



Trends in income inequality and other socio-economic outcomes

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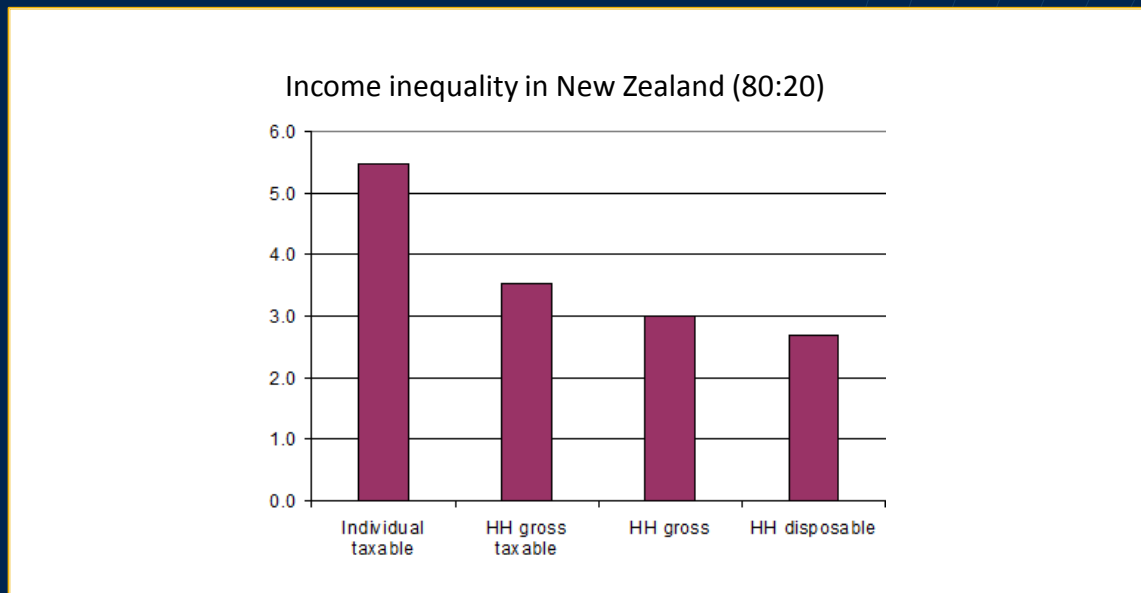
Outline

1. Static analysis of income inequality
 - Key concepts – income, equivalence, housing costs, measures
 - Trends for NZ relative to other OECD countries
2. Relationship with other socioeconomic outcomes
3. Dynamic analysis – what may determine future equality?
 - Educational outcomes
 - Benefit dependency
 - Wealth inequality

Key concepts

Definition of income

The level of incomes inequality depend on which income concept is used



Source: MSD household income report 2010

Including government services – HH 'final income' – also important

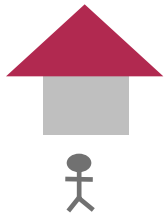
Key concepts

Equivalence

Taking into account household composition is important

'Equivalent' incomes

Household 1



Income \$50,000

Household 2



Income \$76,844

Household 3



Income \$70,226

Key concepts

Including housing costs

Most international comparisons do not factor in housing costs – using ‘before housing costs’ (BHC)

However, it is important to consider – lower income households pay a far greater proportion of their income on housing

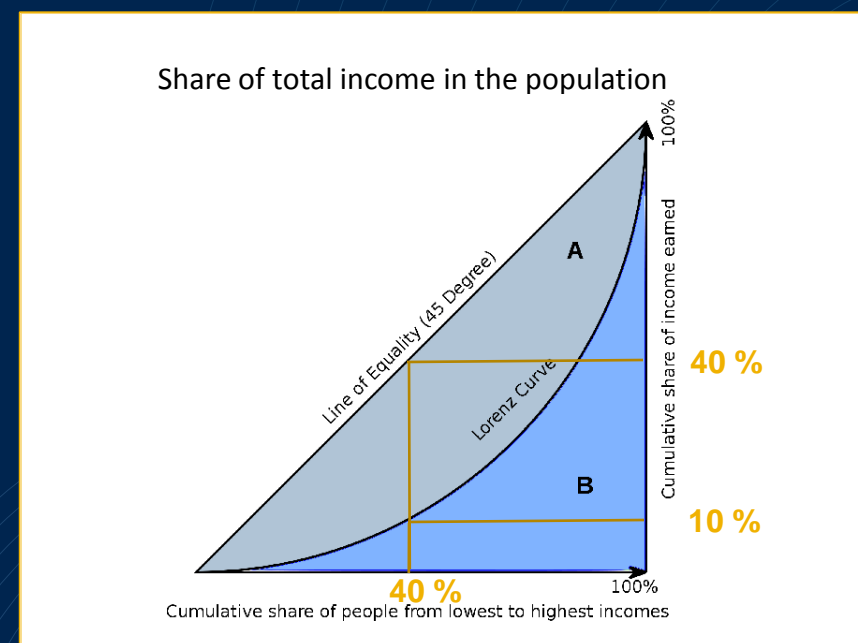
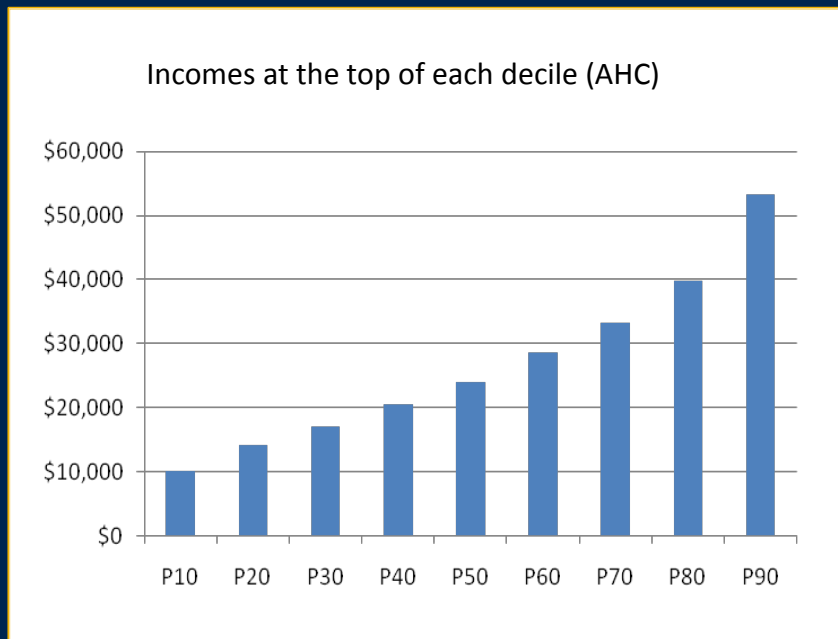
Measures after housing costs (AHC) there show higher inequality

Key concepts

How to measure income inequality

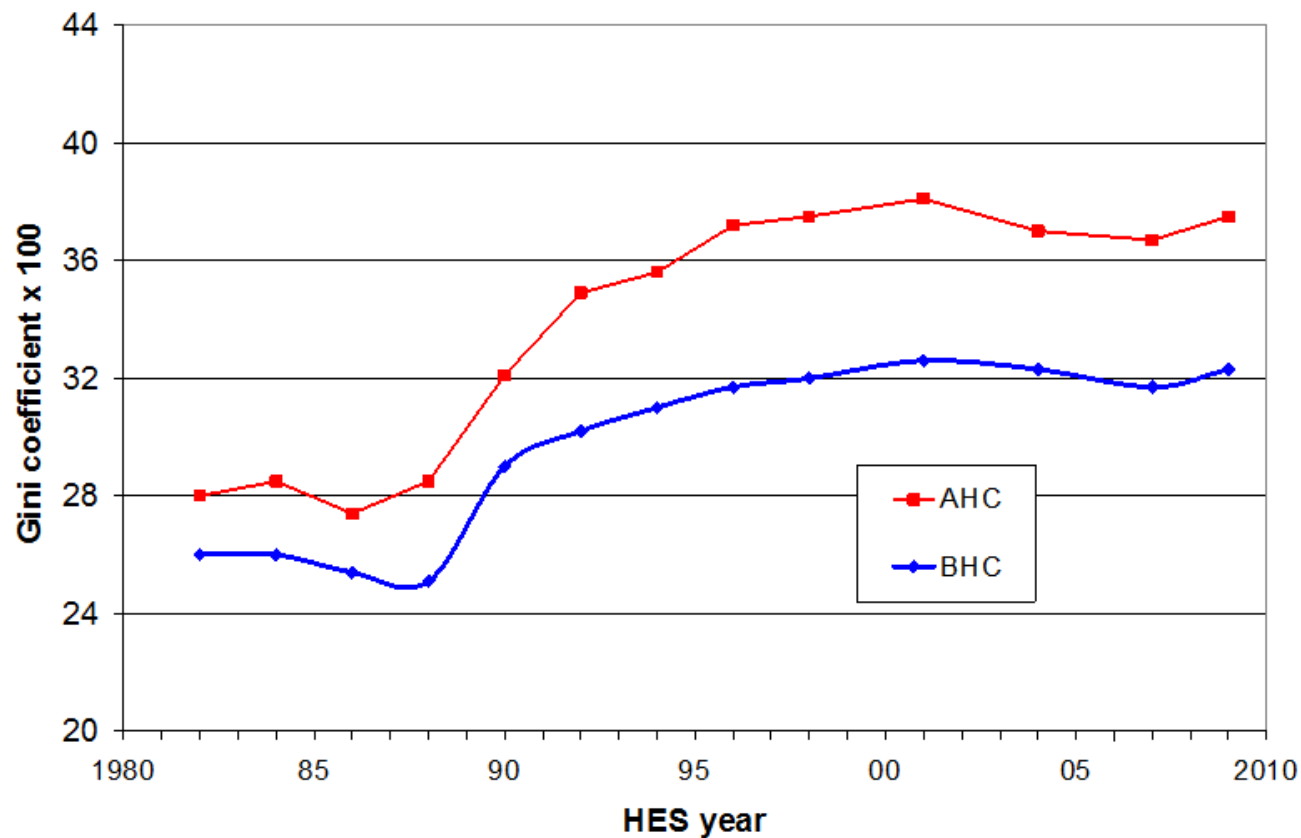
1. Ratios of top – bottom

2. Gini Coefficient

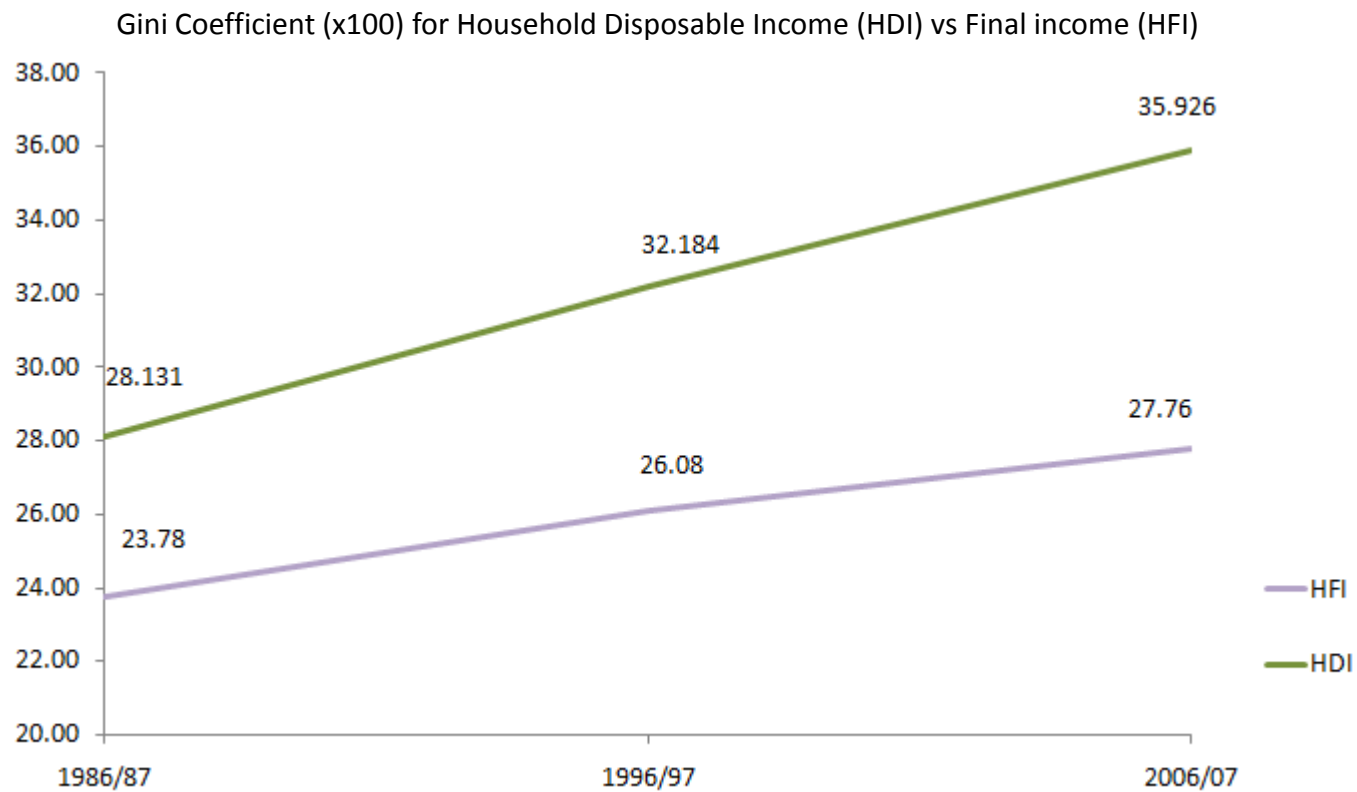


Source: MSD household income report 2010

Trends in income inequality

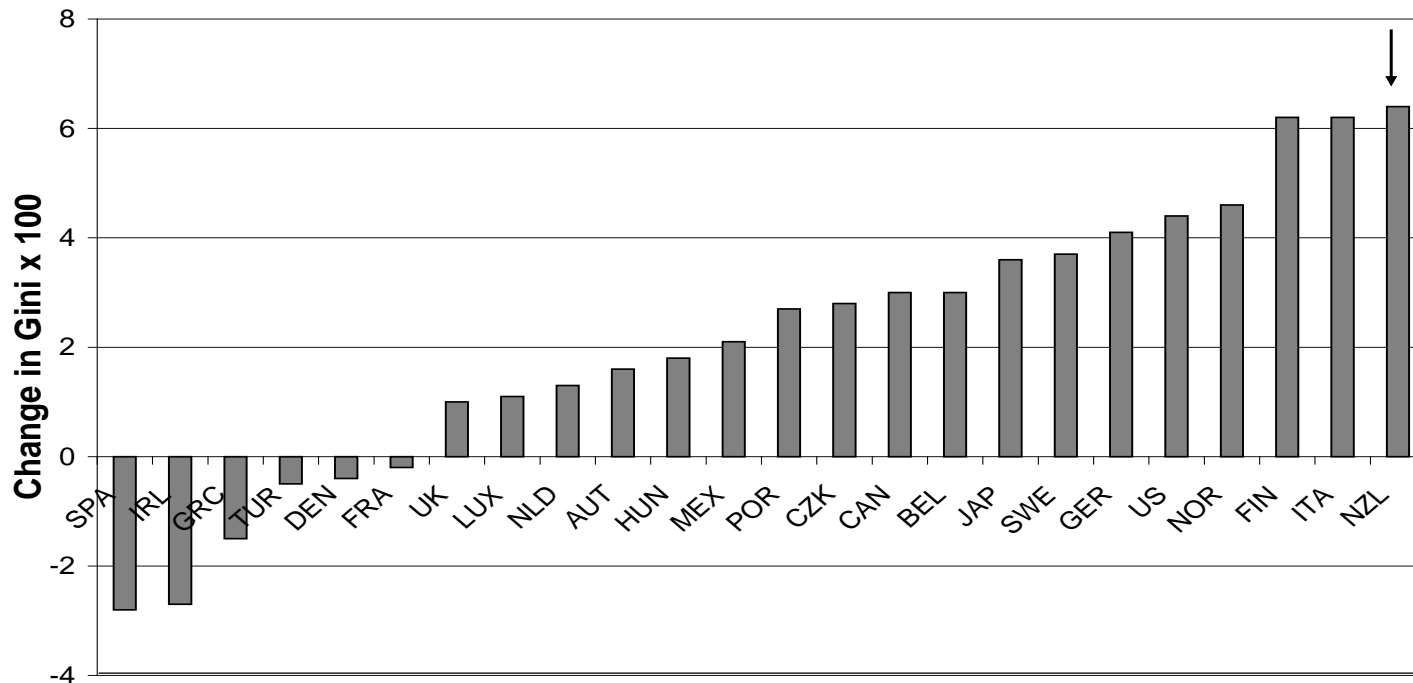


Trends in income inequality

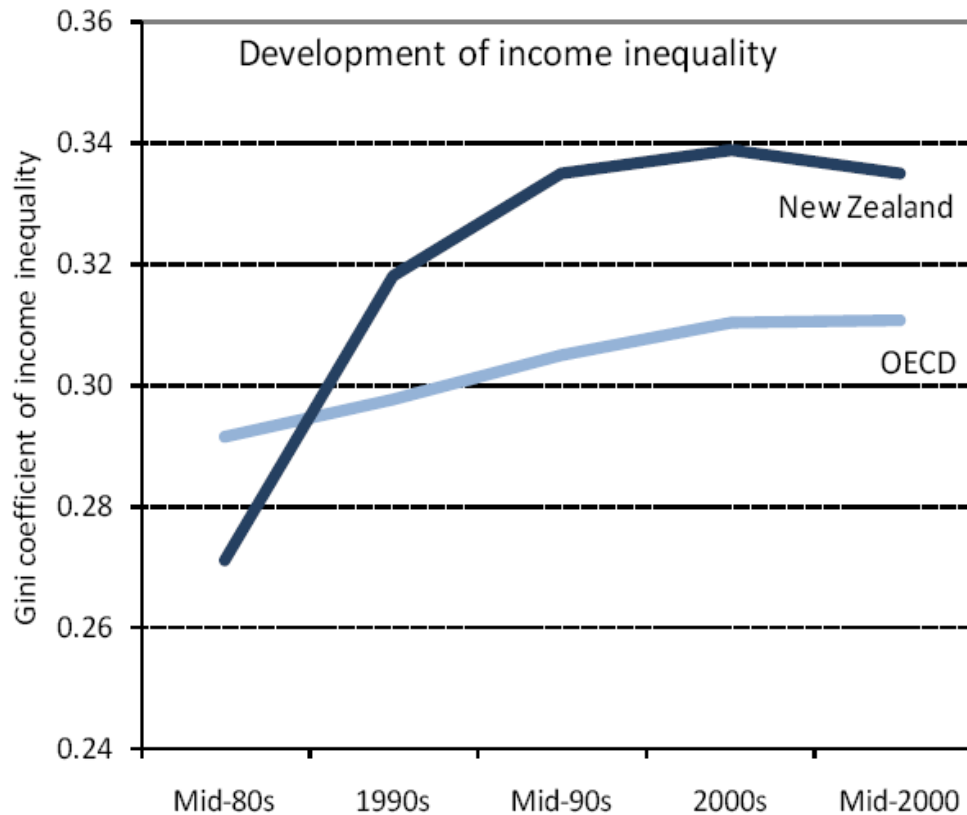


Trends in income inequality

Change in income inequality in NZ – mid 80s to mid 2000s

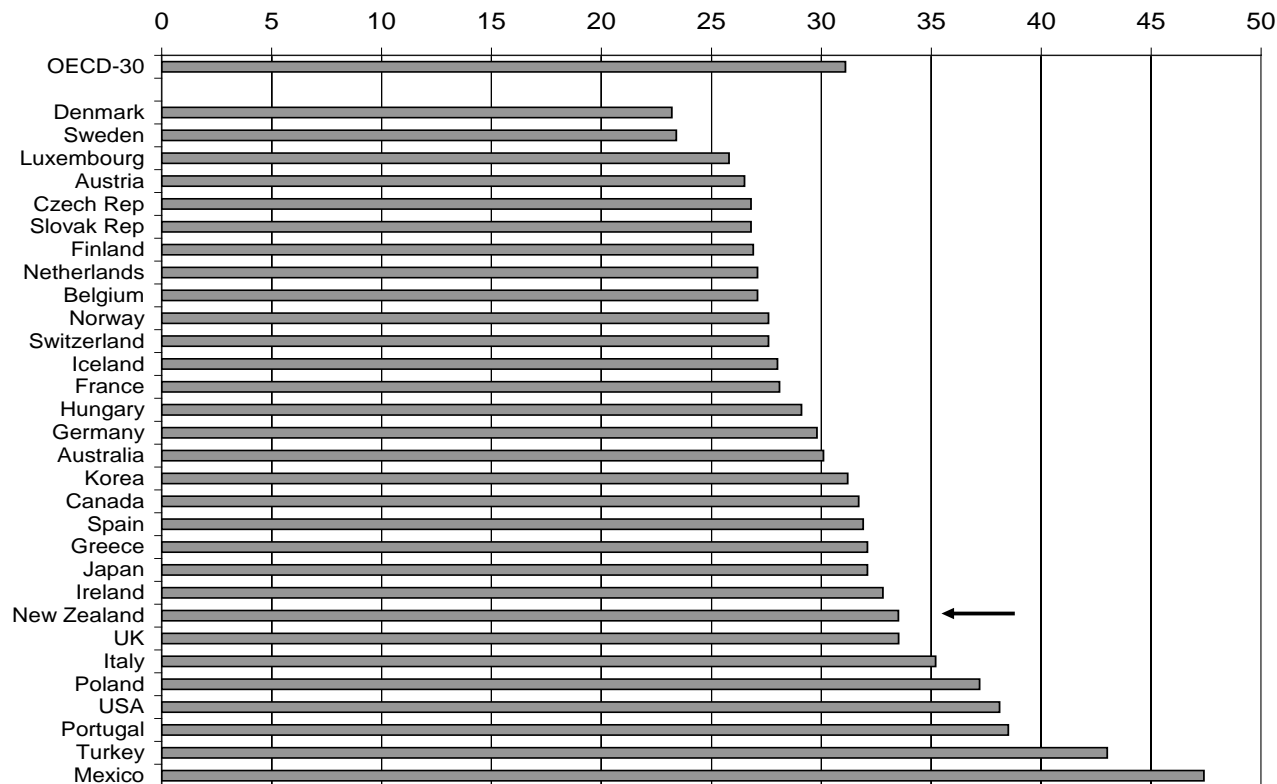


Trends in income inequality



Trends in income inequality

Gini Coefficient (x100) within OECD countries (around 2004)



Conclusions on trends

1. Income inequality in NZ grew sharply between mid 80s and mid 90s, but stabilised recently
2. Including government support, growth is less
3. But still high inequality relative to other OECD countries

Trends in other variables

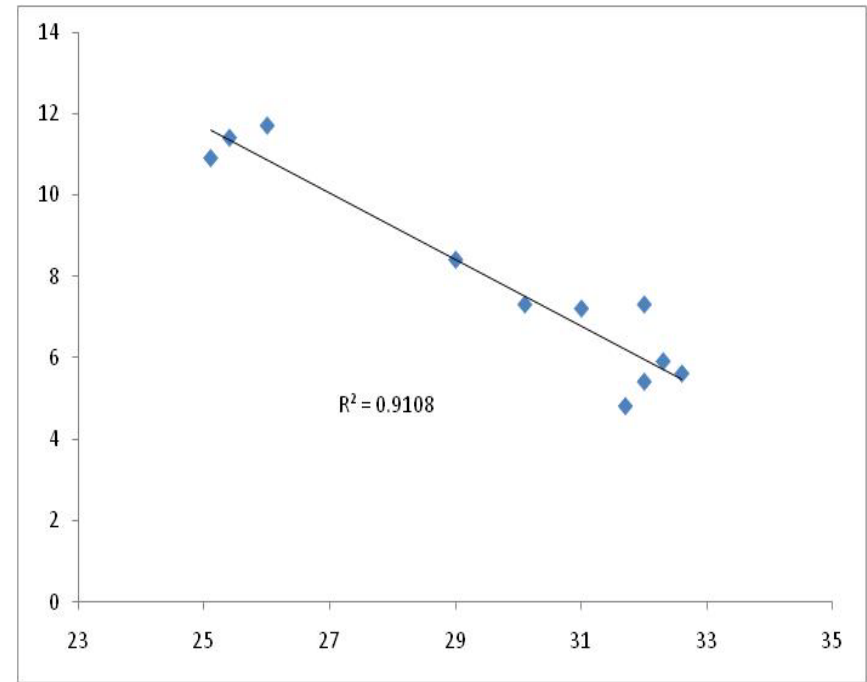
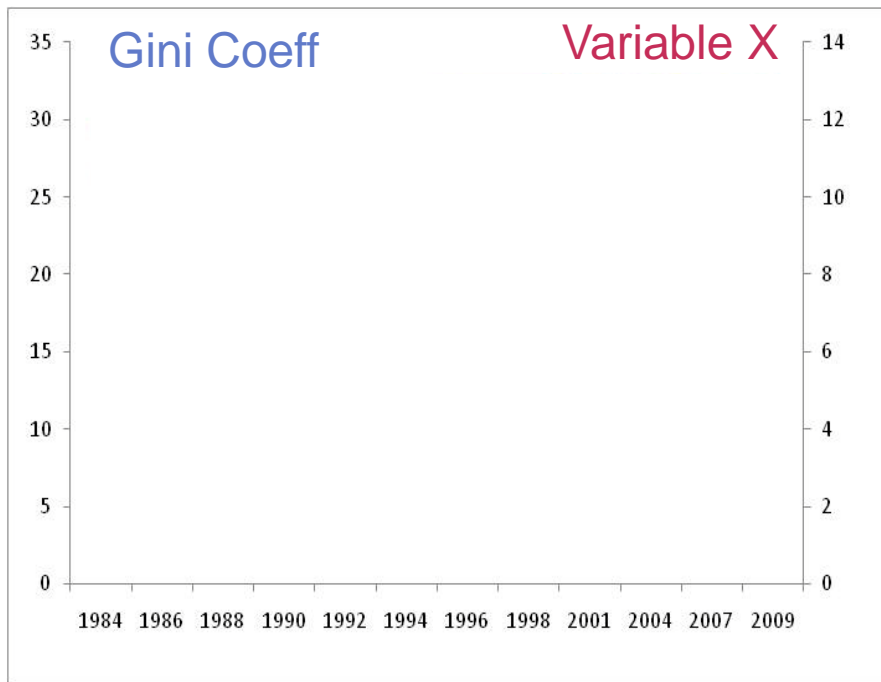
Index of:

- Life expectancy
- Math & Literacy
- Infant mortality
- Homicides
- Imprisonment
- Teenage births
- Trust
- Obesity
- Mental illness – incl. drug & alcohol addiction
- Social mobility



Trends in other variables

'Variable X'



As income inequality has increased Variable X has reduced

Trends in other variables

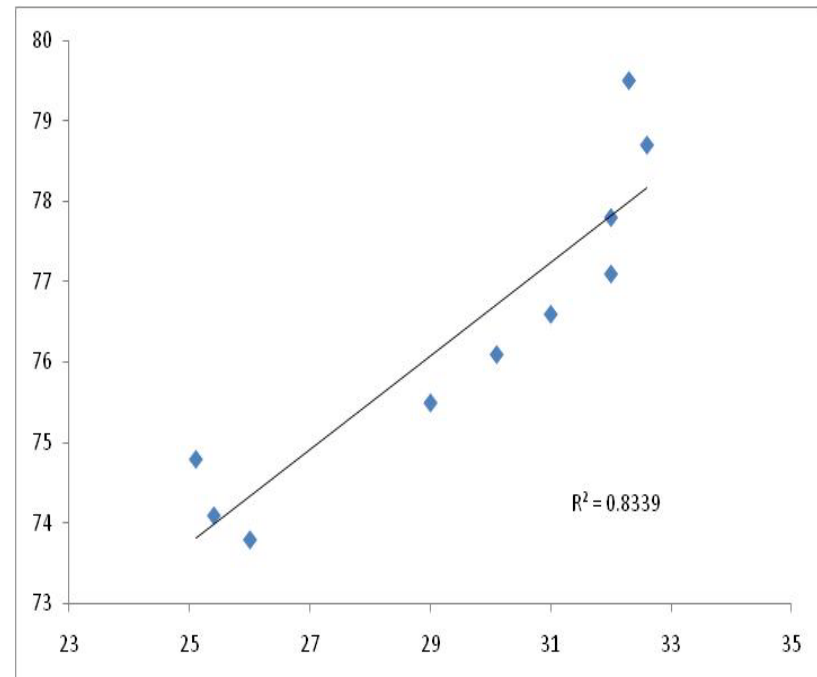
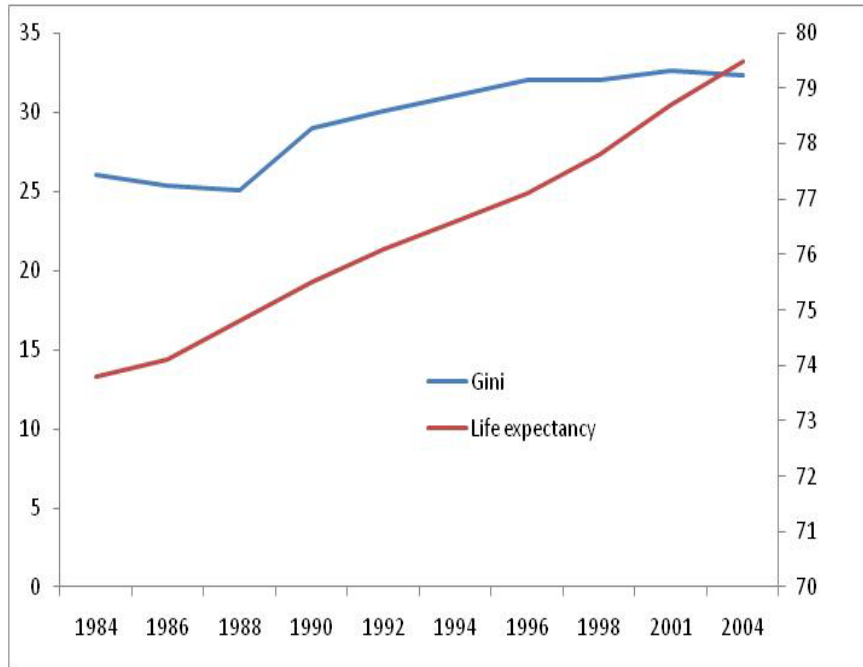
Notes of caution when using results

1. The graphs illustrate the trend in two variables, and the relationship between these trends
2. To make statements about any causal relationship requires more complex analysis
3. Assuming causation, limitations of this approach:
 - a. Lack of data points
 - b. Potential time lags
 - c. Lack of a 'control' variable

Over time you would expect to see an *increase* in poor social/health outcomes with *increasing* inequality

Trends in other variables

Life expectancy (yrs)

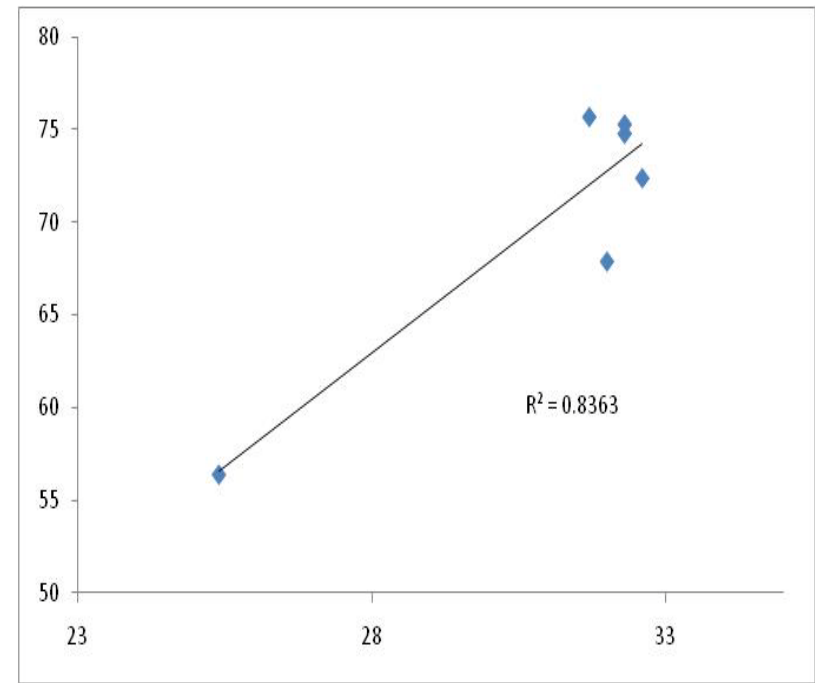
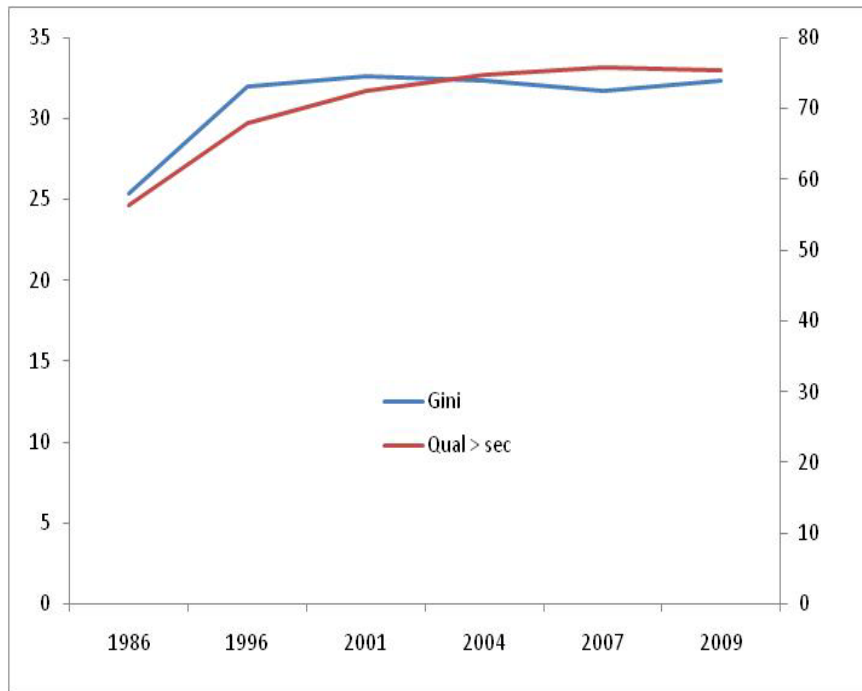


Source: StatsNZ

As income inequality has increased life expectancy has increased

Trends in other variables

School qualifications (% adults > secondary)

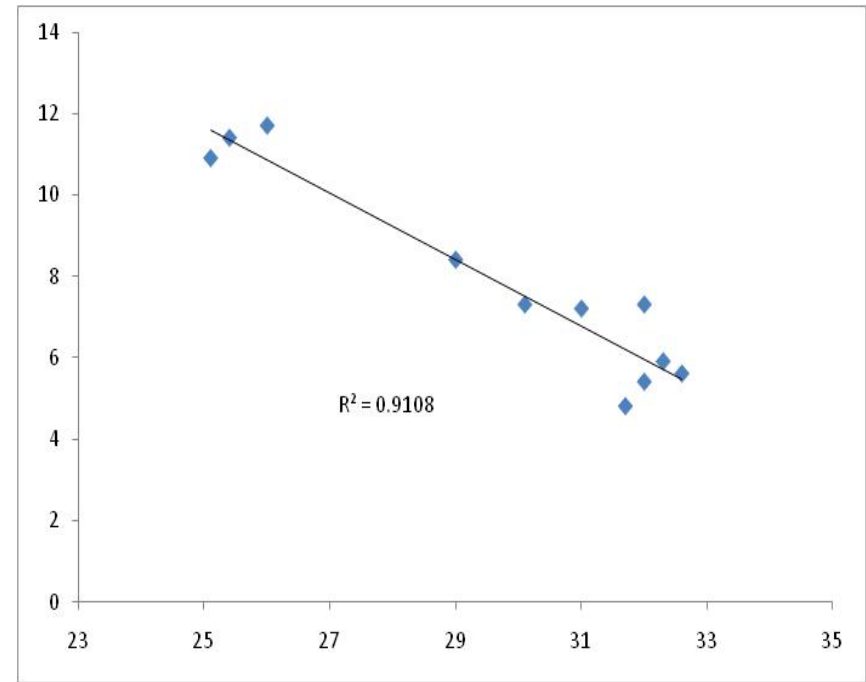
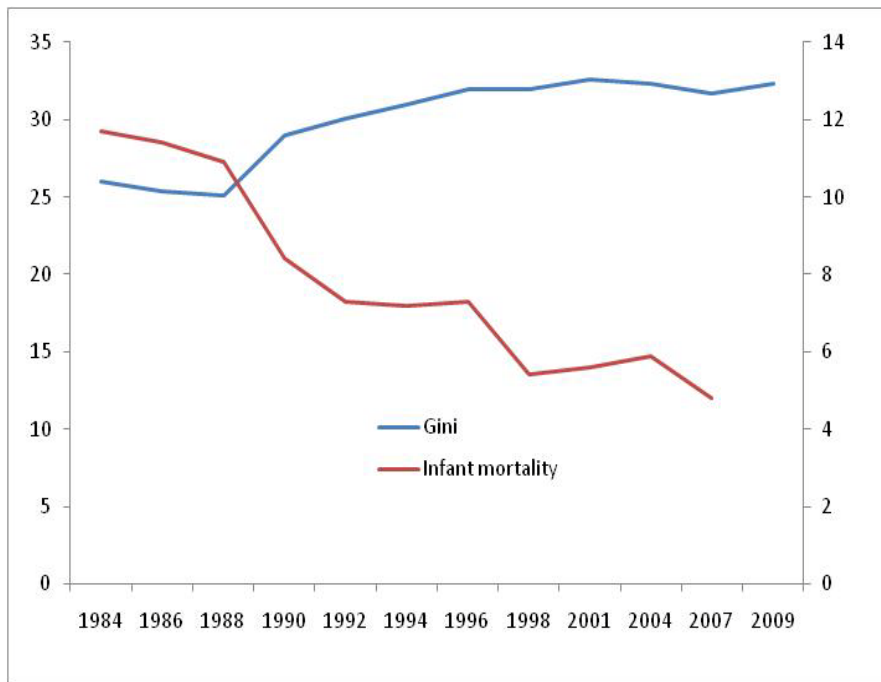


Source: MSD Social Report 2010

As income inequality has increased educational attainment has increased

Trends in other variables

Infant mortality (deaths/1000 live births)

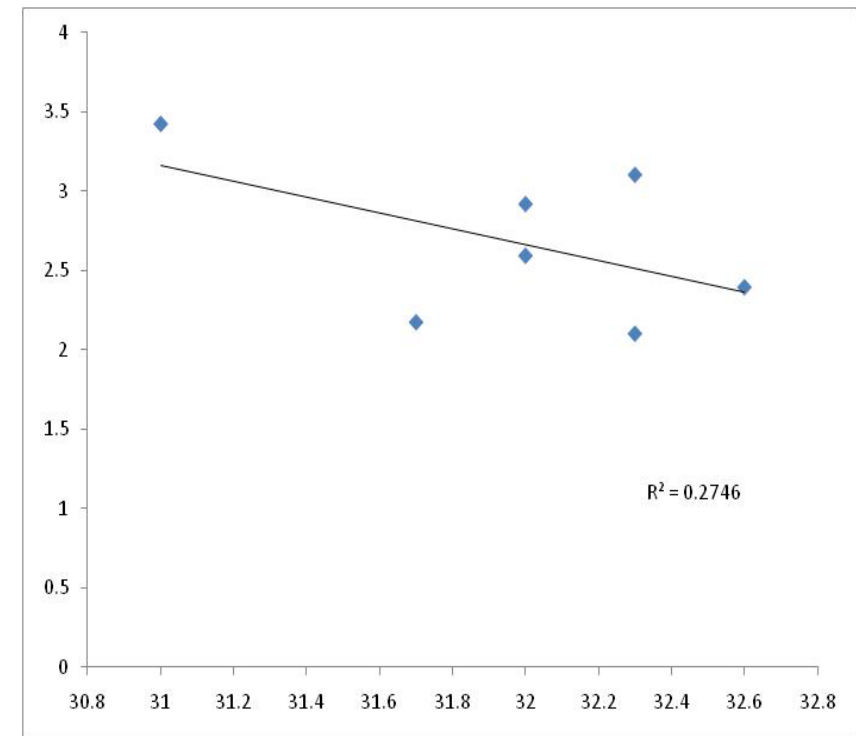
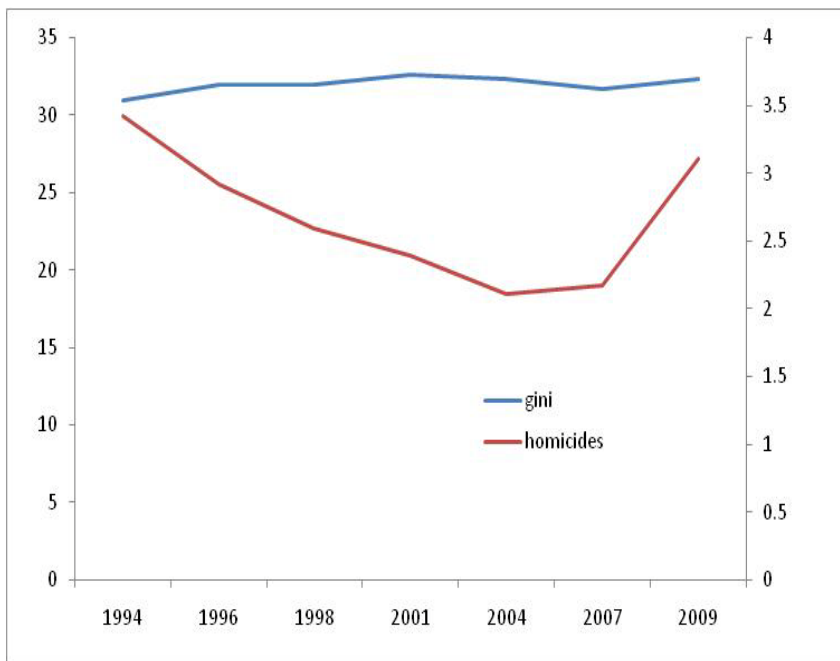


Source: StatsNZ

As income inequality has increased infant mortality has reduced

Trends in other variables

Homicide (/100,000 people)

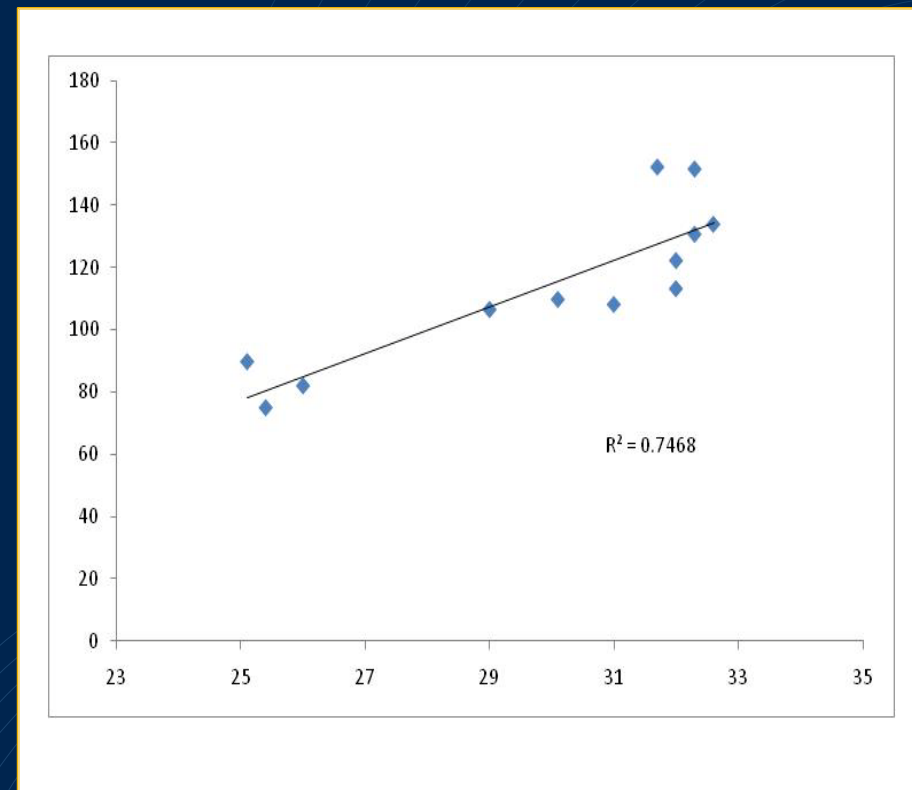
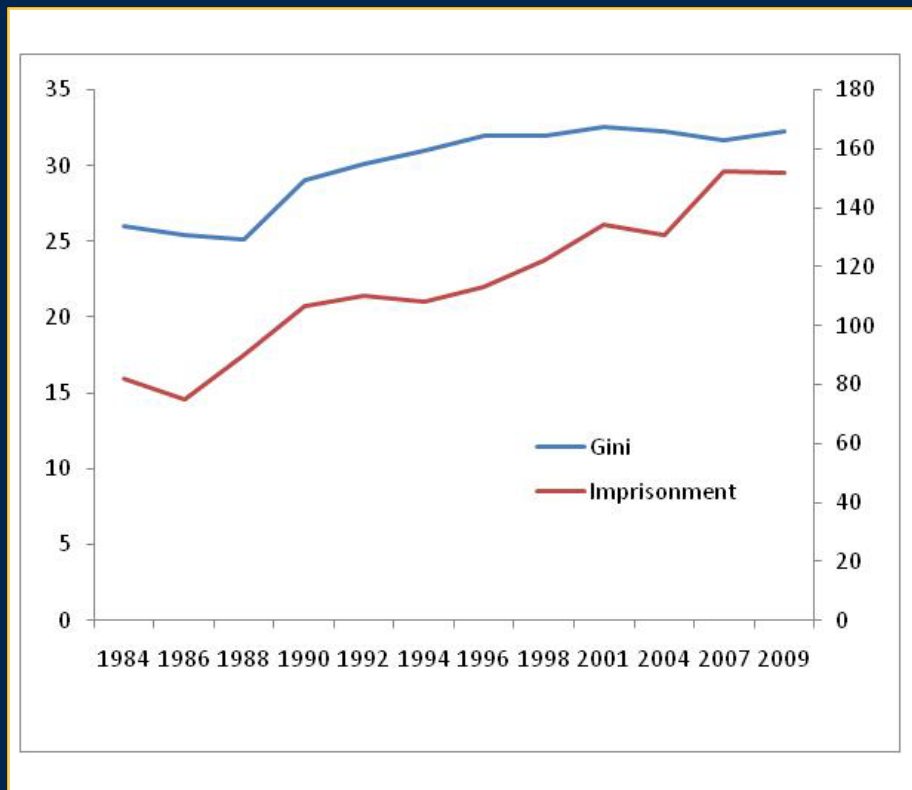


Source: StatsNZ

As income inequality has increased homicides have fallen

Trends in other variables

Imprisonment rate (/100,000 people)

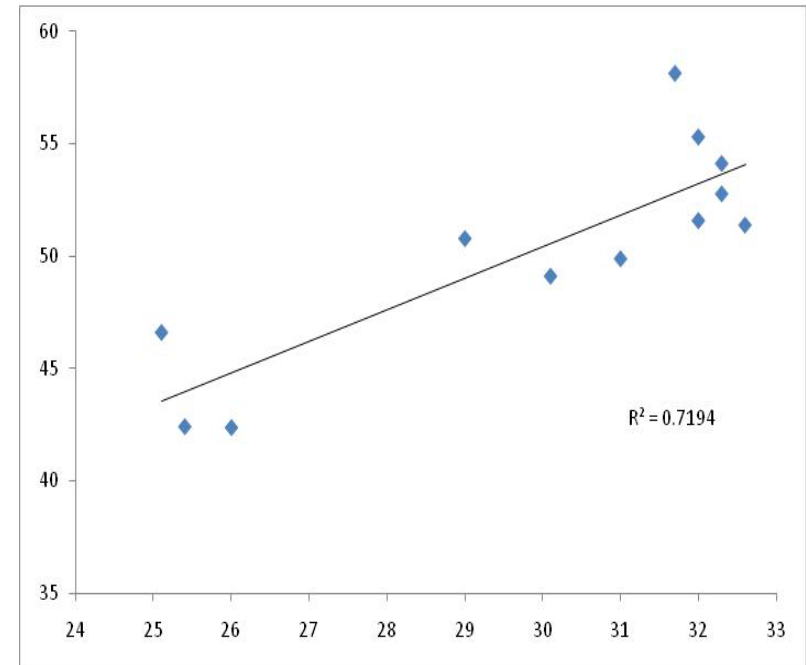
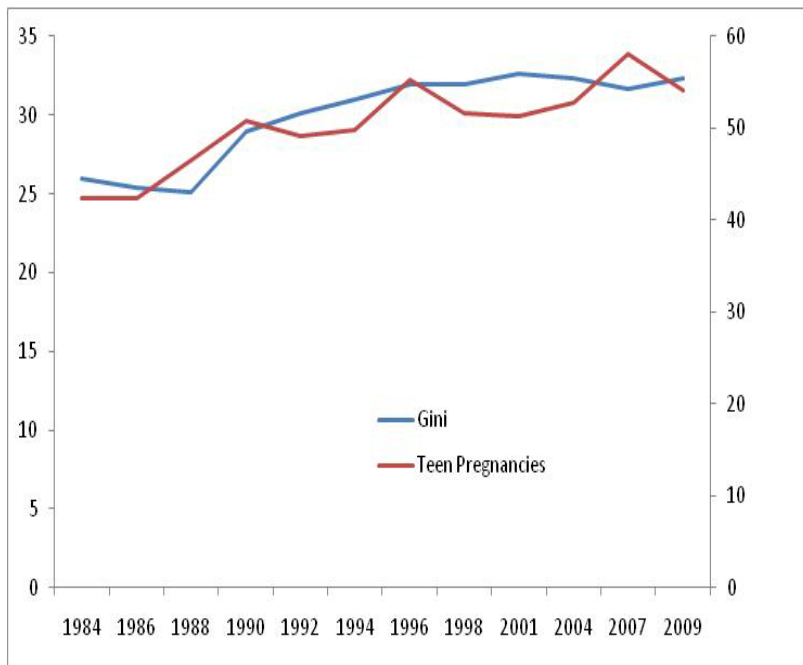


Source: Corrections NZ

As income inequality has increased imprisonment rates have increased

Trends in other variables

Teenage births (pregnancies/1000 teenagers)

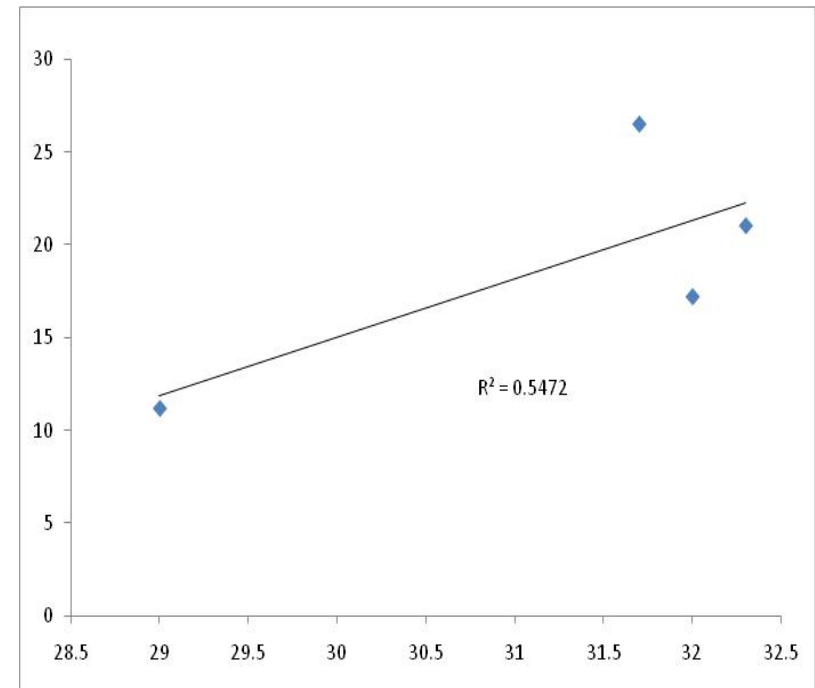
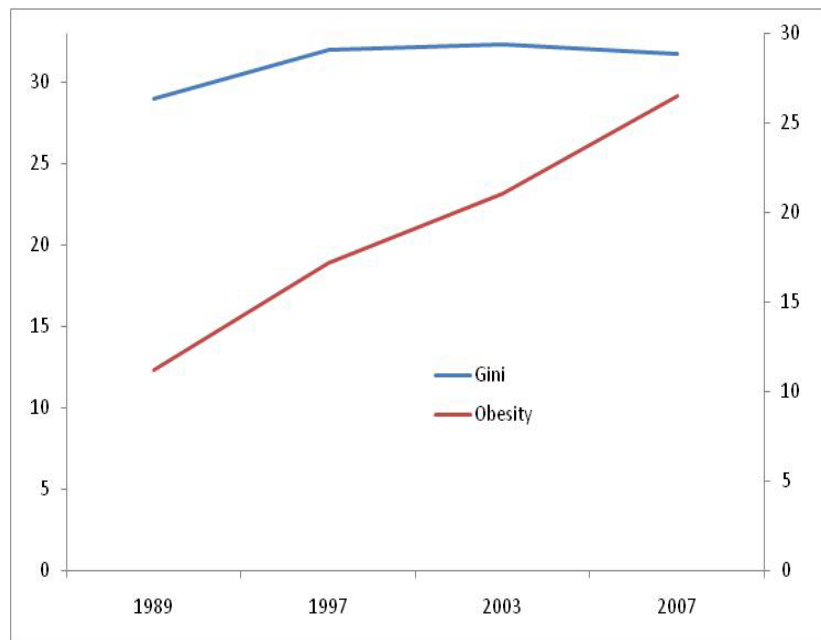


Source: StatsNZ

As income inequality has increased teenage births have increased

Trends in other variables

Obesity (% in population BMI > 30)



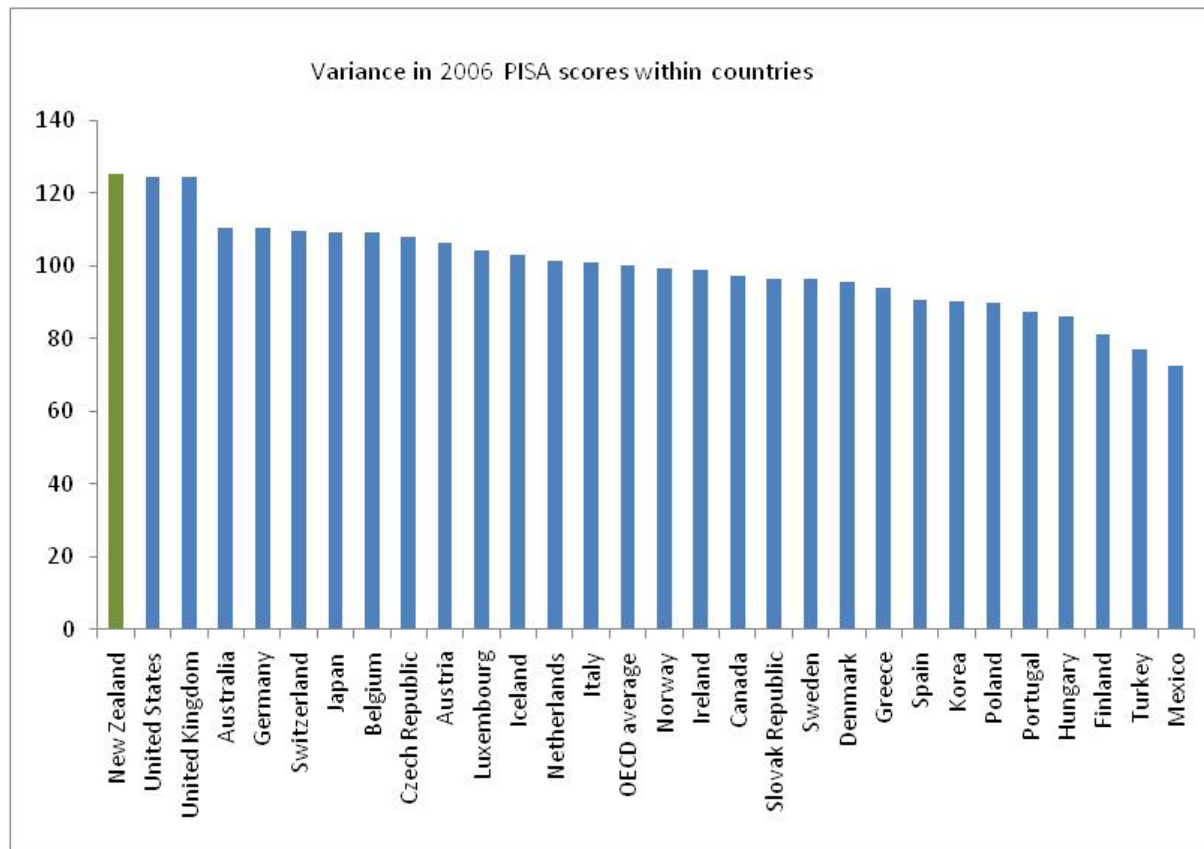
Source: MoH

As income inequality has increased obesity has increased

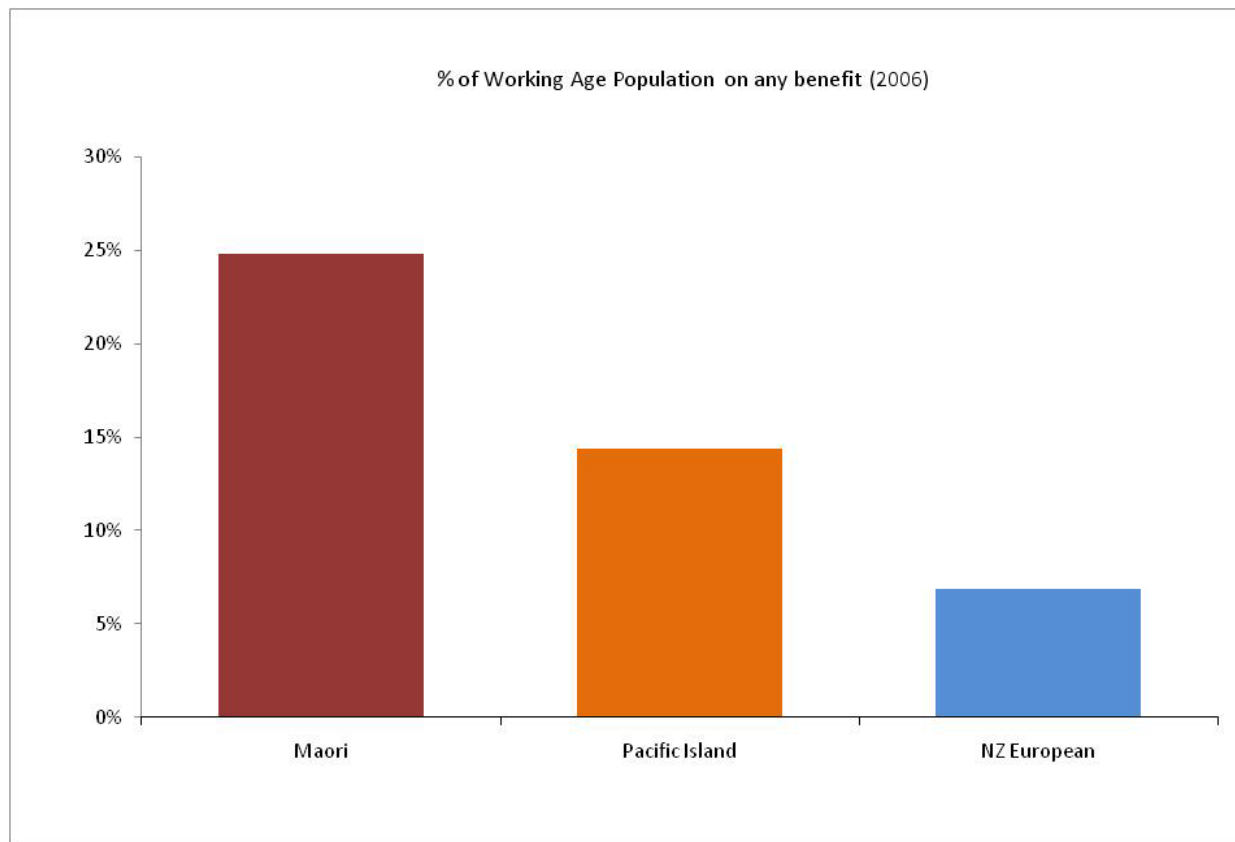
Conclusions on association

1. In some cases, strong positive relationship between income inequality and specific 'bad' socio-economic outcomes
 2. In other cases strong negative relationship
 3. Not as universal as Wilkinson's thesis may have predicted
 4. Other issues to consider e.g. potential time lags, no control variable
 5. Useful to have some international comparisons
 6. Finally, causation is difficult to prove
- Important to think about dynamic effects.
 - Number of possible variables will determine future inequality.

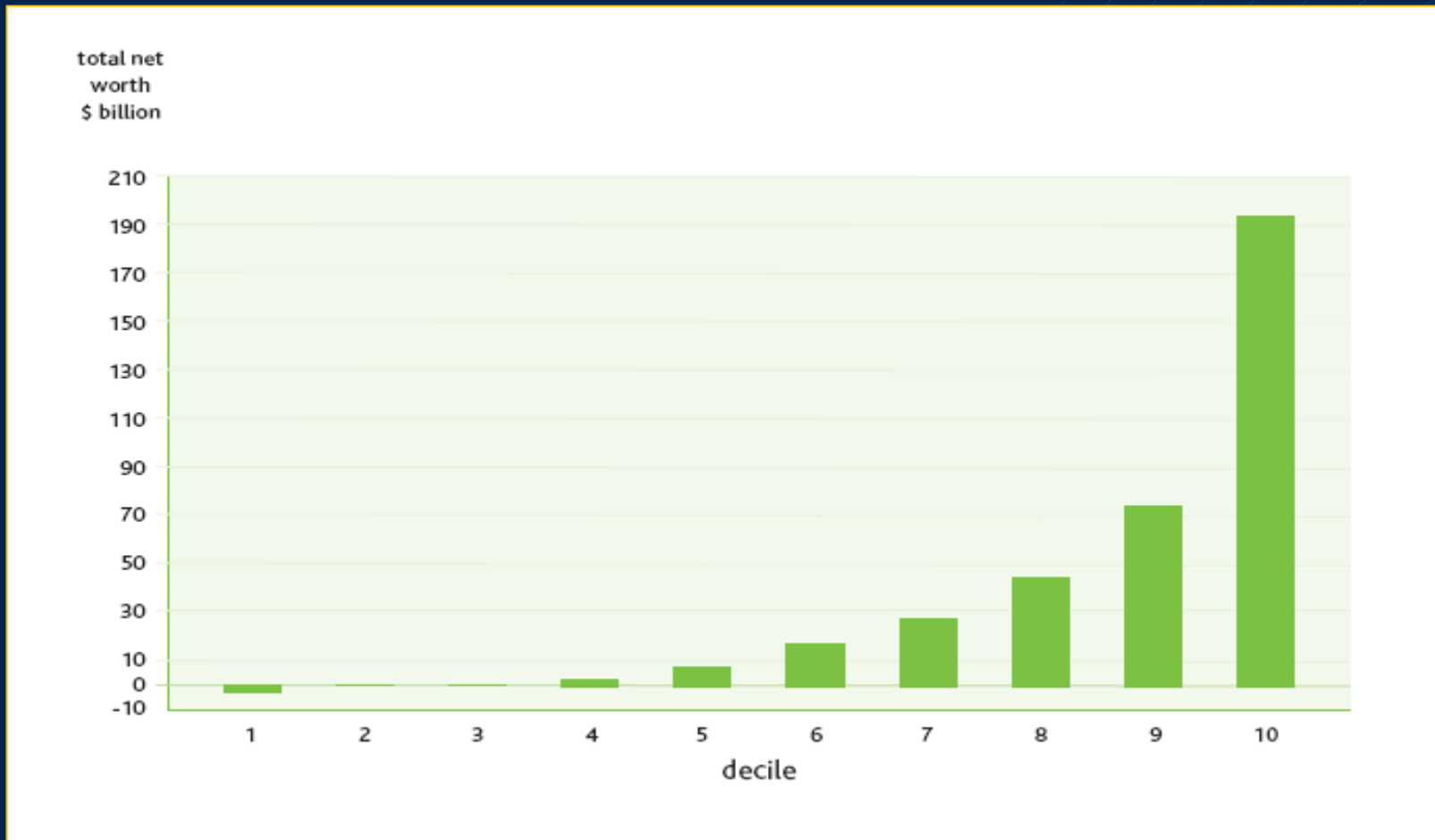
Education outcomes



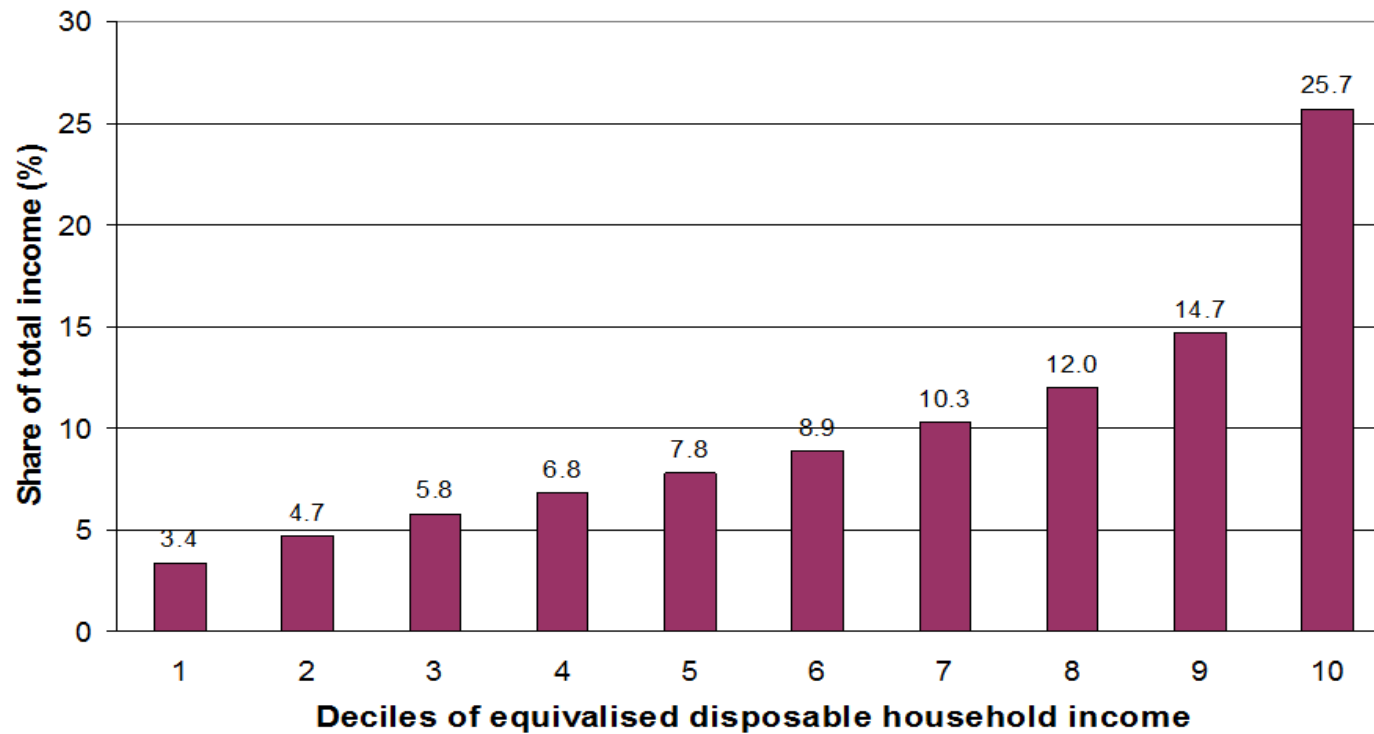
Benefit dependency



Household wealth



Household income



Concluding comments

1. NZ experienced a large growth in income inequality between mid 80s and mid 90s, but stabilised since (up to 2009)
2. Movements in inequality appear to be associated with a number of positive and negative outcomes
3. Causation difficult to prove – further work required on where there are negative relationships. International comparisons useful.
4. Persistent income deprivation may be more of a concern than income inequality – i.e. focus on dynamic inequality



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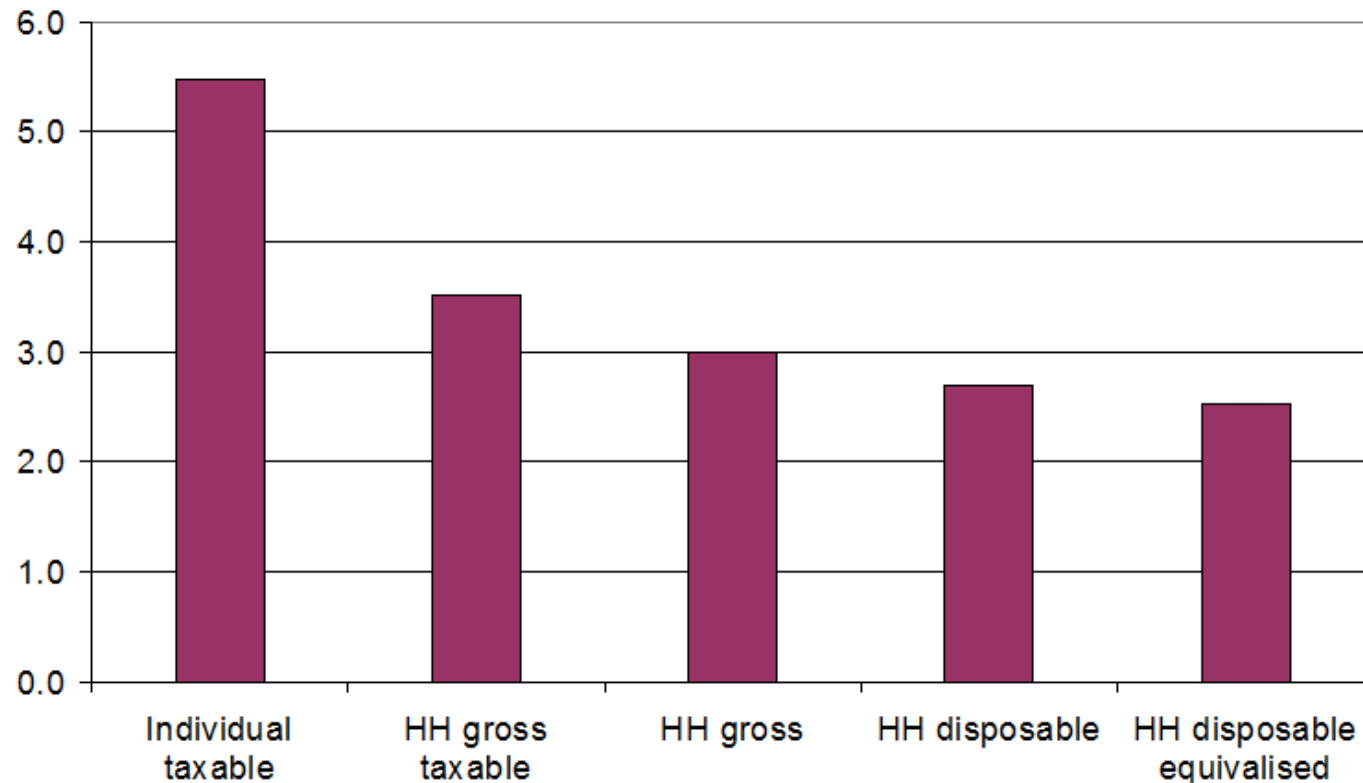
Income deciles

Where does your household fit in the overall household income distribution (BHC)?
HES 2009

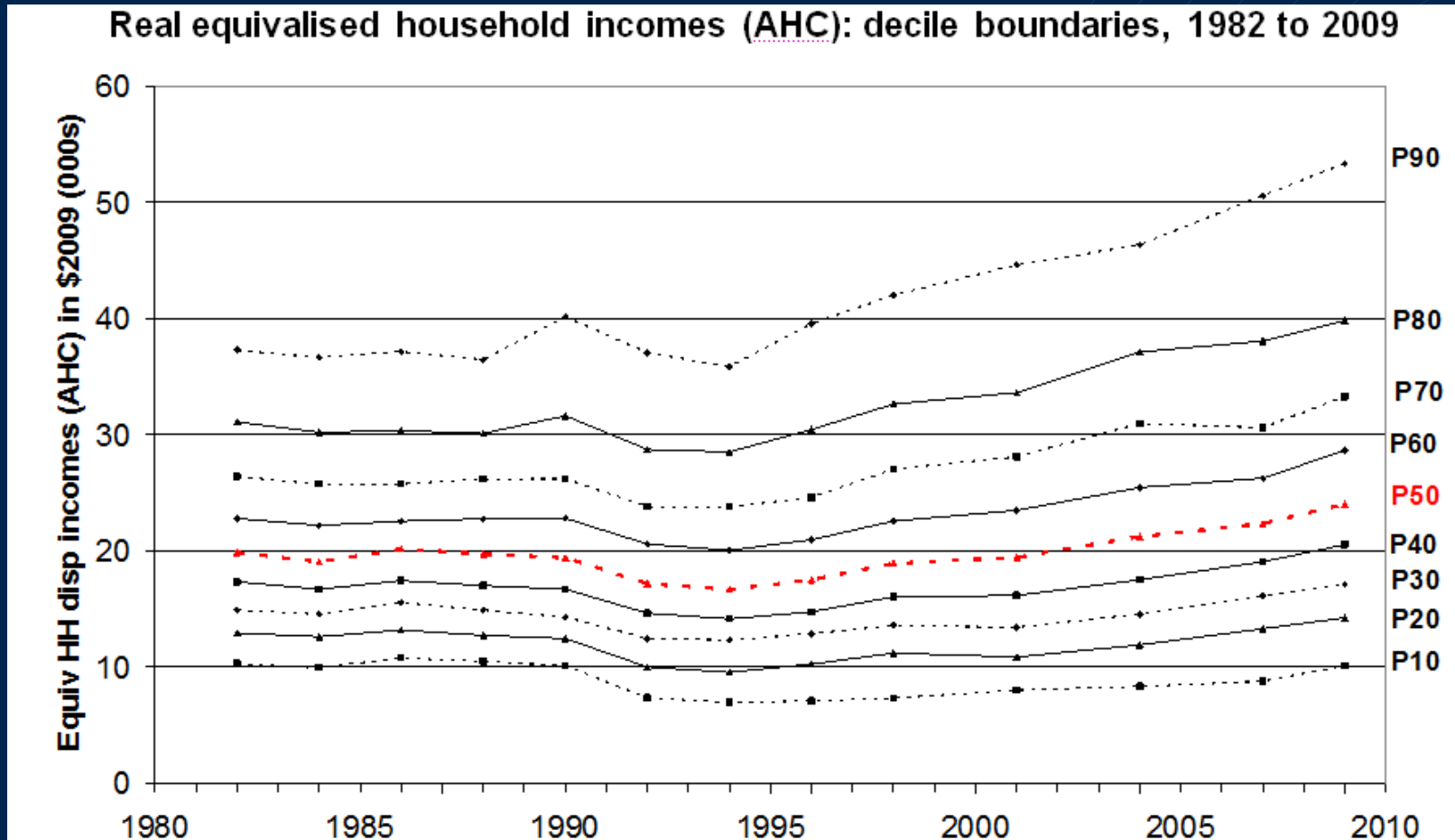
Equivalised income decile	One person, no children (reference HH)	Sole parent, one child	Couple or 2 adults sharing	Couple, one child	Couple, two children	Couple, three children
Bottom decile	< \$15,500	< \$21,800	< \$23,900	< \$28,900	< \$33,700	< \$37,800
Decile 2	15,500 - 19,300	21,800 - 27,000	23,900 - 29,700	28,900 - 35,800	33,700 - 41,800	37,800 - 46,800
Decile 3	19,300 - 23,200	27,000 - 32,500	29,700 - 35,700	35,800 - 43,200	41,800 - 50,300	46,800 - 56,400
Decile 4	23,200 - 26,900	32,500 - 37,600	35,700 - 41,400	43,200 - 50,000	50,300 - 58,300	56,400 - 65,300
Decile 5	26,900 - 30,700	37,600 - 43,000	41,400 - 47,300	50,000 - 57,100	58,300 - 66,600	65,300 - 74,600
Decile 6	30,700 - 35,500	43,000 - 49,800	47,300 - 54,700	57,100 - 66,100	66,600 - 77,100	74,600 - 86,400
Decile 7	35,500 - 40,500	49,800 - 56,700	54,700 - 62,300	66,100 - 75,300	77,100 - 87,800	86,400 - 98,300
Decile 8	40,500 - 48,500	56,700 - 67,900	62,300 - 74,700	75,300 - 90,200	87,800 - 105,200	98,300 - 117,800
Decile 9	48,500 - 62,500	67,900 - 87,500	74,700 - 96,300	90,200 - 116,300	105,200 - 135,700	117,800 - 152,000
Top decile	> \$62,500	> \$87,500	> \$96,300	> \$116,300	> \$125,400	> \$152,000

Equivalence

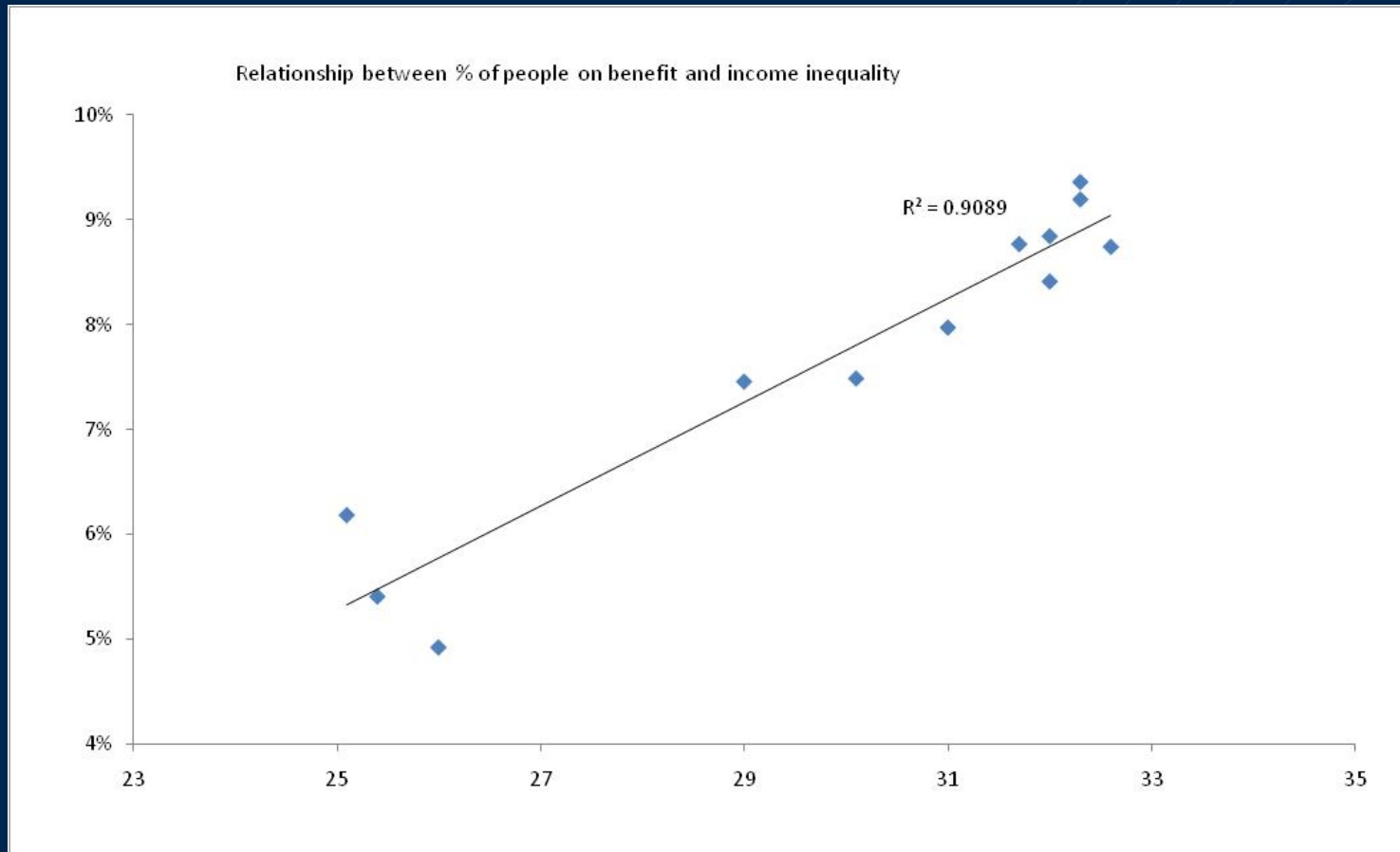
80:20 percentile ratio for different income concepts
(HLFS 2009 for individuals, HES 2009 for HHs)



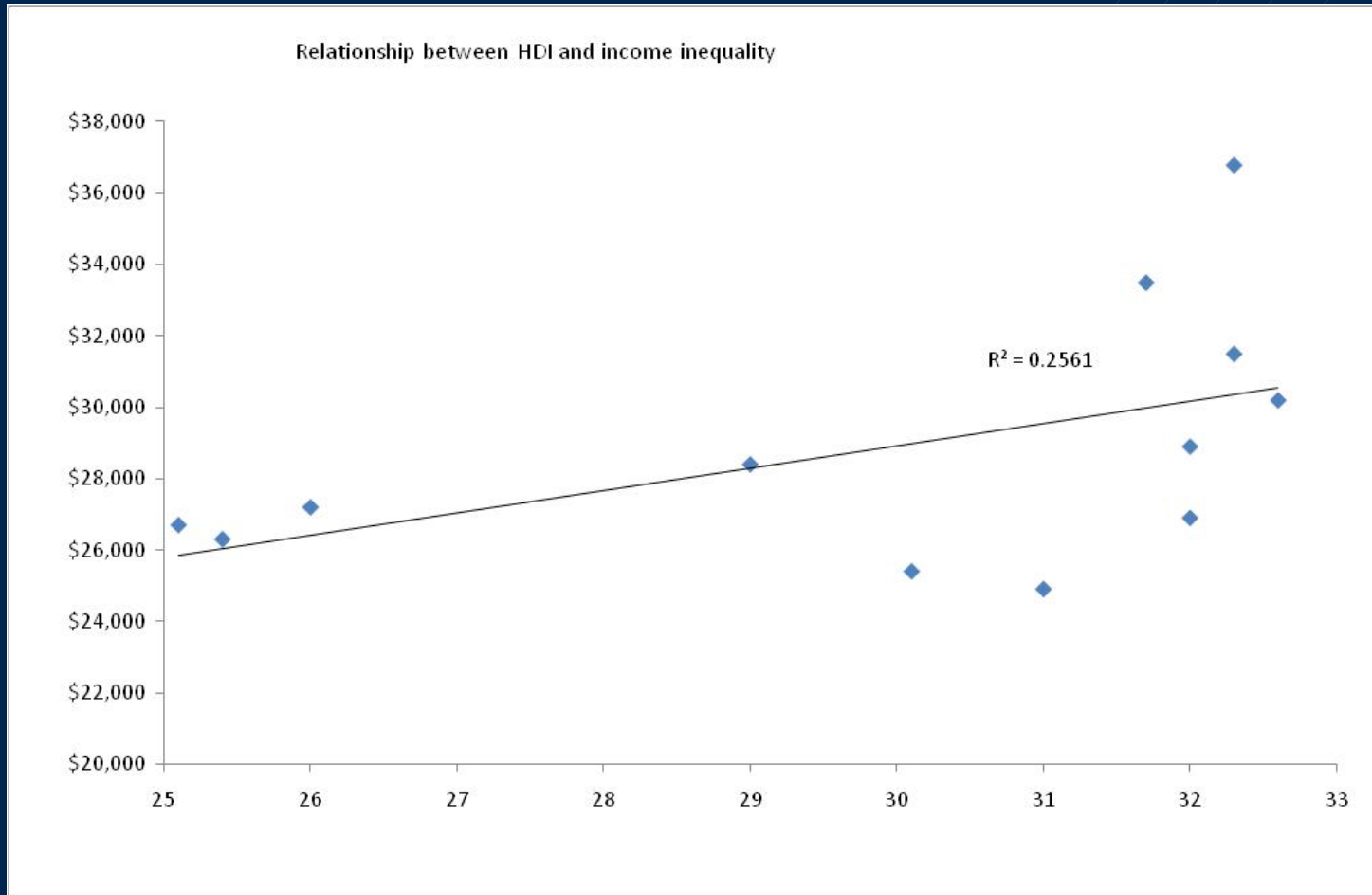
Change in real incomes



Benefit dependency



Income



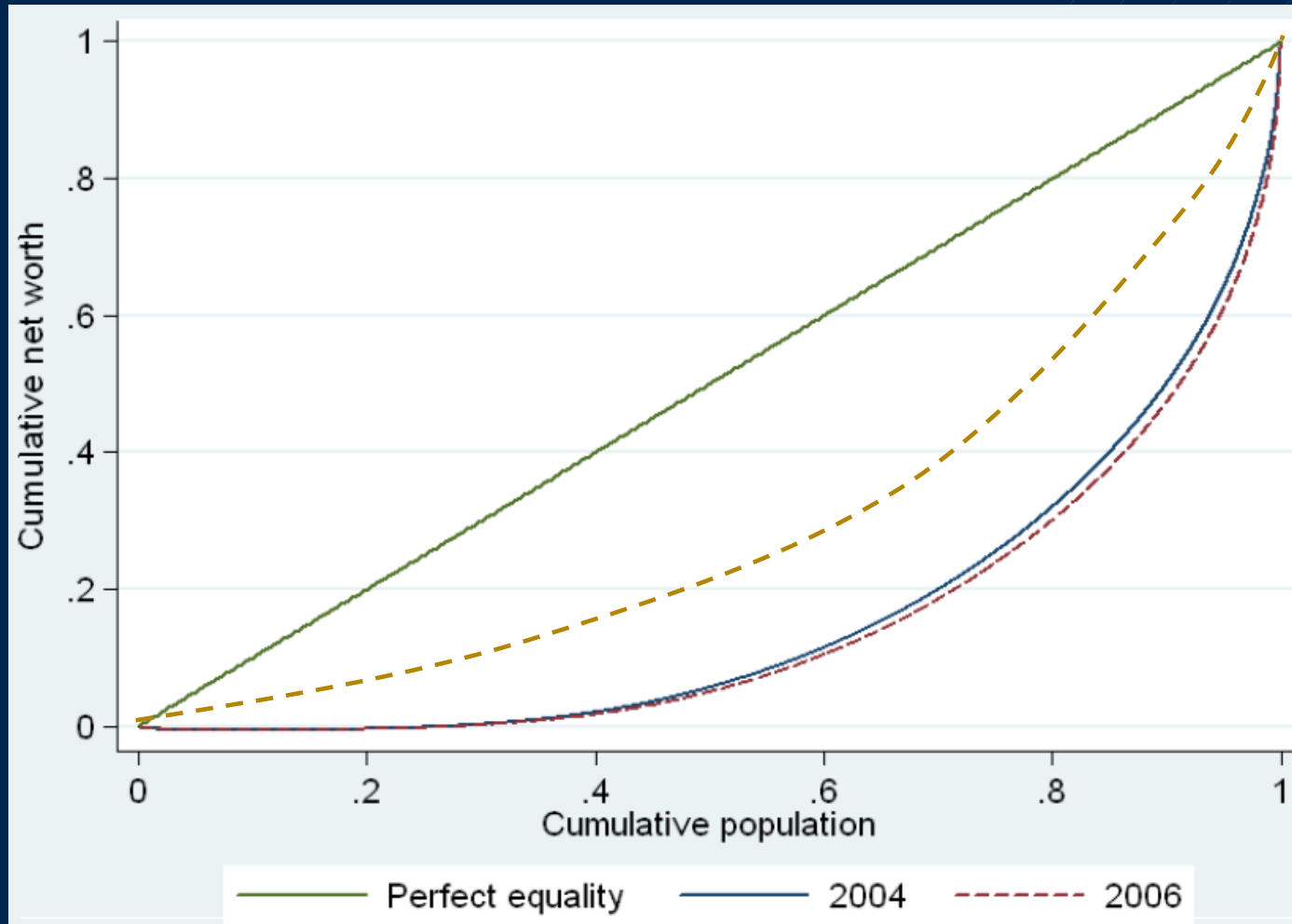
Wealth inequality

Table 2: Net Worth Distribution

	2004 (current prices)	2006 (current prices)
Mean	184,192	223,022
5 th percentile	-3,150	-4,000
10 th percentile	800	902
25 th percentile	12,000	12,974
50 th percentile (median)	86,929	96,978
75 th percentile	220,905	257,500
90 th percentile	422,643	495,800
95 th percentile	659,611	761,971
99 th percentile	1,553,100	2,025,000
Mean to median ratio	2.1	2.3
P50/ p25 ratio	7.2	7.5
P50/ p10 ratio	108.7	107.5
P75/ p50 ratio	2.5	2.7
P90/ p10 ratio	528.3	549.7
P90/ p50 ratio	4.9	5.1
Share with zero/negative net worth	6.9%	7.0%
Gini coefficient	0.68	0.70

Note: \$ current prices unless otherwise indicated.

Wealth vs income inequality



Source – Motu (2010) Household Wealth and Saving in New Zealand

Tax changes

	Status Quo		1 Oct 2010	
	Equality measures		Equality measures	
Gini coefficient	0.348		0.351	
80/20 ratio	2.893		2.906	
Poverty reference line	Median household disposable income (equivalised)		Median household disposable income (equivalised)	
Relative reference	\$31,593		\$32,094	
Fixed reference	\$23,276		\$23,276	
Poverty line: % of reference line	% households below poverty line	% children below poverty line	% households below poverty line	% children below poverty line
50% relative	13.2%	15.6%	13.3%	16.7%
60% relative	26.1%	24.7%	26.2%	25.3%
50% fixed	5.0%	3.5%	5.0%	3.5%
60% fixed	10.5%	11.2%	10.4%	11.1%

Sources: Treasury, Statistics NZ Household Economic Survey (HES) 2007/08 data