The Role and Performance of the New Zealand Superannuation Fund

Prepared by the Guardians of New Zealand Superannuation at the request of the Commission for Financial Literacy and Retirement Income, April 2013

For further information: www.nzsuperfund.co.nz

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1 Introduction

The New Zealand Superannuation Fund invests money, on behalf of the Government, to help pay for the increased cost of universal superannuation entitlements (New Zealand Superannuation) in the future.

By doing this the Fund adds to Crown wealth, improves the ability of future Governments to pay for superannuation, and ultimately reduces the tax burden of the cost of superannuation on future New Zealanders.

The Fund is managed by a Crown entity, the Guardians of New Zealand Superannuation.

Since 2003, the Government has contributed $14.88 billion to the Fund which, as at 28 February 2013, was worth $21.99 billion. The Guardians have successfully invested the Government's contributions in New Zealand and overseas, returning 8.41% per annum, after costs and before tax, since the inception of the Fund. This rate of return is around 3.4% per annum higher than the rate of return on Government debt.

Since inception, the Fund has paid $2.57 billion in tax to the New Zealand Government. The Guardians include New Zealand tax paid in measurements of the Fund's performance because we consider it to be a return to the Crown.

2 Why the Fund exists

New Zealand Superannuation is the retirement benefit currently paid to all eligible New Zealanders aged 65 or over.

New Zealand Superannuation is currently funded on a "Pay As You Go" (PAYGO) basis. This means that the cost of New Zealand Superannuation in any one year is currently paid from the taxes New Zealand workers and businesses pay in that same year.

Over the next few decades, the New Zealand population will age significantly. Statistics New Zealand predicts that the population aged 65 years and over will surpass one million by the late 2020s, compared with 550,000 in 2009. The 65+ age group will also grow as a proportion of New Zealand's total population, increasing from 13% in 2009 to more than 20% by the late 2020s. By the late 2050s, one in every four New Zealanders will be 65 years or older.

As New Zealand's population gets older, the cost of New Zealand Superannuation is going to increase. The Fund was therefore established as a "Save As You Go" (SAYGO) mechanism that will help prepare for this increase and smooth the cost of New Zealand Superannuation between today's taxpayers and future generations.

The Fund will not alter the future cost of New Zealand Superannuation, but it will improve its affordability through accumulated savings and investment returns in excess of alternative funding methods. In particular, both to date and going forward, we expect the returns from our investing activities to well exceed the nominal GDP growth rate of the NZ economy, which is the “return” under a PAYGO system, given tax revenues approximately grow with the rate of nominal GDP growth (absent any changes in tax rates themselves).

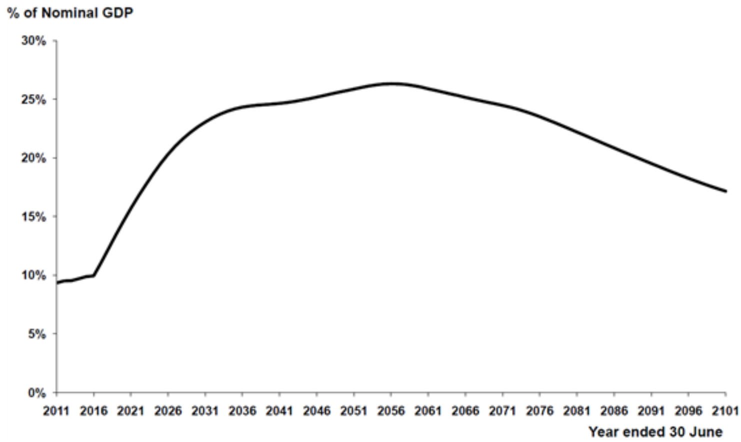
In addition to improving affordability of New Zealand Superannuation, the Fund reduces the risks around its funding because its investment returns are a function of global economic conditions and asset markets, rather than New Zealand conditions alone, as is the case with a pure PAYGO system.

3 A long-term investor

The Government will begin to withdraw money from the Fund to help pay for New Zealand Superannuation around 2029/30. Even once withdrawals begin, the Fund is not projected to peak in size until the 2050s.

This long timeframe is reflected in the Fund’s Mission Statement: “Maximise the Fund’s returns over the long term, without undue risk, so as to reduce future New Zealanders’ tax burden.”

Projected size of the New Zealand Superannuation Fund over time



4 Endowments

The Guardians take advantage of the Fund’s long-term horizon, certain cash flow (thanks to the Fund’s public funding formula) and limited need for liquidity, to invest in growth assets such as listed company equities in New Zealand and globally. In the short term, growth assets can be volatile, moving up and down in price. However, because of its long investing horizon, the Fund has the ability to ride out and potentially benefit from these short term movements.

NZSF Endowments:

- Long Fund horizon
- Certain liquidity profile
- Independent investment responsibility
- Sovereign status

Having a long investing horizon also allows the Fund to invest in illiquid assets – for example, forests, infrastructure and private (unlisted) companies. These assets can be difficult to sell quickly. This means that they are not suitable for all investors, but are expected to deliver a premium over time.

The Guardians has operational independence from the Government. Under our enabling legislation, Fund investments are made on a purely commercial basis. The Government may only direct the Guardians about its expectations of the Fund’s overall risk and return. This investment independence gives the Guardians confidence to enter into investment arrangements that best suit the Fund’s long-term purpose, with minimum agency risk.

The Fund’s sovereign status is also beneficial, enabling the Fund to pay lower tax in some foreign jurisdictions than private investors. Sovereign status is also often regarded favourably by business partners and can position the Fund well as a potential co-investor.

In combination, these “endowments”, which stem from the way the Fund has been set up, optimise the Guardians’ ability to generate superior investment returns for the Fund.

Due to the long-term growth-oriented risk-return profile of the Fund, the Guardians are confident of adding many billions of dollars (in present day terms) to Government (and national) savings over coming decades. These are investment returns over and above the alternative Government saving option of reducing Government debt.

This expectation is based on economic logic, long-term historical investment performances, and our modelling of likely future outcomes. This research is supported by global expert opinion and the global investment practice of the vast majority of long-term endowment and pension funds.

5 Our investment beliefs

The Guardians have developed a series of investment beliefs based on the endowments outlined above. All Fund investment decisions are driven by these beliefs.

Investment Decision	**New Zealand Superannuation Fund Investment Beliefs**	**Investment Facts**
Governance and investment objectives	Clear governance and decision-making structures that promote decisiveness, efficiency and accountability are effective and add value to the Fund.	It is important to be clear about investment objectives for the Fund, risk tolerance, and the timeframe over which results are measured.
Asset Allocation	Asset allocation is the key investment decision Investors with a long-term horizon can outperform more short-term focused investors over the long-run.	Risk and return are strongly related. There are varied investment risks that carry premiums/compensations. Illiquidity risk is one such premium. Investment diversification improves the risk to return ratio of the Fund.
Asset class strategy and portfolio structure	Expected returns are partly predictable within asset classes and returns can revert toward a mean over time.	Investment markets are competitive and dynamic, with excess returns very difficult to find and constantly changing source Market volatility tends to cluster over short horizons but mean-reverts over longer horizons. Investment risks can be unbundled to make the Fund more efficient. This includes the separation of market (beta) and investment specific investment manager skills (alpha).

Investment Decision	**New Zealand Superannuation Fund Investment Beliefs**	**Investment Facts**
Manager and investment selection	True skill in generating excess returns versus a manager's benchmark (i.e. pure alpha) is very rare. This makes it hard to identify and capture consistently. Some markets or strategies have characteristics that are conducive to a manager's ability to generate excess return. These characteristics tend to evolve slowly over time, although the shorter-term opportunity set that may be available in any market/strategy can vary through the cycle. We believe most excess return is driven by a combination of the research signals the manager is using, the conduciveness of their market to generating excess returns, beta factors and luck. Responsible asset owners who exercise best-practice portfolio management should have concern for environmental, social, and governance (ESG) issues of companies. Improving ESG factors can improve the long-term financial performance of a company.	The more efficient a market is, the more difficult it is for a manager to generate excess return. Research signals and methods used by managers tend to commoditise over time through market forces. In some cases synthetic exposure to a market or factor can provide a guaranteed excess return to the Fund, and this represents an additional hurdle that an active manager must surpass.
Execution	Managing fees and costs and ensuring efficient implementation can prevent unnecessary cost.	

6 Investing vs. reducing debt

A question that is often asked is whether it is sensible for the Government to invest in growth assets such as equities, via the Fund, instead of reducing debt. There is strong evidence that over time the returns on the Fund should be higher than the interest saved on Government debt.

For example, Table 1 below shows the performance of the US equities market against US Treasury Bills (T-Bills) from 1926 until February 2013.[1] Over this period equities in the US (and globally) went through numerous periods of short-term annual fluctuations exceeding 30% or more, including during the recent Global Financial Crisis.

Despite this, on average US equities outperformed T-Bills by 6.0% per annum on a compounding return basis. We also see a similar average performance post-WWII and in the last twenty years.

Table 1: Historical Outcomes Period	**US equity returns**	**Excess US equity return over T-Bills**
1926-2013 (whole sample)	9.7%	6.0%
1946-2013 (post-WW2)	10.6%	6.1%
1993-2013 (last twenty years)	8.6%	5.5%

Note: US equity returns are total returns on the S&P500 index, i.e. returns include dividends. Returns are expressed on an annualised geometric basis. Data source: Global Financial Data.

The probability of equity returns outperforming public debt yields over any randomly chosen medium-term period is also relevant. The first capital contributions to be made from the Fund are not scheduled until 2031, so we use a 20 and 30 year horizon in our assessments.

Using the same long-term data, and undertaking a simple consecutive 20-year performance test, Table 3 highlights that a growth-orientated fund like the New Zealand Superannuation Fund would have produced financial returns in excess of Treasury Bills 100% of the time when measured over 20 years. That is, in any randomly chosen 20-year period since 1926, returns on US equities were ahead of returns on US Treasury Bills when measured over the 20 year period.

Moreover, equity returns exceed Treasury bills by at least 2.5% around 90% of the time. The underlying economic rationale for this ‘outperformance’, and the historical performance, gives us confidence that a well managed, diversified, growth portfolio is our best means of maximising returns without undue risk.

Table 2: Portion of time US equity returns exceed T-Bills over rolling 20-year periods since 1926		
	Exceed T-Bills	Exceed by 2.5% per annum or more
	100%	89.7%

[1] We use US data to look at historical performances because it is consistently available over long periods and, at least post-WW2, represents the dominant fraction of world equity markets. Over the period for which the world MSCI benchmark index is available, returns have been comparable to US markets.

7 Measuring Fund performance

It is the Guardians' expectation, given our mandate and hence portfolio construction, that the Fund will return at least the Treasury Bill rate + 2.5% p.a. over any 20-year moving average period.

It is important to understand that the Treasury Bill rate + 2.5% is not a target to be hit precisely - rather, it is a long-term performance expectation that we aim to beat by as much as possible.

We strongly prefer to work to an expectation rather than a target. This avoids any short-term incentive to simply add risk to the Fund if expected returns are low, i.e. increasing risk when returns are least rewarding – and vice versa.

We also use a Reference Portfolio, which is set by the Guardians' Board, to benchmark the performance of our actual investment portfolio and the value we are adding through our active investment strategies. The Reference Portfolio, which is capable of meeting the Fund's objectives over time, is a shadow or notional portfolio of **passive**, low-cost, listed investments suited to the Fund's long-term investment horizon and risk profile. It has an 80:20 split between growth and fixed income investments and its foreign currency exposures are 100% hedged to the New Zealand dollar.

In our actual portfolio, we also include '**active**' investment strategies – such as investing in alternative assets (e.g. timber, private equity) – in an effort to enhance our long-term performance . These activities bring a higher expected return and/or offer diversification benefits for the Fund, albeit with more complexity and cost.

The Reference Portfolio is therefore a very clear and 'pure' way for the Guardians to:

- estimate the Fund's expected returns;
- benchmark active (value-add) investment returns and costs; and
- be clear on the 'hurdles' for active investments.

The Reference Portfolio is not 'set and forget', and its asset class and risk-return composition can change over time, for example, if:

- assumptions about the long-term risk-return attributes of asset classes change or
- aspects of the Fund's purpose or endowments (e.g. our long-term horizon) change; or
- market developments mean that a narrower or wider set of representative market exposures can be accessed passively and at a low cost.

The Reference Portfolio approach encourages thinking on the underlying economic drivers of risk, returns and correlations (e.g. growth, inflation, liquidity and agency risks) rather than asset classes per se. Allocating capital through these lenses can therefore improve the true level of diversification of the Fund, relative to a more traditional Strategic Asset Allocation approach.

The Reference Portfolio also encourages greater separation and delegation of value-adding activities from the Board to internal management. This allows the Board to focus on Governance around the risk allocation and investment process, and allows management to focus on adding value to the portfolio.

7.1 Performance results

Since inception, the Fund has exceeded its Treasury Bill and Reference Portfolio performance measures. By contributing to the Fund, the Government is $5 billion better off than if it had paid down debt instead.

As at 28 February 2013, the Fund was at a record high of $21.99 billion. Since inception it has, on a before tax/after costs basis:

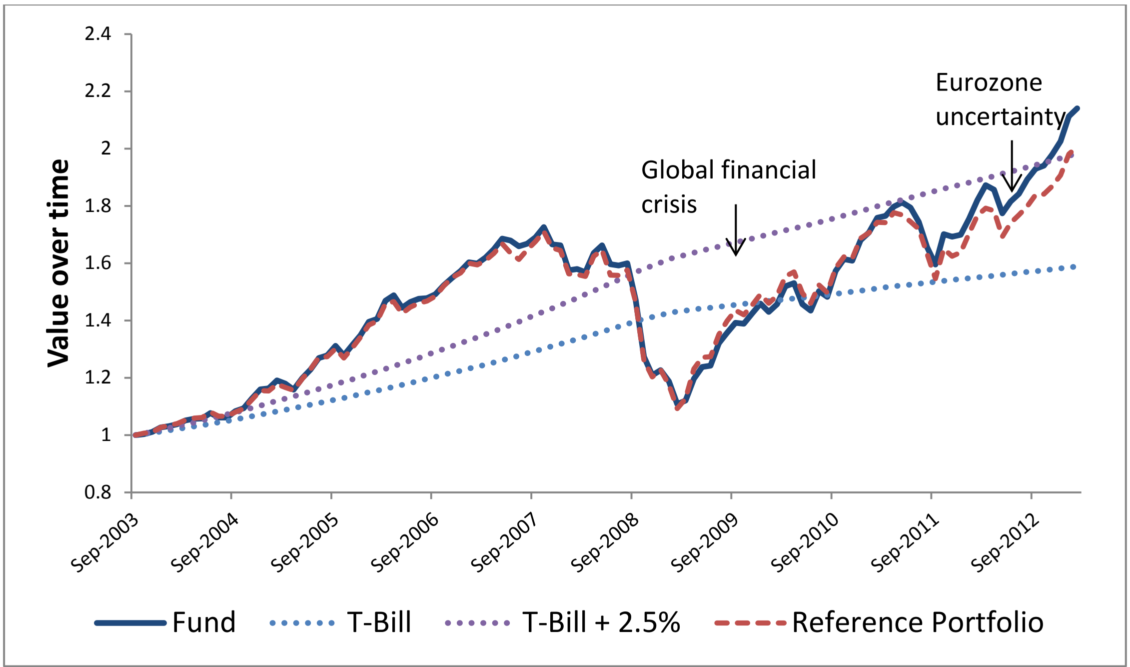
- exceeded the Treasury Bill rate by 3.38% or $5 billion
- exceeded the Reference Portfolio return by 0.74% or $1.5 billion.

The Guardians report on the performance of the Fund's actual investment portfolio, compared to both Treasury Bills and the Reference Portfolio, monthly. Table 3 outlines the most recent publicly available report.

Table 3: Performance as at 28 February 2013	February 2013	Last 12 months	Last 3 years	Last 5 years	Since inception
Actual Returns	1.31%	17.58%	13.66%	6.26%	8.41%
Reference Portfolio Return	1.31%	13.59%	10.49%	5.15%	7.67%
Treasury Bill rate	0.19%	2.44%	2.59%	3.54%	5.03%
Treasury Bill rate + 2.5%	0.39%	4.94%	5.09%	6.04%	7.53%

7.2 Performance since inception

This graph shows what has happened to the first dollar invested in the Fund over time.



7.3 Comments on RPRC Report

In March 2013 the Fund published its comments on a report by the University of Auckland's Retirement Policy Research Centre (RPRC). The authors of the report had argued that the Fund had not compensated taxpayers on a risk-adjusted basis for the investment made. In the Guardians' view, the RPRC's report is flawed both conceptually and in its methodology. Please refer to our paper for full details.

We note that, since the RPRC paper was published, the Fund has, net of tax, moved ahead of the performance hurdle the RPRC proposes as an appropriate risk-adjusted return (10-year bond yields + 2.5%), on both a geometric (time-weighted) and IRR (money-weighted) basis.

Table 4: Measures of Return Assumed average 11.1% tax rate	NZSF annualised return since inception	Highest annual yield on NZ Govt. Bonds (RPRC approach)	Net of tax highest yield on NZ Govt. bonds (adjusted RPRC approach – refer to our paper for details)	NZSF excess return to Government net-of-tax borrowing cost
Geometric (time-weighted return) to 30/06/12	7.05%	5.90%	5.25%	1.81%
Geometric (time-weighted return) to 28/02/13	8.41%	5.72%	5.09%	3.32%
IRR (money-weighted return) to 30/06/12	6.27%	5.76%	5.10%	1.17%
IRR (money-weighted return) to 28/02/13	7.94%	5.61%	4.99%	2.95%

8 Added benefits

As well as reducing uncertainty over the future affordability of New Zealand Superannuation and generating a long-term financial benefit for the Crown, the Fund, as one of New Zealand's few large and genuinely long-term savings vehicles, has a range of other benefits.

These include:

- the capacity to invest in long-dated local productive assets (e.g. Kaingaroa Forest);
- adding liquidity to local debt and equity markets, promoting sound governance practices in companies we invest in, and our specific New Zealand investment strategies;
- reducing the overall costs of funds management compared to smaller individual accounts through our economies of scale and cost;
- accessing international investment expertise through our collaboration and co-investment efforts with like investors; and
- bringing financial diversification to the Government's balance sheet. Tax revenue is wholly exposed to macroeconomic conditions in New Zealand. By investing globally the Fund makes future Government revenue and the ability to pay for New Zealand Superannuation less dependent on the New Zealand economy.

With around $3.5 billion of the Fund invested in New Zealand, including more than $1 billion in listed New Zealand equities, the Fund makes a significant contribution to the health of New Zealand's capital markets and the growth of the country's finance and business sector.

A February 2013 Treasury working paper found that over the period 2002-2011, the Fund had the effect of raising the estimate of household saving in New Zealand by an annual average of 2.1 percentage points of household disposable income.

For further information:

- Guardians' submission to the 2010 Savings Working Group
- www.nzsuperfund.co.nz