

8 April 2014

EMBARGOED UNTIL 6.00AM, TUESDAY 8 APRIL 2014

Abolished 1974 Super fund would now be worth \$278 billion, delivering \$256,000 nest eggs

A report prepared by Infometrics estimates the 1974 New Zealand Superannuation Fund would be worth \$278 billion by 1 April 2015 had the scheme continued. The Infometrics report, funded by the Financial Services Council, and released today also estimates that someone on the average wage, saving over 40 years would have had a retirement nest egg of \$256,000 at age 65 by 1 April 2015.

The fund was built on 8% contributions (4% from employees and 4% from employers) invested half in New Zealand bonds and half in New Zealand shares.

That nest egg invested in a bank term deposit earning 5.5% would fund a comfortable retirement, adding \$234 dollars a week after tax on top of the NZ Super pension which is currently \$282 a week after tax for each person eligible in a married, civil or de facto relationship.

Financial Services Council Chief Executive Peter Neilson says: "This helps explain why three out of four adult New Zealanders think it was a mistake to scrap the 1974 Superannuation Scheme".

The Financial Services Council commissioned Infometrics to estimate the value of the 1974 NZ Super Scheme had it not been abolished after the change of Government in November 1975. Had the NZ Super Scheme continued there would now have been \$139 billion invested in the New Zealand share market and another \$139 billion invested in debt instruments.

The value of the total listings on the NZ Stock Exchange is currently \$87 billion of which around \$2 billion is from KiwiSaver funds.

"1974 Super fund investors would own a substantial proportion of our own listed companies. We would also have a lower dollar, more New Zealanders on higher wages and fewer fast growing companies would have to sell equity to foreigners to be able to grow," Mr Neilson says.

"Public opinion has changed since 1974, and most supporters of parties currently represented in Parliament now support making KiwiSaver universal (compulsory).

"We think the Infometrics report will help inform the Budget and General Election debates this year on how we can ensure New Zealanders achieve a comfortable retirement and how

best to address our persistent current account deficit and growing external borrowing despite record terms of trade.”

For further information contact:

Peter Neilson, CEO, Financial Services Council (FSC)

Tel: 021 395 891

Email: peter.neilson@fsc.org.nz

Adolf Stroombergen, Infometrics

Tel: 04 474 2141

Email: Adolfs@infometrics.co.nz

Graeme Colman, Horizon Research

Tel: 021 848 576

Email: gcolman@horizonresearch.co.nz

Infometrics Estimates of the Retirement Lump Sums, the Annual and Weekly Before and After Tax Interest Incomes they could have Funded had the 1974 Super Scheme Continued and the Combined Income with the NZ Super Pension they Could have Paid from 1 April 2015

Income and Duration of Saving	1974 New Zealand Superannuation Scheme					Married (each partner)		Single living alone	
	Lump Sum	Annual interest income at 5.5% before tax ²	Tax at 17.5%	Annual after tax income	Weekly income after tax	NZS, weekly after tax ³	Total weekly after tax	NZS, weekly after tax ³	Total weekly after tax
On mean wage (\$54,600 in 2013) after 40 years of saving in 2015	\$268,953	\$14,792	\$2,589	\$12,204	\$234	\$282	\$516	\$367	\$601
On median wage (\$46,900 in 2013) after 40 years of saving in 2015	\$231,300	\$12,721	\$2,226	\$10,495	\$201	\$282	\$483	\$367	\$568
On minimum wage (\$28,200 in 2013) after 40 years of saving in 2015	\$110,937	\$6,102	\$1,068	\$5,034	\$96	\$282	\$378	\$367	\$463
On mean wage (\$54,600 in 2013) after 40 years of saving in 2019 with contribution rate at 8% ¹	\$315,874	\$17,373	\$3,040	\$14,333	\$275	\$282	\$557	\$367	\$642

¹ As the contribution rate was to gradually increase over four years until it reached 8% in 1979 the first people retiring after 40 years having contributed 8% each year would not retire until 2019.

² The entire lump sum is invested in a 5-year term deposit (currently yielding 5.5%). An annuity would deliver higher annual income, but would exhaust the principal.

³ As New Zealand Superannuation payments are set to no less than 66% of the average wage we would expect those to increase by 2015 or 2019 in line with average wages.

Married, civil union or de facto couple who both qualify: \$282.26/week each from April 2014.

Single superannuitant living alone: \$366.94/week from April 2014.

HorizonPoll December 2012

Q4.1 It was a mistake for New Zealand to abolish its compulsory super scheme in 1976	ALL	GENDER		AGE GROUP							
		Female	Male	Under 18 years	18-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	75 years or over
Strongly agree	38.0%	33.6%	46.5%	38.8%	28.6%	24.9%	31.0%	41.6%	56.9%	58.3%	49.1%
Agree	35.4%	40.3%	31.0%	11.8%	45.2%	38.0%	38.7%	34.8%	31.2%	31.0%	28.0%
Neutral	12.0%	11.2%	12.3%	0.0%	11.4%	16.2%	17.9%	12.0%	3.4%	7.4%	14.9%
Disagree	2.9%	3.2%	2.1%	0.0%	2.0%	3.5%	1.4%	3.6%	3.0%	0.6%	7.9%
Strongly disagree	1.1%	0.8%	1.4%	6.5%	0.0%	0.2%	1.2%	1.1%	2.4%	1.4%	0.0%
Not sure	10.6%	11.0%	6.7%	42.9%	12.8%	17.3%	9.8%	6.9%	3.2%	1.3%	0.0%
N (unweighted)	2107	1062	1045	19	206	415	356	447	354	257	53

Q4.1 It was a mistake for New Zealand to abolish its compulsory super scheme in 1976	ALL	HOUSEHOLD INCOME								
		Less than \$20,000 per year	Between \$20,001 and \$30,000 per year	Between \$30,001 and \$50,000 per year	Between \$50,001 and \$70,000 per year	Between \$70,001 and \$100,000 per year	Between \$100,001 and \$150,000 per year	Between \$150,001 and \$200,000 per year	More than \$200,000 per year	Don't know/ prefer not to say
Strongly agree	38.0%	34.7%	40.7%	41.8%	45.8%	40.9%	47.6%	51.7%	37.9%	25.2%
Agree	35.4%	32.5%	39.1%	35.1%	29.8%	36.5%	38.2%	41.4%	32.5%	39.9%
Neutral	12.0%	18.3%	7.4%	6.0%	16.4%	12.8%	7.3%	0.9%	9.2%	19.1%
Disagree	2.9%	1.8%	2.1%	1.6%	3.2%	2.1%	2.3%	4.6%	0.0%	5.7%
Strongly disagree	1.1%	2.0%	0.5%	0.8%	0.5%	0.7%	1.3%	0.0%	5.9%	2.6%
Not sure	10.6%	10.5%	10.1%	14.8%	4.4%	7.1%	3.3%	1.4%	14.5%	7.6%
N (unweighted)	2107	240	293	432	324	278	185	44	17	294

Q4.1 It was a mistake for New Zealand to abolish its compulsory super scheme in 1976	ALL	PARTY VOTE 2011												
		ACT New Zealand	Conserv- ative	Green Party	Labour Party	Mana Party	Maori Party	National Party	New Zealand First Party	United Future	Other party	Chose not to vote	Was not eligible to vote	Don't know or can't remember
Strongly agree	38.0%	36.1%	34.8%	39.8%	47.3%	68.5%	45.4%	38.2%	62.9%	54.8%	55.9%	31.9%	64.6%	29.1%
Agree	35.4%	11.3%	39.1%	39.0%	31.3%	24.4%	33.0%	42.3%	23.6%	11.8%	21.8%	36.3%	21.2%	33.8%
Neutral	12.0%	36.9%	11.8%	9.8%	7.3%	7.1%	20.3%	11.8%	8.6%	0.0%	5.0%	14.0%	4.7%	18.6%
Disagree	2.9%	3.9%	5.9%	3.1%	1.8%	0.0%	1.3%	2.9%	2.9%	6.5%	13.1%	1.9%	0.0%	4.5%
Strongly disagree	1.1%	9.8%	0.0%	1.3%	1.3%	0.0%	0.0%	1.1%	0.9%	0.0%	4.2%	0.7%	0.0%	1.1%
Not sure	10.6%	2.0%	8.4%	7.1%	11.1%	0.0%	0.0%	3.8%	1.0%	26.9%	0.0%	15.2%	9.5%	12.9%
N (unweighted)	2107	19	42	160	386	17	19	659	93	4	6	430	44	228



**How Big Would the 1974 New Zealand
Superannuation Scheme Have Been by 2015
Had it Continued and What Size Retirement
Balances and Pensions Could it Have
Delivered?**

for Financial Services Council

April 2014

Contents

Objective	1
Background and Assumptions.....	1
Results	2

Authorship

This report has been prepared by Adolf Stroombergen and has been peer reviewed by John Savage

Email: adolfs@infometrics.co.nz

All work and services rendered are at the request of, and for the purposes of the client only. Neither Infometrics nor any of its employees accepts any responsibility on any grounds whatsoever, including negligence, to any other person or organisation. While every effort is made by Infometrics to ensure that the information, opinions, and forecasts are accurate and reliable, Infometrics shall not be liable for any adverse consequences of the client's decisions made in reliance of any report provided by Infometrics, nor shall Infometrics be held to have given or implied any warranty as to whether any report provided by Infometrics will assist in the performance of the client's functions

Objective

This paper looks at the potential effects of the 1974 New Zealand Superannuation Act scheme passed on 26 August 1974, for commencement on 1 April 1975. The scheme was abolished after the change of government in November 1975. The paper addresses three questions:

1. What would be the total size of the scheme in 2015 in terms of Funds Under Management (FUM) had the scheme continued?
2. What would be the balance at retirement for an individual who had been on mean income, median income, or the minimum wage over a 40 year working life?
3. What pension would this provide at retirement in addition to the current New Zealand Superannuation pension?

Background and Assumptions

The 1974 New Zealand Superannuation Scheme had the following key characteristics:

- Compulsory coverage for employees and voluntary coverage for the self-employed.
- Initial contribution rate of 4% (2% from the employer and 2% from the employee), rising to 8% (4% plus 4%) by 1979.
- Funds to be invested 50% in government bonds and 50% in New Zealand equities.
- The tax treatment of the scheme was EET. Contributions were from income that was not taxed, investment returns in one's fund were not taxed, but income on withdrawals were taxed. (It is assumed that withdrawals at age 65 are converted into an income stream with tax paid on that income stream, rather than the tax being paid on the withdrawal itself).

These results are subject to some uncertainty, partly because of poor data and partly because many details of the 1974 scheme or how it might have evolved are unknown. Our provisional assumptions are as follows:

1. Contribution rate: The contribution rate rises from 4% to 8% in annual steps of 1% up to 1979. The first people retiring at the full 8% contribution rate would be eligible for a pension or lump sum in 2019, but the first cohort to have 40 years of contributions could retire from 1 April 2015.
2. Returns: The exact composition of the investment portfolio of the Scheme is unknown. For government bonds we assume the 10 year government stock rate return. For New Zealand equities we assume a multi-sector growth portfolio calculated by Morningstar for the Financial Services Council. A 50/50 mix in effect provides a balanced portfolio. As an alternative Morningstar's multi-sector balanced portfolio could be used. (Further notes on the technicalities of the series are provided in the accompanying spreadsheet).

It should also be noted that the investment activity of the Scheme could have affected the observed historical returns from bonds and equities. This counterfactual is not knowable.

3. Participation: For employees, as it was compulsory, participation is assumed to be 100% from the start. We provisionally assume a 60% participation rate by the of self-employed.¹ This is simulated by including 60% of self-employment income (both farm and non-farm) in the wage and salary base. Users of the spreadsheet can easily change this assumption.
4. Income: For an individual on an average (mean) income we use mean total time weekly earnings annualised. For someone on the minimum wage we use the legal weekly minimum wage rate series annualised. For a median income we simply apply a ratio to the balance obtained for someone on mean income. (Again further details are given in the model spreadsheet). For 2013 these incomes are shown below.

Mean total time earnings	\$54,600
Median earnings	\$51,900 (based on longitudinal ratio to mean income)
Minimum Wage	\$28,200

In our previous modelling of an expanded KiwiSaver scheme mean is projected at every age according to an estimated age-income relationship (by sex). This is not conceptually the same as the definition of mean income used above, which is a cross-sectional measure.

5. Projections beyond 2013: Projections beyond 2013 are simple extrapolations based on the previous decade and can easily be updated as actual results become available.

Results

On the basis of our assumptions we estimate total Funds Under Management for the 1974 New Zealand Superannuation scheme had it continued would, by 2015, have reached about \$278 billion.

If participation by the self-employed was 100% FUM rises to around \$300 billion. As a test of this approach, a figure of \$309 billion is obtained by grossing up the result for someone on mean income by the number of people of employed. Clearly these measures are not conceptually identical, but should not be too far apart in practice.

Given the mix of 50% debt and 50% New Zealand equities, the value of the 1974 New Zealand Superannuation funds invested in the New Zealand stock market might be around \$139 billion in 2015, based on the above assumptions.

¹ In a survey undertaken for the FSC in November 2013 Horizon Research ascertained that of the self-employed, 53% are in KiwiSaver and want to be, 4% are in KiwiSaver and wish they were not, and 11.5% are not in but are prepared to join. Thus eventually we might see about 60% of the self-employed participating in KiwiSaver. We apply this proportion to the 1975 scheme, conscious of the fact that the true proportion can never be known.

In comparison the current market capitalisation of the New Zealand stock market is about \$87 billion, of which about only \$2 billion is accounted for by KiwiSaver funds.

These numbers should not be added together as some of the savings in the 1974 scheme (had it continued) would simply have been redirected from other equity investments. Furthermore some investors would probably have sought more diversification offshore, given their large exposure to New Zealand equities through the 1974 Scheme. Nevertheless the market capitalisation of the New Zealand stock would almost certainly have been substantially larger than it currently is.

The results for individuals are shown in Table 1.

Table 1: Summary of Results

Measure	Value
Balance in 2015 for someone on mean total time earnings after 40 years of saving.	\$269,000
Retirement income per year from investment at 5.5% pa, principal maintained	\$14,800
Balance in 2015 for someone on median earnings after 40 years of saving	\$256,000
Retirement income per year from investment at 5.5% pa, principal maintained	\$14,100
Balance in 2015 for someone on minimum wage after 40 years of saving	\$110,000
Retirement income per year from investment at 5.5% pa, principal maintained	\$6,100
Balance in 2019 for someone on mean total time earnings after 40 years of saving with contribution rate at 8%	\$316,000
Retirement income per year from investment at 5.5% pa, principal maintained	\$17,400

The annual retirement income amounts are before tax and would be in addition to the New Zealand Superannuation pension, which is currently about \$19,100 per annum after tax for a single person living alone and \$14,700 after tax for someone on half of the married rate

For someone who retires in 2019 after being in the scheme for 40 years at the full contribution rate of 8%, the mean balance is \$316,000. Assuming the amount is invested at 5.5% pa it would yield an annual pension of \$17,400 before tax and leave the principal intact.

Provisional Estimates of Individual and Aggregate Fund Balances for Proposed 1975 New Zealand Superannuation Scheme

March year	Contribution Rate	Govt 10 year bond yields	NZX Multi-sector Balanced	NZX Multi-sector Growth	Mean return	Population=65		Working Age Popn		Unemployment rate (%)	Employment ('000)	Mean total time earnings (\$)	Contribution (\$)
						5 yearly ('000)	Simple Interpolation ('000)	5 yearly ('000)	Simple Interpolation ('000)				
		0.5	0	0.5							0.85		
1975												5717	
1976	0.04	6.33	0.071	0.071	0.0673	22.67	22.7	1605.8	1605.8	1.2	1348.2	6475	259
1977	0.05	8.34	-0.067	-0.067	0.0084		22.8		1618.7	1.0	1360.7	7341	367
1978	0.06	9.23	-0.071	-0.071	0.0105		22.9		1631.8	0.9	1373.9	8262	496
1979	0.07	9.97	0.077	0.077	0.0883		23.1		1645.0	1.6	1375.6	9333	653
1980	0.08	12.04	0.143	0.143	0.1316		23.2		1658.2	1.4	1388.8	10862	869
1981	0.08	13.28	0.188	0.188	0.1602	23.36	23.4	1671.6	1671.6	1.9	1392.6	12899	1032
1982	0.08	12.83	0.316	0.316	0.2221		23.6		1699.4	2.6	1405.6	15113	1209
1983	0.08	12.91	0.000	0.000	0.0646		23.9		1727.7	3.0	1424.2	16420	1314
1984	0.08	12.18	0.008	0.400	0.2609		24.1		1756.5	4.8	1420.6	16556	1325
1985	0.08	12.57	0.140	0.200	0.1629		24.4		1785.7	4.4	1450.7	17169	1374
1986	0.08	17.86	0.320	0.310	0.2441	24.66	24.7	1815.4	1815.4	3.7	1485.0	18893	1511
1987	0.08	16.02	0.364	0.055	0.1074		25.3		1852.5	4.1	1620.6	21815	1745
1988	0.08	15.01	-0.024	-0.397	-0.1232		25.9		1890.3	4.1	1617.4	24338	1947
1989	0.08	13.02	0.081	0.116	0.1233		26.5		1928.9	5.6	1556.6	25957	2077
1990	0.08	12.57	0.068	0.115	0.1203		27.1		1968.4	7.1	1524.2	27024	2162
1991	0.08	12.31	0.055	0.071	0.0969	27.79	27.8	2008.6	2008.6	7.8	1531.3	28429	2274
1992	0.08	9.48	0.099	0.100	0.0973		27.7		2040.3	10.3	1506.8	29173	2334
1993	0.08	8.05	0.077	0.091	0.0859		27.6		2072.6	10.4	1518.4	29678	2374
1994	0.08	6.49	0.097	0.105	0.0848		27.5		2105.4	9.5	1559.5	29871	2390
1995	0.08	8.27	0.001	-0.021	0.0307		27.4		2138.7	8.1	1632.0	30658	2453
1996	0.08	7.49	0.061	0.074	0.0743	27.26	27.3	2172.5	2172.5	6.3	1701.7	31421	2514
1997	0.08	7.92	0.053	0.046	0.0625		27.6		2190.7	6.1	1746.4	32429	2594
1998	0.08	7.03	0.096	0.132	0.1009		28.0		2209.1	6.6	1750.9	33288	2663
1999	0.08	5.99	0.072	0.064	0.0618		28.4		2227.6	7.4	1741.1	34044	2723
2000	0.08	6.82	0.037	0.072	0.0700		28.8		2246.3	6.8	1774.3	34750	2780
2001	0.08	6.54	0.022	0.027	0.0460	29.18	29.2	2265.1	2265.1	6.0	1810.2	35541	2843
2002	0.08	6.56	-0.027	-0.048	0.0089		30.1		2304.9	5.3	1863.0	37020	2962
2003	0.08	6.35	-0.061	-0.109	-0.0228		31.1		2345.4	5.2	1914.8	38317	3065
2004	0.08	5.84	0.101	0.117	0.0876		32.1		2386.5	4.6	1971.4	39543	3163
2005	0.08	6.11	0.028	0.014	0.0377		33.1		2428.5	3.9	2041.8	40676	3254
2006	0.08	5.80	0.150	0.211	0.1343	34.22	34.2	2471.1	2471.1		2098.5	42155	3372
2007	0.08	5.83	0.041	0.035	0.0466		35.6		2500.4		2145.2	44331	3546
2008	0.08	6.37	-0.028	-0.045	0.0094		37.0		2530.0		2173.0	46084	3687
2009	0.08	5.64	-0.125	-0.171	-0.0573		38.5		2560.0		2192.2	48397	3872
2010	0.08	5.78	0.109	0.155	0.1064		40.1		2590.4		2163.8	49809	3985
2011	0.08	5.52	0.046	0.064	0.0597	41.73	41.7	2621.1	2621.1		2190.1	51220	4098

2012	0.08	4.55	-0.009	-0.045	0.0003		43.0		2639.1	2220.7	53074	4246
2013	0.08	3.61	0.105	0.127	0.0814		44.2		2657.3	2218.4	54617	4369
2014	0.08				0.0506		45.6		2675.6	2244.7	56409	4513
2015	0.08				0.0506		46.9		2694.1		58261	4661
2016	0.08				0.0506	48.31	48.3	2712.6	2712.6		60173	
2017	0.08				0.0506						62148	
2018	0.08				0.0506						64188	
2019	0.08				0.0506						66295	

Notes

The estimates contain considerable uncertainty, partly because of poor data and partly because many details of the 1975 Scheme or how it might have evolved are unknown. Suggestions for improvements are welcome.

- 1 Contribution rate: The contribution rate was to be 8%, but phased in from an initial value of 4%. Annual increments of 1% are assumed.
- 2 Govt 10 year bonds: Data up to and including 1985 is from SNZ's Long Term Data Series. RBNZ data thereafter.
- 3 NZX returns: There is no consistent series of returns for the NZX.
The returns for the Balanced multi-sector portfolio are from Morningstar from 1984. Before 1984 the series is an index of stock prices from SNZ's yearbooks.
The returns for the Growth multi-sector portfolio are from Morningstar from 1989. Before 1989 the series is an index of stock prices from SNZ's yearbooks.
- 4 Mean return: The scheme was to invest 50/50 in government bonds and NZ equities, but which bonds and which equities is unknown. Returns are untaxed, but the Scheme was EET.
Users can choose between the series by changing the values in cells C5 - E5.
Standard options are all Balanced (0, 1, 0) or 50% bonds and 50% growth (0.5, 0, 0.5).
- 5 Employment: SNZ from 1987. Before 1987 estimates based on relation between unemployment rate and labour force. Unemployment series is from LTDS Table b2-3.
- 6 Mean income: From 1990: mean total time weekly earnings annualised. Before 1990, spliced to SNZ Long Term Data Series on average annual wages. No account is taken of the relationship between age and income.
- 7 Aggregate balance: Calculated as mean balance multiplied by numbers employed. An alternative calculation based directly on total compensation of labour is given in column AE. Each year withdrawals from the scheme are linked to the proportion of people turning 65.
- 8 Participation rate: The numbers in row 5, cols Z-AA should be set to between 0 and 1 for degree of inclusion of income from self-employment. The 1975 scheme was compulsory for employees but voluntary for the self-employed. For employees participation is assumed to be 100% from the start.

Other Assumptions

- 9 Projections: Projections beyond 2013, in purple text, are simple extrapolations based on the previous decade.
- 11 Feedback: No account is taken of possible feedback effects on bond rates or equity returns from the actions of the NZ Superannuation Scheme.
- 12 Mean income: In our forward modelling of an expanded KiwiSaver scheme mean income is projected at every age according to an estimated age-income relationship (by sex). This is not conceptually the same as the definition of mean income used above, which is a cross-sectional measure.

Provisional Estimates of Individual and Aggregate Fund Balances for Proposed 1975 New Zealand Superannuation Scheme

Minimum Wage Calculations			Aggregate Balance					40 years at 8% contribution rate			
Balance (\$)	Minimum wage (\$)	Contribution (\$)	Balance (\$)	Compensation of Employees	Entrepreneurial Income - Farm 0.6	Entrepreneurial Income - Non-farm 0.6	Total labour compensation (\$m)	Aggregate balance (\$m)	Approx check on Aggregate balance if participation is 100% (\$m)	Contribution (\$)	Balance (\$)
	2469			5,434	333	803	6,116				
259	2649	106	106	6,273	613	910	7,187	287	349		
628	2893	145	251	7,066	840	1,086	8,222	696	846		
1131	3361	202	456	8,102	696	1,180	9,228	1245	1521		
1884	3726	261	757	9,415	787	1,287	10,659	2078	2526		
3001	3949	316	1172	10,977	1,281	1,396	12,583	3319	4017	869	869
4513	4022	322	1682	13,066	1,122	1,633	14,719	4963	6020	1032	2040
6724	4330	346	2402	15,754	1,197	2,049	17,702	7379	8931	1209	3702
8472	4392	351	2908	17,248	1,123	2,348	19,331	9268	11217	1314	5255
12007	4392	351	4018	17,589	1,218	2,726	19,955	13085	15786	1325	7950
15336	4530	362	5035	19,250	1,513	3,175	22,063	16720	20034	1374	10619
20591	7044	564	6828	22,675	1,107	3,869 old	25,661	22500	26744	1511	14722
24546	9218	737	8298	27,095	964	4,248 nev	30,222	26909	31940	1745	18048
23469	11088	887	8163	30,240	1,519	4,985	34,142	25948	30707	1947	17771
28440	11741	939	10109	31,596	1,807	5,423	35,934	31546	37161	2077	22039
34022	12219	978	12302	32,533	2,010	5,945	37,306	37709	44200	2162	26852
39592	12523	1002	14496	32,944	1,208	5,995	37,266	43589	51081	2274	31727
45780	12784	1023	16929	32,605	1,939	5,957	37,343	49954	58556	2334	37149
52089	12784	1023	19407	33,316	1,884	5,776	37,912	56288	66030	2374	42716
58895	12784	1023	22075	34,842	2,372	6,363	40,083	63162	74059	2390	48727
63155	12806	1024	23777	37,184	2,157	7,288	42,851	67387	78996	2453	52676
70360	13067	1045	26589	39,450	2,104	8,195	45,629	74834	87724	2514	59103
77350	13415	1073	29323	42,066	2,028	8,207	48,207	82073	96221	2594	65389
87820	14610	1169	33451	43,784	1,875	8,770	50,171	92921	108896	2663	74651
95966	14610	1169	36686	44,750	1,959	9,310	51,511	101180	118487	2723	81985
105464	14706	1176	40430	45,743	2,629	10,376	53,546	110757	129618	2780	90504
113155	15784	1263	43552	48,077	4,268	9,671	56,440	118458	138494	2843	97508
117128	16124	1290	45231	51,653	4,850	10,270	60,725	122385	142923	2962	101340
117525	16698	1336	45536	55,072	3,039	10,876	63,421	122675	143205	3065	102097
130978	17741	1419	50942	59,306	3,427	12,248	68,711	136675	159368	3163	114199
139166	18785	1503	54364	64,268	3,198	12,661	73,783	145341	169235	3254	121755
161227	19828	1586	63251	69,605	2,311	13,027	78,808	168401	195822	3372	141478
172279	21394	1712	67907	74,349	2,788	14,700	84,842	180038	209069	3546	151611
177580	23481	1878	70422	80,512	4,933	14,650	92,262	185968	215395	3687	156718
171279	25046	2004	68391	84,700	2,292	14,528	94,792	179787	207941	3872	151612
193480	26090	2087	77752	85,630	2,769	14,242	95,837	202937	234470	3985	171722
209125	26612	2129	84521	88,390	4,584	15,779	100,608	218950	252646	4098	186068

213424	27134	2171	86714	91,916	5,509	14,388	103,854	223017	257181	4246	190361
235160	28177	2254	96024	95,599	4,117	14,678	106,876	244909	282260	4369	210221
251568	29511	2361	103242	100,274	4,193	14,946	111,758	260953	300577	4513	225367
268953	30909	2473	110937	105,178	4,271	15,219	116,872	277773	309181	4661	241427
										4814	258452
										4972	276497
										5135	295618
										5304	315874

Aggregate fund balance (FUM) in 2015		
- based on compensation of labour	\$	277.8 billion
- approx check based on mean income, <u>given</u> 100% participation	\$	309.2 billion
	Balance	Annual pension at
		5.5%
Mean after 40 years of saving in 2015	\$ 268,953	\$ 14,792
Minimum wage after 40 years of saving in 2015	\$ 110,937	\$ 6,102
Median income is approximately 86% of mean income. Assuming that this ratio applied since 1976, the fund balance for someone on median income after 40 years of saving is	\$ 231,300	\$ 12,721
Mean in 2019 after 40 years of with contribution rate at 8%		# \$ 17,373