# Chartbook of Economic Inequality: 25 Countries 1911-2010<sup>1</sup>

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#### Purpose

The purpose of this Chartbook is to present a summary of evidence about changes in economic inequality - primarily income, earnings, and wealth - for 25 countries covering a 100 year period from 1911 to 2010. There is a range of countries and they account for more than a third of the world's population: Argentina, Brazil, Australia, Canada, Finland, France, Germany, Iceland, India, Indonesia, Italy, Japan, Malaysia, Mauritius, Netherlands, New Zealand, Norway, Portugal, Singapore, South Africa, Spain, Sweden, Switzerland, the UK and the US. The results are presented in 25 charts, one for each country, together with a description of the sources. The underlying figures are available upon request as a set of Excel tables.

Our ambition is to provide for each country five indicators covering on an annual basis:

- Overall income inequality (shown in the charts by squares);
- Top income shares (shown by pyramids)
- Income (or consumption) based poverty measures (shown by stars);
- Dispersion of individual earnings (shown by diamonds);
- Top wealth shares (shown by circles).

This is ambitious and our charts fall a long way short of being complete, as is illustrated in Table 1, which shows the dates at which, for each country, the five indicators commence. In the past, more evidence was available about the upper part of the distribution, and our indicators cover that more fully. Even so, it is rare to have data covering the full hundred years. In only about a quarter of the 125 cases, does the data start before 1945. In some cases, particularly for wealth, we have located no time series. For the 125 cells in Table 1 there are 20 blanks.

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Our emphasis is on *change over time*. We have therefore concentrated on comparability over time, and for this reason presented the evidence country by country.

#### What do the indicators show?

For each of the five indicators, we have a "preferred" definition (or, in one case, a "standard" definition), but we have had to depart from this where no data are available on this basis. To aid the reader, we have in the charts marked by the symbol ¶ the series based on the preferred (or standard) definition. In a number of countries, this includes cases where the data are available for the preferred definition only for the later part of the period, and we have had to piece together series with different definitions. Where the series is not so identified, we have indicated the reason by italicising the relevant part of the description.

In the case of overall income inequality, our preferred definition is the distribution of equivalised (using a scale to allow for differences in household size and composition) household disposable income, defined as income from all sources, including transfer payments, minus direct taxes and social security contributions. The equivalence scale used in most cases is the "modified OECD scale", which gives a weight of 1 to the first adult, of 0.5 to each additional adult, and of 0.3 to each child. This means that the income of a family of 2 adults and 2 children is divided by 2.1. In some cases, other scales are employed, such as the square root scale, where income is divided by the square root of the household size (2 in the example just given). The distribution is among persons: each individual appears in the distribution with the equivalised income of the household. No allowance is made for within-household inequality. In a number of cases, the definitions in the available statistics depart from this preferred version. For example, income may not be adjusted for household size and composition, or the distribution may relate to gross income, before the deduction of income and social security taxes. Because the income tax is usually progressive, inequality is typically higher for gross income than for disposable income.

The distribution is summarised in a single summary statistic, typically the Gini coefficient, which is not our preferred statistic but that most commonly published by statistical agencies. The explanation of the coefficient given by most agencies takes the form of geometry, but we prefer to describe it in terms of the mean difference. A Gini coefficient of G per cent means that, if we take any 2 households from the population at random, the expected difference is 2G times the mean. So that a rise in the Gini coefficient from 30 to 40 per cent implies that the expected difference has gone up from 60 to 80 per cent of the mean. Another useful way of thinking, suggested by Amartya Sen, is in terms of "distributionally adjusted" national income, which with the Gini coefficient from 30 to 40 per cent of national income. So that a rise in the Gini coefficient from 30 to 40 per cent of equivalent to reducing national income by 14 per cent (1/7).

Much of the evidence about *top income shares* is derived from tax records, and our standard - although not necessarily preferred - definition is gross income for tax purposes before deduction of allowable outgoings. In some cases, income includes

capital gains and losses, although where there is a choice (as for the United States and Sweden), we have omitted capital gains and losses. Transfer income is covered to varying degrees in different countries. Because the tax system is typically progressive, the top shares in disposable income are smaller: for example, in the UK in 2000 the share of the top 1 per cent in before tax income was 12.7 per cent, whereas the share in after tax income was 10.0 per cent.

The evidence about top shares is presented in terms of the shares of, typically, the top 0.1 per cent and the top 1 per cent. These are readily interpreted: a share of 10 per cent for the top 1 per cent means that they receive 10 times their proportionate share. A share of 4 per cent for the top 0.1 per cent means that they receive 40 times their proportionate share.

Our preferred definition of *poverty* follows that adopted in the European Union (EU) agreed common social indicators: a relative measure set at 60 per cent of the median equivalised disposable income in the country in question. In some cases, the figures presented relate to absolute poverty measures based on a poverty line fixed over time in terms of purchasing power. It should be stressed that the relative measure is not simply a measure of inequality. It would be quite possible for the EU measure to be reduced to zero without inequality being eliminated: a situation where no one receives less than 60 per cent of the median is quite consistent with considerable inequality.

Our preferred definition of *earnings dispersion* refers to the wage and salary received by those in employment and whose employment was not affected by absence. The indicator used in most cases is the ratio of earnings at the top decile (the person 10 per cent from the top) to the median earnings expressed as a percentage. This is a measure of how far the distribution of earnings is spread out at the top: a figure of 180 per cent means that those in the top 10 per cent of earnings receive 80 per cent or more in excess of median earnings.

The indicator of *wealth* is taken to be the net worth of either individuals (as in estate data) or of households (as in survey data). "Net" means that all liabilities have been subtracted; the figure for some households is negative (for example where the mortgage exceeds the value of the property). The summary indicator used in most cases is the share of the top 1 per cent. A figure of 25 per cent means that the top 1 per cent owns 25 times their proportionate share.

#### Linking of series over time

Discontinuities in statistical series on inequality are frequent. The US Census Bureau "selected measure of household income dispersion" covers the period from 1967 to the present, but there are no fewer than 17 footnotes indicating changes in the processing method. This is more than one every third year. Dealing with these is a matter for judgment. The rules we have followed are (a) to accept in general continuous published series, (b) to link assuming a proportional relationship series shown with overlapping observations in the same table (i.e. link at 1970 by multiplying the pre-1970 series by the ratio of 1970 new to 1970 old), and (c) to link in the same way overlapping series from other sources where there appears to be a sufficiently close definition (we recognise that this is a matter for judgment). Where these conditions are not satisfied, then we show multiple series. The proportionate linking means that the reader can rely on the year-to-year percentage changes, but means that the figures graphed here may differ from those in the original sources. (The underlying tables contain the unlinked series.)

#### Scaling

In choosing the scaling of the graphs, in a desire to aid comparability, we have used in most cases a standard scale from 0 to 50 (per cent) on the left hand axis for all variables except the top decile for earnings, which is shown on a scale 0 to 250 (per cent) on the right hand axis. We have departed in a number of cases where the variables did not fit these scales or where the ease of reading could be significantly improved. In one case (the US in 1929) we have squeezed the observation for the Gini coefficient into the diagram (by showing 50.0 per cent rather than 50.7 per cent).

#### Sources

The sources are described for each country on the page following the chart. We have tried in all cases to check the figures against the original sources. The importance of such checking may be illustrated by reference to South Africa. In seeking data on the overall distribution, we had identified a series for the Gini coefficient covering the years from 1960 to 1987 in the World Income Inequality Database (WIID). Given the problems of securing long-term distributional data for that country, this appeared too good to be true. This proved to be the case. Investigation of the original source (Lachmann and Bercuson, 1992, Table 2) revealed that the title was "Gini coefficients assuming income equality within racial groups". The data showed the differences between races, which is an important part, but only part, of the story. These data do not measure overall inequality and are not used here.

In this exercise, we have made use of valuable building blocks. In particular the studies of top incomes, largely resulting from the project organised by Atkinson and Piketty (2007 and 2010), provide an anchor for the empirical analysis. This project gave rise to the <u>World Top Incomes Database</u> (referred to below as WTID), administered by Facundo Alvaredo. But we wish also to cover, as far as possible, the distribution as a whole, and to follow what happens to poverty as well as riches. The series that we present therefore show not only top income shares but also measures of overall inequality and measures of low incomes. Here we are able to draw on the collection of historical data assembled over the years by Atkinson and Brandolini (see for example, Brandolini, 2002).

The general sources on which we have drawn are:

Atkinson, A B, 2008, The changing distribution of earnings in OECD countries, Oxford University Press, Oxford.

Atkinson, A B and Piketty, T, editors, 2007, *Top incomes over the twentieth century*, Oxford University Press, Oxford.

Atkinson, A B and Piketty, T, editors, 2010, *Top incomes: a global perspective*, Oxford University Press, Oxford.

Brandolini, A, 2002, "A bird's eye view of long-run changes in income inequality", Bank of Italy Research Department, Rome.

Luxembourg Income Study (LIS) *Key Figures*, downloaded from LIS website 15 October 2010; it should be noted that the country coverage of LIS is being extended: in August 2011 the *Key Figures* covered 36 countries, including 14 of those included in this chartbook.

World Top Incomes Data-Base, created and administred by F. Alvaredo,

http://www.parisschoolofeconomics.eu/en/news/the-top-incomes-database-new-website/

We owe a considerable debt to the many researchers who have contributed to these sources.

#### Findings:

The main aim of the Chartbook is to allow readers to draw their own conclusions, but we have included below each chart a table summarising our answers to the following questions:

- Has overall income inequality increased in recent years?
- Have there been periods when overall inequality fell in a sustained way?

• The US and certain other countries have seen top income shares first fall and then rise, is there a U-shaped pattern of this kind?

• Has poverty been rising or falling?

• A number of OECD countries have seen a fanning-out of the top of the earnings distribution, is this pattern found?

- Has the concentration of wealth moved in the same way as income inequality?
- Are there particularly note-worthy features?

These are only some of the questions that readers will want to ask, but they capture some of the issues in current debate. It is, for example, widely held that there is a general upward trend in income inequality. How far is this in fact the case? The answer will of course depend in part by our view as to what constitutes a "salient" rise. In the case of the Gini coefficient, we take a 2 percentage point difference as salient; in the case of the share of the top 1 per cent, we take a difference of 3 percentage points as salient.

Country	Overall inequality	Top income shares	Poverty	Earnings	Wealth
Argentina	1953	1932	1980	-	-
Australia	1942	1921	1981	1975	-
Brazil	1960	1960	1984	2002	-
Canada	1959	1920	1976	1931	-
Finland	1920	1920	1971	1971	1968
France	1956	1915	1970	1950	1911
Germany	1950	1911 (1891)	1962	1929	1973
Iceland	1992	1992	1986	1986	-
India	1951	1922	1983	1983	-
Indonesia	1964	1920	1976	-	-
Italy	1911 (1861)	1974	1977	1973	-
Japan	1923	1911 <i>(1886)</i>	1985	1980	1983
Malaysia	1957	1947	1970	-	-
Mauritius	1962	1933	1996	-	-
Netherlands	1959	1914	1977	1977	1915
New Zealand	1951	1921	1982	1958	1956
Norway	1973	1913 <i>(1875)</i>	1979	1986	1912
Portugal	1967	1936	1980	1982	-
Singapore	1966	1947	-	1965	-
South Africa	1960	1913	1970	1997	-
Spain	1964	1954	1973	2004	-
Sweden	1951	1911 (1903)	1975	1975	1911
Switzerland	1950	1933	1982	1991	1915
UK	1938	1913	1961	1954	1923
US	1918	1913	1948	1939	1916

Table 1 Coverage of data (first year of data)

Note: In few cases the actual initial year of the series (within the original sources) precedes the year 1911 and this is indicated within the table in italics and parenthesis . Series are not in all cases continuous.

# 1. Argentina



Increasing recent overall inequality?	Gini coefficient has fallen by 8 percentage points since 2001.
Have there been periods when overall inequality fell for a sustained period?	Overall inequality and top shares fell from early 1950s to end of the 1970s.
Has there been a U-pattern for top income shares?	Top gross income shares fell from 1943 to 1973, and have risen in recent decade.
Has poverty been falling or rising?	Has risen and fallen very sharply.
Increasing top decile of earnings?	No evidence.
Has the distribution of wealth followed the same pattern as income?	No evidence.
Noteworthy features	Rise in poverty rate in 1989 and 2002.

<u>Overall inequality</u>: Series 1: Gini coefficient for household *per capita* income *for the urban population* (Greater Buenos Aires from 1974 to 1992, 15 main cities from 1992 to 1998, 28 main cities from 1998 to 2003, now covers approximately 60 per cent of total population) from SEDLAC (Socio-Economic Database for Latin America and the Caribbean), a joint CEDLAS and World Bank project - see Gasparini and Cruces, 2008, and Gasparini, Cruces and Tornarolli, 2011), linked backwards at 1992 to the series from 1974 for Greater Buenos Aires (only); Series 2: Gini coefficient *for household income* for *Greater Buenos Aires* from Altimir (1986, Cuadro 4, original figures); Series 3: Gini coefficient for *household income* from Altimir (1986, Cuadro 7).

<u>Top income shares</u>: Shares of top 1 and 0.1 per cent in total gross income from Atkinson, Piketty and Saez (2010, Table 13A.16), based on work of Alvaredo (2010).

<u>Poverty</u>: Percentage below of individuals below *national poverty line for urban population* (Greater Buenos Aires from 1974 to 1992, 15 main cities from 1992 to 1998, 28 main cities from 1998 to 2003, now covers approximately 60 per cent of total population), from SEDLAC (see above), linked backwards at 1992 as described above.

# References:

Altimir, O, 1986, "Estimaciones de la distibución del ingreso en la Argentina, 1953-1980", *Desarrollo Económico*, vol 25: 521-566.

Alvaredo, F, 2010, "The rich in Argentina over the twentieth century 1932-2004" in A B Atkinson and T Piketty, editors, *Top incomes: A global perspective*, Oxford University Press, Oxford.

Gasparini, L and Cruces, G, 2008, "A distribution in motion: The case of Argentina", CEDLAS, Universidad Nacional de La Plata.

Gasparini, L, Cruces, G and Tornarolli, R, 2011, "Recent trends in income inequality in Latin America", *Economia*, vol 11: 147-190.

## 2. Australia



Increasing recent overall inequality?	Gini coefficient has increased by 5 percentage points since 1981.
Have there been periods when overall inequality fell for a sustained period?	Overall inequality and top shares fell from early 1950s to end of the 1970s.
Has there been a U-pattern for top income shares?	Top gross income shares fell from 1921 to around 1980 and then began to rise, reaching pre-war levels before the 2007 crisis.
Has poverty been falling or rising?	Risen since 1981.
Increasing top decile of earnings?	Top decile of earnings has increased from 175 per cent of median in 1975 to 210 per cent in 2010.
Has the distribution of wealth followed the same pattern as income?	No evidence.
Noteworthy features	Rising inequality on all dimensions for past thirty years.

<u>Overall inequality</u>: Gini coefficient of equivalised disposable household income from Table S.5, Household income and income distribution, 2009-10, publication 6523.0 on website of Australian Bureau of Statistics, where we have taken account of the change in methodology in 2007-8 by calculating a figure for that year based on the change in the estimates obtained on the "former basis" (1.2 percentage points) from Table A7 of the 2007-8 report, and then subtracting the difference (1 percentage point) from the estimates for subsequent years; linked at 1995 to series from Luxembourg Income Study (LIS) *Key Figures*; Gini coefficient for *gross* household income calculated from Ingles (1981, Table 9); Gini coefficient for *individual gross* income, series 1, for 1942-3 and 1989-90 from Saunders (1993, Table 2); series 2 from Hancock (1971, Table 4).

<u>Top income shares</u>: Share of top 1 per cent in total gross income from WTID, based on work of Atkinson and Leigh (2007).

<u>Poverty</u>: Percentage of individuals in households with equivalised (square root scale) disposable income below 60 per cent of the median from Luxembourg Income Study (LIS) *Key Figures*.

<u>Individual earnings</u>: From May survey, *Employee Earnings and Hours* (all employees) taken from Atkinson (2008, Appendix A, Table A.5), updated from reports for 2006 (Table 5), 2008 (Table 6) and 2010 (Table 8) from website of Australian Bureau of Statistics, linked backwards at 1998 to series back to 1975 given by OECD (Atkinson, 2008, Table A.3).

#### References:

Atkinson, A B, 2008, *The changing distribution of earnings in OECD countries*, Oxford University Press, Oxford.

Atkinson, A B and Leigh, A, 2007, "The distribution of top incomes in Australia", *Economic Record*, vol 83: 247-261.

Hancock, K, 1971, "The economics of social welfare in the 1970s", in H Weir, editor, *Social welfare in the 1970's*, Australian Council of Social Science, Sydney.

Ingles, D, 1981, Statistics on the distribution of income and wealth in Australia, Research Paper no 14, Department of Social Security, Canberra.

Saunders, P, 1993, "Longer run changes in the distribution of income in Australia", *Economic Record*, vol 69: 353-366.

# 3. Brazil



Increasing recent overall inequality?	Gini coefficient has fallen by 5 percentage points between 2001 and 2009.
Have there been periods when overall inequality fell for a sustained period?	Recent decade.
Has there been a U-pattern for top income shares?	
Has poverty been falling or rising?	Falling over past twenty years.
Increasing top decile of earnings?	Gini coefficient for earnings has fallen in recent decade.
Has the distribution of wealth followed the same pattern as income?	No evidence.
Noteworthy features	High level of overall income inequality.

<u>Overall inequality</u>: Gini coefficient for household *per capita* income from SEDLAC (Socio-Economic Database for Latin America and the Caribbean), a joint CEDLAS and World Bank project - see Gasparini, Cruces and Tornarolli; Gini coefficient for *household income* for 1960 and 1970 from Langoni (1973a, Table 2; see also 1978), see also Fishlow (1972, Tables 1 and 5).

<u>Top income shares</u>: Share of top 1 per cent in total household income for 1960 and 1970 from Langoni (1978, Tabela 1.1 and 3.3).

<u>Poverty</u>: Percentage below of individuals below *national poverty line*, from SEDLAC (CEDLAS and the World Bank).

<u>Individual earnings</u>: Gini coefficient for labour earnings in *six main metropolitan regions*, persons aged 15-60, from Neri (2010, Table 2.3, June figures).

## References:

Fishlow, A, 1972, "Brazilian size distribution of income", *American Economic Review*, *Papers and Proceedings*, vol 62: 391-402.

Gasparini, L, Cruces, G and Tornarolli, R, 2011, "Recent trends in income inequality in Latin America", *Economia*, vol 11: 147-190.

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Langoni, C G, 1973a, "Income distribution and economic development: The Brazilian case", working paper.

Langoni, C G, 1975, "Review of income data: Brazil", Research Program in Economic Development Discussion Paper 60.

Neri, M C, 2010, "The decade of falling income inequality and formal employment generation in Brazil" in *Tackling inequalities in Brazil, China, India and South Africa*, OECD, Paris.





<u>Overall inequality</u>: Gini coefficient of equivalised (from 2010 square root scale) after-tax family unit income from website of Statistics Canada, Table 202-0709; Gini coefficient for equivalised gross family income for 1965 to 1983 from Wolfson (1986, Table 3); Gini coefficient for gross family income restricted to non-farm families for 1959-1971 from Love (1979, Table A.3).

<u>Top income shares</u>: Share of top 1 per cent in total gross income from WTID, based on work of Saez and Veall (2007) and Veall (2010).

<u>Poverty</u>: Percentage of individuals in households with equivalised after-tax annual income *below 50 per cent* of the median from website of Statistics Canada, Table 202-0802.

<u>Individual earnings</u>: Series 1 from Atkinson (2008, Appendix C, Table C.4); Series 2 from OECD iLibrary, Employment and Labour Market Statistics, Gross earnings decile ratios.

#### **References:**

Atkinson, A B, 2008, *The changing distribution of earnings in OECD countries*, Oxford University Press, Oxford.

Love, R, 1979, *Income distribution and inequality in Canada*, Ministry of Supply and Services, Ottawa.

Saez, E and Veall, M R, 2007, "The evolution of high incomes in Canada: 1920-2000" in A B Atkinson and T Piketty, editors, *Top incomes over the twentieth century*, Oxford University Press, Oxford.

Veall, M R, 2010, "Top income shares in Canada: Updates and extensions", working paper, McMaster University.

Wolfson, M C, 1986, "Stasis Amid Change - Income Inequality in Canada 1965-1983", *Review of Income and Wealth*, vol 32: 337-69.

#### 5. Finland



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<u>Overall inequality</u>: Gini coefficient of equivalised (EU scale) disposable household income from 1966 from website of Statistics Finland, Income and Consumption, Income Distribution Statistics, Appendix Table 2; it should be noted that the figures for 1966-1981, 1987-1992, and from 1993 are not fully comparable and that the figures prior to 2002 use the OECD equivalence scale; earlier series for distribution *among tax units* based on tax records from 1920 to 1966 from Jäntti et al (2010, Table 8A.1), see also Berglund et al (1998) and Eriksson and Jäntti (1998).

<u>Top income shares</u>: Share of top 1 per cent in total gross income from WTID, based on work of Jäntti et al (2010); Series 1 is based on income tax records, Series 2 is based on the Income Distribution Survey.

<u>Poverty</u>: Percentage of individuals in households with equivalised (modified OECD scale) disposable income below 60 per cent of the median from website of Statistics Finland, Statistics Database, Income Distribution Statistics, At risk of poverty indicators, linked backwards at 1990 to estimates by Riihelä, Sullström and Tuomala (2003, Table A.4.1) using OECD equivalence scale.

<u>Individual earnings</u>: From OECD iLibrary, Employment and Labour Market Statistics, Gross earnings decile ratios, linked at 1980 to earlier series from Atkinson (2008, Appendix F, Table F.3).

<u>Wealth</u>: Share of top 1 per cent of taxpayers in total wealth from Tuomala and Vilmunen (1988, Table 1).

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Atkinson, A B, 2008, *The changing distribution of earnings in OECD countries*, Oxford University Press, Oxford.

Berglund, M, Jäntti, M, Parkatti, L and Sundqvist, C, 1998, "Long-run trends in the distribution of income in Finland 1920-1992", Åbo Akademi University.

Eriksson, T and Jäntti, M, 1998, "Modelling the distribution of income and socioeconomic variables: Finland 1949-1992", paper presented at the 25<sup>th</sup> General Conference of the IARIW, Cambridge.

Jäntti, M, Riihelä, M, Sullström, R and Tuomala, M, 2010, "Trends in top income shares in Finland", in A B Atkinson and T Piketty, editors, *Top incomes: A global perspective*, Oxford University Press, Oxford.

Riihelä, M, Sullström, R and Tuomala, M, 2003, "On recent trends in economic poverty in Finland", Tampere Economic Working Paper 23, Department of Economics, University of Tampere.

Tuomala, M and Vilmunen, J, 1988, "On the trends over time in the degree of concentration of wealth in Finland", *Finnish Economic Papers*, vol 1: 184-190.





Increasing recent overall inequality?	No significant increase in the Gini coefficient.
Have there been periods when overall inequality fell for a sustained period?	Overall inequality, wealth inequality and poverty fell from the 1960s to the 1990s.
Has there been a U-pattern for top income shares?	Top gross income shares fell from 1916 to 1945 and then stable over post-war period.
Has poverty been falling or rising?	Fell from 1970 to 2000.
Increasing top decile of earnings?	No significant increase.
Has the distribution of wealth followed the same pattern as income?	Top wealth share fell in post-war period while little change in top income shares.
Noteworthy features	Overall stability of inequality in recent years.

<u>Overall inequality</u>: Gini coefficient of equivalised (modified OECD scale) disposable household income from website of INSEE, Revenus-Salaires/Niveau de vie et indicateurs de l'inégalité from 2006, earlier figures from Godefroy et al (2010, Table 1), here linked at 2005, and Legendre (2004, Table 2), linked backwards at 1970 to series on gross income (excluding certain categories of income) from Concialdi (1997, Table 11.11).

<u>Top income shares</u>: Share of top 1 per cent in total gross income from WTID, based on work of Piketty (2001 and 2003) and Landais (2007).

<u>Poverty</u>: Percentage of individuals living in households with equivalised (EU scale) disposable income below 60 per cent of the median, up to 2000 from website of INSEE, Revenus-Salaires/Pauvreté, from 2002 taken from EU-SILC, Eurostat website.

<u>Individual earnings</u>: From website of INSEE, Revenus-Salaires, Distributions des revenus salariaux for 2002-2009, earlier from DADS exploitation exhaustive de 1950 à 2006 (estimations for 1981, 1983 and 1990).

<u>Top wealth shares</u>: Share of top 1 per cent in total *estates* at death from Piketty, Postel-Vinay and Rosenthal (2004, Table A7).

#### References:

Concialdi, P, 1997, "Income distribution in France : The mid-1980s turning point" in P Gottschalk, B Gustafssson and E Palmer, editors, *Changing patterns in the distribution of economic welfare: An international perspective*, Cambridge University Press, Cambridge.

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Landais, C, 2007, "Les hauts revenus en France 1998-2006: Une explosion des inégalités?", Paris School of Economics Working Paper.

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Piketty, T, 2001, Les hauts revenus en France au 20ème siècle, Grasset, Paris.

Piketty, T, 2003, "Income inequality in France, 1901-1994", *Journal of Political Economy*, vol 111: 1004-1042.

Piketty, T, Postel-Vinay, G and Rosenthal, J-L, 2004, "Wealth concentration in a developing economy: Paris and France, 1807-1994", CEPR Working Paper 4631, Centre for Economic Policy Research, London.

# 7. Germany



Increasing recent overall inequality?	Gini coefficient in 2009 was 4 percentage points higher than in 1998.
Have there been periods when overall inequality fell for a sustained period?	Overall inequality and poverty fell over the 1960s and 1970s.
Has there been a U-pattern for top income shares?	Top gross income shares stable over post-war period.
Has poverty been falling or rising?	Poverty rate increased from 10 per cent to 15 per cent between 1998 and 2008.
Increasing top decile of earnings?	Top decile has risen from 150 per cent of median in 1950s to 190 per cent at end of 2000s.
Has the distribution of wealth followed the same pattern as income?	Gini coefficient fell 10 percentage points to 1993 and then began to rise.
Noteworthy features	Overall U-shape in inequality over post-war period.

<u>Overall inequality</u>: Gini coefficient of *unequivalised* disposable income, series 1, from DIW (1973, page 224); Gini coefficient of equivalised (modified OECD scale) disposable household income, series 2, for all persons in private households for all Germany (West Germany from 1984 to 1990) from SOEPmonitor 1984-2010, page 87, published 15 October 2010 on the website of DIW Berlin; note that the data are based on information collected in the German Socio-Economic Panel on annual income (preceding year, so that the 2009 data are from the 2010 survey), linked backwards at 1983 to data from the EVS (Income and Expenditure Survey) for West Germany from Becker (1997, Tabelle 1) and Hauser and Becker (2001, page 89).

<u>Top income shares</u>: Series 1: shares of top 1 per cent and top 0.1 per cent in total gross income (excluding capital gains) covering Prussia before 1919, the German Reich from 1925 to 1938, and West Germany for 1950, from WTID, which gives a series up to 1998, based on work of Dell (2007); Series 2 from 1950 for shares of top 1 per cent and top 0.1 per cent in total gross income (including capital gains) also from WTID covering West Germany until 1990 and thereafter Germany.

<u>Poverty</u>: Series 1: percentage of individuals in households with equivalised (original OECD scale) disposable household income below *50 per cent of the mean* for all persons of German nationality in private households for West Germany, from Becker (1997, Tabelle 2); Series 2: percentage of individuals in households with equivalised (modified OECD scale) disposable household income below 60 per cent of the median for all persons in private households for all Germany (West Germany from 1984 to 1990) from SOEPmonitor 1984-2010, page 95, published 15 October 2010 on the website of DIW Berlin; note that the data are based on information collected in the German Socio-Economic Panel on annual income (preceding year, so that the 2009 data are from the 2010 survey).

<u>Individual earnings</u>: Series 1 covering the German Reich from Atkinson (2008, Appendix H, Table H.6); Series 2 covering Germany (West Germany prior to 1991) from Atkinson (2008, Appendix H, Table H.3), linked at 2002 to series from OECD iLibrary, Employment and Labour Market Statistics, Gross earnings decile ratios.

<u>Wealth</u>: Gini coefficient for individual wealth covering Germany from Frick, Grabka and Hauser (2010, Tabelle 2.6), linking the figure for 2007 at 2002/3 to the earlier series (estimates for 1973 to 1993 relate to West Germany).

# References:

Atkinson, A B, 2008, *The changing distribution of earnings in OECD countries*, Oxford University Press, Oxford.

Becker, I, 1997, "Die Entwicklung der Einkommensverteilung und der Einkommensarmut in den alten Bundesländern von 1962 bis 1988" in I Becker and R Hauser, editors, *Einkommensverteilung und Armut*, Campus, Frankfurt.

Dell, F, 2007, "Top incomes in Germany throughout the twentieth century: 1891-1998" in A B Atkinson and T Piketty, editors, *Top incomes over the twentieth century*, Oxford University Press, Oxford.

DIW (Deutsche Institut für Wirtschaftsforschung), 1973, "Einkommensverteilung und -schichtung der privaten Haushalte in der Bundesrepublik Deutschland 1950 bis 1970", Wochenbericht, No 25, Berlin.

Frick, J R, Grabka, M M and Hauser, R, 2010, *Die Verteilung der Vermögen in Deutschland*, Edition Sigma, Berlin.

Hauser, R and Becker, I, 2001, *Einkommensverteilung im Querschnitt und im Zeitverlauf 1973-1998*, Bundesministerium für Arbeit und Sozialordnung, Bonn.

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#### 8. Iceland



Increasing recent overall inequality?	Gini coefficient has increased by 5.5 percentage points in the run- up of the crisis and then fall by 4 percentage points.
Have there been periods when overall inequality fell for a sustained period?	
Has there been a U-pattern for top income shares?	
Has poverty been falling or rising?	
Increasing top decile of earnings?	
Has the distribution of wealth followed the same pattern as income?	No evidence.
Noteworthy features	Effect of financial bubble and crisis.

<u>Overall inequality</u>: Gini coefficient for equivalised household disposable income from EU-SILC, Eurostat website. <u>Top income shares</u>: Shares of top 1, 5 and 10 per cent in *equivalised disposable* income, including capital gains, after direct taxation and benefits, from Olafsson and Kristjansson (2010, Figure 6).

<u>Poverty</u>: Percentage of individuals living in households with equivalised (EU scale) disposable income below 60 per cent of the median, series 1 from EU-SILC, Eurostat website; series 2 for 1986-1995 (with 50 per cent of the median) from Ólafsson and Sigurðsson, (1996, Figure 2).

<u>Individual earnings</u>: Earnings at top decile from OECD iLibrary, Employment and Labour Market Statistics, Gross earnings decile ratios; Gini coefficient for employment earnings from Ólafsson, S and Sigurðsson (1996, Figure 2).

## References:

Ólafsson, S and Kristjánsson, A S, 2010, "Income inequality in a bubble economy", Luxembourg Income Study conference, Luxembourg.

Ólafsson, S and Sigurðsson, A S, 1996, "Poverty in Iceland" in A Puide, editor, *Den nordiska fattingdomens utveckling och struktur*, Tema Nord, Copenhagen.





Increasing recent overall inequality?	Some evidence of increase in overall inequality from 1993 to 2004.
Have there been periods when overall inequality fell for a sustained period?	Some decline in overall inequality after Independence.
Has there been a U-pattern for top income shares?	Top income shares fell from 1940 to 1980 and then rose; share of top 1 per cent doubled.
Has poverty been falling or rising?	Fall in absolute poverty.
Increasing top decile of earnings?	No evidence.
Has the distribution of wealth followed the same pattern as income?	No evidence.
Noteworthy features	

<u>Overall inequality</u>: Gini coefficient for *per capita expenditure*, series 1, adjusted for spatial price differentials from Asian Development Bank (2007, Table 5.1); Gini coefficient for *per capita expenditure*, series 2 from World Income Inequality Database WIID2c, available on the UNU-WIDER website.

<u>Top income shares</u>: Share of top 1 per cent and top 0.1 per cent in total gross income from WTID, based on work of Banerjee and Piketty (2010).

<u>Poverty</u>: Percentage below *Planning Commission poverty line* (absolute) from Majumdar (2010, Table 4.2).

<u>Earnings</u>: *Gini coefficient* of wages of regular workers from Majumdar (2010, Table 4.4).

## References:

Asian Development Bank, 2007, *Key Indicators 2007*, Asian Development Bank, Manila.

Banerjee, A and Piketty, T, 2010, "Top Indian incomes, 1922-2000" in A B Atkinson and T Piketty, editors, *Top incomes: A global perspective*, Oxford University Press, Oxford.

Majumdar, D, 2010, "Decreasing poverty and increasing inequality in India" in *Tackling inequalities in Brazil, China, India and South Africa*, OECD, Paris.

# 10. Indonesia



F	
Increasing recent overall inequality?	Rise in recent years.
Have there been periods when overall inequality fell for a sustained period?	Fall in Gini coefficient from 1964 to 1990.
Has there been a U-pattern for top income shares?	
Has poverty been falling or rising?	Fall in absolute poverty.
Increasing top decile of earnings?	No evidence.
Has the distribution of wealth followed the same pattern as income?	No evidence.
Noteworthy features	

Inequality in Indonesia

<u>Overall inequality</u>: Gini coefficient for *household per capita expenditure* from Booth (2000, Table 1), Krongkaew and Ragayah (2006, Table 2), and website of Badan Pusat Statistik (Statistics Indonesia), consumption and expenditure/selected consumption indicators; Gini coefficient for household *per capita* income from Asra (2000, Table 6).

<u>Top income shares</u>: Share of top 1 per cent and 0.05 per cent in total gross income from WTID, based on work of Leigh and van der Eng (2010).

<u>Poverty</u>: Percentage with expenditure below *official absolute poverty line* (see Asra, 2000) for total population (rural and urban) from *Perkembangan Beberapa Indikator Utama Sosial-Ekonomi Indonesia* (Trends of the Selected Socio-Economic Indicators of Indonesia), October 2009, Table 5.4 (and total population figures from Table 2.1), linked backwards at 1999 and 1996, and linked backwards at 1980 to the estimates for 1976 and 1978 in Booth (1993, Table 5).

#### References:

Asra, A, 2000, "Poverty and inequality in Indonesia", *Journal of the Asia Pacific Economy*, vol 5: 91-111.

Asra, A, 1989, "Inequality trends in Indonesia, 1969-1981: A Re-Examination", *Bulletin of Indonesian Studies*, vol 25: 100-110.

Booth, A, 1993, "Counting the poor in Indonesia", *Bulletin of Indonesian Studies*, vol 29: 53-83.

Krongkaew, Medhi and Ragayah, Haji Mat Zin, 2006, "Income distribution and sustainable economic development in East Asia: A comparative analysis", paper available from EADN Network.

Leigh, A and van der Eng, P, 2010, "Top incomes in Indonesia, 1920-2004" in A B Atkinson and T Piketty, editors, *Top incomes: A global perspective*, Oxford University Press, Oxford.

Miranti, R, 2010, "Poverty in Indonesia 1984-2002: The impact of growth and changes in inequality", *Bulletin of Indonesian Studies*, vol 46: 79-97.

Sundrum, R M, 1979, "Income distribution, 1970-76", *Bulletin of Indonesian Studies*, vol 15: 137-141.





Increasing recent overall inequality?	There was a step up in the Gini coefficient around 1993 but this may in part reflect changes in the underlying survey.
Have there been periods when overall inequality fell for a sustained period?	Gini coefficient fell by some 10 percentage points in the 1970s.
Has there been a U-pattern for top income shares?	Top gross income shares have risen since the early 1980s.
Has poverty been falling or rising?	Rising.
Increasing top decile of earnings?	The top decile is now around 165 per cent of the median, compared with 145 per cent at the start of the 1980s.
Has the distribution of wealth followed the same pattern as income?	Rose in 1990s.
Noteworthy features	Some evidence of U-shaped pattern in post-war period. Steep rise in top wealth share from 1989 to 2000.

<u>Overall inequality</u>: Gini coefficient of equivalised (modified-OECD scale) disposable household income among individuals from Bank of Italy, data supplied by A Brandolini, linked backwards at 1987 to earlier series (excluding dividends and interest), linked backwards at 1977 to earlier published series (not equivalised) - see Brandolini (1999).

<u>Top income shares</u>: Shares of top 1 and 0.1 per cent in total gross income from WTID, based on work of Alvaredo and Pisano (2010).

<u>Poverty</u>: Percentage of individuals in households with equivalised (modified OECD scale) disposable income below 60 per cent of the median from Bank of Italy, data supplied by A Brandolini.

Individual earnings: From Atkinson (2008, Appendix K, Table K.4).

<u>Wealth</u>: Share of top 1 per cent in wealth from Brandolini et al (2004, Table 6, adjusted figures).

# References:

Alvaredo, F and Pisano, E, 2010, "Top incomes in Italy 1974-2004" in A B Atkinson and T Piketty, editors, *Top incomes: A global perspective*, Oxford University Press, Oxford.

Atkinson, A B, 2008, *The changing distribution of earnings in OECD countries*, Oxford University Press, Oxford.

Brandolini, A. (1999), "The Distribution of Personal Income in Post-War Italy: Source Description, Data Quality, and the Time Pattern of Income Inequality", *Giornale degli Economisti e Annali di Economia*, vol. 58, pp. 183-239.

Brandolini, A. and and G. Vecchi (2011), "The Well-Being of Italians: A Comparative Historical Approach", Bank of Italy, Economic History Working Papers n. 19.

Brandolini, A, Cannari, L, D'Alessio, G, and Faiella, I, 2004, "Household wealth distribution in Italy in the 1990s", Bank of Italy, Economic Research Department.

# 12. Japan



Increasing recent overall inequality?	Gini coefficient on upward trend since 1980.
Have there been periods when overall inequality fell for a sustained period?	Difference 1938 and 1945.
Has there been a U-pattern for top income shares?	Post-Second World War shares lower than before war.
Has poverty been falling or rising?	
Increasing top decile of earnings?	Narrowing in the 1960s and 1970s, followed by little evident trend.
Has the distribution of wealth followed the same pattern as income?	
Noteworthy features	Difference before and after Second World War. Relative stability of earnings dispersion.

Inequality in Japan

<u>Overall inequality</u>: Gini coefficient for redistributed income, series 1, from the Income Redistribution Survey, from Tachibanaki (2005, Table 1.1); Series 2 from OECD (2009, Table 1.A2.4), the estimates relating to "mid-1990s", "around 2000", and "mid-2000s", respectively; series 3, Gini coefficient for *household income* from Family Income and Expenditure Survey, from Fukui (1996, Table 2-3); series 4, Gini coefficient for *household income*, limited to *households of employees in large cities*, from Mouer (1973, Table III); series 5, Gini coefficient for *household income* for the pre second World War period from Minami (1998, Table 4) (source also cited by Hayami (1997, Table 7.2) and Moriguchi and Saez (2010, Figure 3.2)).

<u>Top income shares</u>: Share of top 1 per cent in total gross income from WTID, based on work of Moriguchi and Saez (2010).

# Poverty: From website of OECD, Growing Unequal?

<u>Individual earnings</u>: Series 1 from OECD iLibrary, Employment and Labour Market Statistics, Gross earnings decile ratios; Series 2 computed by Facundo Alvaredo based on work by Moriguchi and Saez (2010), Appendix 3C, covering all employees in the private sector who worked for the same employee throughout a calendar year, excluding temporary workers with job durations below one year, regular employees hired mid-year, government employees and retirees.

<u>Wealth</u>: *Gini coefficient* for net worth for all population (home-owners and tenants) from Tachibanaki (2005, Table 1.10).

# References:

Fukui, T, 1996, "Outline of household income statistics in Japan", Statistics Bureau, Management and Coordination Agency, Tokyo.

Hayami, Y, 1997, *Development economics*, Clarendon Press, Oxford.

Minami, R, 1998, "Economic development and income distribution in Japan: An assessment of the Kuznets hypothesis", *Cambridge Journal of Economics*, vol 22: 39-58.

Moriguchi, C and Saez, E, 2010, "The evolution of income concentration in Japan, 1886-2005: Evidence from income tax statistics" in A B Atkinson and T Piketty, editors, *Top income: A global perspective*, Oxford University Press, Oxford.

Mouer, R, 1973, "Income distribution in Japan: An examination of the FIES data, 1963-1971", *Keio Economic Studies*, vol 10: 87-109.

OECD, 2009, Growing unequal?, OECD, Paris.

Tachibanaki, T, 2005, *Confronting income inequality in Japan*, MIT Press, Cambridge.

# 13. Malaysia



Increasing recent overall inequality?	
Have there been periods when overall inequality fell for a sustained period?	Gini coefficient fell from mid-1970s up to 1990.
Has there been a U-pattern for top income shares?	Rise in top shares from 2000.
Has poverty been falling or rising?	Fall in absolute poverty.
Increasing top decile of earnings?	No evidence.
Has the distribution of wealth followed the same pattern as income?	No evidence.
Noteworthy features	Impact of Asian financial crisis.

<u>Overall inequality</u>: Gini coefficient for household income (*not equivalised*), series 1, from Ragayah (2008, Table 1), with 1967 observation from Krongkaew and Ragayah (2006, Table 2); series 2 from Snodgrass (2002, Table 2-2); series 3 from Snodgrass (1980, Tables 4.3, 4.6 and 4.7).

<u>Top income shares</u>: Shares of top 1 and 0.1 per cent in total gross income from WTID, based on Atkinson (forthcoming).

<u>Poverty</u>: Share of bottom 40 per cent in total household income (not equivalised) from Ragayah (2008, Table 1); percentage of households below official absolute poverty line from Snodgrass (2002, Table 2-1).

## References:

Atkinson, A B, forthcoming, "Top incomes in Malaysia".

Krongkaew, Medhi and Ragayah, Haji Mat Zin, 2006, "Income distribution and sustainable economic development in East Asia: A comparative analysis", paper available from EADN Network.

Ragayah, H M Z, 2008, "Income inequality in Malaysia", Asian Economic Policy Review, vol 3: 114-132.

Snodgrass, D R, 1980, Inequality and economic development in Malaysia, Oxford University Press, Oxford.

Snodgrass, D R, 2002, "Economic growth and income inequality: The Malaysian experience" in M G Asher, D Newman and T P Snyder, editors, *Public policy in Asia*, Quorum Books, Westport.

## 14. Mauritius



Increasing recent overall inequality?	Increasing top income shares but not overall inequality.
Have there been periods when overall inequality fell for a sustained period?	Gini coefficient fell by 13 percentage points between 1962 and 1991.
Has there been a U-pattern for top income shares?	Top gross income shares falling from mid-1970s to mid-1990s, rising in recent decade.
Has poverty been falling or rising?	
Increasing top decile of earnings?	No evidence.
Has the distribution of wealth followed the same pattern as income?	No evidence.
Noteworthy features	

<u>Overall inequality</u>: Gini coefficient for monthly household disposable income (*not equivalised*) from report on Household Budget Survey 2006/07, Table 3, and report on Household Budget Survey 2001/02, Table 5), linked to earlier series for 1975 to 1991 from WIID, and figure for 1962 given by Subramanian (2001, page 2).

<u>Top income shares</u>: Shares of top 1 and 5 per cent in total gross income from WTID, based on work of Atkinson (2011).

<u>Poverty</u>: Percentage living in households with equivalised income below *50 per cent* of the median from report on Household Budget Survey 2006/07, Table 7.

## References:

Atkinson, A B, 2011, "Top incomes in Mauritius: A 75 year history", working paper.

Subramanian, A, 2001, "Mauritius: A case study", *Finance and Development*, vol 38: 1-7.

## 15. Netherlands



Increasing recent overall inequality?	Stability of overall inequality since 1990s.
Have there been periods when overall inequality fell for a sustained period?	Gini coefficient fell from 1946 to mid-1980s.
Has there been a U-pattern for top income shares?	Top gross income shares declined since 1919.
Has poverty been falling or rising?	No evident trend.
Increasing top decile of earnings?	Top decile has risen relative to median since mid-1980s.
Has the distribution of wealth followed the same pattern as income?	Until the 1970s followed similar path to top income shares.
Noteworthy features	Long period of falling inequality.

Inequality Netherlands

<u>Overall inequality</u>: (supplied by Wiemer Salverda of the University of Amsterdam) Gini coefficient for equivalised (CBS scale) disposable household income by individuals for 1977 to 2009 from information supplied by the Central Bureau of Statistics (CBS), linked backwards at 2000 to allow for the revision to the series (the value for 2000 for the new series is 27.8 per cent and for the earlier series is 25.9 per cent); Gini coefficient for disposable income, *not equivalised, among tax units*, from Trimp (1996, Staat 2).

<u>Top income shares</u>: Shares of top 1 and 10 per cent in total gross income from WTID, based on work of Salverda and Atkinson (2007).

<u>Poverty</u>: Share of bottom 20 per cent in total (not equivalised) disposable income from *Sociaal-Economische Maandstatistiek* 2001/04, Table 2.6.7, for 1995-1999, and earlier data supplied by the CBS; Percentage of individuals living in households with equivalised (EU-scale) disposable income below 60 per cent of the median from EU-SILC, Eurostat website.

<u>Individual earnings</u>: Series 1: from Atkinson (2008, Appendix L, Table L.3); Series 2: from OECD iLibrary, Employment and Labour Market Statistics, Gross earnings decile ratios.

<u>Wealth</u>: Share of top 1 per cent of households in total personal wealth from Wilterdink (1984, page 269).

#### References:

Atkinson, A B, 2008, The changing distribution of earnings in OECD countries, Oxford University Press, Oxford.

Salverda, W and Atkinson, A B, 2007, "Top incomes in the Netherlands over the twentieth century" in A B Atkinson and T Piketty, editors, *Top incomes over the twentieth century*, Oxford University Press, Oxford.

Trimp, L, 1996, "Inkomens 1959-1994", Sociaal-economische maandstatistiek, vol 13, No 12: 31-34.

Wilterdink, N, 1984, Vermogensverhoudingen in Nederland, De Arbeiderspers, Amsterdam.

#### 16. New Zealand



Income inequality in New Zealand

Increasing recent overall inequality?	Gini coefficient rose by 7 percentage points between 1988 and 1996.
Have there been periods when overall inequality fell for a sustained period?	Period of reduction in inequality from mid-1950s to mid-1970s.
Has there been a U-pattern for top income shares?	Top gross income shares fell from mid-1950s to mid-1980s, then rose from mid-1980s to mid-1990s
Has poverty been falling or rising?	Rise in poverty from 1996 to 2004.
Increasing top decile of earnings?	Top decile has risen from 143 per cent of median in 1986 to 183 per cent in 2009.
Has the distribution of wealth followed the same pattern as income?	No evidence.
Noteworthy features	U-shape over post-war period.

<u>Overall inequality</u>: Gini coefficient for equivalised (applying 1988 revised Jensen scale, described as close to the modified OECD scale) disposable household annual income before deduction of housing costs from Perry (2010, Table D.9); Gini coefficient for *individual taxable income* from Easton (1983, Table 10.7 for series 1 (before the introduction of PAYE) and series 2 (after the introduction of PAYE) and from figures supplied by Professor S Chatterjee, Massey University, for series 3); Gini coefficient for individual market (Census) income from Easton (1983, Table 10.10).

<u>Top income shares</u>: The top income shares are from WTID, based on work of Atkinson and Leigh (2008); we have omitted the estimates for the years 1998, 1999 and 2000, which were greatly affected by changes in the income tax laws.

<u>Poverty</u>: Percentage of individuals in households with equivalised (applying 1988 revised Jensen scale, described as close to the modified OECD scale) disposable income before housing costs below 60 per cent of the contemporary median from Perry (2010, Table F.2).

<u>Individual earnings</u>: Series 1 from Atkinson (2008, Appendix M, Table M.3), based on the work of Easton (1983); Series 2 from OECD iLibrary, Employment and Labour Market Statistics, Gross earnings decile ratios.

<u>Wealth</u>: share of top 1 per cent in total wealth (among adults) from Easton (1983, Table 7.3).

# References:

Atkinson, A B, 2008, The changing distribution of earnings in OECD countries, Oxford University Press, Oxford.

Atkinson, A B and Leigh, A, 2008, "Top Incomes in New Zealand 1921-2005: Understanding the Effects of Marginal Tax Rates, Migration Threat, and the Macroeconomy", *Review of Income and Wealth*, series 54(2): 149-165.

Easton, B, 1983, *Income distribution in New Zealand*, New Zealand Institute of Economic Research, Wellington.

Perry, B, 2010, "Household incomes in New Zealand: trends in indicators of inequality and hardship 1982 to 2009", Ministry of Social Development, Wellington, ISBN 978-478-33500-2.





- Share of top 1 per cent in gross income (¶) - Per cent living in households with equivalised

- Share of top 1 per cent in total wealth (¶)

- Share of top 0.1 per cent in gross income (¶) Per cent living in households with equivalised disposable inc ----**X**-
- below 60 per cent median (¶)
  - Earnings at top decile as % median, series 1 (RH scale) (¶)

Increasing recent overall inequality?	Gini coefficient in 2009 is 3 percentage points higher than in 1986.
Have there been periods when overall inequality fell for a sustained period?	
Has there been a U-pattern for top income shares?	Top gross income shares fell from 1938 to the 1980s; since 1990
	have nearly doubled.
Has poverty been falling or rising?	No evident trend.
increasing top decile of earnings?	compared with early 1990s.
Has the distribution of wealth followed the same pattern as income?	Top wealth shares have followed similar path to top incomes.
Noteworthy features	U-shape over post-war period.
	Note: we have excluded the 2005 Gini observation since incomes in that year were affected by the tax changes coming into effect in 2006- see Aaberge and Atkinson (2010).

below 50 per cent median

<u>Overall inequality</u>: Gini coefficient of equivalised (EU scale) disposable household income from 1986 from website of Statistics Norway, Income Statistics for Households, Distribution of income, total population; earlier series for disposable *(non-equivalised)* household income from Bojer (1987, Tabell 5).

<u>Top income shares</u>: Share of top 1 per cent in total gross income from WTID, based on work of Aaberge and Atkinson (2010).

<u>Poverty</u>: Percentage of individuals in households with equivalised (EU-scale) disposable income below 60 per cent (*or before 1986 50 per cent*) of the contemporary median (including student households), website of Statistics Norway, 2005 to 2010 from Income <u>Statistics for Households</u>, <u>Particular Groups</u>, <u>Table 5</u>, 1996 to 2004 from Personal economy and housing conditions, Table 06801, linked backwards at 1996 to earlier series from Income Distribution Survey 2005, Table 5.

<u>Individual earnings</u>: Series 1 from Atkinson (2008, Appendix N, Table N.3), linked at 2003 to series from OECD iLibrary, Employment and Labour Market Statistics, Gross earnings decile ratios.

<u>Wealth</u>: Share of top 1 per cent of households in total personal wealth from Ohlsson, Roine and Waldenström (2008, Table 1).

## References:

Aaberge, R and Atkinson, A B, 2010, "Top incomes in Norway" in A B Atkinson and T Piketty, editors, *Top incomes: A global perspective*, Oxford University Press, Oxford.

Atkinson, A B, 2008, *The changing distribution of earnings in OECD countries*, Oxford University Press, Oxford.

Bojer, H, 1987, "Personlig inntektsfordeling i Norge 1970-1984, *Tidsskrift for Sammfunnsforskning*, vol 28: 247-258.

Ohlsson, H, Roine, J and Waldenström, D, 2008, "Long-run changes in the concentration of wealth: An overview of recent findings", in J B Davies, editor, *Personal wealth from a global perspective*, Oxford University Press, Oxford.

# 18.Portugal



Earnings at top decile as % median, series 1 (RH scale) (¶)

Inequality in Portugal

Increasing recent overall inequality?	Overall trend in Gini coefficient for equivalised disposable income appears downwards.
Have there been periods when overall inequality fell for a sustained period?	During the 1970s (Carnation revolution in 1974).
Has there been a U-pattern for top income shares?	Top gross income shares more than doubled between beginning of 1980s and 2003.
Has poverty been falling or rising?	Relative poverty rate fell by more than a fifth from 1994
Increasing top decile of earnings?	Top decile of earnings has risen from 182 per cent of median in 1982 to 252 per cent in 2008.
Has the distribution of wealth followed the same pattern as income?	No evidence.
Noteworthy features	Divergent movements at top (inequality increasing) and bottom (poverty falling). Strong increase in earnings dispersion from 1982 to 2004.

-----X----- Per cent living in households below 60 per cent median, series 2 (¶)

<u>Overall inequality</u>: Gini coefficient of equivalised (modified OECD-scale) disposable household income from Rodrigues, Figueiras, and Junqueira, 2010, Quadro 4 (series 1), Quadro 6 (series 2), and Quadro 8 (series 3); the last of these is based on data from the European Community Household Panel and EU-SILC.

<u>Top income shares</u>: Share of top 1 per cent in total gross income from WTID, based on work of Alvaredo (2010).

<u>Poverty</u>: Percentage of individuals living in households with equivalised (EU scale) disposable income below 60 per cent of the median, series 1 from Rodrigues, Figueiras and Junqueira, 2011a, Quadro 10, up to 2000, from 2002 taken from EU-SILC, Eurostat website; series 2 for 1980, 1990 and 1995 from Rodrigues (2005).

<u>Individual earnings</u>: Series 1 from Atkinson (2008, Appendix P, Table P.3) with updated figures supplied by C F Rodrigues.

#### References:

Alvaredo, F, 2010, "Top incomes and earnings in Portugal 1936-2005" in A B Atkinson and T Piketty, editors, *Top incomes: A global perspective*, Oxford University Press, Oxford.

Atkinson, A B, 2008, *The changing distribution of earnings in OECD countries*, Oxford University Press, Oxford.

Rodrigues, C F, 2005, *Distribuição do rendimento, desigualdade e pobreza*, Ph D thesis, Universidade Technica de Lisboa.

Rodrigues, C F, Figueiras, R and Junqueira, V, 2011, Desigualdades em Portugal, Fundação Francisco Manuel dos Santos, Lisbon.

Rodrigues, C F, Figueiras, R and Junqueira, V, 2011a, "Portugal: um pais profundamente desigual", Instituto Superior de Economia e Gestão, Lisbon.

# 19. Singapore



Increasing recent overall inequality?	Gini coefficient increased in late 1990s up to mid-2000s.
Have there been periods when overall inequality fell for a sustained period?	No evidence of Kuznets curve.
Has there been a U-pattern for top income shares?	Top gross income shares stable for fifty years, before and after independence, but rose by 50 per cent after 1997.
Has poverty been falling or rising?	No evidence.
Increasing top decile of earnings?	Little evidence of trends in top decile of earnings over 40 year period of rapid growth.
Has the distribution of wealth followed the same pattern as income?	No evidence.
Noteworthy features	Impact of Asian financial crisis.

Inequality in Singapore

<u>Overall inequality</u>: Series 1 per capita monthly *income from work for employed population only* from Krongkaew and Ragayah (2006, Table 2); Series 2 per capita *monthly income from work* from Krongkaew and Ragayah (2006, Table 2); Series 3 *income from work* per household member after government benefits and taxes, among employed households, from Singapore Department of Statistics (2010, Chart 1).

<u>Top income shares</u>: Shares of top 1 and 10 per cent in total gross income from WTID, based on work of Atkinson (2010), updated using the Annual Reports of the Inland Revenue Authority, Appendix 5.

<u>Individual earnings</u>: Earnings at upper quintile as percentage of median from Central Pension Fund earnings data, as described in Atkinson (2010), updated from *Yearbook of Singapore Statistics*, Table 4.10.

## References:

Atkinson, A B, 2010, "Top incomes in a rapidly growing economy: Singapore", in A B Atkinson and T Piketty, editors, *Top incomes: A global perspective*, Oxford University Press.

Krongkaew, Medhi and Ragayah, Haji Mat Zin, 2006, "Income distribution and sustainable economic development in East Asia: A comparative analysis", paper available from EADN Network.

Singapore Department of Statistics, 2010, Key household income trends, 2009, Occasional Paper on income statistics.

## 20. South Africa



Increasing recent overall inequality?	Gini coefficient in 2005 is 5 percentage points higher than in 1995, but the increase appears to have levelled off in recent years.
Have there been periods when overall inequality fell for a sustained period?	
Has there been a U-pattern for top income shares?	Top gross income shares fell from up to the end of the 1980s; in recent years they have been rising.
Has poverty been falling or rising?	Poverty rate has been falling.
Increasing top decile of earnings?	Top decile of earnings is rising relative to the median.
Has the distribution of wealth followed the same pattern as income?	No evidence.
Noteworthy features	

#### Inequality in South Africa

<u>Overall inequality</u>: Series 1: Gini coefficient of *per capita* income from Leibbrandt et al in Borat and Kanbur (2006, Table 3.1), where their estimates for 1996 and 2001 are linked to those for 1975, 1991 and 1996 of Whiteford and van Seventer (2000); series 2 from Leibbrandt et al (2010a, Table 5.17).

<u>Top income shares</u>: Shares of top 1 and top 0.1 per cent in total gross income from WTID, based on work of Alvaredo and Atkinson (2010).

<u>Poverty</u>: Series 1: Percentage of people (all races) living in households with per capita income *below R 3,000* (at 2000 prices) from van der Berg and Louw (2004, Table 5), linked at 1993 to series from Leibbrandt et al (2010, Table 1.3).

<u>Individual earnings</u>: Top decile as per cent of median from Leibbrandt et al (2010a, Table 5.19).

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21.Spain



Increasing recent overall inequality?	No evident trend.
Have there been periods when overall inequality fell for a sustained period?	Some evidence of fall in inequality and poverty up to 1990s
Has there been a U-pattern for top income shares?	Recent increase not salient.
Has poverty been falling or rising?	
Increasing top decile of earnings?	
Has the distribution of wealth followed the same pattern as income?	No evidence.
Noteworthy features	

<u>Overall inequality</u>: Gini coefficient of household income, series 1, is from Family Budget surveys from United Nations (1981, page 297); series 2 relates to *per capita household expenditure* from Escribano (1990, cuadro 4); series 3 relates to equivalised (square root scale) disposable household income among individuals from Luxembourg Income Study (LIS) website *Key Figures*; Series 4 is from EU-SILC, downloaded from Eurostat website, Income and Living Conditions in Europe, Table 5.

<u>Top income shares</u>: Share of top 1 and 10 per cent in total gross income from WTID, based on work of Alvaredo and Saez (2010).

<u>Poverty</u>: Series 1: Percentage of individuals living in households below poverty threshold, series 1 relates to those with *per capita household expenditure* below 50 per cent of the mean, from Escribano (1990, cuadro 5); series 2 relates to those with equivalised (OECD scale) disposable income less than 60 per cent of the median from Cantó, del Rio and Gradin (2003, Tabla 2); series 3 relates to those with equivalised (square root scale) disposable income less than 60 per cent of the median from Luxembourg Income Study (LIS) *Key Figures*; series 4 relates to those with equivalised (EU scale) disposable income less than 60 per cent of the median from EU-SILC, downloaded from Eurostat website, Europe 2020 indicators.

<u>Individual earnings</u>: From OECD iLibrary, Employment and Labour Market Statistics, Gross earnings decile ratio.

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<u>Overall inequality</u>: Gini coefficient of equivalised disposable income from 1975 from the website of Statistics Sweden, <u>Distribution of income 1975-2010 (older series)</u>, <u>Household finances</u>, *Inkomstfördelningsundersökningen*, linked backwards at 1988 using ratio of 1989-rev to 1989 values; earlier series from 1951 to 1973 for *family market income* from Björklund and Palme (2000, Table 2) linking tax register data for 1951 and 1956 to data from the Swedish Level of Living Survey for 1967 and 1973.

<u>Top income shares</u>: Shares of top 0.1 and top 1 per cent in total gross income from WTID, based on work of Roine and Waldenström (2010); share of top 1 per cent in equivalised disposable income from the website of <u>Statistics Sweden</u>, <u>Distribution</u> of income 1975-2010 (older series), Household finances (as above), linked backwards at 1988 using ratio of 1989-rev to 1989 values.

<u>Poverty</u>: Percentage of individuals living in households with equivalised disposable income less than 60 per cent of the median from 1991 from Income Distribution Survey (IDS) 2008 in *Statistiska Meddelanden*, HE 21 SM 1001, Table 24, page 32, and IDS 2005, Table 22, page 29, and IDS 2003, Table 27, page 35, and 2009 and 2010 from <u>Statistics Sweden website</u>, <u>Household Finances</u> (as above); earlier figures for percentage of individuals living in households *below Swedish Welfare Board line* from Table 2.

<u>Individual earnings</u>: Based on series given in Atkinson (2008, Appendix Q, Table Q.5), from 2005 from OECD iLibrary, Employment and Labour Market Statistics, Gross earnings decile ratios.

<u>Wealth</u>: Share of top 1 per cent in total net marketable wealth at market values from Roine and Waldenström (2009, Table A1).

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## 23. Switzerland



Increasing recent overall inequality?	Upward trend since 1990.
Have there been periods when overall inequality fell for a sustained period?	None evident.
Has there been a U-pattern for top income shares?	No great change in top income shares over the period as a whole.
Has poverty been falling or rising?	
Increasing top decile of earnings?	Top decile of earnings has raised from 155 per cent of median in 1994 to 184 per cent in 2010.
Has the distribution of wealth followed the same pattern as income?	Top wealth shares fell in 1970s, but then began to raise.
Noteworthy features	

<u>Overall inequality</u>: Gini coefficient of equivalised (modified OECD scale) disposable household income *among working households* from Ecoplan (2004, Tabelle 2-5) and Federal Statistical Office (2011, Graphique 2.3.11), based on the *Enquête sur les Revenus et la Consommation (ERC)/Einkommens- und Verbraucherserhebung (EVE)*; Gini coefficient of after tax incomes *averaged over 2 years of tax units* from Abele and Lüthi, 1977, Tableau 10) based on the estimates including non-taxpayers by Noth (1975, Tabelle 19), where the year identified is second of 2 year period; estimates of the ratio of the share of the top 10 per cent to that of the bottom 10 per cent from 1916 to 1991, based on income tax data, are given graphically by Levy et al (1997, page 211), but the numbers are no longer available.

<u>Top income shares</u>: Share of top 1 and 10 per cent in total gross income from an updated version of Atkinson, Piketty and Saez (2010, Table 13A.9), based on work of Dell, Piketty and Saez (2007).

<u>Poverty</u>: Percentage of individuals living in households with equivalised (modified OECD scale) disposable income less than 60 per cent of the median from Federal Statistical Office website, *Niveau de vie, situation sociale et pauvreté - Données, indicateurs: Risque de pauvreté*, based on EU-SILC data.

<u>Individual earnings</u>: Data up to 2004 from Atkinson (2008, Appendix R, Table R.4); data after 2004 from Federal Statistical Office website, *Enquête Suisse sur la structure des salaires, Tableau des salaires nets: secteurs privé et public* (*Conféderation*).

<u>Wealth</u>: Share of top 1 per cent of households in total personal wealth from Ohlsson, Roine and Waldenström, 2008, Table 1.

# References:

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# 24. United Kingdom



Increasing recent overall inequality?	Gini coefficient for equivalised disposable income now 10 percentage points higher than in 1980, but most of the increase took place in the 1980s.
Have there been periods when overall inequality fell for a sustained period?	During the Second World War and in 1970s.
Has there been a U-pattern for top income shares?	Top gross income shares fell from 1914 to the 1970s; since 1979 have more than doubled.
Has poverty been falling or rising?	Relative poverty rate in 1990 twice that in 1977; some reduction since 1990.
Increasing top decile of earnings?	Top decile of earnings has raised from 165 per cent of median in 1978 to nearly 200 per cent in 2010.
Has the distribution of wealth followed the same pattern as income?	Downward trend in top wealth shares from 1923 to end of 1980s; now levelled off.
Noteworthy features	Increase in income inequality and poverty in the 1980s proportionately much larger than increase in earnings dispersion.

Earnings at top decile as % median (RH scale) (¶)

<u>Overall inequality</u>: Gini coefficient of equivalised (modified OECD scale) disposable household income for all persons in the United Kingdom (Great Britain up to 2001/2) from the website of the Institute for Fiscal Studies; the data are from the Family Expenditure Survey from 1961 up to financial year 1993/4 (calendar years up to 1992), thereafter from the Family Resources Survey; Gini coefficient of after tax income, *not equivalised, among tax units* ("Blue Book series") from Atkinson and Micklewright, 1992, Table BI1 (figure for 1938 from Royal Commission on the Distribution of Income and Wealth, 1979, page 23).

<u>Top income shares</u>: Share of top 0.1 per cent and top 1 per cent in total gross income from WTID.

<u>Poverty</u>: Percentage of individuals in households with equivalised (modified OECDscale) disposable income below 60 per cent of the median in the United Kingdom (Great Britain up to 2001/2) from the <u>website of the Institute for Fiscal Studies</u> (before housing costs series); the data are from the Family Expenditure Survey from 1961 up to financial year 1993/4 (calendar years up to 1992), thereafter from the Family Resources Survey.

<u>Individual earnings</u>: Earnings data from Annual Survey of Hours and Earnings, covering all full-time workers on adult rates whose pay for the survey period was not affected by absence, linked backwards to take account of changes in methodology in 2006 and 2004, linked backwards in 2000 to the data from the New Earnings Survey (NES) from Atkinson (2008, Table S.8), taking the series back to 1968 (when the NES began), linked backwards to the income tax data (Schedule E earnings) from Atkinson (2008, Table S.7).

<u>Wealth</u>: Share of top 1 per cent of individuals in total personal wealth, data up to 1975 from Atkinson, Gordon and Harrison (1989, Table 1) with adjustment for break in series in 1960, using coefficient from Table 3, covering Great Britain (England and Wales before 1938), data from 1976 from the HMRC website, Statistics on personal wealth, Table 13.5 (no estimates are made for 2004 or 2006).

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#### 25. United States



Inequality in the United States

<u>Overall inequality</u>: Gini coefficient, series 1, for *gross income of income recipients* based on the NBER/Brookings synthetic estimates, calculated from the tabulations in Mitchell et al (1921, Table 25) and Leven, Moulton and Warburton (1934, Tables 27 and 29, excluding capital gains); Series 2 is the BEA synthetic series for *gross family* incomes from Brandolini (2002, Table A1), who calculated the Gini coefficients from the original tabulations (NB the figure for 1929 is 50.7 but is depicted as 50.0); Series 3 is the Gini coefficient for *gross* equivalised household income from the U.S. Bureau of the Census, *Income, Poverty, and Health Insurance Coverage in the United States*: 2009, (Table A-3, Selected measures of equivalence-adjusted income dispersion), where we have assumed that half of the recorded change between 1992 and 1993 was due to the change in methods (and therefore added 1.15 percentage points to the values from 1992 back to 1967), this series is linked backwards at 1967 to the series from 1944 given by Budd (1970, Table 6).

<u>Top income shares</u>: The top income shares (excluding capital gains) are based on the work of Piketty and Saez (2003), and are taken from the website of Emmanuel Saez.

<u>Poverty</u>: The proportion of the population below *the official poverty line* from 1959 from the U.S. Bureau of the Census website, Historical Poverty Tables, Table 2 and before 1959 from Fisher (1986); Proportion living in households with disposable income *below 50 per cent* of the median from Meyer and Sullivan (2010, Appendix Table 7).

<u>Individual earnings</u>: Series 1 is based on the Census of Population data and is from Goldin and Margo (1992, Table 2); Series 2 (solid line) is based on the Current Population Survey (CPS) data from the *State of Working America*, Economic Policy Institute (EPI) website, using the Outgoing Rotation Group from 1979, linked at 1973 to the estimates of Karoly (1992, Table 2B.2), and at 1963 to the estimates made in Atkinson (2008, Table T.10) from the CPS tabulations.

<u>Wealth</u>: The top wealth shares based on estate data are from Kopczuk and Saez (2004, Table B1); the household wealth shares from the Survey of Consumer Finances are from Kennickell (2009, Table 4).

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