INCOME DISTRIBUTION DATA REVIEW - JAPAN

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

1.1. OECD reporting:

The OECD database relies on data from the *Comprehensive Survey of Living Conditions of the People on Health and Welfare,* conducted every three years by the Japanese Ministry of Health, Labour and Welfare. Estimates, computed by researchers at the *National Institute of Population and Social Security Research* (IPSS), are currently available for the years 1985, 1995, 2000, 2003 and 2006.

Data referring to individuals with an income three times larger than the standard deviation were excluded by IPSS before 1995. Since that year onwards, IPSS have reintegrated them in the calculations. To correct for the break in the series available in the OECD database, multiplicative adjustments (based on the 1995 ratios between the top-coded and non-top coded records) has been applied by the OECD Secretariat to the estimates provided for 1985.

1.2. National reporting and reporting in other international agencies:

1.2.1 National reporting:

Production of National Statistics in Japan is highly decentralized, with many agencies producing statistics on similar topics. The main sources available are the following:

- The *Comprehensive Survey of Living Conditions* (CSLC) is conducted by the Ministry of Health, Labour and Welfare every three years based on a large sample (around 30,000 households) and every year for a smaller sample. CSLC covers all private households and has a large sample size.

- The *Survey on the Redistribution of Income* (SRI), also conducted by the Ministry of Health, Labour and Welfare every three years, is based on a sub-sample of CSLC. Results from the 1999 wave of IRS (containing data up to 1996) are available on-line, while other publications provide more up-to-date estimates based on the same source.[29]

- The *National Survey of Family Income and Expenditure* (NSFIE) is conducted by the Japanese Statistical Office every five years, and was used by the OECD in the past. The NSFIE sample size is the largest among all surveys (60 000 households) and the response rate is close to 100%. Some categories of households are however excluded from NSFIE (Table 1). NSFIE respondents are asked to complete several questionnaires pertaining to household income and expenditures, reasons for purchasing goods, type of outlets used for purchasing goods, major durable goods purchased, characteristic of households and their members, housing, savings and financial liabilities. Some income items (social transfers other than pensions, income taxes, residence tax, property tax, social insurance premia and occasional incomes) are however excluded. In addition, income questions are asked only to workers' households and households whose head is unemployed. Executives of companies or corporations, which are not included among workers' households but in other households, are hence excluded from respondents providing information on income and expenditures.

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[29]   Fukawa T. (2006), "Income distribution in Japan based on IRS 1987-2002", *The Japanese Journal of Social Security Policy*, Vol.5, No.1, June.

- The *Family Income and Expenditure Survey* (FIES) is run monthly by the Japanese Statistical Office. However, its (small) sample makes this survey not representative of the entire population.

- The *Keio Household Panel Survey Data* (KHPS) which is conducted by Keio University since 2004, is used by the Luxembourg income Study Database (LWS). Its sample is not representative of the entire population; as data of this survey are not accessible on-line, this survey is not further considered in this review.

Table 1 presents the main characteristics of the different sources:

Table 21. Characteristics of datasets used for income reporting, Japan

Name	Comprehensive Survey of Living Conditions	Survey on the Redistribution of Income	Family Income and Expenditure Survey	National Survey of Family Income and Expenditure	Keio Household Panel Survey Data (KHPS)
Responsible agency	Statistics and Information Department, Minister's Secretariat, Ministry of Health, Labour and Welfare.	Statistics and Information Department, Minister's Secretariat, Ministry of Health, Labour and Welfare.	Statistics Bureau	Statistics Bureau	Keio University
Data availability	Since 1986	Since 1972		Since 1959 (2009 latest available year, 11th edition)	Since 2004 but changes of name and features in 2009
Frequency	Large-scale survey every three years and small-scale survey in each interim year of large-scale survey	Every three years	Every month	Every five years	Every year
Covered population	All households and household members nationwide. Excluded are business bachelor, migrant worker, people absent for extended business trips (3 months or more), student living overseas, person living in a social welfare institution, long-term inpatient (and whose resident registrations are transferred to the hospital), boarded or foster child, prisoner and other persons living apart from households	All households and their members nationwide. The following persons are excluded: Live-in single member households and those living in boarding houses; people living in social welfare facilities	The survey unit is the household except institutional households and one-person households of student in the entire area of Japan. The following households are, however, excluded as inappropriate households. a. Households which manage restaurants, hotels, boarding houses or dormitories, sharing their dwellings. b. Households which serve meals to the boarders even though not managing boarding houses as an occupation. c. Households with 4 or more living-in employees. d. Households whose heads are absent for a long time(three months or more). e. Foreigner households	The households to be surveyed were the ones selected by the method designated by the Minister for Internal Affairs and Communications for all the households in the whole country. The survey is undertaken separately for two-or-more-person households and one-person households. The following households are excluded: (1) For two-or-more-person households: a. Households running restaurants or inns on the same premise; b. Households running boarding houses, or households with boarders; c. Households with four or more live-in employees; and d. Foreigners' households. (2) For one-person households a. Persons under 15 years of age; b. One-person households corresponding to a), b) and d) of (1) above; c. One-person households residing with live-in employees; d. Students; e. Inmates of social and reform institutions; f. Inpatients in	Men and women aged below 20 and above 69 years are excluded from the survey (representing more than 30% of the total population in 2004)

				hospitals and sanatoriums.	
Sample size	Large-scale survey 2007, the questionnaire covered all households categories (approximately 290,000 households, and 760,000 persons), randomly sampled in 5440 districts from the National Census in 2005. Small-scale survey 2008, questionnaire covered all households types (approximately 58,000 households and 150,000 persons), randomly sampled in 1,088 districts from the National Census in 2005.	In 1996 - 10000 households among the households targeted in the Comprehensive Survey of the Living Conditions of People on Health and Welfare In 2002 10125 households On average, approx. 15 000	On average, approx. 9,000 households (for 2005, around 8,000 two-or-more-person households and 745 one-person households)	On average, approx. 60 000 households. For 2004, around 54,000 two-or-more-person households and 5,000 one-person households	Approx 4 000
Sampling method	Stratified random sampling from the sub district number 1 and 8 of the 2005 Population Census's enumeration district. The respondent himself/herself filled out the questionnaire which was distributed by an enumerator in advance, and the enumerator collected the questionnaire at a later date.	Same than the Comprehensive Survey of Living Conditions (subset)	Three-stage stratified sampling method. The sampling units at three stages are namely, primarily the municipality (i.e. city, town and village), secondly the survey unit area and thirdly the household	Households are selected separately for two-or-more person households and one-person household. There is first a selection of sample cities, then on unit areas and finally a selection of sample households	Two-stage stratified random sampling method (1st stage: survey area; 2nd stage: individuals)
Dissemination frequency		Released immediately after compilation	June of the following year (annual report)		Unknown
Sampling unit	Household and household members			One-person household and two-or-more person households	Individuals and households levels
Remark		Subset of the Comprehensive Survey of Living Conditions		Some households and some types of incomes are excluded	Data are not in free-access. Application to obtain access should be done by post or by hand delivery. Access restricted to researchers and graduate students affiliated with national, public, and private research institutions only for nonprofit and academic purposes.
Websource	http://www.mhlw.go.jp/english/database/db-hss/cslc.html	http://www.mhlw.go.jp/english/wp/wp-hw/vol1/p1c2s2.html	http://www.stat.go.jp/english/data/kakei/1560.htm http://www.stat.go.jp/english/data/kakei/pdf/p2.pdf#page=8	http://www.stat.go.jp/english/data/zensho/2009/cgaiyo.htm	http://www.pdrc.keio.ac.jp/en/open/use.html http://www.lisdatacenter.org/wp-content/uploads/2011/02/jp03survey.pdf

OECD (2012)   *www.oecd.org/social/inequality.htm*

**2. Comparison of main results derived from OECD and alternative sources**

2.1   Income

2.1.1. Time series of Gini coefficients and other inequality indicators

According to the OECD estimates, the Gini coefficient for disposable income rose in Japan from 0.28 in 1985 to 0.33 in 2006. The rise is large compared to the other OECD countries. The upward trend for the Gini in the OECD database is confirmed by other national sources (Figure 2).

There are significant differences in levels of the Gini coefficients according to the different surveys. OECD estimates are lower than national estimates based on either CSLC or IRS (which are very similar) but higher that those based on NSFIE. Pseudo-Gini's coefficients from NSFIE (which measure disparities between income groups by arranging income in order and applying the same computation method as Gini's coefficient) are closer to the values of the Gini coefficients available in the OECD database.

Figure 31.   Gini coefficients (1985 – 2009)
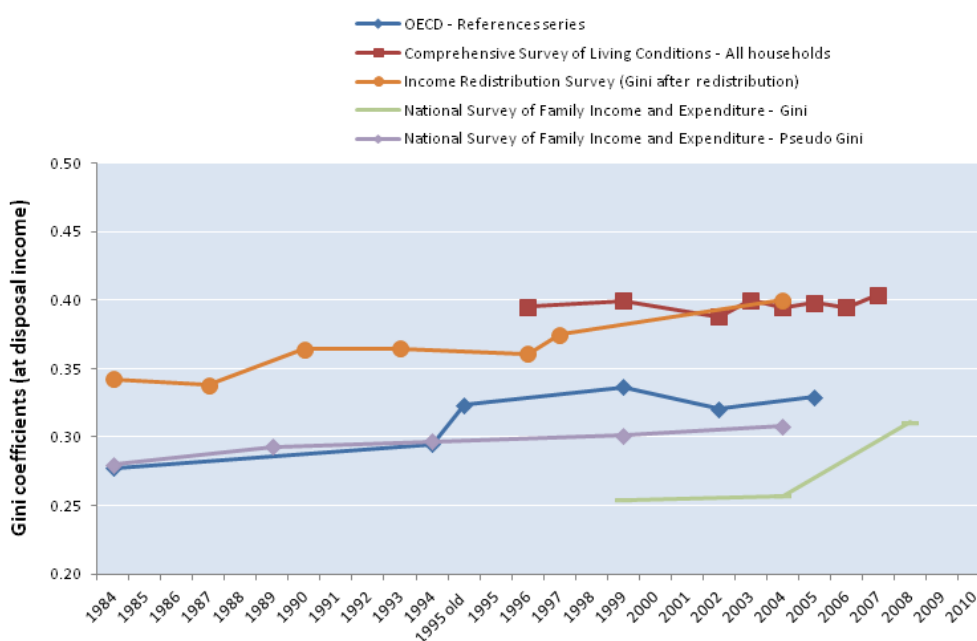
Differences in inequality measures between OECD and national sources reflect differences in income concepts, units of analysis, equivalisation methods, etc. These differences can also be explained by the characteristics of the different surveys:

- NSFIE provides Gini coefficients according to the characteristics of households and the age of household heads. The published Gini coefficients from NSFIE refer to workers' households only. In 2004, the Gini coefficient for workers households was 0.257. In terms of age of the household head, Gini coefficients based on NSFIE ranged between 0.204 (35-39 years old) and 0.279 (60-64 years old). The fact that only workers' households are considered by NSFIE can explain the lower levels of the Gini in NSFIE that in the OECD source (e.g. CEOs, who earn some of the highest incomes, are not considered by these Gini coefficients. Table 1 provides more details on the households excluded in this survey. In addition, some incomes sources are excluded; the

NSFIE survey covers only the regular wages and salaries of households, and excludes other public transfers than pensions, income taxes, residence tax, property tax, social insurance premia and occasional incomes.

- National estimates of Gini coefficients based on both CSLC and SRI are very similar. Gini coefficients from both surveys are higher than those based on SFIE as all types of private households are included. CSLC has a claim to be more representative of Japanese society, although Ballas et al.[30] argue that the inclusion in CSLC of students' households and the over-representation of elderly people may lead to over-estimates of income inequality.

The 2006 *Annual Report* from the Japanese Economy and Public Finance also highlights a moderate increase in Gini coefficients based on various surveys (Annual Report on The Japanese Economy and Public Finance - 2006)[31]. According to this report, Gini coefficients from SRI/CSLS are higher than those from NSFIE due to a combination of differences in sample size and sampling methods (Table 1). In addition, the inclusion in CSLC of students living alone and of a larger number of households with income below 2 million yen *(*approximately 19% in 2004, as compared 10% of total households in the NSFIE) also contributes to explain the differences between the two surveys.

The Figure below shows the differences between Gini coefficients according to the various statistical surveys' data (Annual Report on The Japanese Economy and Public Finance - 2006).

Figure 32.   Gini coefficients measured by various statistical surveys' data, Japan (1985 – 2009)
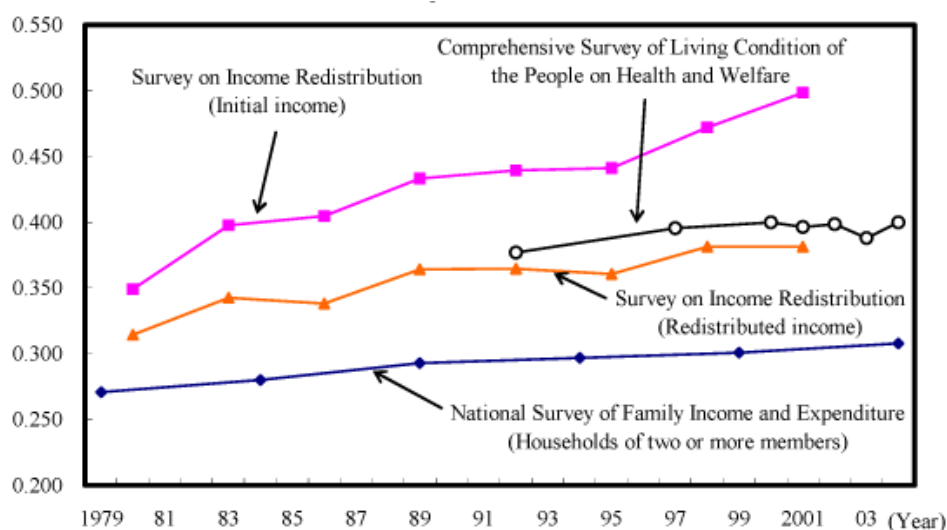
Sources: *National Survey of Family Income and Expenditure*, Ministry of Internal Affairs and Communications; *Survey on Income Redistribution* and *Comprehensive Survey of Living Condition of the People on Health and Welfare*, Ministry of Health, Labour and Welfare

In the 2006 Annual Report quoted above, the Cabinet Office Government of Japan analysed the factors contributing to the rise in the Gini coefficient for all households from 1985 to 2004 based on data

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[30]   Ballas, Dorling, Nakaya, Tunstall and Hanaoka, "Income inequalities in Britain and Japan: a comparative study of two island economies", draft.

[31]   Annual Report on the Japanese Economy and Public Finance, 2006 - Japanese Economy Heading for New Growth Era with Conditions for Growth Restored - Cabinet Office Government of Japan - http://www5.cao.go.jp/zenbun/wp-e/wp-je06/06-00303.html

from SRI. The study suggested that aging and other demographic effects constituted the largest factor, accounting for over 60% of the observed increase in the Gini coefficient. Jones (2007) also underscores the importance of population ageing, while also noting the growing importance of non-regular workers, who are paid significantly less than regular workers.[32] Figure 4 shows that the Gini coefficient for the aged population before taxes and transfers rose significantly from 1985 to 2006, with transfers and taxes partially offsetting this rise.

Figure 33.   Gini coefficients among the elderly, 1985 – 2011
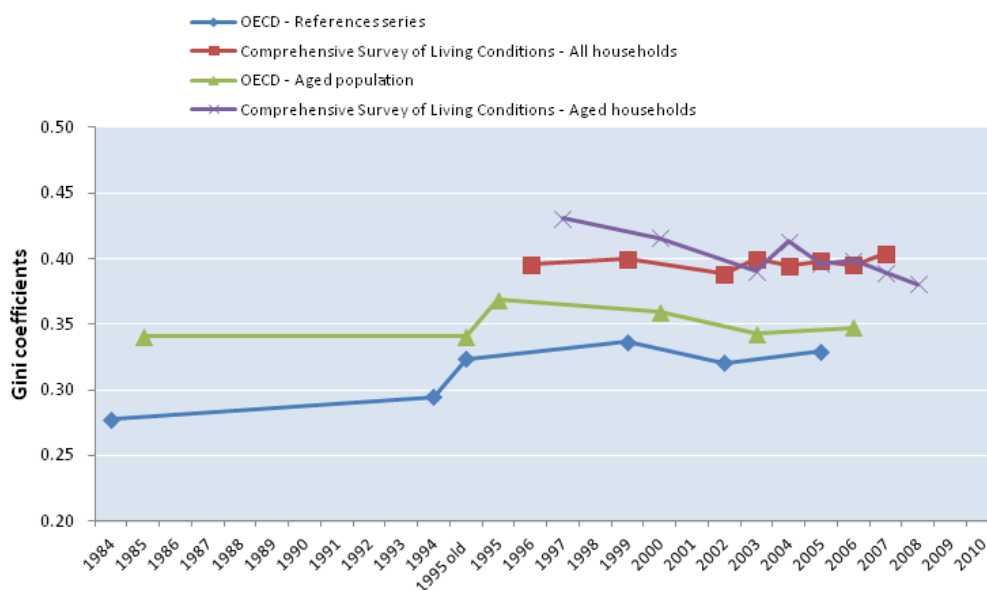
Evidence on income distribution cannot be easily compared across national sources because it often refers to different concepts. National studies based on CSLC often refer to the frequency distribution by income groups. In the 2009, CSLS median income was 4,270,000 yen and the percentage of households below average income was 61.5%. These measures cannot be compared to the OECD ones, which are available for 2006 and refer to disposal incomes. National studies based on CSLC typically refer to trends in average income per household and per household member for quintile groups. These measures are significantly lower than the OECD measures but are also based on different concepts: national estimates based on CSLC refer to the S80/S20 ratio based on average income per household member, whereas the OECD ratios refer to equivalised disposal income. NSFIE estimates of income inequality are intermediate between those available in the OECD database and those reported in national studies based on CSLC. As already mentioned, NSFIE excludes some income items such as pocket money and "remittances.

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[32]   Jones, R. S. (2007), "Income Inequality, Poverty and Social Spending in Japan", *OECD Economics Department Working Papers*, No. 556, OECD publishing, Paris.

Figure 34.   S80/S20, Japan (1985 – 2010)
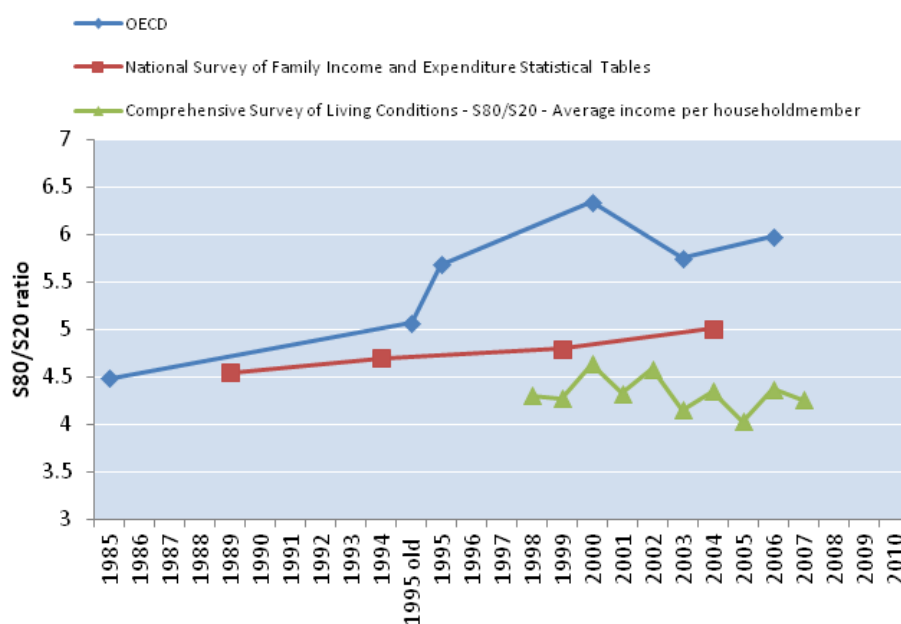
2.1.2   *Poverty rates and composition*

The increase in income inequalities in Japan was accompanied by a rise in the relative poverty rate. According to the OECD estimates, the share of the Japanese population living with less than 50% of the median equivalised income increased from 12% in 1985 to close to 16% in 2006 (last available figure). Over the same period, the poverty rate based on a 60% threshold increased from 17.8% to 21.7%, an increase that is significantly % higher than in other OECD countries.[33] In 2004, the relative poverty rates of Japan was the fourth highest among all OECD countries, while that for households with a head of working age with children and one adult households was the highest.[34] According to some analysis, this rise in the relative poverty rate can be explained by the population ageing and the increase in the share of single-person households.[35] The results of the OECD are very similar to those highlighted by national reporting based on CSLC

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[33]   Mira d'Ercole (2006), "Income Inequality and Poverty in OECD countries: how does Japan to compare?", *The Japanese Journal of Social Security Policy*, Vol. 5, No.1, June.

[34]   OECD (2008), Growing Unequal? Income distribution and Poverty" http://www.mhlw.go.jp/english/wp/wp-hw4/dl/honbun/2_2_3.pdf

[35]   Jones, R. S. (2007), "Income Inequality, Poverty and Social Spending in Japan", OECD Economics Department , Working Papers, No. 556, OECD publishing, © OECD.

Figure 35.   Trends in poverty rates, based on a threshold set at 50% of median income
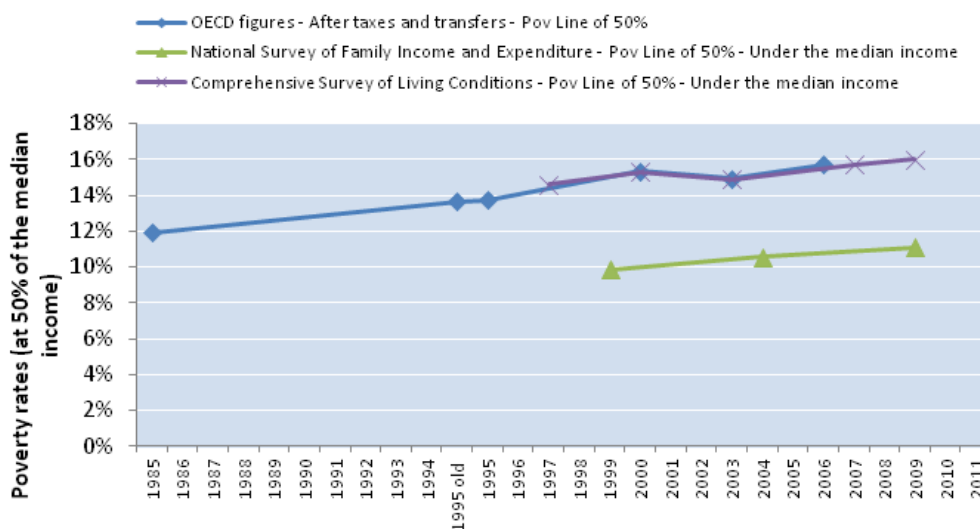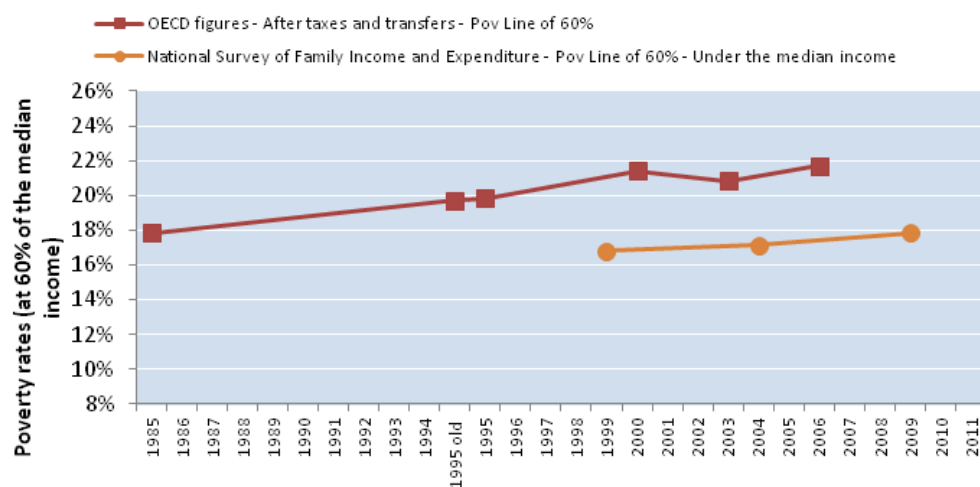

**Figure 36.   Trends in poverty rates, based on a threshold set at 60% of median income**

As in the case of income inequality, poverty rates based on NSFIE are lower than both the OECD and national estimates based on CSLC. As noted above, this can be explained by the fact that not all the private households are included in NSFIE and that some sources of incomes are excluded.[36] National reports based FIES and the SRI do not provide figures on poverty rates.

Regarding child poverty rates, OECD and national estimates from CSLC are very similar, although data cannot be compared before 1997. In both cases, child poverty rates increased since 1985.

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[36]   Ballas et al. estimated poverty rates based on **gross** income figures to cope with the lack of available data on disposable income; these are lower than the ones mentioned above.

Figure 37.   Trends in Child Poverty Rates (at 50% median income)
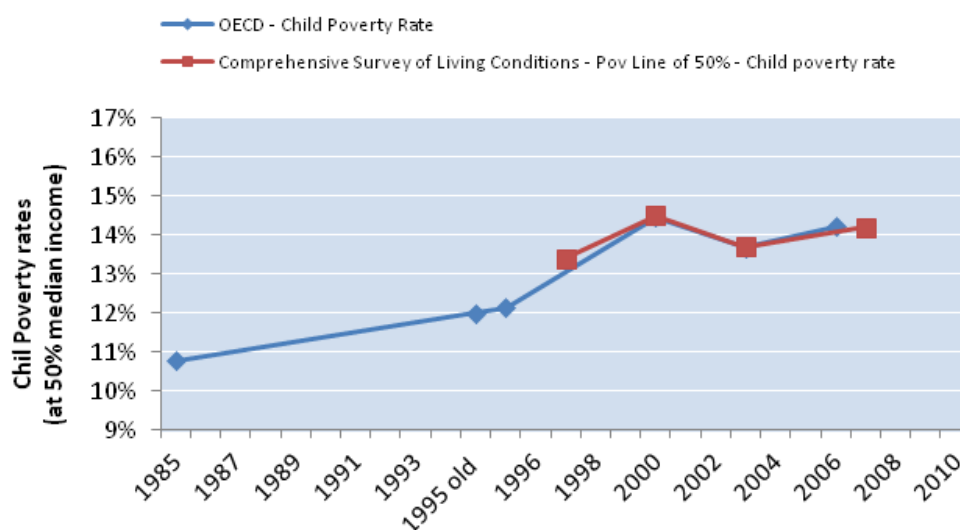
Poverty rates for single adults (of working age) with children reported in the OECD database and in national reports based on CSLC are very similar, even if data cannot be compared before 1997. These rates recorded a significant increase from 1985 to 1997 before diminishing afterwards. The poverty rate for this type of households is particularly high in Japan.

Figure 38.   Trends in relative poverty rates for people living in single adult households with children
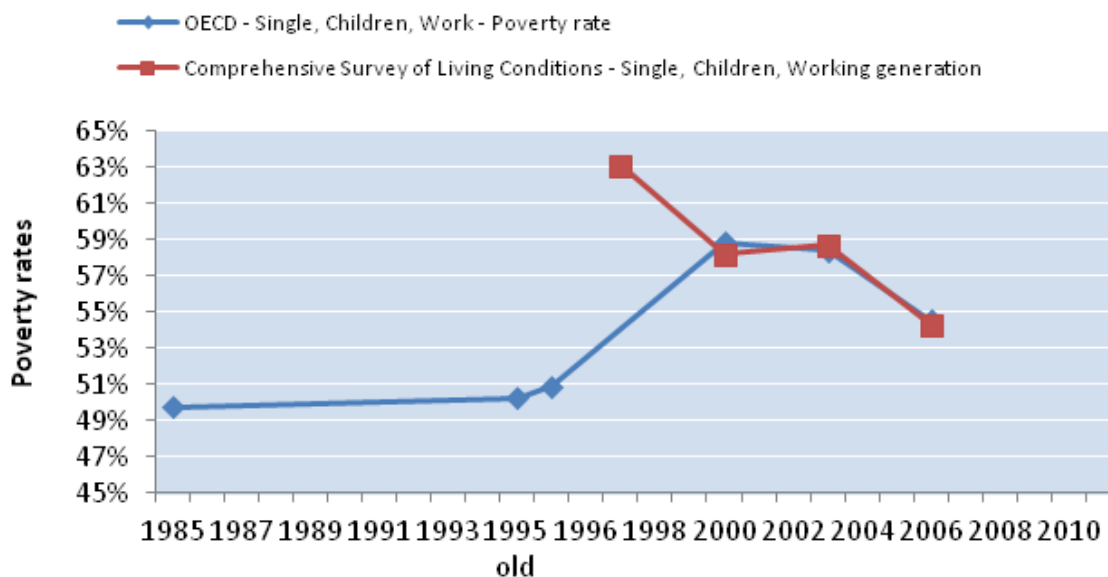
3. Consistency of income components shares with alternative data sources

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. 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

		Survey	Year	Unit	Average income			Average income	K	SE	TR	TA	HDI
					EH	ES	EO	Wages	Capital	Self Employment	Transfers	Taxes	Disposable income (HDI)
OECD reference suvery	OECD reference suvery	2006	natcur	1714547	336245	452293	2,503,086	170068	323833.2328	628106	-662082.7	2963009.492
			% av HDI	57.9%			84.5%	5.7%	10.9%	21.2%	-22.3%	

Figure 9 compares 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 a rising trend throughout the period, sharper in the OECD income distribution database than in OECD SOCX. Differences in levels of the two series are relatively small in the mid-1990s, but significantly in the mid-2000s.

Figure 9 Trends in shares of public social transfers
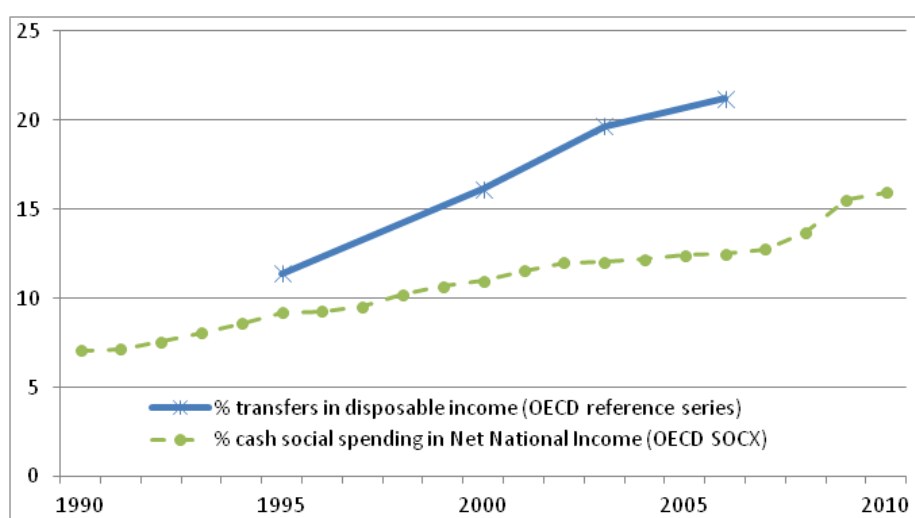
4.   Metadata of data sources which could explain differences and inconsistencies

Overall, significant differences between the different data sources are evident in terms of definitions, methodology and data treatment.

- For Gini coefficients, OECD estimates are intermediate between the four national sources. As described above, the OECD relies on data from CSLC, based on the view that this gives a more accurate and complete picture of income inequalities.

- For all measures of income distribution, the OECD refers to the concept of disposal income per consumption unit whereas national estimates based on CSLC refer to average income per

household and per household members. Inequality estimates from NSFIE differ from those from other sources also because some income types are excluded.

- For poverty rates, the OECD results are similar to national estimates from CSLC for total households, children and lone parents. Poverty rates based on NSFIE are lower than those from other sources due to the exclusion of some types of households and incomes items.

5.   Summary evaluation

Overall, OECD references series show higher income inequalities than those based on either FIES or NSFIE. While the OECD relies on CSLC as its reference source, this reflects the choice made by the Japanese authorities providing the data; the CSLC is also the data source for Japan included in the "Survey of Country Practices" undertaken as part of the 2011 Canberra Handbook on the Measurement of Household Income. While some studies (e.g. Pickett and Wilkinson "The Spirit Level") have argued that Japan is "a more equitable and society in terms of income than is any other industrialised country", this conclusion depends on the use of an alternative official data source (NSFIE) that appears as less suited for assessing income inequality and poverty. Better understanding the full range of methodological differences between the different national sources would require further investigation, as most methodological documents available on-line are written in Japanese with only partial translation in English or French (http://www.e-stat.go.jp/SG1/estat/NewListE.do?tid=000001037021). Finally, even if the differences between the several sources had been tentatively identified in terms of households' coverage and income items, it is difficult to estimate the number of households and the total sum of income that are excluded from one survey to another.

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