

# Behavioural Economics and Retirement Savings

## improving KiwiSaver

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### Abstract

More than a decade after the inception of the KiwiSaver scheme, 431,779 members remain in the default conservative fund into which they were automatically enrolled. These default members are in funds not consciously chosen and which may not be the most financially appropriate for them. A number of common human behavioural biases have likely contributed to why so many default members remain in the default funds. Although the fees charged by default funds are among the lowest in the market, such funds offer substantially lower returns than more growth-oriented funds. These lower returns are likely to lead to a significant shortfall in retirement savings and retirement standards of living for default members. This article summarises the main findings of a research project into these issues and presents policy options and recommendations.

**Keywords** KiwiSaver, behavioural economics, retirement savings, defaults, behavioural biases

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**T**raditional neoclassical economics assumes that individuals are rational, self-interested and utility maximising (Mullainathan and Thaler, 2000).<sup>1</sup> Behavioural economics, on the other hand, takes a more realistic and behaviourally cognisant view of human behaviour based on evidence that human beings are fallible, easily confused in complex scenarios, unable to calculate risk accurately and more irrational than neoclassical theory would suggest. As an area of study, behavioural economics has a great deal to offer in considering how New Zealand's national retirement savings scheme, KiwiSaver, should be designed.

The article proceeds as follows: first, background information on KiwiSaver is provided, then a summary of the literature review is presented, followed by an outline of the research's main findings; behaviourally informed policy options are discussed, and to finish a short conclusion is offered.

### The KiwiSaver scheme

After more than ten years, KiwiSaver has over 2.8 million members and has become a permanent feature of New Zealand's savings sector (Financial Markets Authority, 2018a). As of March 2018, however, 431,779 KiwiSaver members (15.2% of total

membership) remained in the default conservative fund into which they were automatically enrolled. Collectively, these funds held over NZ\$4.6 billion in assets in 2018, with around half of the default members (201,322) not actively contributing (ibid.). This number of default members has remained consistently high over time (ibid.) and there is growing concern that default fund members are missing out on potential retirement savings as a result (Parker, 2017, 2018; New Zealand Herald, 2017; National Business Review, 2018).

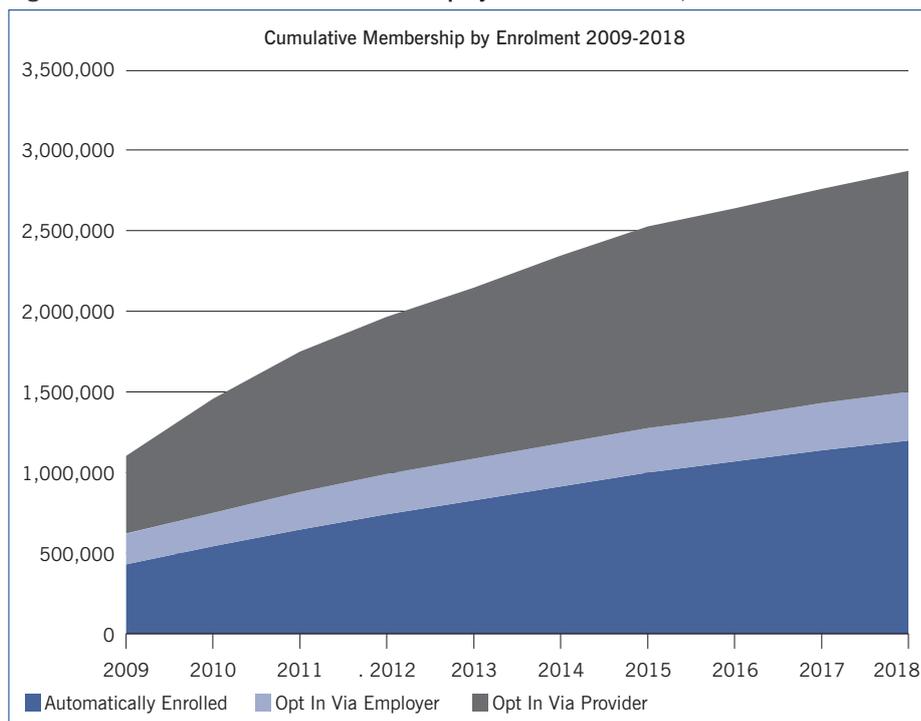
KiwiSaver is delivered by private scheme providers (30 in March 2018), with working individuals making contributions from paychecks at 3%, 4% or 8% and employers contributing a minimum of 3% (Heuser et al., 2015). In June 2018 the Taxation (Annual Rates for 2018–19, Modernising Tax Administration, and Remedial Matters) Bill was introduced into the House: it provides for additional contribution rates of 6% and 10% and limits the length of contributions holidays to one year.

KiwiSaver’s statutory purpose under the KiwiSaver Act 2006 is to encourage long-term savings and asset accumulation by those who would be unable to maintain their pre-retirement standard of living with solely New Zealand Superannuation. While not explicit purposes, increasing domestic saving levels and contributing to capital markets development have been identified by market participants and policymakers as additional objectives (ibid.).

The programme uses a form of soft paternalism by allowing individuals to opt out between two and eight weeks after automatic enrolment. The benefits on offer to individuals are also significant, including: employer contributions; the ability to use some funds for buying a first home; (in some instances) a KiwiSaver HomeStart grant; and a government member tax credit of 50 cents in the dollar for employee contributions up to \$1042.86. Some of these key features and benefits have been the subject of a number of changes by different governments, such as the contribution rates, tax liabilities, kick-start payment and member tax credit (Stephens, 2014).

As Figure 1 indicates, membership levels have grown substantially more than originally forecast by the Inland Revenue Department and Treasury (who forecast

Figure 1: Cumulative KiwiSaver Membership by Enrolment Method, 2009-2018



Source: Inland Revenue, 2018

fewer than two million members) (Heuser et al., 2015). Growth of assets under management has also surpassed expectations, with just under NZ\$50 billion invested as of June 2018 (Douglas, 2018) and forecasts of NZ\$70–80 billion by 2020 (Heuser et al., 2015).

#### KiwiSaver’s default fund automatic allocation system

Upon beginning employment for the first time or beginning new employment, a KS2 KiwiSaver deduction form must be completed by employees so that they can be automatically enrolled if they are not already a member or their contribution rate updated. Critically, the form does not allow a fund choice if the individual is being automatically enrolled (as there is only one default fund type) and only requires a contribution rate selection. This means that even those automatically enrolled members who wish to select their preferred fund are unable to do so. Default members are automatically and randomly allocated into one of the nine government-appointed default provider funds, with a default contribution rate of 3% unless a different rate is consciously selected.

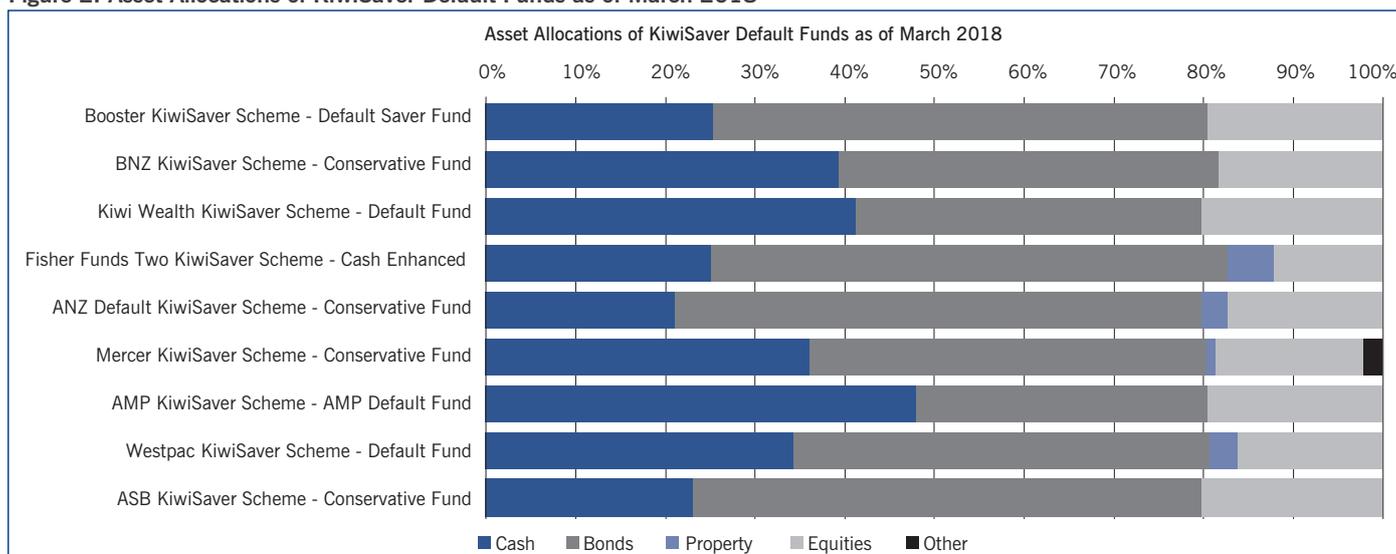
KiwiSaver’s automatic allocation system into a default fund and contribution rate was chosen following evidence which

suggested that in domains where individuals have low financial literacy and less than perfect information, default automatic enrolment produces considerably higher participation rates than voluntary enrolment (Ministry of Business, Innovation and Employment, 2012).

#### Asset allocations of default funds

The KiwiSaver default fund model was originally intended as a ‘temporary parking space’ from which default members would subsequently make a conscious fund choice (Ministry of Economic Development, 2008). As a result, a conservative investment approach (an allocation to growth-oriented investments of between 15 and 25%) was taken, with the assumption that market forces would encourage members who would benefit from a more growth-oriented approach to switch funds (Ministry of Business, Innovation and Employment, 2012). Just how conservatively invested the default funds are is depicted in Figure 2. The highest growth-oriented investment allocation is around 20%, with some funds below this (Financial Markets Authority, 2018b). These KiwiSaver default funds are considerably more conservative than the closest equivalent funds in Australia, Britain, Chile and Sweden (MacDonald,

Figure 2: Asset Allocations of KiwiSaver Default Funds as of March 2018



Source: Financial Markets Authority, 2018b

Bianchi and Drew, 2014).

Longstanding investment theory states that more growth-oriented investments, while fluctuating more over the short term, tend to provide higher long-term returns than more conservative investments (Trainor, 2014). The decision to have a conservative default, then, was made despite well-known research, such as that from Madrian and Shea (2001), showing that in the absence of other significant saving (which is typically low in New Zealand), conservative default funds and low default contribution rates risk generating insufficient retirement savings.

As a result of the choice architecture (i.e. the design) of the post-automatic enrolment system, the original expectation that individuals would switch out of default funds failed to eventuate for a substantial number of individuals, many of whom are likely to be less financially literate and capable than the average individual. A significant proportion of these individuals have remained in these potentially inappropriate default funds for many years (Ministry of Business, Innovation and Employment, 2012).

**Theory – behavioural biases likely influencing default members**

A number of behavioural biases (i.e. systematic patterns of deviation from rational human behaviour) appear to be influencing individuals to take and retain the default fund and contribution rate:

- *bounded rationality*: where individuals fail to act and/or make rationally

calculated savings decisions because of the inherent complexity involved and limits in cognitive capacity (Madrian and Shea, 2001; Thaler and Benartzi, 2004; Benartzi and Thaler, 2007; Beshears et al., 2013);

- *inertia/procrastination*: where individuals suffer from inertia and procrastinate when considering, making and revisiting key savings decisions and tasks (Akerlof, 1991; Madrian and Shea, 2001; Iyengar, Huberman and Jiang, 2004; Iyengar and Kamenica, 2006, 2010; Choi et al., 2006; Beshears et al., 2013; Thaler, 2015; Blanchett, 2017);
- *passive decision making*: where individuals take the path or option of least resistance in savings and retirement savings plan decisions and tasks (Madrian and Shea, 2001; Choi et al., 2006; Benartzi and Thaler, 2007; Lee, Xu and Hyde, 2013; Bateman et al., 2016);
- *loss aversion*: where individuals struggle to increase their savings or move into a higher risk fund because they dislike potential losses considerably more than they like potential gains (Kahneman and Tversky, 1979; Benartzi and Thaler, 2007; Thaler, 2015);
- *framing effects*: where individuals make or accept certain savings decisions because of how the selection or choice is framed (Kahneman and Tversky, 1982; Madrian and Shea, 2001; Sunstein and Thaler, 2003; Johnston, Tether and Tomlinson, 2015);

- *present bias*: where individuals struggle to save more or spend time considering savings decisions because they have limited self-control and willpower and prefer immediate gratification over future gains (Benartzi and Thaler, 2007; Beshears et al., 2006; Stango and Zinman, 2009);

- *status quo bias and anchoring/pure endowment effect*: where individuals become anchored to default funds and contribution rates as the status quo and treat them as a superlative endowment (Sunstein and Thaler, 2003; Beshears et al., 2006; Johnston, Tether and Tomlinson, 2015; Thaler, 2015);

- *endorsement effect*: where individuals select or passively take, and often remain, with the default fund and contribution rate because of the conscious or unconscious interpretation that it is endorsed by the administrator or another authority, such as the government (Madrian and Shea, 2001; Beshears et al., 2006; Sunstein, 2013; Thaler, 2015; Blanchett, 2017).

**Findings**

The research undertaken for this article generated a number of findings in relation to the fees charged and performance of KiwiSaver default funds versus other, conscious choice funds.

*Default and conscious choice fund fees*

Default members pay lower fees both in dollar terms and as a percentage of funds held (most default funds charge between

0.6 and 0.7%) than those charged by most conscious choice conservative KiwiSaver funds. The default funds also charge lower fees than more growth-oriented conscious funds, although all conservative funds are likely to underperform more growth-oriented ones over the long term. Despite default fees being limited by the default provider's government appointment contracts, there is variation in default fund fees, the lowest being 0.58% and the highest 0.91%. Such a seemingly small difference can have considerable cumulative effects on a default member's final retirement savings, depending on which fund they are randomly allocated into.

#### *Default and conscious choice fund performance*

There exists a substantial disparity in performance and returns between conservative funds (including all default funds) and more growth-oriented conscious choice funds (i.e. growth and aggressive funds). Growth-oriented funds have outperformed those in conservative and moderate risk categories in seven of the past ten years (Douglas, 2017). Specifically, peer group return averages for conscious choice growth funds are around double that of default funds over the five-year period to June 2018 (10.7% versus 5.9%) and still around one and a half times that of default funds over a ten-year period (8.4% versus 5.5%) (Douglas, 2018). One group of financial advisers has also claimed that default members' KiwiSaver balances could have been up to 12% higher under a balanced fund and these members have missed out on about NZ\$1 billion over the last six years (National Business Review, 2018). Extrapolated over a lifetime, default funds will likely produce considerably lower returns and retirement savings outcomes than other, more growth-oriented conscious choice funds that would be more appropriate for many default members (e.g. given their age and other relevant circumstances).

#### *Default system and fund performance disparity and individual/household-level retirement savings outcomes*

At least for some groups of individuals, KiwiSaver has resulted in greater retirement savings than would have

been achieved without the scheme (Law, Meehan and Scobie, 2017). However, the findings from the research show that contrary to the purpose of KiwiSaver, in the absence of other private saving over the long term, the default fund's low returns and contributions will likely lead to low household net worth, unsatisfactory retirement standards of living, an over-reliance on New Zealand Superannuation and government welfare, and a resulting low level of financial independence (Frijns and Tourani-Rad, 2015). This is in addition to the range of negative physical and psychological health impacts commonly associated with lower income households (Ministry of Business, Innovation and Employment, 2012). While New Zealand Superannuation

Markets Authority, 2018a). For many of these 330,000 individuals, the default fund is likely to be inappropriate based on the length of time remaining until their retirement and the low returns of the default funds.

A prototype notification was developed using behavioural insights to nudge members to make conscious choices that will improve their retirement savings. This prototype notification (see Appendix) is included as an illustration of a possible communication designed to influence KiwiSaver members' choices.

#### *The prototype*

The prototype notification was developed as the content of an email and/or printed letter to members in KiwiSaver annual

## A target date default fund would see the fund manager adjust investment risk and reduce growth asset allocation within the fund as the target retirement year approaches

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provides a minimum retirement income which partially mitigates the risk of insufficient retirement savings, it is unclear how long it will remain at its current levels or in its current form.

#### **Behaviourally informed policy options**

In what follows, three policy options to improve retirement savings outcomes are assessed, all of which are informed by behavioural economics. The three options are: 1) nudging current members out of default funds with a behavioural communication instrument; 2) policy changes to the default system; and 3) policy changes to increase employee contribution rates. These options are not mutually exclusive and could be combined in various ways to maximise outcomes.

#### *Nudging current members out of default funds with a behavioural communication instrument*

Around 330,000 default members have at least 15 years until retirement (Financial

statements. It is designed with reference to behavioural theory to take advantage of behavioural biases and to nudge members to make desirable conscious choices (e.g. switching out of their default fund).

In line with Johnston, Tether and Tomlinson (2015) and the UK Behavioural Insights Team's (2017) recommendations on behavioural insights and financial disclosure, the prototype contains only three key messages (with each clearly signposted). Where technical or detailed information is necessary it is either left for inclusion in a more detailed statement to minimise the cognitive loads of readers and avoid information overload. Critical words, phrases or numbers are emphasised in a different font colour and more complex fund performance information is presented graphically to improve the readability and simplify fund performance.

In accordance with the identified behavioural biases, the communication attends to bounded rationality by simplifying complex information,

presenting technical return data as a simple graph, and colour-coding opening and closing balances to show the change in value. For example, the technical information and assumptions behind the total savings projection nudge were left to a footnote for further reference. The call to action of checking or updating the member's fund is also simplified and inertia/procrastination and present bias are addressed by reversing the onus of action from the member to the provider, with a hyperlink/button which would notify the provider to call the member to discuss switching.

Inertia/procrastination is one of the strongest behavioural biases influencing

more behaviourally cognisant form of communicating complex KiwiSaver information to nudge member behaviour and choices than is typically used for KiwiSaver member communications.

### *Policy changes to default fund*

#### *Previous concern with the conservative default*

A decision to retain the conservative default was made at the first default provider review in 2012. This was despite officials stating that although a conservative approach reduced the risk of short-term losses from market fluctuations, it also had a greater likelihood of capital erosion from inflation and inadequate retirement

Innovation and Employment, 2012). For example, with the current retirement age of 65, an individual born in 2000 and automatically enrolled in 2018 would enter a default fund with a target date of 2065. Investment risk would be adjusted downwards over time as the individual nears their approximate retirement age in 2065 (i.e. starting with a high proportion of growth-oriented assets and moving down to a low proportion).

A target date fund default system effectively mitigates the bounded rationality of individuals through simplifying complexity by not requiring a conscious choice from potentially uninformed or behaviourally biased investors at any point during their life. In this way, target date funds offer a simple to understand, 'set and forget' option for members that appeals to inertia/procrastination, present bias, passive decision making and the status quo/anchoring bias that hinder individuals from properly setting and regularly revisiting their retirement savings choices.

Under a target date KiwiSaver default fund, the risk of default members suffering a shortfall by retaining the default fund would be mitigated as the default target fund would dynamically invest to different risk profiles over time. While requiring moderate set-up costs, experimental results show that a dynamically managed life-stage fund, such as a target date fund, involves the least risk in terms of not reaching a common retirement goal of eight times final earnings (although New Zealand Superannuation reduces the amount needed for retirement in New Zealand) (MacDonald, Bianchi and Drew, 2014).

## An auto-escalation system for contribution rates more appropriately targets behavioural biases of KiwiSaver members and averts the possible negative impacts that simply increasing the mandatory minimum KiwiSaver contribution rate may have on low-income savers.

savings behaviour (Thaler and Sunstein, 2009; Thaler and Benartzi, 2004). As members may also be loss averse, the communication's first key message is framed as a loss to the member of \$9,250 in potential returns over the last ten years as a result of not being invested in a more growth-oriented fund. In such a statement, the fund which the member's savings would be compared to would depend on their unique individual information.

In a similar way to framing a loss, the first sentence in the notification appeals to the tendency for individuals to desire conformance with social norms by pointing out that eight out of ten people the member's age are in a more growth-oriented fund. Also, by posing the nudge as a question directed personally to the member, they are more likely to read and consider it (Financial Markets Authority, 2016).

While subject to the availability of provider-specific data and not claiming to be perfectly designed, the prototype is a

savings through low returns (Ministry of Business, Innovation and Employment, 2012). Indeed, KiwiSaver providers, the Capital Markets Development Taskforce and the prime minister's 2009 job summit have all voiced concern about the conservative default and argued for moving to a more growth-oriented default approach (Heuser et al., 2015).

### *Proposed change*

While any more growth-oriented alternative would offer greater returns for default members over time, the research concluded that a target date default fund would provide the greatest potential return for default members, at one of the lowest risks of retirement savings shortfall (MacDonald, Bianchi and Drew, 2014). A target date default fund would see the fund manager adjust investment risk and reduce growth asset allocation within the fund as the target retirement year approaches (Ministry of Business,

### *Policy changes to increase employee contribution rates*

Simply getting employees to think about the consequences of savings inadequacy is insufficient to produce meaningful behavioural change (Financial Markets Authority, 2016). The research canvassed different ways to increase savings rates which take account of human behavioural biases and found that an automatically escalating default contribution rate would offer improved retirement savings outcomes at minimal mental cost to members.

### *Automatic escalation*

An auto-escalation system for contribution rates more appropriately targets behavioural biases of KiwiSaver members and averts the possible negative impacts that simply increasing the mandatory minimum KiwiSaver contribution rate may have on low-income savers.

As a behavioural nudge, auto-escalation would alter the choice architecture of the default contribution system so that a member's contribution rate automatically (with an opt-out) escalates in increments each year over time up to a set cap. The creators of the original programme of automatically increasing savings rates, Save More Tomorrow (SMarT), found that after four annual increases 78% of those offered the plan joined; 80% of programme members remained in it after four annual increases; and over the course of 40 months the average savings rate for participants increased from 3.5% to 13.6% (Thaler and Benarzi, 2004)

In the absence of any separate increase to the minimum KiwiSaver contribution rate, the yearly automatic increase in contribution rates could, for example, increase in 0.5% increments each year from 3% up to a maximum of 10% after 14 years. Even without a future increase to the employer contribution, combined savings rates for KiwiSaver members could reach 13% of pay, a substantial increase on the current 6% combined default.

Auto-escalation would acknowledge the bounded rationality and passive decision making of individuals in contribution decisions by simplifying the complex problem of increasing savings down to making it the standard default option. It also takes account of inertia/procrastination in that it minimises the cognitive load required to increase contributions by fully automating the process. Also, as it would not necessarily require any future contribution choices or actions, concerns around status quo bias are also mitigated. Requiring and scheduling a current commitment to future contribution rate increases mitigates the present bias issues

inhibiting individuals from increasing their rate voluntarily. Loss aversion is also taken into account by the escalations being unlikely to ever materially reduce take home pay, as a result of annual wage growth likely being higher than the 0.5% annual escalations.

Exact design details of an auto-escalation system, such as measures to ensure low-income earners do not end up saving more than they can afford and enabling existing members to participate, are beyond the discussion here, other than to note that an opt-out mechanism would be retained. However, as the SMarT findings above show, auto-escalation could

To ensure no default member is negatively affected by such changes to the system, all current default members should be transferred out and into the applicable default target date fund within one year of commencement, or, if directed by members, transferred to their provider's non-default conservative fund. Finally, as contribution rates are one of the most important factors in attaining sufficient retirement savings, the current default contribution rate of 3% should be replaced with an auto-escalation system, similar to SMarT, to increase future and current member contribution rates.

### **Conclusion**

Simply getting employees to think about the consequences of savings inadequacy is insufficient to produce meaningful behavioural change.

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result in substantially higher contribution rates and increased retirement savings for KiwiSaver members over time, especially if combined with the changes to the default funds discussed above.

### **Policy proposals**

In light of the research findings, behaviourally informed notifications should be used across multiple mediums and at different times by default providers, consistent with the Financial Markets Authority's work on behavioural trials. Likewise, when the KiwiSaver default system is next reviewed, a target date fund allocation should replace the current conservative KiwiSaver default fund. Failing this, at the least the default fund should represent a balanced fund so as to reduce the gap between investment mix members' future retirement savings and those of other members who have actively selected their funds.

Default members tend to have trouble with complex KiwiSaver decisions, passively take the path or option of least resistance and delay or procrastinate making a conscious fund choice. KiwiSaver has and will continue to create and provide sufficient retirement savings for some individuals, in many cases beyond that which would have been achieved in the absence of the programme. However, the evidence shows that when combined with the default low contribution rate, the conservative default funds pose a serious risk that default members may achieve insufficient retirement savings and lower standards of living in retirement than expected or desired. In the interests of New Zealanders' futures, these concerns should not go unheeded any longer.

<sup>1</sup> All views, opinions, findings and conclusions or recommendations expressed are strictly those of the author. They do not reflect the views of MBIE or the New Zealand government. The ministry and the New Zealand government take no responsibility for any errors or omissions in, or for the correctness of, the information contained in this research.

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# Appendix: Prototype behavioural notification

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**KiwiSaver Investments Limited**  
Caring for Kiwis' savings since 1988



**Organization**

## Your KiwiSaver Summary statement 2017/18

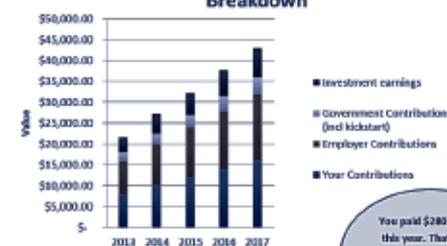
John! Check your KiwiSaver investment fund today!

**1.** Did you know that 8 out of 10 of our KiwiSaver members your age are in our longer-term more growth-orientated funds?

At your age, we think you could have more for your retirement by being in one of our longer term funds rather than the default. Although past performance does not guarantee future returns, over the last ten years, your balance is \$9,250 lower than it could have been had your savings been invested in a typical Growth fund!

[click here](#) and we'll call you to discuss which fund is best for you and switching your fund—you can do it all over the phone! Alternatively visit our [website](#) and switch online!

### Your five-Year Retirement Savings Breakdown



Year	Your Contributions	Employer Contributions	Government Contributions (incl kicstart)	Investment earnings	Total
2013	~\$5,000	~\$10,000	~\$5,000	~\$0	~\$20,000
2014	~\$5,500	~\$10,500	~\$5,500	~\$1,000	~\$22,500
2015	~\$6,000	~\$11,000	~\$6,000	~\$2,000	~\$25,000
2016	~\$6,500	~\$11,500	~\$6,500	~\$3,000	~\$27,500
2017	~\$7,000	~\$12,000	~\$7,000	~\$4,000	~\$30,000

You paid \$280 in fees this year. That's \$15 more than last year and 6.7% of your savings. That's about average.

**Opening Balance**  
\$37,500

**Closing Balance**  
\$42,000 (+\$4,500 or +12%)

See the attached detailed KiwiSaver statement for further details about your KiwiSaver including fees.

**2.** Based on your current contributions and the default fund, we estimate\* that you will have between \$375,000 and \$450,000 in KiwiSaver savings upon retirement. That would mean an average midpoint of \$16,500 a year for 25 years after retirement, not including New Zealand Super. That's only 33% of the NZ median income—is that enough for you?

**3.** Want to make sure you have enough savings for retirement? Have a think about changing your fund and increasing your contribution rate—every bit adds up!

[click here](#) and we'll call you about how best you can increase your savings. Alternatively, send us an [email](#) anytime or give us a call on 0800 549 549 Mon–Sun 8-5.

\*From the Financial Markets Authority ([fma.govt.nz](http://fma.govt.nz)): The figures shown are not guaranteed, they are intended to help you consider whether you are on track to meet your retirement goals. The numbers are based on your current contributions and various other assumptions sourced from the Commission for Financial Capability such as that you keep contributing without a break, until the retirement age. The full list of assumptions can be found [here](#).

Your information: **IRD number:** 159485137 | **Prescribed Investor Rate:** 10.5% | **Account number:** 478123