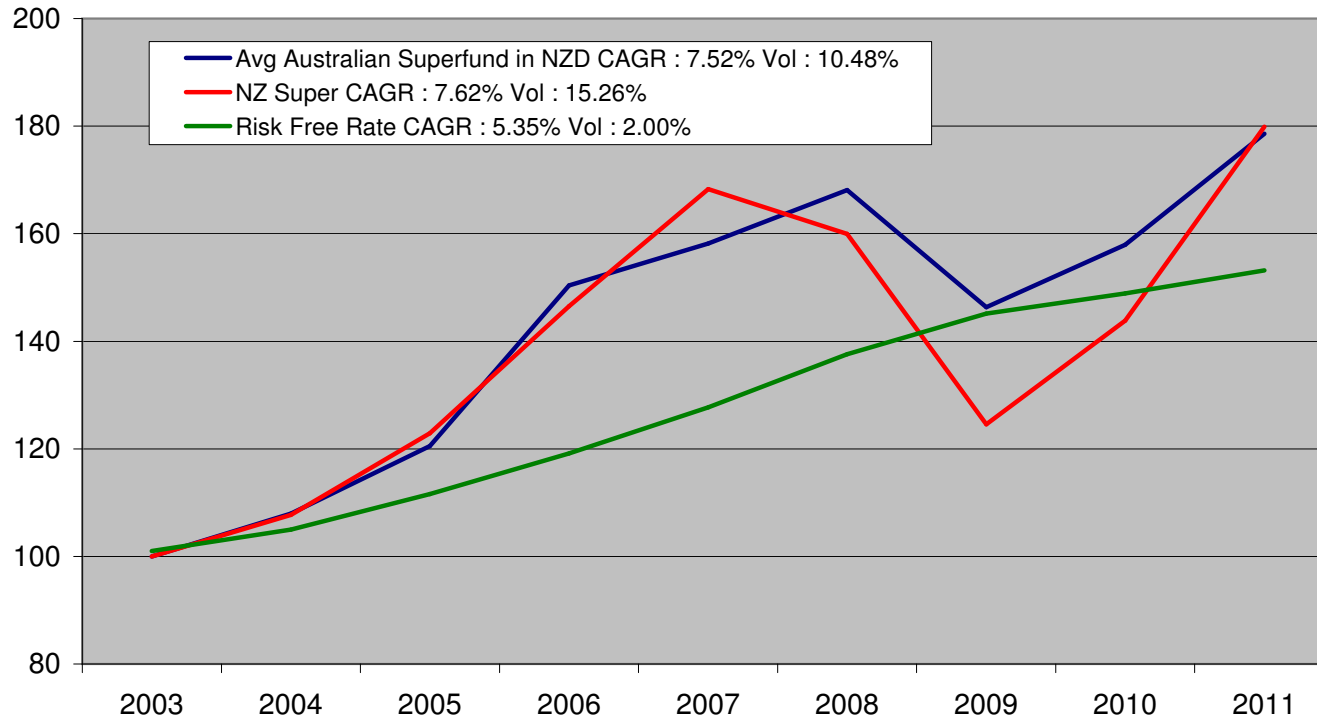


**Relative Performance of NZ Super v.s. Avg. Australian Superfund**



**Fund Statistics to Jun 2011  
NZ Super**

HPR***	79.89%
CAGR****	<b>7.62%</b>
Average ( Monthly )	0.68%
Std Dev. ( Monthly )	2.99%
Skew	-1.58
Kurt	5.33
Avg Annual.	8.15%
Std Dev. Annualised.	10.37%
VaR ( Normal )	-15.99%
CVaR ( Normal )	<b>-19.50%</b>
VaR ( Modified )	-31.23%
CVaR ( Modified )**	<b>-37.30%</b>
Maximum Drawdown ( Peak to Trough )	<b>-35.81%</b>
Value at Risk and Conditional Value at Risk stats shown at 99% CL i.e. 1:100 observations will be worse	

( June year end )	2004	2005	2006	2007	2008	2009	2010	2011
NZ Super	7.70%	14.13%	19.22%	14.85%	-4.96%	-22.15%	15.51%	25.05%
Avg Australian Super*	7.97%	11.63%	24.78%	5.17%	6.27%	-12.94%	7.93%	13.04%
Cash	3.93%	6.33%	6.74%	7.21%	7.75%	5.48%	2.59%	2.88%

8 Year CAGR	Annual Volatility
<b>7.62%</b>	<b>15.26%</b>
<b>7.52%</b>	<b>10.48%</b>
<b>5.35%</b>	<b>2.00%</b>

\*Source: Table 13 of APRA June 2011 Annual Superannuation Bulletin converted to NZD using RBA Historic exchange rates

\*\* Note using closed form approximation of Maillard - slightly less accurate than Dowd's iterative method

\*\*\*HPR = Holding Period Return or Total cumulative return over the period given by  $= (1+r_1) \times (1+r_2) \times (1+r_3) \dots \times (1+r_n) - 1$

\*\*\*\*CAGR = Compound Average Annual Growth rate - geometric growth rate of return given by  $= (1+HPR)^{1/n\text{-years}} - 1$

n-years used = 8 for closer comparison with Australian data although actual is 7.75 due to Sep 03 start for NZ Super

NB: Note the reason the Maximum Drawdown for the Fund Statistics is higher ( - 35.81%) than that shown on the chart =  $124.536 / 168.299 - 1 = - 26.00\%$

is that it is calculated using the actual monthly data provided by NZ Super whereas the chart shows annual data only. This is also

the reason for the difference in Annual Volatility and Annualised monthly volatility ( Std Dev ).