(Revised version: 15th February 2013)

INCOME DISTRIBUTION DATA REVIEW – NEW ZEALAND[39]

1. Available data sources used for reporting on income inequality and poverty

1.1. OECD reporting:

OECD income distribution and poverty indicators for New Zealand are provided by Statistics New Zealand, based on the Household Economic Survey (HES). Since 2001 surveys relates to the year ending 30 June. Previously surveys are for the year ended 31 March. Income reported in survey is the actual amount received in the 12 months before the interview date. In the HES households are interviewed over a period of 12 months (i.e. for 2009-10 from the 1 July 2009 to the 30 June 2010). The income collected therefore covers a 2 year period (i.e. for 2009-10 from 1 July 2008 to 30 June 2010). The OECD income distribution database contains data for the following years: 1985-86, 1990-91, 1995-96, 2000-01, 2003-04, 2008-09 and 2009-10.

1.2. National reporting and reporting in other international agencies:

Income distribution and poverty indicators are also available in the report *Household Incomes in New Zealand: Trends in Indicators of Inequality and Hardship 1982 to 2011* by the New Zealand Ministry of Social Development (MSD). (http://www.msd.govt.nz/about-msd-and-our-work/publications-resources/monitoring/household-incomes/index.html) The report uses the same data source as above, i.e., the Household Economic Survey.

While the HES is the generally used source for calculation of poverty rates and inequality indicators in New Zealand, there is also Survey of Family, Income, and Employment (SoFIE). This is a longitudinal survey with sample members interviewed once a year over an eight year period from 2002 to 2010, which also collected information on income and wages. Data from the first seven waves was used for Dynamics of Income and Deprivation in New Zealand, 2002-2009 conducted within the Health Inequalities Research Programme, University of Otago.

Another survey used to collect information on income in New Zealand is the New Zealand Income Survey (NZIS), which is run as a supplement to the Household Labour Force Survey each year in the April to June quarter. The majority of published data from this survey relates to individuals, although there is one table on household income. However, the NZIS reports on 'weekly income' and relates specifically to an average week during the June quarter; that is a snapshot in time. According to Statistics New Zealand conversion of this weekly income into an annual equivalent is not recommended and the Household Economic Survey provides a better source of annual income. Hence the data are not used in the comparisons in the following sections.

The main characteristics of the surveys are shown in the table below:

[39] This revised version of the review benefited from valuable comments from Caroline Brooking from Statistics New Zealand.

Table 1. Characteristics of datasets, New Zealand

	National surveys (Income)		
Name	Household Economic Survey (HES)	Survey of Family, Income, and Employment (SoFIE)	New Zealand Income Survey (NZIS)
Name of the responsible agency	Statistics New Zealand	Statistics New Zealand	Statistics New Zealand
Year (survey and income)	Annually from 1973 to 1998, then triennially to 2007, annually again since then.	Eight annual waves from 2002 to 2010	Each year since 1997 in the April to June quarter
Period over which income is assessed	Income for the 12 months prior to the interview date. Interviews are carried out over a 1 year period, hence income covers a two year period.	Income for the 12 months prior to the interview date. Interviews are carried out over a 1 year period, hence income covers a two year period.	Weekly income for an average week in the April to June quarter
Covered population	Income data is collected for all individuals aged 15+.	Income data is collected for all individuals aged 15+	Income data is collected for all individuals aged 15+.
Sample size	Approximately 4,700 households	Initial sample of c.11 500 responding households	c. 15 000 households
Sample procedure	Cross-sectional survey	Longitudinal survey	Cross-Sectional survey (although there is a panel component in that, in the Household Labour Force Survey (HLFS) households stay in the survey for two years. Each quarter, one-eighth of the households in the sample are rotated out and replaced by a new set of households).
Response rate	68.8% after imputation	77% for the initial wave, with an attrition rate of 63% by wave seven	82% of eligible HLFS respondents.
Imputation of missing values	Introduced in 2009/10 and applied back to 2006/07		Unit record imputation is done for respondents who have core income questions missing or where an eligible HLFS respondent does not answer the NZIS.
Unit for data collection	Individual 15+	Individual 15+	Individual 15+
Break in series	Change in the selection of the head of the household since 2008/09 -		The introduction of income from investment in 2002 caused a discontinuity in

	interpolation possible 2008/09 data are available in old and new definition		time series for the 'all sources' category. Before 2002, this category included wages and salaries, self-employment, government transfers, and other transfers. Since 2002, it has also included income from investment and so the category is not comparable with previous years.
Web source:	http://www.stats.govt.nz/browse_for_stats/people_and_communities/Households/household-economic-survey.aspx	http://www.stats.govt.nz/surveys_and_methods/completing-a-survey/faqs-about-our-surveys/survey-of-family-income-and-imployment.aspx	http://www.stats.govt.nz/surveys_and_methods/our-surveys/nzis-resource.aspx

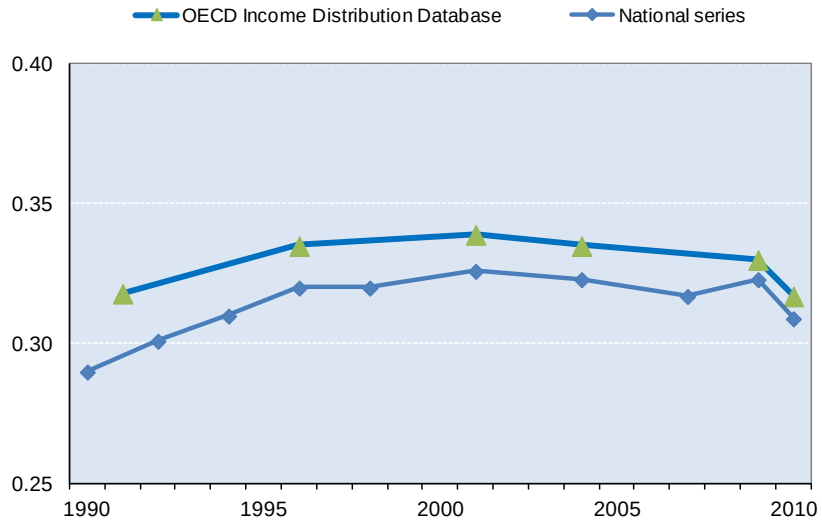
2. Comparison of main results derived from sources used for OECD indicators with alternative sources

2.1 Income

2.1.1 Time series of Gini coefficients

Both the OECD reference series and the MSD publication are based on the HES data. The Gini coefficients of the OECD reference series are slightly higher than those shown in the MSD's publication, although the overall trend is similar. According to Bryan Perry, one of the authors of the MSD publication, a small difference arises because the OECD uses a different equivalence scale, the impact of which this is to raise the Gini by around 0.008 each year. However, it is worth noting that the difference is somewhat greater than 0.008 in earlier years and it appears that the two series are converging. Unfortunately, it is not possible to find a time series of Gini coefficients based on the SoFIE data.

Figure 1. Gini coefficients, New Zealand



2.1.2 Time series of poverty rates, poverty composition

The OECD reference series of income poverty rates, at both the 50% and 60% threshold, are also consistently slightly higher than those shown in the MSD's publication. It seems likely that this could again be, at least partially, explained by the use of a different equivalence scale. There is also some variation in how close the two series are at different points in time, especially for the 50% threshold. Some of this may be explained by the fact that the national series is rounded to the nearest whole percent, where as the OECD series is correct to one decimal place.

Poverty rates from the SoFIE data were published by the Health Inequalities Research Programme, University of Otago in *Dynamics of Income and Deprivation in New Zealand, 2002-2009*. However, these are based on gross equivalised household income, that is, household income from all sources before the deduction of taxes but including all reported transfers, adjusted for household size and composition. This makes it difficult to compare them with the OECD series. As can be seen from the two graphs below, the SoFIE series sits somewhere between the OECD series based on disposable income and that based on

market income. However, at the 50% threshold it is closer to the disposable income series whereas at the 60% threshold it is closer to the market income series, even coinciding in 2008-09.

Figure 2. Poverty rates (50% threshold), New Zealand

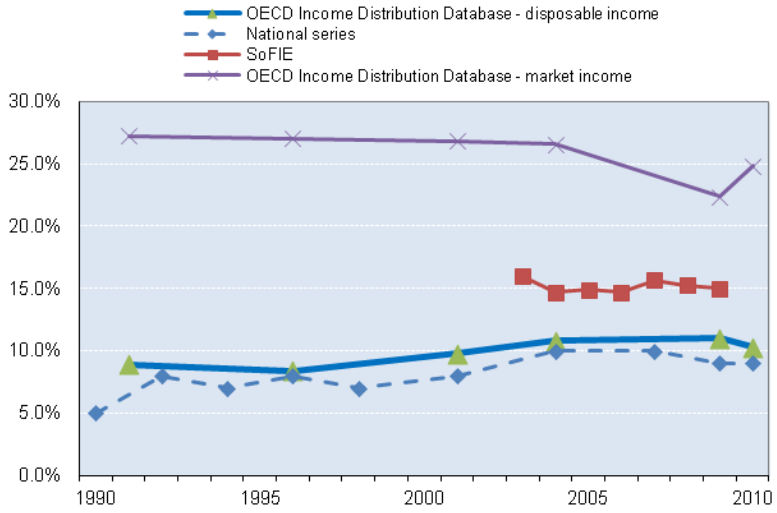
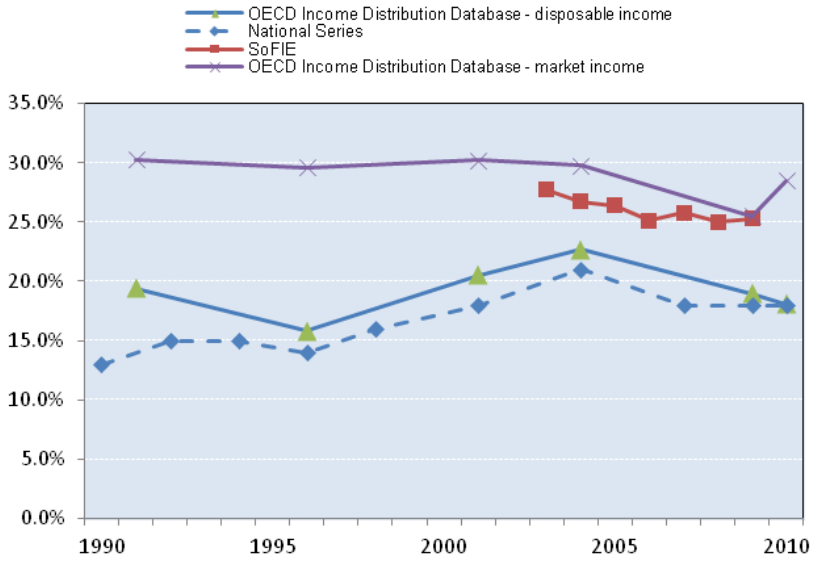
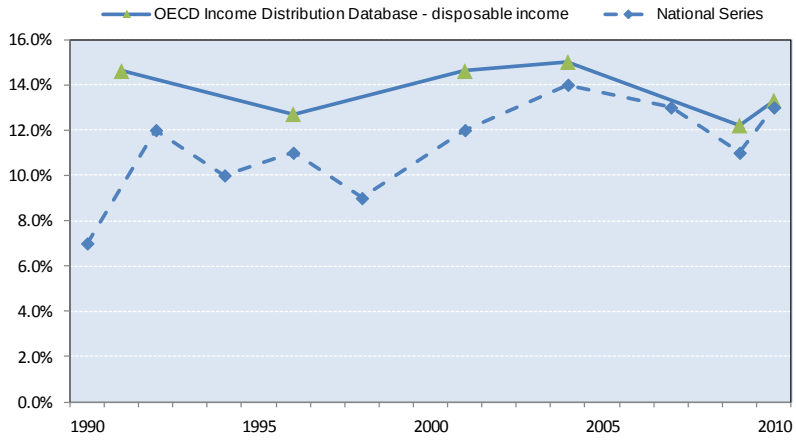


Figure 3. Poverty rates (60% threshold), New Zealand



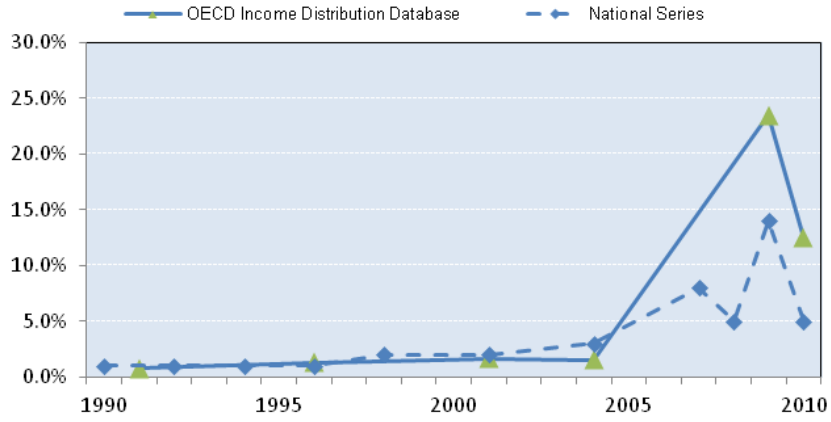
The comparison of child poverty rates (50% threshold) in the national series with those of the OECD reference series shows a similar picture to that of the Gini coefficients. As can be seen in the graph below, the OECD series sits above the national series, but appears to converge towards the end of the series.

Figure 4. Poverty rates 0-17 years (50% threshold), New Zealand



In the past, MSD's publication has shown poverty rates using only a 60% threshold. This has led to apparent inconsistencies when referring to poverty rates in New Zealand, particularly for the 65+ age group. Historically, the flat-rate pension in New Zealand was above the 50% median threshold so old-age poverty rates using the 50%-threshold got close to zero but were much higher under the 60%- median threshold. Further, the rising New Zealand median through to 2008/09 led to the universal NZ Superannuation falling from *above* to *just below* the 50% threshold. This gave rise to a very sharp increase in poverty rates for that year, in both the national series and the OECD series, as can been seen below.

Figure 5. Poverty rates 65+ (50% threshold), New Zealand



MSD's current year publication shows a table of poverty rates for 65+ at the 50% threshold using both the national methodology and the OECD methodology. The figures for OECD methodology do not match those above, notably for 2004 – 1.5% vs. 9%.The table and text, from page 136 of the report, are shown below:

Table 2 shows the proportion of older New Zealanders (65+) in households with incomes under two commonly used 'poverty lines'. The top line uses the OECD equivalence scale to ensure consistency with OECD publications. The second line uses the same 50% of median threshold but the Revised Jensen scale as in the rest of the report.

Table 25. Proportion of older New Zealanders (65+) in households with BHC incomes below low-income thresholds ('poverty lines'), set at 50% and 60% of the median in the survey year (%)

	1984	86	88	90	92	94	96	98	01	04	07	08	09	10	11
50% OECD equiv	2	2	8	2	1	1	1	3	2	9	18	16	22	13	11
50% NZ equiv	1	1	1	1	1	1	1	2	2	3	8	5	14	5	4
60% NZ equiv	14	17	25	20	3	1	3	25	20	37	38	39	37	36	33

3. Consistency of income components shares with alternative data sources

3.1. Comparison of main aggregates: earnings, self-employment income, capital income, transfers and direct taxes

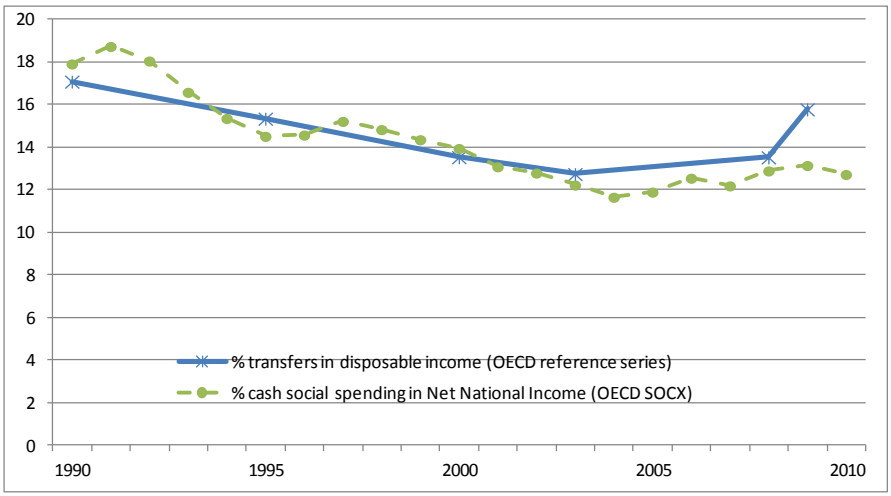
Table 2 shows shares of income components for the latest available year, according to the OECD benchmark series. Unfortunately, such information is not available for the other data sources described in table 1.

Table 2. Shares of income components in total disposable income, OECD reference series

					Average income			Average	K	SE	TR	TA		HDI
Survey			Year	Unit	EH	ES	EO	Wages	Capital	Self Employment	Transfers	Taxes	Disposable income	
														(HDI)
OECD reference suvery			2009	natcur	20,066	9,079	4,141		6,359	5,182	6419	(10,580)		40,665
				% av HDI	49%			0%	16%	13%	16%	-26%		

Figure 3 compares the trend in shares of public cash transfers in equivalised disposable income from the OECD reference series with the share of total cash social spending in net national income, reported from the OECD Social Expenditure database (OECD SOCX). OECD SOCX series include pensions, incapacity, family, unemployment, social assistance. Both series show similar trends throughout the period, except for the latest year.

Figure 44. Figure 6 Trends in shares of public social transfers



4. Metadata of data sources which could explain differences and inconsistencies

Definitions, methodology, data treatment

Differences between OECD series and national series reported by MSD:

The main difference between the two data sets is that the equivalence scale used in the analysis in the MSD paper is the 1988 Revised Jensen Scale, which is very close to what has come to be known as 'the modified OECD scale'. A single person unit has an equivalence scale value of 1.0. A household of a couple and no children is rated at 1.54, meaning that such a household is considered to have 1.54 equivalent adults. A two adult, two children household is rated as 2.17.

Differences between OECD series and series based on SoFIE:

Methodological differences between OECD reference series based on HES and results from SoFIE are many and include:

- Results from SoFIE were not weighted to the New Zealand population and relate only to the SoFIE survey balanced panel sample.
- SoFIE poverty rates based on gross equivalised household income
- Household income from SoFIE was equivalised using the 1988 Revised Jensen Scale
- Most analyses in SoFIE – unless otherwise noted – used (nominal) equivalised household income calculated before housing costs and did not adjust for changes in Consumer Price Index (CPI).

5. Summary evaluation

The differences between the MSD data and the OECD data are generally quite minor and can be mostly explained by the use of a different equivalence scale for income.

Concerning poverty rates for 65+ the difference between the rates published in the MSD paper as 'OECD' 50% threshold, i.e. using OECD definitions, and the rates that we have in the database is quite significant especially for 2004. This difference was probably due to a difference in the bottom-coding of negative incomes which altered the median disposable income slightly but enough of the 65+ age group had incomes near the 50% of median poverty line.

The methodology used for the SoFIE analysis is too different for the results to be directly comparable with OECD benchmark series. Further, the authors of the University of Otago paper from which the SoFIE poverty rates are taken, point out that they are not arguing that the SoFIE data provides the best evidence on current trends in poverty but rather that it can be used to provide a longitudinal study of dynamics to complement cross-sectional studies using HES data.