of AUM and membership levels. However, providers such as Milford, Smartshares and Craigs Investment Partners have all found ways to be profitable. These providers appear to take a niche approach and thus may be capturing customers and funds under management which the larger default providers are missing. This also illustrates that there is an element of contestability in the market, despite the market being moderately concentrated.

4.4.3 Member flow and fund flow

An alternative way to assess fund performance is by looking at the how successful funds are in attracting new members and new funds to their scheme. Performance in terms of attracting additional funds (immediately and in the longer term as new members make contribution) increases the fee revenue funds are able to generate, and in turn their profitability.

For example, figure 30 below displays the performance of different types of funds in terms of their share of total fund flow (net change in AUM in a given period).[61] In the earlier years, default funds and other funds offered by default providers captured a large portion of funds entering the KiwiSaver market. Over time, however, non-default providers have increased their share of fund flow, suggesting they have posed an increasing competitive threat against the default providers. While the introduction of additional default providers in July 2014 may weaken the competitive pressures from non-default providers, heightened competition between default providers would be expected.

Figure 30: Market share of aggregate KiwiSaver fund flow by fund type (June year-ends)



Source: Fundsource, Treasury analysis

4.4.4 Regression analysis of the determinants of success for KiwiSaver funds

To provide a more comprehensive analysis of the factors determining fund performance, we conducted a statistical analysis of the determinants of fund flow for individual KiwiSaver funds. We tested whether default status, bank or non-bank status and other variables matter for the growth of the flow of funds to KiwiSaver schemes' funds. Fund flow was used as a proxy for

[61] The data for when the new default providers came into force was not available at the time of analysis. In addition, other default provider funds are additional funds offered by a provider that also offers a default fund.

how successful a fund is obtaining savings from existing members, new members, and members in other funds. The data sources, methodology and full results are contained in Appendix 2.

The only equivalent study of KiwiSaver fund managers and investor behaviour is by Matthews and Thomas (2014) which evaluated early KiwiSaver data to draw insights on investor behaviour. They find that KiwiSaver members are like other investors and appear to chase performance and seek to avoid fees. They find a negative relationship between bank ownership and fund flow, which is surprising considering the ability of banks to utilise their extensive branch network, customer base and ability to package their KiwiSaver product with other financial products. Similarly, the lack of advantage for default providers was surprising and they argue should be taken into account during the review of default providers which occurred in 2014.

The statistical analysis is presented below:

Table 9: Summary of statistical analysis of determinants of KiwiSaver fund flow

Fund Flow Determinant	Result
Fund and Provider Size	There is some evidence that size matters for generating fund flow. When controlling for other factors, larger providers have significantly larger fund flow. This does not appear to be attributable to the fact that large provides also tend to be default providers and/or banks. At the level of individual fund, however, we see a significant negative relationship between fund size and fund flow. This most probably reflects the observed trend that fund flow (in percentage terms) declines over time as funds get larger.
Fee levels	Our analysis did not show any significant relationships between fees and fund flow which suggests that consumers may not be price sensitive.
Fund one year return and KiwiSaver market return	In addition, there was also no evidence of 'churn to return' (customers changing funds following a 'good' or 'bad' year by a fund); however, results suggest that the market return is positively correlated with an increase in fund flow. This suggests that higher KiwiSaver returns may encourage members to contribute more.
Provider age	Results showed a clear pattern that fund flow decreased as firms aged, although this was expected due to fund flow in percentage term decreasing amount as AUM builds up over time.
Type of fund	Our regression analysis found that '*cash'* funds and '*other'* funds (mainly single-sector funds) experience significantly lower fund flow relative to other types of funds.
Default or default affiliated funds	There is no statistically significant relationship between being a default fund and fund flow, which is surprising given that these funds are automatically allocated default members. We also find that funds that are offered by a default provider actually have significantly weaker fund flow overall. In other words, we don't see evidence of default providers benefiting from the opportunity to 'up sell' members to their other funds.

Fund Flow Determinant	Result
Whether a provider was a bank	Moreover, there was no statistically significant advantage from being a bank, although the observed relationship was positive.
Impact of the introduction of the fund finder calculator on the www.sorted.co.nz website in late 2013.	There was no statistical evidence that the introduction of fund finder in late 2013 had any impact in terms of a closer relationship between fees and fund flow. However, evidence does suggest that the introduction of Fund Finder helped to increase the sensitivity of fund flow to past returns.

To sum up, certain aspects of our findings are consistent with Thomas and Matthews (2014) in observing an insignificant relationship between being a bank or default provider and generating greater fund flow. However, our analysis did not find any significant relationships between fees and fund flow, disputing the findings that members are trying to avoid fees. In addition, we did not find evidence of members chasing returns. Finally, there was some evidence that size matters for generating fund flow, when controlling for other factors.

4.5 Concluding remarks

This section has examined the productive efficiency of the KiwiSaver market through a number of different approaches. Overall, we find that the KiwiSaver fund manager market appears to be operating in an efficient manner with no clear evidence of any lack of competition or contestability. Fee levels for KiwiSaver, measured with reference to the OECD's operating expense ratio data, are in the upper third of comparator countries. KiwiSaver fees are generally lower than Australian superannuation fees; however those fees are notoriously high. Barriers to entry are not significant enough to prevent contestability. Government interventions in the default provider market have not limited competition in a noticeable manner and have lowered fees. However, it appears that consumer demand is not motivated by fee levels of funds; rather, demand appears to follow returns and larger fund size. This may change as levels of financial literacy and information rise – eg, as the FundFinder comparison tool becomes more popular. Qualitative observations on the product innovations and marketing efforts of managers, in particular the large banks, reveal that competition between firms for market share is varied, innovative and robust. There is some risk that the large banks which have grown to dominate KiwiSaver could reduce contestability since major banks in New Zealand already operate in a highly concentrated retail banking market. However, at present, bank ownership of funds is associated with lower fees. We found some evidence of high, but not excessive profits on the basis of limited, static analysis. Improved visibility of KiwiSaver provider accounts in group financial statements would make profitability analyses much easier.

The importance of economies of scale to the funds management industry and how this will affect KiwiSaver cannot be understated. As KiwiSaver funds grow in assets, we expect that fund managers will experience proportional cost savings. These savings from economies of scale should be passed on to consumers as lower fees, providing that similar levels of contestability exist as is the case at present. Over time, policy makers will have to closely monitor the passing on of the benefits of economies of scale and ensure levels of contestability remain as the KiwiSaver market is trending toward greater concentration.

5 KiwiSaver Investment Performance and Asset Allocation Review

As outlined above, the composition of household balance sheets has changed with the growth in saving via KiwiSaver. Reserve Bank data shows that saving in financial assets via mutual funds has grown as KiwiSaver has also grown. Total assets in KiwiSaver funds are still relatively small in comparison to banking system assets, however at an aggregate level, are reaching the levels of the holdings of the Crown financial institutions NZSF and ACC. The proportion of KiwiSaver in household balance sheets is also relatively small. However, the forecast rate of growth of KiwiSaver from contributions and returns means that financial assets – chosen by KiwiSaver fund managers – will represent an ever larger share of household's balance sheets over time.

The implications for public economic policy of increased household wealth held in this institutionalised system are numerous. The increased (re-)allocation of saving to KiwiSaver has consequences for the risk profile of New Zealand households and wider macro-economic implications as a larger share of saving is intermediated via fund managers rather than banks or direct investment by households. The data on households' holding of equity capital in unincorporated entities (such as farms and private SME ventures) or loans to the same have only recently been captured as estimates in the national accounts. Therefore it is difficult at this stage to accurately measure changes in household saving and investment patterns.

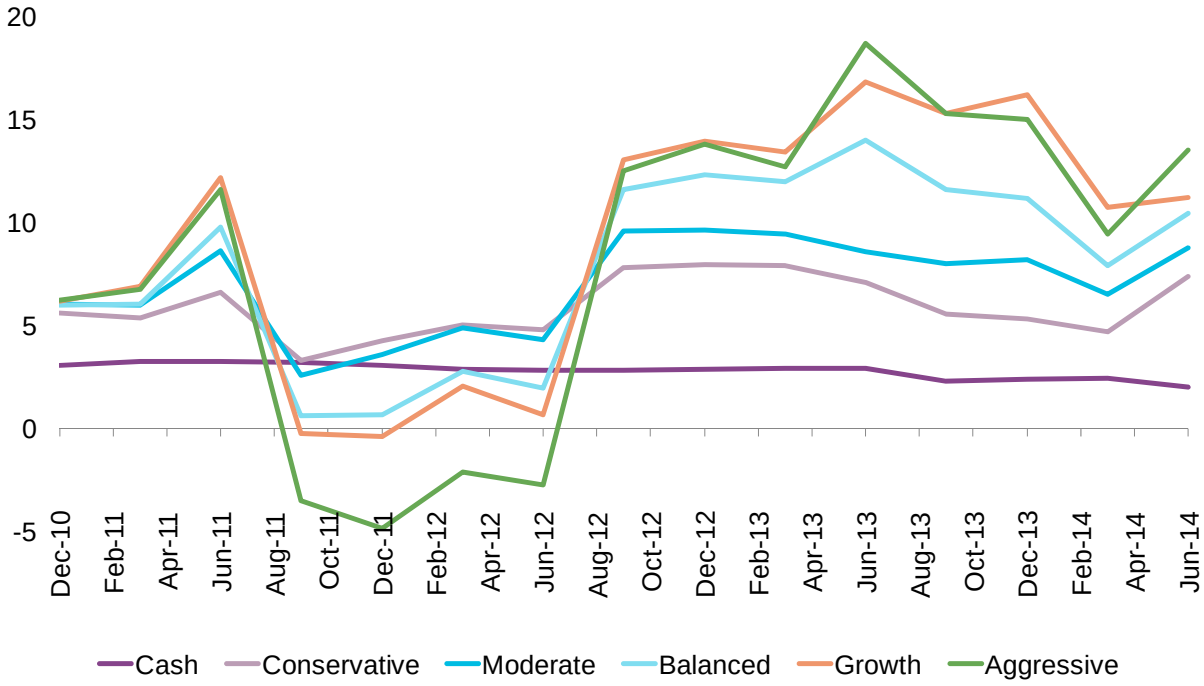
Furthermore, a greater exposure to mutual funds and financial assets means that returns or capital growth from assets for households are to an ever greater extent linked to the performance and decision making of institutionalised mutual funds managed by KiwiSaver fund managers.

This section of the review is focussed on analysing the aggregate performance of KiwiSaver and the asset allocation of KiwiSaver fund managers. We compare KiwiSaver to benchmarks and the performance of Government financial institutions. We review the overall allocation of KiwiSaver assets, examining the split of domestic and overseas assets and observable trends. We also review the allocation of savings across asset classes, making international comparisons where appropriate.

5.1 Returns and performance of KiwiSaver funds

KiwiSaver providers' separate funds range from low-risk cash funds to higher-risk aggressive funds. The volatility of returns of asset classes follows orthodox financial theory – funds with greater exposure to growth assets such as equities exhibit greater volatility of returns than funds with exposure to cash and fixed income assets. Figure 31 below displays how returns have differed across these asset classes over time.

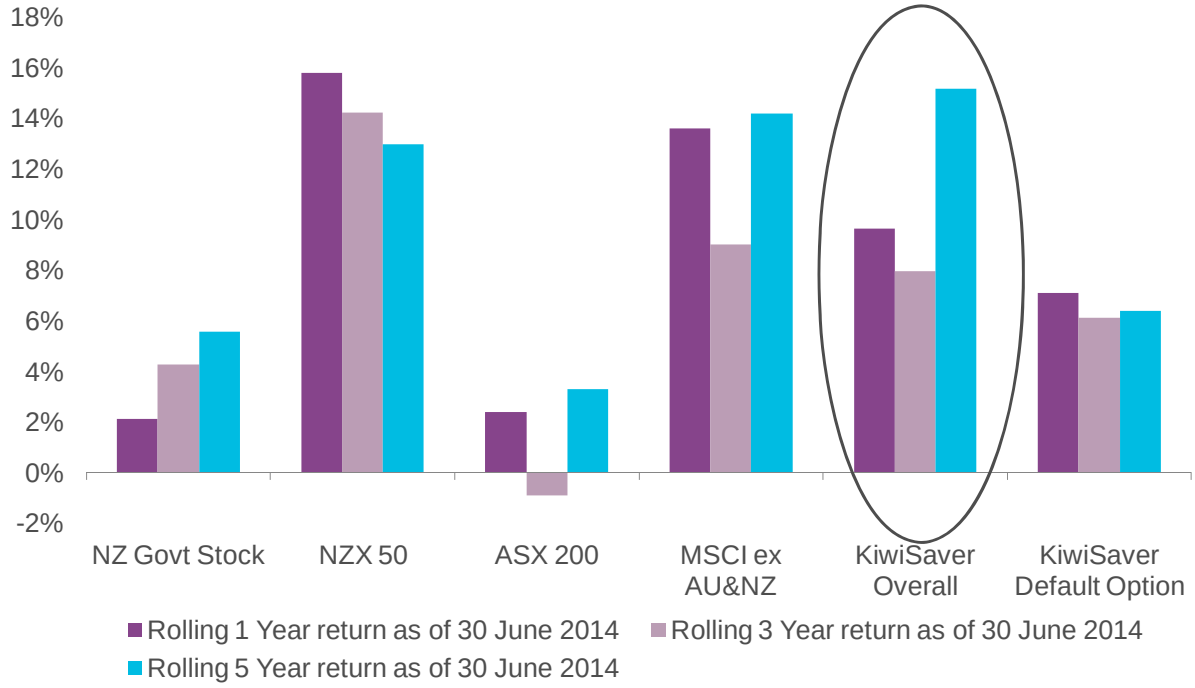
Figure 31: Annual percentage return of KiwiSaver funds by asset class, 2010-2014



Source: Morningstar, Fund managers' quarterly statements disclosed to FMA

The investment returns of KiwiSaver in aggregate and the KiwiSaver default funds[62] as of 30 June 2014 are compared to a selection of market indices.

Figure 32: Historical performance - KiwiSaver and selected market indices



Source: Bloomberg, Morningstar and FundSource

[62] Default funds are required to have a high proportion of funds invested in bank deposits and fixed interest investments, and a lower proportion invested in growth assets.

KiwiSaver risk return analysis

In the following we review performance of KiwiSaver funds and use surveyed KiwiSaver fund return data to measure KiwiSaver funds' historical performance and risk profile. We have used one, three and five year past returns in the review. The following table offers an overview of historical return and risk profile of the KiwiSaver funds by sector type (such as defensive, conservative, balanced, growth and aggressive). We examine funds by sectors in order to compare and analyse funds of similar risk return characteristics. Assessing sectors is appropriate as it is consistent with the fund manager's quarterly disclosure statement classifications, the FundFinder calculator grouping of funds and academic reviews of funds' performance. We adopt FundSource's classification of fund type. Returns are after fees:

Table 10: Return and standard deviation[63] by fund Type to 30 June 2014

	1 Year		3 Year		5 Year	
Fund Type	Return*	Std Deviation	Return*	Std Deviation	Return*	Std Deviation
Default funds	7.18%	1.65%	6.16%	1.90%	6.48%	1.96%
Conservative funds	6.45%	1.93%	6.22%	2.29%	6.67%	2.38%
Balanced funds	10.49%	3.49%	8.77%	4.60%	9.30%	4.99%
Growth funds	12.29%	4.70%	9.90%	6.62%	10.73%	7.25%
Single sector fund - Cash	3.03%	0.09%	2.94%	0.13%	3.01%	0.18%
Single sector fund - Fixed income	3.89%	1.53%	4.50%	2.02%	5.49%	2.25%
Single sector fund - Equity	13.72%	7.41%	9.60%	9.39%	11.08%	10.04%
Single sector fund - Property	15.99%	7.17%	12.01%	9.05%	16.77%	11.18%
Other types	15.18%	3.14%	4.05%	18.00%	10.10%	15.48%
Overall	9.65%	3.54%	7.96%	4.87%	15.18%	5.02%

Note: * Average annualised

Source: FundSource

We aggregate individual funds' returns to sector funds level (weighted average) and compare these against a chosen diversified composite index as a benchmark. As we do not know each individual fund's targeted asset allocation, it is necessary to customise benchmarks that best reflect the underlying funds' risk return profile. Construction of these composite benchmarks is somewhat arbitrary, however, the intention is to follow market convention and to choose from indices which a New Zealand-based investor can have ready access to. For cross comparison, based on the underlying funds' investment strategies, three generic benchmarks are constructed as below:

*The Diversified **Defensive** Composite Index is constructed using the following indices and weightings:*
NZX 90 Day Gross - 37.5% ANZ NZGS Gross - 37.5% NZX 50 Gross - 12.5% MSCI World Gross - 12.5%

*The Diversified **Balanced** Composite Index is constructed using the following indices and weightings:*
NZX 90 Day Gross - 25% ANZ NZGS Gross - 25% NZX 50 Gross - 25% MSCI World Gross - 25%

*The Diversified **Growth** Composite Index is constructed using the following indices and weightings:*
NZX 90 Day Gross - 12.5% ANZ NZGS Gross - 12.5% NZX 50 Gross - 37.5% MSCI World Gross - 37.5%

63 As a commonly used risk metric, standard deviation is an absolute measure of risk. It measures dispersion around a central tendency (ie. an investment's average expected return within a certain period of time). For KiwiSaver investors though, there is another important risk (ie. uncertainty) being the likelihood of meeting his or her retirement income goal at the time of retirement when KiwiSaver savings are drawn upon.

When aggregate sector funds' returns after fees are compared against their corresponding benchmarks, value add by fund managers is not evident. Underperformance appears neither be asset class or time period dependent. Only in the case of the default funds' one-year and balanced funds' three-year returns do these funds outperform the chosen benchmarks. Aggressive funds in aggregate have performed most poorly relative to benchmarks.

Table 11: Historic returns of aggregate KiwiSaver sector funds relative to chosen benchmarks

	1 Year	3 Year	5 Year
Conservative Funds Weighted Average Rtns	6.66%	5.99%	6.39%
Diversified Defensive Composite Index	6.74%	6.06%	6.81%
Difference	-0.08%	-0.07%	-0.42%
Default Funds Weighted Average Rtns	6.92%	5.98%	6.32%
Diversified Defensive Composite Index	6.74%	6.06%	6.81%
Difference	0.18%	-0.08%	-0.49%
Balanced Funds Weighted Average Rtns	10.69%	8.64%	8.94%
Diversified Balanced Composite Index	11.14%	8.58%	9.40%
Difference	-0.45%	0.06%	-0.46%
Growth Funds Weighted Average Rtns	13.90%	10.94%	10.92%
Diversified Growth Composite Index	15.67%	11.10%	11.96%
Difference	-1.77%	-0.16%	-1.04%

This concurs with the findings of Frijns and Tourani-Rad (2013). By using risk-adjusted performance metrics, the authors found there is no evidence of systematic outperformance of KiwiSaver 'growth' funds, and "*in several cases there is evidence of systematic underperformance*."[64]

Turning to single sector funds the performance is more mixed. Single sector funds invest in a single asset class (eg, equities, bonds or cash only). Single sector funds have outperformed the chosen benchmarks in many cases. Fixed interest and cash sector funds have tended to perform poorly relative to benchmarks over the longer timeframes.

Table 12: Aggregate single sector KiwiSaver funds performance relative to chosen benchmarks

	1 Year	3 Year	5 Year
Equity Funds Weighted Average Rtns	14.98%	9.84%	9.37%
MSCI World (NZD)	11.22%	10.36%	9.01%
Difference	3.76%	-0.52%	0.36%
Cash Funds Weighted Average Rtns	3.04%	2.66%	2.64%
ANZ 90 Day Bill	2.83%	2.76%	2.83%
Difference	0.21%	-0.10%	-0.19%
Fixed Int Funds Weighted Average Rtns	3.12%	3.69%	3.96%
ANZ NZGS Gross	2.12%	4.28%	5.55%
Difference	1.00%	-0.59%	-1.59%
Property Funds Weighted Average Rtns	15.34%	13.25%	17.22%
NZX Property Gross	7.83%	11.57%	13.40%
Difference	7.51%	1.68%	3.82%

Source: FundSource and Treasury calculation

[64] Frijns and Tourani-Rad (2013).

KiwiSaver performance relative to NZSF, ACC and GSF

From a public policy perspective, KiwiSaver is intended to assist individuals in smoothing consumption over their lifetimes by facilitating saving during working life for future consumption. Present day income is deferred to meet future liabilities. At an aggregate level, KiwiSaver has similar characteristics to the New Zealand Superannuation Fund (NZSF), Accident Compensation Corporation (ACC) and the Government Superannuation Fund (GSF) in that Government savings are invested over a long investment horizon to meet future liabilities. Therefore, some comparisons can be drawn between the aggregate performance of KiwiSaver relative to the respective investment portfolios of the NZSF, ACC and GSF.

There are asset allocation differences between the different entities, with stated reference allocations varying. KiwiSaver at an aggregate level is notable in having 56% of capital in income assets and 44% in growth. The Government financial institutions all state that their reference allocation has a majority of capital in growth assets (actual allocation may vary) and this is discussed in more detail below.

We find that over a one, three and five year period, aggregate KiwiSaver funds' performance was mixed in comparison to ACC and GSF, but outstripping both over a five-year horizon. The NZSF has outperformed KiwiSaver over all periods.

Total Returns	1 Year (%)	3 Year (%)	5 year (%)
NZ Superannuation Fund	19.4	15.0	17.0
ACC Investments	6.2	8.2*	10.0
Gov Superannuation Fund	14.3	10.4	11.7
KiwiSaver Overall	**9.7**	**8.0**	**15.2**

*March 2014

Source: NZS, ACC, GSF and FundSource as of June 2014

5.2 KiwiSaver asset allocation

In this section, we examine the overall allocation of assets in KiwiSaver by asset class and investment strategy over a five year period.

Asset classes

Figure 33 below shows the overall KiwiSaver asset allocation from December 2009.[65] The following general observations on KiwiSaver asset allocation can be made:

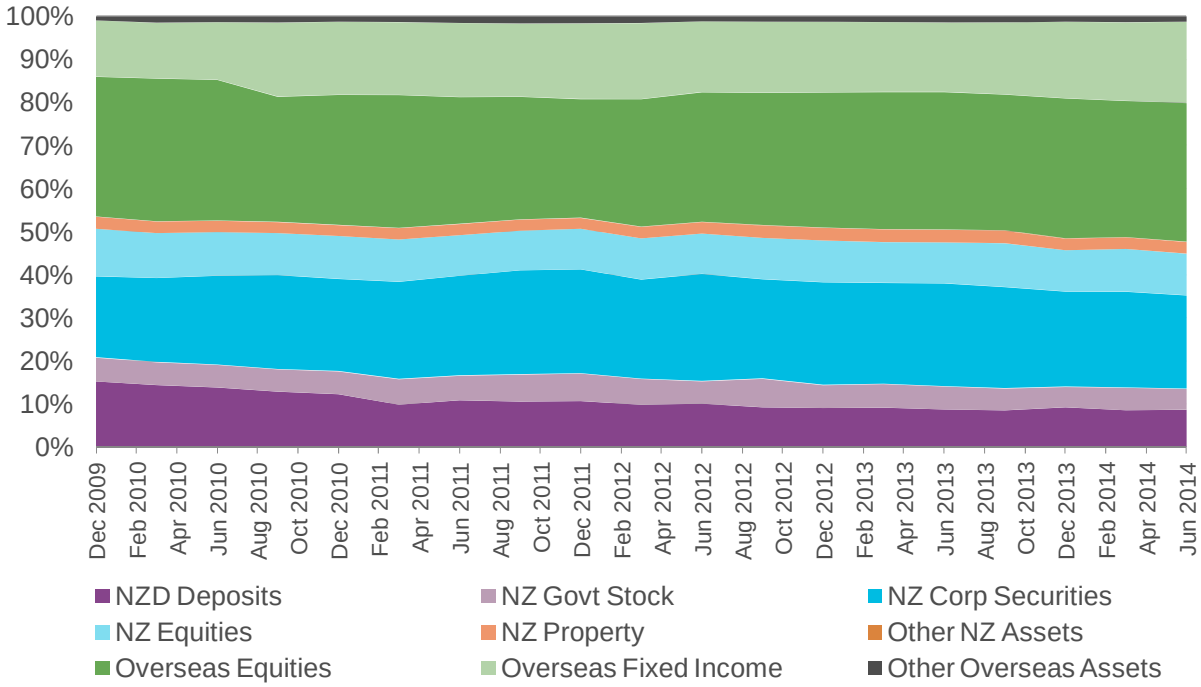
- less cash and cash equivalents are currently held as an asset class
- allocation to New Zealand's domestic fixed income market has somewhat increased over time
- more KiwiSaver funds are being invested into New Zealand corporate securities
- more KiwiSaver assets are being invested overseas (both into equities and fixed income assets)

[65] Detailed data of overseas assets holdings in KiwiSaver only became publicly available from December 2009.

- meanwhile, the proportion of asset allocation to New Zealand property and equity has been static.

The motivating factors for the overall asset allocation trends are many, such as underlying economic conditions, interest rates, relative asset prices, international central bank policies and any number of other reasons. Policies that affect KiwiSaver will also have an impact on the overall allocation of assets. Despite these numerous competing factors in asset allocation, it is still important to measure the exposure to asset classes as KiwiSaver policy could affect allocation.

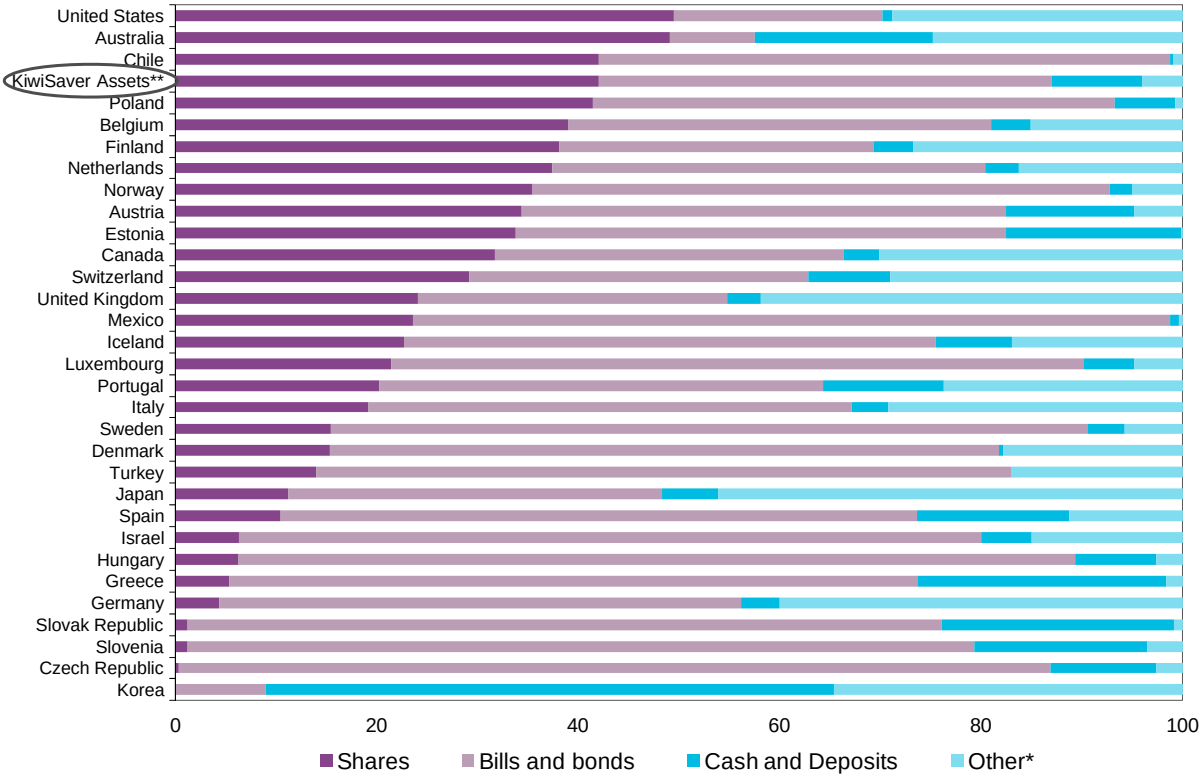
Figure 33: Overall KiwiSaver asset allocation 2009 - 2014



Source: Reserve Bank of New Zealand

It appears that KiwiSaver schemes in aggregate have a higher exposure to equities than most OECD countries. In OECD countries, both public and private pension schemes have a wide variation in asset allocation. Figure 34 below illustrates the variance and shows that in comparison to countries with similarly structured tier-three, privately provided and defined contribution pension schemes such as Australia and Chile, New Zealand's KiwiSaver has similar exposures to equity securities.

Figure 34: Pension fund asset allocation for selected investment categories in selected OECD countries 2013 (As a percentage of total investment)[66]



Note: *The 'Other' category includes loans, land and buildings, unallocated insurance contracts, hedge funds, private equity funds, structured products, other mutual funds (ie, not invested in cash, bills and bonds, or shares) and other investments.** KiwiSaver assets are grouped by using OECD's asset class categories.

Source: OECD, Reserve Bank of New Zealand and Treasury analysis

66 New Zealand is not included in this dataset by OECD. The chart uses Reserve Bank of New Zealand managed funds survey KiwiSaver data and applies the OECD asset class definition. Some countries' pension asset allocation to growth assets are understated as land and property and private equity investment are counted as "other" assets.

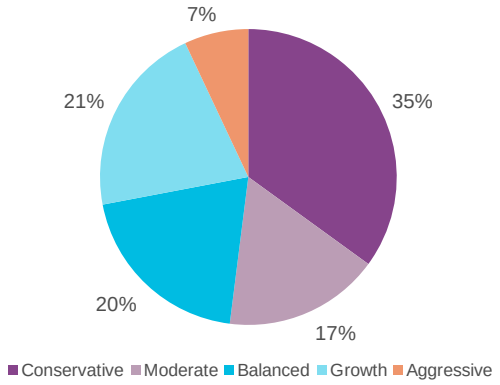
5.2.1 KiwiSaver asset allocations

Investment strategies

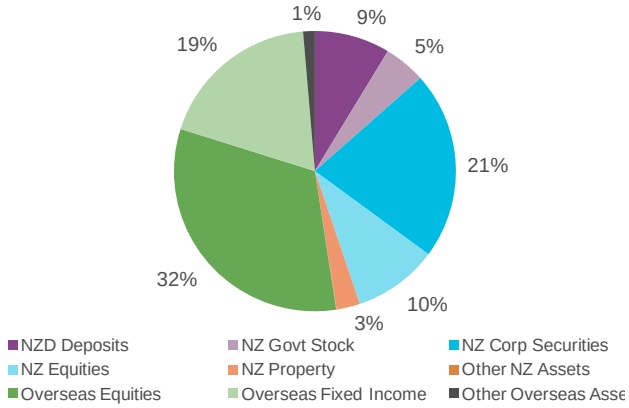
KiwiSaver assets are held in funds following these investment strategies and in asset classes in the proportions illustrated below in figure 35, as of June 2014.

Figure 35: KiwiSaver asset allocations as of 30 June 2014

KiwiSaver asset allocation by investment strategy as of June 2014



KiwiSaver asset allocation by asset class as of June 2014



Source: Morningstar and Reserve Bank of New Zealand

It is impossible and not desirable to proscribe an "ideal" asset allocation for pension fund assets. However, there are certain truisms in pension fund investment strategy that exist, supported by evidence. Empirical research suggests that asset allocation decisions account for 70% to 80% of investment returns.[67] Individuals with a long investment horizon (ie, younger individuals) should have a higher tolerance for risk and volatility as in the long-run returns will be higher. Similarly, individuals with a short horizon (eg, approaching retirement) should have less risk tolerance and seek to preserve capital. It is also well established that in the long run, the right mix of asset classes for a portfolio is more significant than to decide individual security selections. Figure 35 above illustrates that a significant proportion of KiwiSaver assets are held in lower volatility and risk securities such as deposits, government securities and domestic and overseas fixed income securities.

Membership of KiwiSaver and asset allocation

Inland Revenue KiwiSaver membership data tracks membership by age bands. Inland Revenue have also collected data on age cohorts and allocation of members' funds to classes of assets. Table 13 below illustrates the allocation of total assets in KiwiSaver to income or growth assets by age group. This data shows that over 80% of KiwiSaver members are under the age of 55 years old and are at least 10 years or more away from retirement. It also shows that younger cohorts have a greater weighting to growth assets and older cohorts have more exposure to income assets – reflecting the theory of optimal asset allocation by age.

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67 Ibbotson and Kaplan (2000).
Ibbotson and Brinson(1993).

Table 13: Allocation of assets in KiwiSaver by age cohort

KS Members by Age Group as of June 2014 Source: IRD	Age Band	Reference Asset Allocation based on Actual Member's Age Group: Income assets by age group	Reference Asset Allocation based on Actual Member's Age Group: Growth assets by age group	Typical Asset Allocation by Life Stages (i.e. Age): Targetd AA - Income	Typical Asset Allocation by Life Stages (i.e. Age): Targeted AA - Growth
15.0%	0 - 17	3.0%	12.0%	20%	80%
14.7%	18 - 24	4.4%	10.3%	30%	70%
19.3%	25 - 34	5.8%	13.5%	30%	70%
16.6%	35 - 44	6.6%	9.9%	40%	60%
16.6%	45 - 54	11.7%	5.0%	70%	30%
17.3%	55+	12.1%	5.2%	70%	30%
0.4%	No Information	0.2%	0.2%	50%	50%
100%	Total	43.0%	57.0%		

Source: Inland Revenue and Treasury analysis

The actual KiwiSaver asset allocation, as of June 2014, has a 56% / 44% split between income and growth assets[68]. To create a reference (ie. baseline) asset allocation, hypothetically, we assume people from different age groups allocate their retirement saving in a certain way when they go through their life stages (refer to table 8 above).[69] It is possible to calculate a reference allocation with reference to financial theory where an age group weighted[70] assets split between income and growth is estimated as 43% income / 57% growth. This baseline asset allocation is compared to the actual KiwiSaver assets split in figure 36 below.

68 Reserve Bank of New Zealand, Managed fund asset data, T41 (previously C15), available here: http://www.rbnz.govt.nz/statistics/tables/t41/

69 Targeted asset splits for different age groups are based on KiwiSaver providers' Life-stage or equivalent offering available in the market.

70 An unconstrained (ie. assuming investors have no liquidity requirement for early withdrawals) weighted average by age band.

Figure 36: Reference income/growth asset split and KiwiSaver asset allocation

Source: Inland Revenue, RESERVE BANK OF NEW ZEALAND and Treasury analysis

It appears that KiwiSaver members, at an aggregate level, are allocated less towards growth assets than the reference asset allocation should suggest. The allocation to growth assets across all KiwiSaver schemes (around 40% in aggregate and somewhat consistently over the observation period) has possible negative implications for future retirement income due to lower returns. Recent research by MacDonald, Bianchi and Drew (2014) used hypothetically constructed funds modelled on asset allocation weights from the literature and from Australian funds to show that "*increasing the asset allocation of KiwiSaver towards equities is the only solution to significantly improve retirement adequacy given the low contribution rates observed in New Zealand*". The asset allocation of KiwiSaver is far more weighted toward income assets than United States 401(k) retirement savings accounts.[71]

With KiwiSaver funds allocating 56% of assets to income and 44% to growth, comparisons can be made with other significant investment institutions in New Zealand. ACC has a different purpose to KiwiSaver funds and invests levies raised from New Zealand firms and

[71] The asset allocation of participant account balances varies considerably with the age of the 401(k) participant but in general in the US we found defined contribution members who are at their young age tend to favour return enhancement over capital preservation. For asset allocations for two major age groups of 20s and 60s of 401(k) participants, at year-end 2012, 64% of 401(k) participants in their twenties held more than 80% of their account in equities, and 10% held 20% or less. Of 401(k) participants in their sixties, 20% held more than 80% of their account in equities, and 23% held 20% or less. Historically, we found since 1996 there has been more 401(k) assets being invested/allocated to a fund (nearly half of 401(k) assets) other than into individual company stocks. Another outstanding feature of all is the consistently dominating allocation to equity funds and growth asset in general (Refer to Appendix 3 for detailed 401(k) charts).

individuals to meet ongoing liabilities to claimants and future costs of long-term injuries. However, ACC does have a long-term investment horizon. The NZSF has a legislated timeframe for meeting future Government New Zealand superannuation benefit payment obligations but also has a long-term investment horizon. The GSF also has a long-term investment horizon although it is closed to new entrants and must take into account payment of annuities to its members. Each of these entities has a majority allocation to growth assets. KiwiSaver funds on the other hand have a majority allocation to income assets.

KiwiSaver contributions are locked in until age 65 and payments to members for the proscribed reasons are at this stage only a small portion of total assets under management. Therefore, KiwiSaver funds in aggregate ought to have a similarly long-term investment horizon as the Crown financial institutions. KiwiSaver providers also have to manage liquidity of members switching to other providers. A further key difference between the Crown financial institutions and KiwiSaver funds is that KiwiSaver asset allocations are driven by consumer choice of fund, Government policy for the default funds and a multitude of fund managers' decisions.

Table 14: Asset allocation of Government investment corporations and KiwiSaver

Reference AA Split	Income	Growth
NZ Superannuation Fund	20%	80%
ACC Investments	40%	60%
Gov Superannuation Fund	30%	70%
KiwiSaver Ref. AA Split based Age Data	43%	57%
KiwiSaver Total Actual AA Split as of June 2014	**56%**	**44%**

Source: NZS, ACC, GSF, Reserve Bank of New Zealand and Treasury analysis

5.2.2 Allocation to domestic assets

As of June 2014, KiwiSaver funds invested $10.6 billion in New Zealand assets. This includes NZD denominated cash and deposits, New Zealand Government stock, corporate bonds, equities, property[72] and other assets.[73] Figure 37 below illustrates the change in composition and growth of domestic assets held by KiwiSaver funds over time. This highlights some interesting trends:

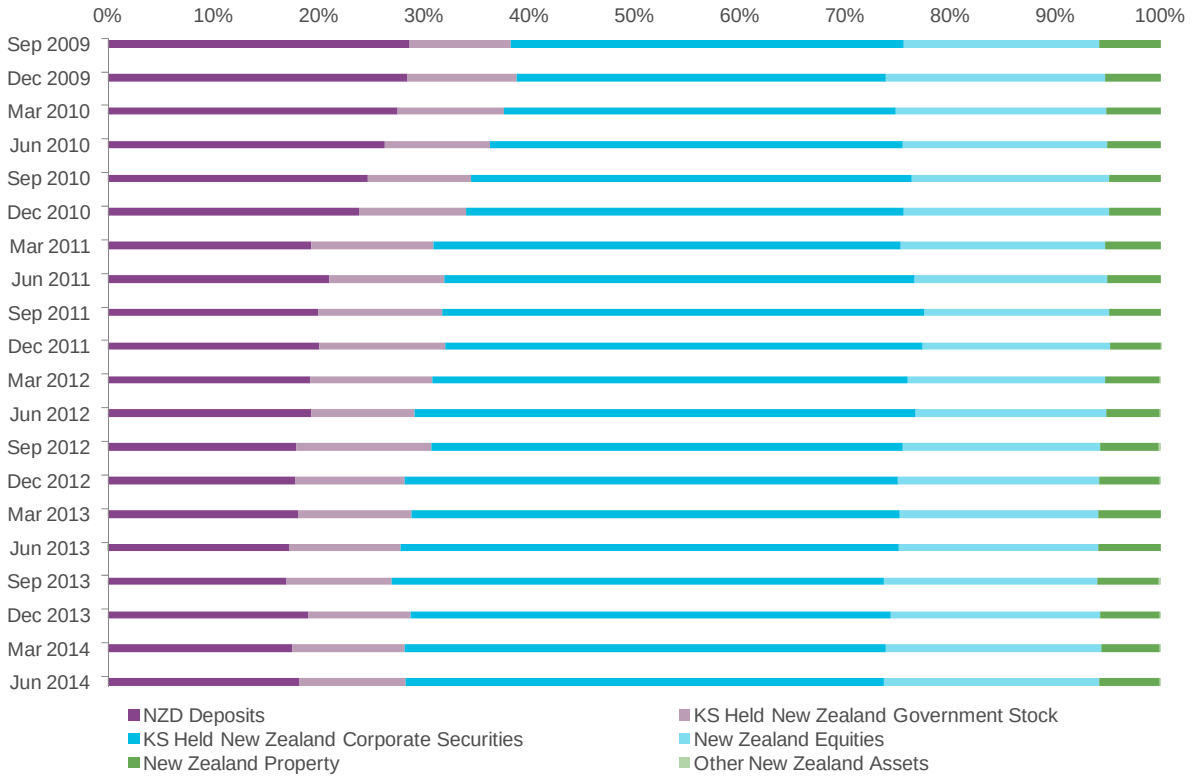
- around three-quarters of KiwiSaver investment in domestic assets has been in fixed income securities and cash
- over the past five years there has been a lessening exposure to cash and deposits
- allocation to New Zealand corporate securities has grown considerably
- allocation to New Zealand government stock holdings has remained stable

[72] Property includes both listed real estate investment trusts and direct real property holdings.

[73] This includes private equity, structured securities.

- allocation to domestic equity and property has also remained relatively stable at 20% and 5% respectively

Figure 37: Composition of KiwiSaver Domestic Assets since 2009



Source: Reserve Bank of New Zealand, Treasury analysis

5.2.3 Allocation to overseas assets

KiwiSaver funds have tended to invest less in New Zealand assets[74] and more in overseas assets over the five year period from 2009 to 2014.[75] In late 2013, overseas assets comprised more than 50% of total AUM for the first time since the inception of KiwiSaver. Since late 2009, managed fund industry in New Zealand has grown steadily with funds under management increasing at a rate of 8% per annum. During the same period, investments in New Zealand assets by all managed funds have grown at a somewhat more moderate pace.[76] The trend in figure 38 appears to be that more KiwiSaver assets will be allocated to overseas assets. The rate of growth of KiwiSaver overseas assets is increasing faster than growth in domestic assets. If this trend continues, the home bias of KiwiSaver funds should decrease, even though KiwiSaver funds' investment in New Zealand assets continues to grow (at a lesser rate).

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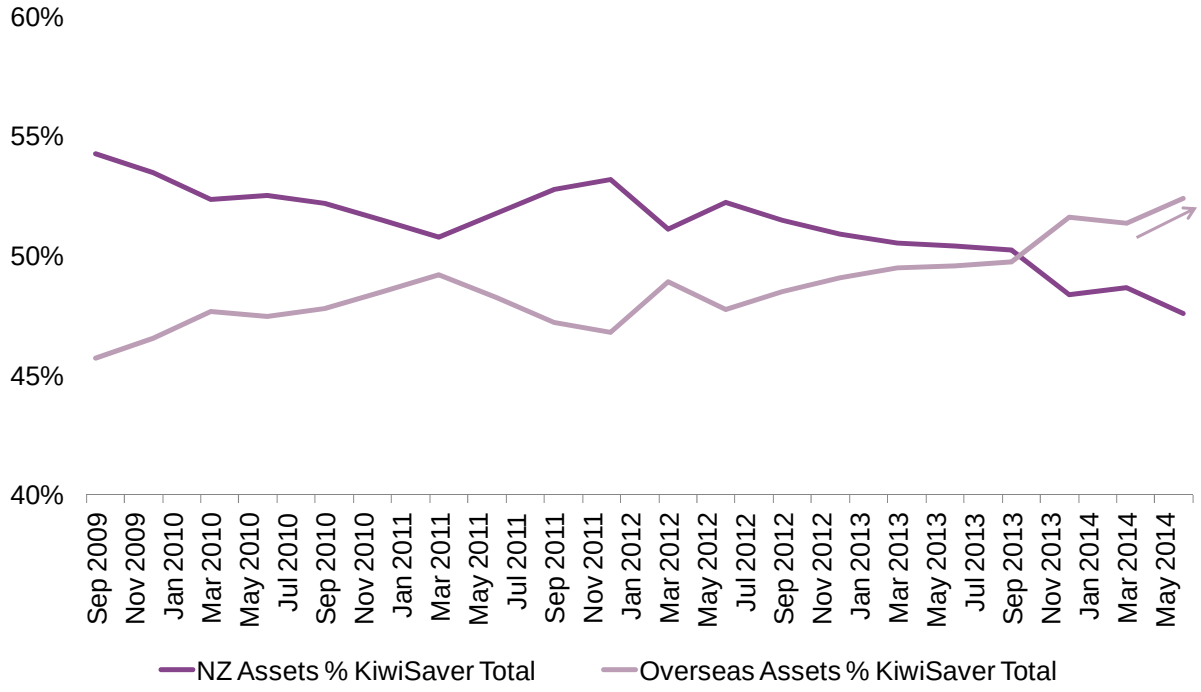
74 KiwiSaver funds typically report Australasian asset as New Zealand investments.

75 As of June 2014, KiwiSaver assets were allocated 47% domestically and 53% offshore.

76 This is attributable to a number of factors (not just an increase in KiwiSaver AUM) such as a desire for greater diversification after the GFC, the limited size of New Zealand local capital market, currency factors, relative risk weightings and a host of other reasons.

Figure 38: Domestic and overseas assets in KiwiSaver funds 2009-2014

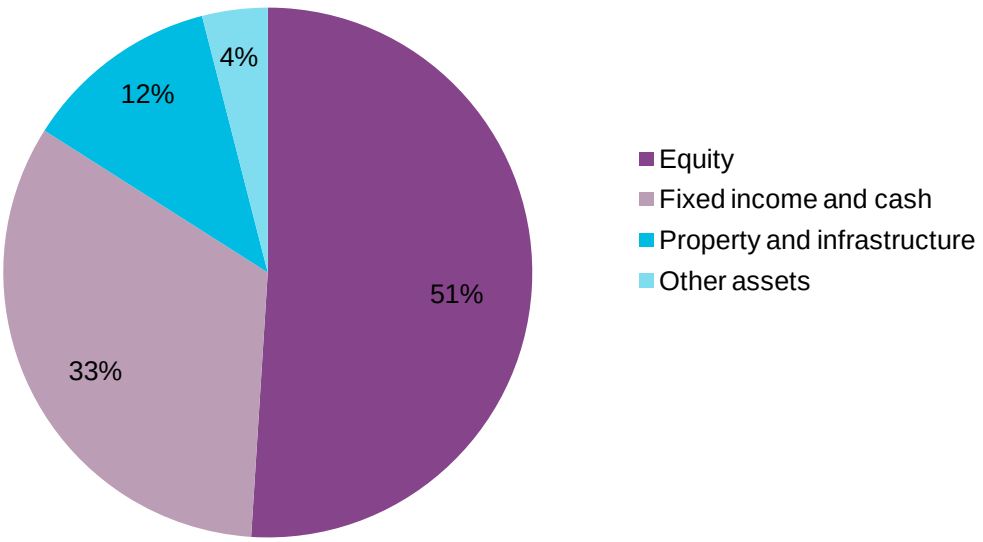


Source: Reserve Bank of New Zealand and Treasury analysis

5.2.4 Asset allocation by pension funds in other jurisdictions

In the following, we make comparisons with overseas pension system allocation, focussing on Australia and international trends. In Australia, as at the end of the June 2014 quarter, 51% of Australian superannuation investments (for entities with at least four members) were invested in equities, 33% in fixed income and cash investments with the remainder in property and infrastructure and other assets, including hedge funds, and commodities.

Figure 39: Australian superannuation asset allocation as of June 2014



Source: APRA, quarterky superannuation performance data

International research by Towers Watson (2014) suggests that there has been a general trend of pension funds allocating more to growth assets other than income assets. Since 1995 bonds and cash allocations have been reduced while equity and alternative assets have increased from 49% to 52% and from 5% to 18% respectively.[77] A recent study by Mercer (2014) used OECD (2013) pension data and the Melbourne Mercer Global Pension Index to illustrate that in markets with well-established pension industries, there is generally a higher exposure to equity investments. KiwiSaver's overall asset allocation is similarly exposed to equities as Switzerland and Chile, but less exposed than other Anglosphere countries.

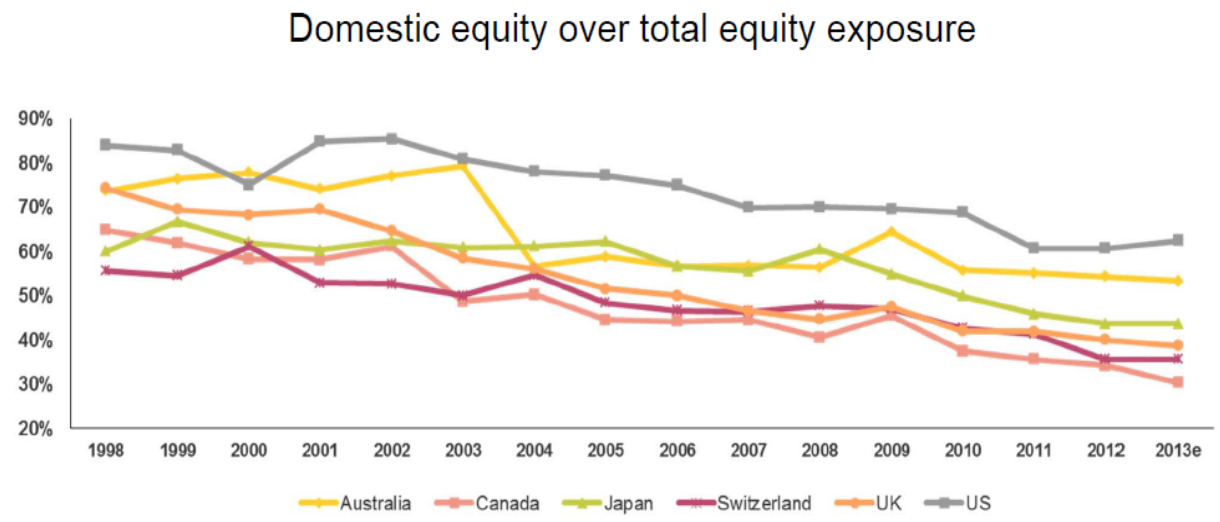
Figure 40: Proportion of pension fund assets invested in growth assets

Source: Mercer
Explanatory note: these countries were selected from the Mercer study as they are generally defined contribution systems in advanced economies.

At asset class level, Towers Watson (2014) also indicates that home bias to domestic equities is reducing in many pension systems. The weight of domestic equities in the sampled countries' pension asset portfolios has fallen, on average, from 64.7% in 1998 to 44.1% in 2013. As figure 41 below suggests, the United States pension market remains the most dependent market on domestic equities while Canada has been the least dependent market on domestic equities over the last 10 years. KiwiSaver allocation to domestic equities has been around 40% of total equity exposure (as of June 2014), putting New Zealand at the lower end of figure 41 for 2014.

[77] Sample includes Australia, Canada, Japan, Netherlands, Switzerland, UK and US.

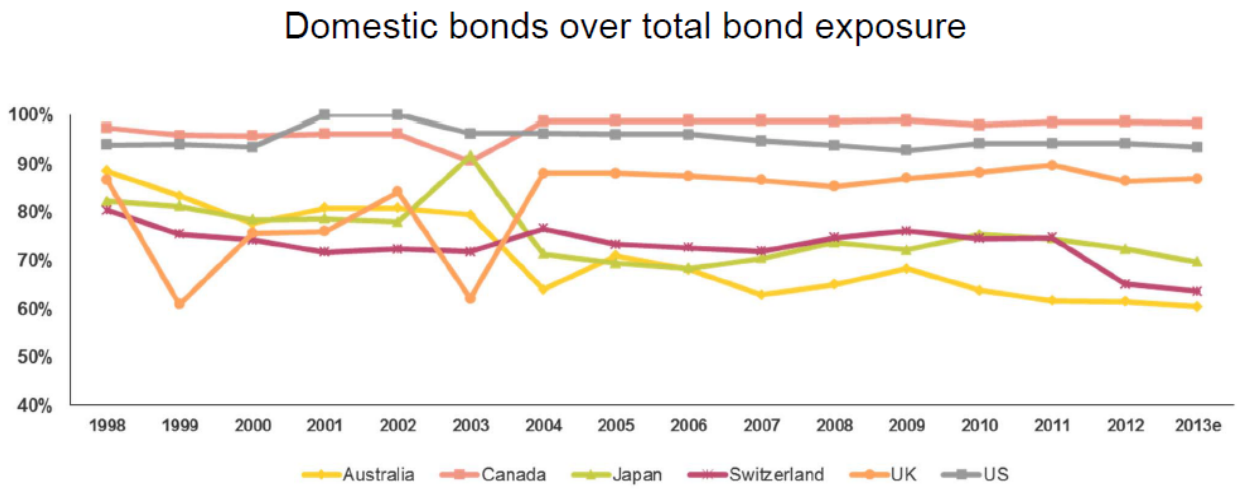
Figure 41: Domestic equity over total equity exposure of pension funds in different countries



Source: Towers Watson

In fixed income investments, the same Towers Watson (2014) study found that countries' pension assets have different mix of domestic and foreign bonds holdings and less of a trend that in equities. On average, however, home bias to domestic fixed income decreased over the period studied from 88.2% in 1998 and 79.8% in 2013. Canada and the US have most of their fixed income investments in domestic bonds, while Australia has greater foreign fixed income exposure than the comparators. The KiwiSaver allocation to the domestic bond market was just under half of total bond exposure (as of June 2014), putting New Zealand at the lower end of figure 42 below at an equivalent position to Australia.

Figure 42: Domestic bonds over total bond exposure of pension funds in different countries



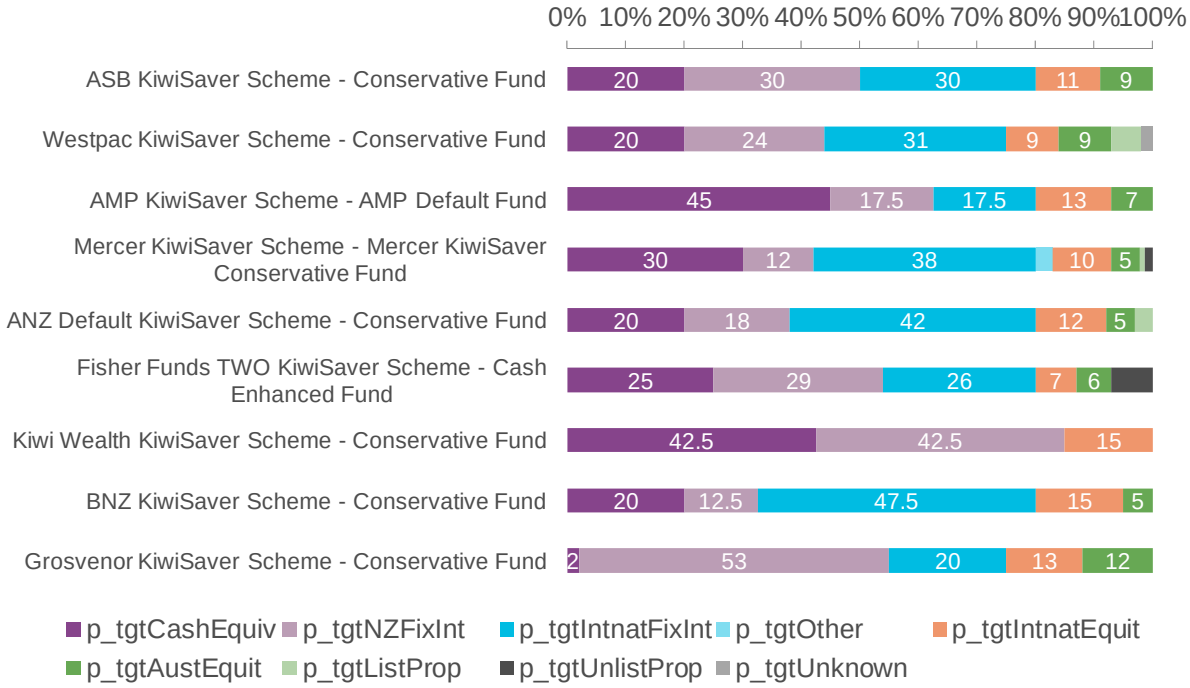
Source: Towers Watson

Default funds target asset allocations

Figure 43 below illustrates the current nine default funds' stated targeted assets allocation for their default funds. As the chart shows, despite of all being labelled as default/conservative funds, different fund managers have different approaches when allocating funds to certain

asset classes. There are wide variances between funds, especially the differences between allocations to ‘cash or cash equivalent’ and ‘international fixed income’.

Figure 43: Targeted asset allocation of KiwiSaver default funds

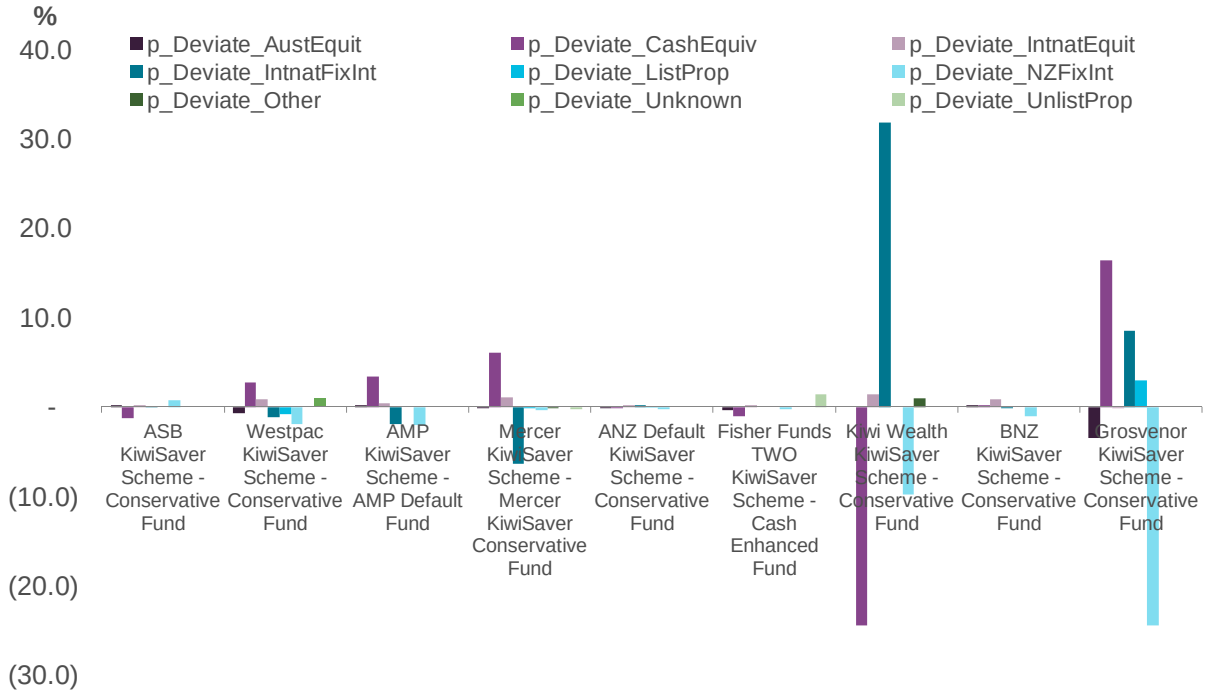


Source: Fund managers’ quarterly statements disclosed to FMA for June 2014

While a targeted asset allocation demonstrates a fund manager’s investment policy in the long run, fund managers may decide to deviate from their targeted asset allocation from time to time for tactical reasons, but always within the terms of the fund’s prospectus and in the case of default funds, the restrictions on growth assets in the instrument of appointment. Such deviation may be as a result of a manager’s tactical assessment of a particular asset class’ relative value/attractiveness or a broad based thematic market rotation or simply showing a transitional state.

A large deviation from the targeted asset allocation can alter the risk/return characteristics of a portfolio, sometimes significantly (which could lead to the portfolio differing from customer’s expectations). Furthermore, high portfolio churn can incur addition transactions costs, which can ultimately undermine investment returns. An analysis of deviations from targets, as shown in figure 44 below, highlights that as of June 2014, Kiwibank and Grosvenor deviate substantially from their stated target. ANZ and ASB are shown to deviate the least.

Figure 44: Tactical deviation of default funds' asset allocation



Source: Fund managers' quarterly statements disclosed to FMA for June 2014 and Treasury analysis

Asset allocation of international 'default fund' equivalents

Compared to the closest equivalent to KiwiSaver default funds in Australia, New Zealand default funds are far more conservative. For Australian superannuation funds, employees are automatically allocated to an employer's chosen superannuation scheme when the employee does not make an active choice.[78] APRA data shows that the asset allocation of these default investment strategies has an 80%/20% split between growth and income assets.

MacDonald, Bianchi and Drew (2014) carry out a comparison of international 'default'-type schemes in New Zealand, Australia, United Kingdom, Chile and Sweden and find that New Zealand's KiwiSaver has the most conservative investment allocation.

[78] Based on APRA's 2013 Annual Statistics on Australian Superannuation Assets, nearly half (43.7%) of employees accept the 'default' strategy and automatically adopt the underlying investment profile that is provided to them.

Table 15: Comparison of International Default Fund allocations

	Equities	Bonds	Cash	Source
New Zealand	19%	41%	40%	MacDonald et al. (2012)
Australia	67%	26%	7%	Basu and Drew (2010)
United Kingdom	81%	16%	3%	Byrne, Blake, Cairns & Dowd (2007)
	60%	40%	0%	Byrne et al. (2007)
	100%	0%	0%	Byrne et al. (2007)
Chile	3 lifecycle defaults depending on age: 1) Workers aged < 35 2) Men 36-55 & Women 36-50 3) Men 56+ and Women 51+			Beshears et al. (2009)
Sweden	Lifecycle with 100% equity until age 55 50% equities 50% bonds by age 75			Pichardo-Allison (2009)

Source: MacDonald, Bianchi and Drew (2014)

5.3 Conclusion on asset allocation

KiwiSaver assets are weighted by 54% towards income investments and 46% toward growth assets. Australia and a small number of other jurisdictions with comparable DC systems have higher allocation to growth assets than New Zealand pension assets, however, most OECD pension systems have a far greater allocation to conservative assets. KiwiSaver at an aggregate level has a lower weighting to growth assets than other large investment portfolios in New Zealand controlled by long-term investors such as the Crown financial institutions (NZSF, ACC and GSF). Given the long-term retirement income adequacy objectives of KiwiSaver, this allocation should lead to lower retirement income outcomes than one weighted more heavily to growth assets. We find that over a one, three and five year period, KiwiSaver in aggregate has had mixed performance compared to the Crown financial institutions with NZSF outperforming KiwiSaver over all periods. We also find that over all asset classes, returns in aggregate have not outperformed benchmarks chosen by us, a finding supported by another empirical analysis.

We find that allocation to overseas assets is growing and the home bias of KiwiSaver funds has now dropped below 50%, which is observed similarly in other jurisdictions having comparable pension system. New Zealand KiwiSaver has a low home bias both for fixed income assets and equities when compared to the Australia, Canada, Japan, United Kingdom and United States. Nevertheless, investment in domestic assets continues to grow as KiwiSaver AUM grows.

We do not observe an impact from KiwiSaver on domestic capital markets as institutional investment in aggregate has remained flat while direct retail investment has risen in recent years. It appears therefore that sources of capital for investment by institutions in NZX listed companies may have changed as the managed funds market has changed, but the flow of capital has not noticeably altered. The effect of KiwiSaver funds in domestic capital markets may become more noticeable as assets in the system increase in line with our forecasts.

6 Conclusion

KiwiSaver funds have grown rapidly since 2007 and are forecast to become a significant asset in household balance sheets. With this rapid growth, we see a need for policy makers to fully understand the dynamics of the market and asset allocation trends. This review has established such an evidence base. The Treasury together with Inland Revenue and MBIE, the partner agencies responsible for KiwiSaver, intend to use these insights to test and inform ongoing policy, for example in relation to advice on the next round of appointments of default providers.

We find that the provider market is becoming more concentrated. Overall, the scheme appears to be working in an economically efficient and competitive manner. Theory and limited evidence in New Zealand suggests that economies of scale play a role in the success of providers. Regression analysis indicates that larger funds attract greater inflow of new funds. Standard measures of competitiveness do not lead to current concerns about competition and we observe that fee levels have fallen moderately, albeit not nearly to the low levels of highly developed markets such as the U.S. New entrants can and have entered the market and those with a pre-existing profile have attracted customers with success suggesting barriers to entry are not of major concern. The scheme operates in a manner which does not currently undermine adequate retirement income outcomes with some risk that optimum outcomes will be undermined if contestability diminishes.

There will continue to be a need for policy makers to monitor the market to ensure some of the trends – such as the growing dominance of major banks – do not reduce the competition between providers. In time, we should expect to see the benefits of the very clear economies of scale in funds management accrue to KiwiSaver members in the form of lower fees and higher net returns. In addition, financial literacy/capability in terms of awareness of fee levels and the links between risk and return will be critical to enforcing market discipline on providers and for the market model to deliver better consumer outcomes. Government policy should continue to be directed at improving this.

KiwiSaver represents a change in the composition of household balance sheets regardless of whether saving is additional. Overall, the portfolio of assets in KiwiSaver is heavily weighted toward income assets (56% to 44%), in contrast with other comparable superannuation and savings vehicles in New Zealand and overseas and this has implications for future retirement incomes. This is partly a result of Government choices. The home bias of KiwiSaver is decreasing as portfolios grow and growth in overseas assets greatly exceeds growth in domestic assets. Both of these facts have implications for retirement income adequacy and reducing idiosyncratic risks. Managed fund or institutional ownership of NZX companies has moderately risen since the inception of KiwiSaver, however, the impact of KiwiSaver ownership on local public equity markets has been muted. The short lifespan of the scheme means significant change has not been observed, however, forecast growth to $70 billion by 2020 suggests that change is likely.

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Appendix 1

Note: all findings are as of June 2014.

Provider	Investment Philosophy and Style	Investment Process	Risk Management	Benchmarks
AMP	• Assumption that the market is not efficient • Pursues active asset allocation across asset classes • Multi manager approach • Belief in each manager having own philosophy and style and adding value	• Each fund has a specific investment objective and invests in different types of assets • Portfolio set up and process depends on managers approach	Stated risk factors • Interest rate risk • Currency risk • Liquidity risk • Credit risk • Investment sector risk • Operational risk • Regulatory uncertainty	Undisclosed
ANZ	• Belief in active management • Outperformance measured against a particular index or market • Undertakes active asset allocation depending on how the manager perceives / believes each asset class' likelihood to outperform • Focus is given to efficiencies and cost control	• Assets of underlying funds either managed in-house or by chosen external managers • Allocations adjustment done at asset class level • International equity assets for the Conservative Fund passively managed • Currency risk actively managed • Cash flow actively managed • Varying the asset class mix for each fund • Employing investment professionals who have successfully applied a consistent investment strategy over a number of years • Hedging currency exposure for foreign fixed interest assets, foreign listed property assets, and some foreign equity assets • Counterparty risk measurement	Stated risk factors • Asset class risks • Currency risks • Derivative risks • Investment management risks • General risks	Undisclosed

Provider	Investment Philosophy and Style	Investment Process	Risk Management	Benchmarks
ASB	• Long term investment horizon (Short term is considered up to 5 years) • Principally an index tracking or passive strategy • Aims to deliver returns that closely track those of a market index (or indices) • Recognise the lower management fees in passive management • Use of underlying investment managers	• Cash is managed using an active management style with cash funds being actively managed • Non-cash asset classes are managed using an index tracking investment management style • Exposure to securities in an index gained by holding all or a representative selection of the securities in the relevant index • Use of derivatives to gain security exposure • Diversification across markets, except in funds that offer exposure to a single market • Foreign exchange risk being actively managed by using derivatives • Applying credit risk limit framework • Choosing tracked indices that are widely diversified	Stated risk factors • Interest rate risk • Derivative risk • Exchange rate risk • Credit risk	Disclosed by asset classes
BNZ	• Fund management outsourced with Russell Investments mandated for investment management • Active asset allocation strategy based on market movements and relative attractiveness of asset classes • Taking into account the ability to invest or divest when valuing investment	• Underlying fund of funds with active management • Investments by holding assets directly or investing in other investment funds • Investment management largely outsourced with relatively small in-house team • Do not take currency risk outside Australasia • Using hedging instruments against other currency risk	Stated risk factors • Investment asset risks • Currency risk • Derivative risk • Operational Risk • Product Risk • Legislative and regulatory risk	Undisclosed

Provider	Investment Philosophy and Style	Investment Process	Risk Management	Benchmarks
BT Funds (Westpac)	• Belief in adding value both at asset allocation level and security selection • Multi-manager approach • Security selection carried out by specialist investment managers	• Investment process focuses on high quality, insightful research • Disciplined investment management (eg, Rebalancing) • Seeking diversification benefits across asset classes, securities and investing styles	Stated risk factors • Market risk • Fund manager risk • Credit risk • Derivatives risk • Concentration risk • Liquidity risk	Undisclosed
Fisher Fund	• Belief in longer investment horizon • An active manager • Adding value through economic research • Asset allocations changed based on market movements and risk reward • Use of specialist fund managers and utilising multiple managers for different type of funds • Gaining exposure to asset classes by either: buying the assets directly and investing in other managed funds	• Minimum quality criteria – an investment must meet before it is included in a portfolio • Purchasing of derivatives to gain security exposure • Fund of funds model with active management • Gaining exposure to market sector by blending funds/managers • Foreign currency risk fully hedged for international fixed interest • Liquidity and cash flow requirements are taken into account in investment process - liquidity weighted portfolios • Currency hedging • Business continuity plans and staff retention strategies • Counterparty creditworthiness analysis	Stated risk factors • FX and interest rate risk • Liquidity risk • Operational risk • Key personnel risk • Legislative and regulatory risk • Counterparty risk • Derivative risk	Disclosed by fund types

Provider	Investment Philosophy and Style	Investment Process	Risk Management	Benchmarks
Grosvenor	• Actively allocates across asset classes • In-house investment team • Uses both domestic and international external fund managers • Belief in benefits of diversification	• Actively adding value at asset classes level as well as security level • Fund invested over a range of different maturity dates • Emphasis on risk management • Having a minimum credit risk criteria to mitigate credit risk • Currency hedging used to manage FX risk	Stated risk factors • Market risk • Manager risk • Regulatory and tax risk • Product specific risks	Disclosed by fund types
Kiwibank	• Belief in longer investment horizon not short term punts/bets or investment fads • Active management at both asset class level and security selection • Largely an in-house model but use managed funds to access unique markets • Favours global markets over NZ – diversity, liquidity and the fact of NZers having majority of their assets already in NZ	• Engaging with customers for assessing risk appetite and hence investment choices • Investment governance committee oversees and reviews the firms activities • Fund's investment portfolio structure reflecting underlying investment strategies • Combination of active and passive management for the Default Investment portfolio • On-going evaluation of external managed funds • Works on a weekly investment cycle • Uses derivatives to hedge against currency • Emphasis on diversification	Stated risk factors • Asset class risk • Market risk • Currency Risk • Derivative risk • Liquidity risk • Legislative and regulatory risk • Credit risk • Tax risk • Administration risk	Undisclosed

Provider	Investment Philosophy and Style	Investment Process	Risk Management	Benchmarks
Mercer	• Multi-manager investment approach • Belief in fund managers specialisation in their particular field • An active research based manager selection process – manager evaluation • Seeks diversification across asset classes as well as geographic locations	• Active management • Investing in a number of different types of investment in each asset type • Disciplined approach to the management of risk • Rebalance investment mix based on market analysis and research • Investing with a number of different investment managers who can be changed quickly • Actively monitor and liaise with governments and regulators	• Stated risk factors • Investment option and asset class risk • Management risk • General risks • Legislative and regulatory risk • Taxation	Undisclosed
Milford* (for comparison only as a non-default provider)	• Emphasis on capital preservation with capital growth for investors comes second • Fully in-house management model • Highly active approach • Belief in fundamental analysis and extensive entity level research • Selection process aiming to identify investments which have prospects that have not been recognised by other investors • Client focused and committed to governance and transparency	• Emphasises Investment Committee's role • Security selection focusing not only quantitative – financial prospects and valuation but also qualitative – corporate strategy, management and governance • Disciplined entity visit programme and carry out detailed research and visits • Using derivatives to establish long as well as short position • Able to take leveraged position • Currency risk actively managed • Actively managed the selected of assets and ongoing monitoring of each investment • Monitor changes in global and local environments	• Stated risk factors • Personnel and management risk • Entity risk • Currency risk • Interest rate risk • Liquidity risk • Counterparty risk • Derivative risk • Country concentration risk	Disclosed by fund types

Appendix 2: Regression analysis of fund flow

The aim of this analysis is to help uncover what factors determine the 'success' of KiwiSaver funds, measured by their ability to increase membership and therefore the volume of savings the fund has under management on which to receive fees. One possible measure of success would be member growth, but unfortunately we have not been able to access suitable data on this measure. Instead, we measure success using funds' net inflows of funds from members in a given period, also known as "fund flow".

In an efficient market, one would expect the flow of funds to be determined by members seeking to maximise their after-fee returns for a given risk-preference. This would place competitive pressures on providers to minimise fees, maximise returns, and would drive high-cost, poor-performing funds out of the market. In this regard, we would expect to observe the following factors:

- Funds with lower fees experience higher fund flow for (all else constant)
- Funds with higher returns experience higher fund flow for (all else constant)
- Other fund characteristics such as size or being a default provider or a bank do not case funds to experience higher fund flow (all else constant)

Methodology

We run standard OLS regressions using quarterly fund flow as a percentage of start-of-quarter assets under management (AUM) as the dependent variable. Fund flow is considered in percentage terms as opposed to dollar terms to account for the strong relationship between size and fund flow resulting from the inflows of funds from existing members.[79] Flows from existing members tend to be much larger than flows from members shifting funds. However, customer inertia would suggest that the decision to continue contributing to your existing fund is not made actively. By contrast, shift of savings between funds and initial entry into a fund does entail an active decision (even if that decision is to stay with a default fund.

One shortfall of using percentage fund flow is that, in the context of growing AUM, percentage fund flow will tend to decline over time as relatively constant contributions represent a falling proportion of existing AUM. However, we address this shortfall by controlling for provider age in years (unfortunately data on individual fund age was not available).

[79] AUM explains 64% of the variation in dollar-value fund flow in a bivariate regression.

In terms of key explanatory variables are as follows:

- Total expense ratio (TER), which measures total fees as a percentage of AUM
- Past returns (after fees) from the 12 months
- Natural logarithm of AUM in millions of dollars
- Dummy variables for whether a fund is operated by a bank, whether it is a default fund, and whether it is a fund offered by a provider that also offers default funds[80]

To control for the potential variability in contributions over time in response to rates of return, we control for aggregate KiwiSaver market returns. This is calculated as the AUM-weighted average of fund returns for the 12 months before the start of the quarter. We also control for potential variability across fund 'types' using dummy variables for 'cash' funds, 'balanced' funds, 'growth' funds, and 'other' funds, using 'conservative' as a reference. A September quarter dummy variable is also included to control for the spike in fund flow that tends to occur annually, presumably due to the self-employed making contributions after filing their year-end tax returns.

Finally, we use a 2014 dummy to assess the impact of the introduction of the Fund Finder online comparison tool in November 2013. This dummy is interacted with TER and returns to give an indication of the effect of Fund Finder on the relationship between these variables and fund flow.

Data

We use quarterly data over the 15 quarters between Q1 2011 to Q2 2014. Data on fund flow, fees, fund performance, and fund type (ie, conservative, growth, etc) is from FundSource. This is merged with data on AUM from Morningstar. Default status variable, bank dummy, and provider age are added manually using information from the KiwiSaver website. The dataset is trimmed to exclude observations with missing data points,[81] and observations for fund-quarters where funds have been merged (given that fund flow is abnormally high or low for these observations).

Our final dataset comprises 1226 observations. It is based on a sample of 134 individual KiwiSaver funds across 17 providers. This includes all major fund providers, with Kiwibank, KiwiWealth (previously Gareth Morgan Investments) and Craigs Investment Partners the notable exceptions.

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80 Note that in some cases, entities that operate default funds offer KiwiSaver funds under multiple brands. For example, in the dataset ASB (a default provider) also offers KiwiSaver products under both its ASB and Firstchoice brands. In this case all the funds offered by both ASB and Firstchoice would be considered as "default affiliated".

81 In practice, we excluded observations where either fees or fund flows were zero.

Results

Table 1 below presents the results from our regressions of fund flow against lagged explanatory variable across our three key specifications.[82]

Table 1: Results from fund flow regressions

	1		2		3	
Intercept	19.70	(2.96)	14.53	(3.15)	22.42	(3.06)
Ln AUM ($m)	-2.12	(0.24)	-1.31	(0.23)	-1.07	(0.21)
Ln Provider AUM ($m)	1.96	(0.40)	2.70	(0.55)	1.24	(0.40)
TER (%)	0.06	(1.22)	-0.55	(1.20)	-0.26	(1.17)
1 Yr Return (%)	-0.10	(0.07)	-0.03	(0.07)	-0.16	(0.08)
Aggregate KiwiSaver return (%)	0.73	(0.15)	0.64	(0.15)	0.86	(0.16)
Provider Age (Years)	-3.82	(0.39)	-4.01	(0.40)	-4.71	(0.44)
September	1.98	(0.82)	2.10	(0.84)	2.73	(0.85)
Cash	-6.67	(1.43)				
Balanced	0.10	(1.03)				
Growth	-1.15	(1.17)				
Other	-8.45	(1.35)				
Bank			0.64	(0.83)		
Default			0.40	(1.91)		
Default affiliated			-4.89	(1.08)		
Return x 2014					0.33	(0.16)
TER x 2014					0.98	(1.72)
Adjusted R2		0.15		0.11		0.11

NB: Estimated coefficients are reported on the left with standard errors in brackets on the right. Coefficients significant at the10% level are highlighted.

We find some evidence of a statistically significant negative relationship between fund size and fund flow,[83] though this relationship disappears when not controlling for fund type. However, we do see that larger provider have significant larger fund flow, even when controlling for whether providers are default providers or banks.

We find no statistically significant relationship between fees and fund flow, dismissing the idea that consumers may be price sensitive.

82 Including a lag ensure that fund flow in a given period is regressed against fund characteristics at the start of that period. Naturally, the September dummy is not lagged.

83 That is, statistically significantly lower than -1, which is the expected coefficient when regressing a dependent variable a/x against and independent variable ln(x).

There was also no significant relationship between a fund's one-year return and fund flow, dismissing the notion of 'churn to return'. However, we did find that market return is statistically positively correlated with an increase in fund flow. This may suggest that higher KiwiSaver returns may encourage members to contribute more.

The type of fund is also important in determining fund flow, with *'cash'* funds and '*other'* funds (mainly single-sector funds) experience significantly lower fund flow relative to other types of funds.

We found no statistically significant relationship between being a default fund and fund flow although the coefficient was slightly positive, which is surprising given that these funds are automatically allocated default members.

Interestingly, we also find that default affiliated funds (other funds offered by default providers) have a strong statistically negative relationship with fund flow. In other words, we don't see evidence of default providers benefiting from the opportunity to 'up sell' members to their other funds.

Moreover, there was no statistically significant advantage from being a bank, although the observed relationship was positive.

There was no statistical evidence that the introduction of Fund Finder in late 2013 had any impact in terms of a closer relationship between fees and fund flow. However, evidence does suggest that the introduction of Fund Finder helped to increase the sensitivity of fund flow to past returns.

Appendix 3: Regression analysis of fees

As a further empirical test of the efficiency of the KiwiSaver fund management market, we analysed the determinants of fund fees. In a perfectly competitive market, one would expect that fees would be as low as possible to justify fund providers' participation in the market. However, perfect competition may not be an appropriate benchmark in this context given that providers may be, to some extent, differentiable based on the returns they generate.

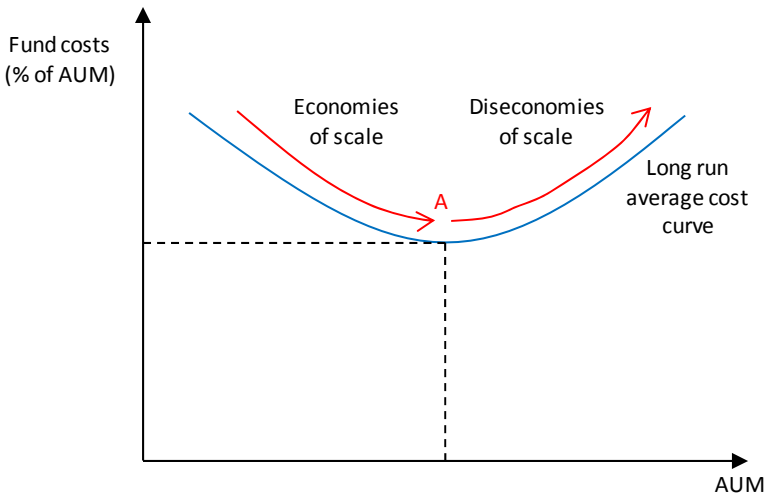
In this sense, we might expect to observe the following relationships in an efficient KiwiSaver market:

- Higher performing funds having higher fees (all else constant)
- Larger funds having lower fees due to economies of scale, but with this effect diminishing as funds grow (all else constant)
- Other fund characteristics, such as being a bank or a default provider are not positively related to fees (as this may suggest market power)

Methodology

We run similar regressions to fund flow regressions (see Appendix 2), except that we use TER as the dependent variable.

In line with other studies of fund fees, we use the natural logarithm of AUM and its square to test for a negative but convex relationship between fund size and fees – as would be expected under the theory of economies of scale. In an efficient market, we would expect to see TER follow a fund's long-run average cost curve due to competitive pressures around pricing. We also use provider AUM as an explanatory variable to account or the fact that a good part of a fund's costs will accrue at the provider level.



We use both fund returns and aggregate returns to account for the impact of returns of fees. The rationale for doing so is that we are mainly interested in the cross-sectional variation in returns affecting the fees funds can charge. Variations in market returns over time must therefore be controlled for help isolate this cross-sectional effect. There is a risk of reverse-causality if fees are contractually dependent on fund performance, though fortunately this is rare in practice. Reverse causality could also be a problem given we are using post-fee returns. However, this would suggest a negative relationship between fees and returns. Given that the variability in returns over time is significantly larger than the variability in fees (which tend to change relatively infrequently), this effect should not affect the results too much.

To test the potential impact of default status, default affiliation and bank status on pricing, we use these dummy variables as per the fund flow regressions. The key control variables are fund type dummies, given that fees vary fairly systematically across different types of funds depending on how active their management is. We also control for provider age.

Finally, we use a 2014 dummy and its interaction with fund returns to test the impact of the Fund Finder comparison tool on fee levels and the sensitivity of fees to returns respectively.

Results

Table 2 below presents the results from our regressions of fund fees against lagged explanatory variable across our three key specifications.

Table 2: Results from TER regressions

	1		2		3	
Intercept	1.31	(0.06)	1.28	(0.07)	1.32	(0.07)
Ln AUM ($m)	0.01	(0.02)	-0.04	(0.02)	0.01	(0.02)
Ln AUM ^2	0.00	(0.00)	0.01	(0.00)	0.00	(0.00)
Ln Provider AUM ($m)	-0.05	(0.01)	0.00	(0.01)	-0.05	(0.01)
1 Yr Return (%)	0.01	(0.00)	0.01	(0.00)	0.01	(0.00)
Aggregate KiwiSaver return (%)	-0.01	(0.00)	-0.02	(0.00)	-0.01	(0.00)
Provider Age (Years)	-0.01	(0.01)	-0.03	(0.01)	-0.01	(0.01)
Cash	-0.25	(0.03)	-0.28	(0.03)	-0.25	(0.03)
Balanced	0.07	(0.02)	0.01	(0.02)	0.07	(0.02)
Growth	0.28	(0.03)	0.18	(0.03)	0.28	(0.03)
Other	0.22	(0.03)	0.21	(0.03)	0.22	(0.03)
Bank			-0.17	(0.02)		
Default			-0.49	(0.05)		
Default affiliated			-0.08	(0.02)		
2014					0.00	(0.00)
Return x 2014					-0.03	(0.04)
Adjusted R2		0.36	0.47			0.36

NB: Estimated coefficients are reported on the left with standard errors in brackets on the right. Coefficients significant at the10% level are highlighted.

Importantly, we do find slight evidence of economies of scale at the individual fund level. When controlling for default status, fees tend to fall marginally as fund size increases. Also, as suggested by economic theory, the observed rate of decline in fees does tend to diminish as a fund gets larger. In addition, there is some evidence of a negative relationship between provider size and TER, though this probably reflects the effect of lower-fee default providers as opposed to economies of scale.

Interestingly we find a statistically significant positive relationship between 1 year returns but a statistically significant negative relationship between market returns and fees. This suggests that fees do help drive fund performance, even when controlling for fund type, though reverse causality may also contribute to this result. That said, it does appear that relative performance not absolute performance is what drives fees in our sample.

Moreover, we find statically significant evidence that fees tend to fall over a fund's lifetime, at a rate of around 3bps per annum when controlling for other factors.

As expected, the fund type has a strong statistical impact of fees, with 'cash' funds being consistently cheaper than conservative, whilst 'balanced', 'growth' and 'other' funds being more expensive.

We also see that default funds have significantly lower fees when controlling for other factors, which is expected as fees were a large component of the initial default provider appointment tender process. This observation also holds, albeit not as strongly, for those other funds offered by default providers.

Our evidence suggests that banks offer more competitive fees when holding other factors constant, with a statistically significant relationship between bank status and fees.

Finally, our results found no statistically significant effects of the introduction of Fund Finder comparison tool in late 2013 on fees, or on the sensitivity of fees to fund performance.

Appendix 4: KiwiSaver provider profitability

The aim of this analysis is to examine the profitability of the six largest providers in terms of AUM. This was done using two conventional ratios, net profit margin and return on assets (ROA). These were chosen due to their simplicity and wide spread acceptance. In addition, ROA was chosen over return on equity as it better captures the economic capital that has been invested and the return it is generating, and it is independent of the capital structure of the providers - many of which are wholly-owned subsidiaries.

It is important to note that we produced net profit margin and ROA ratios using the respective KiwiSaver providers' asset manager annual report data. This raises some possible deficiencies in the data we have analysed as it is not always possible to accurately attribute the profits identified directly to the particular asset manager's KiwiSaver business unit or whether the profits are from other lines of business within the asset manager. Only one provider – ASB – separates its different asset management revenue streams to reveal that 67% of the fee revenue received by ASB Groups investment limited is attributable to KiwiSaver.[84] That same share of revenue may not be replicated among all six providers analysed. Additionally, it is not possible to compare all asset managers due to differences in size and revenue streams. As a result, the ratios we have produced below **may not be a fair comparison** and are **indicative** only. A final issue is that this analysis is static in the sense that it only examines the most recent annual report, and thus it may not represent the true profitability of these firms over time.

Despite all of these limitations, the analysis is the best possible with publicly available data and is still useful as a proxy to gauge the profitability levels of the wider funds management market, which KiwiSaver undoubtedly plays a growing role in. We intend to test these findings directly with fund managers in interviews and these were not disputed.

The profitability study was completed in two stages, firstly comparing the top six KiwiSaver providers to international and domestic firms. Secondly, we compared the average profitability of the top six providers with a selection of the rest of the market.

The first stage of the analysis looks at the profitability of the top six KiwiSaver providers in comparison to international and local firms. They are included to put the KiwiSaver providers into context; these are shown in green on the graphs. Blackrock has been chosen as it is the world largest asset manager; Aberdeen as it is a moderate size asset manager, with a specialist pension arm; and IOOF as it is a comparable Australian firm. Harbour Asset Management was also chosen as it is a small local New Zealand Asset management company so it provides some domestic context.

[84] ASB Group Investments Annual Report 2013.

Methodology

The ratios were constructed using data from the KiwiSaver providers' latest asset manager annual report.

Net profit margin was calculated based on the following the calculation:

Net profit margin= Net profit after taxation/total operating income

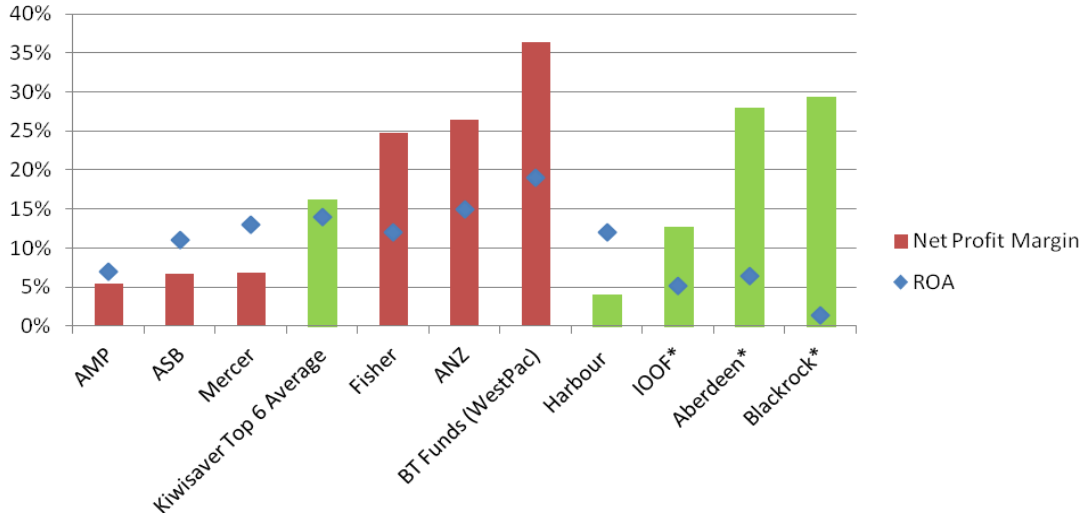
ROA was calculated based on the following equation:

ROA= Net profit after taxation/total assets[85]

Results - Profitability Study of the six largest providers

Below is a summary table of the results for the first stage of our profitability study:

Financial Statements	Net profit after Taxation $,000	Total operating income $,000	Net profit margin	Net profit after taxation $,000	Total Assets $,000	ROA
AMP	11701	214531	5%	11701	160773	7%
ASB	2532	37996	7%	2532	23622	11%
Mercer	3052	44576	7%	3052	22872	13%
Fisher	15751	63654	25%	15751	128693	12%
ANZ	19575	73908	26%	19575	128301	15%
BT Funds (WestPac)	12528	34450	36%	12528	64717	19%
Harbour Asset management	299	7498	4%	299	2595	12%
IOOF			13%			5%
Aberdeen			28%			6%
Blackrock			29%			1%



85 Note total assets is not total AUM, rather total assets in this equation refers to the figure listed on the company's statement of financial position. This figure includes things such as cash and securities not held on behalf of clients, available for sale securities, property and plant equipment and goodwill.

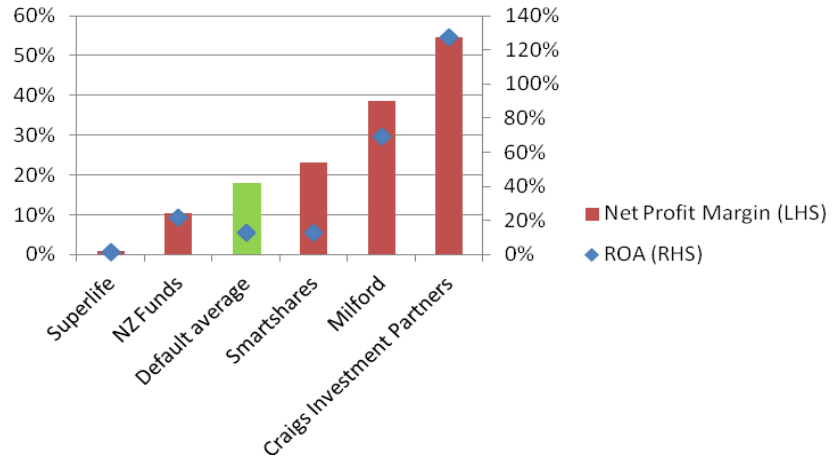
Overall, there is a lot of variance in the net profit margins of the six firms examined. ANZ, Fisher and Westpac all appear to have very high profit ratios in excess of 25% while AMP, ASB and Mercer had a much lower ratio of around 7%. On closer inspection, it may be that high costs are a reason for lower ratios for AMP, ASB and Mercer. For example, ASB spent six times as much on distribution expenses year on year than the year previous.

ROA appears to be less variable among all six firms reviewed. Our analysis suggests that New Zealand's KiwiSaver managers are not as profitable on average as selected large asset managers in other jurisdictions. Although the large international asset managers Blackrock and Aberdeen in the UK have a higher average net profit margin, three of the largest six KiwiSaver providers have similar net profit margins. In addition, nearly all of the top six had a higher return on assets than the comparative firms listed.

Results - Profitability of default providers vs rest of the market

Below is a summary table of the results for the second stage of our profitability study:

Financial Statements	Net profit after Taxation $,000	Total operating income $,000	Net profit margin	Net profit after taxation $,000	Total Shareholder Equity $,000	Total Assets $,000	ROA
Superlife	7	5524	0.127%	7	106	592	1.18243%
NZ Funds	1824	17455	10.450%	1824	5562	8352	21.83908%
Default average			18%				13%
Smartshares	500	2211	22.614%	500	2946	3959	12.62945%
Milford	7355	19036	38.637%	7355	10969	10593	69.43264%
Craigs Investment Partners	253	463	54.644%	253	10	199	127.13568%



There are varying levels of profitability in the rest of the market once the nine default providers have been excluded. It is important to note that these firms are a lot smaller in terms of AUM and membership levels. However, providers such as Milford, Smartshares and Craigs Investment Partners have all found ways to be profitable. These providers appear to take a niche approach and thus may be capturing customers and funds under management which the larger default providers are missing. This also illustrates that there is an element of contestability in the market, despite the market being moderately concentrated.