

Inequality: International Evidence

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Abstract – The methodological assumptions underlying international comparisons of levels and trends in inequality are discussed, starting with the choice of the evaluative space. Empirical evidence shows that at the end of the 1990s, the United States had the highest level of disposable income inequality among high-income economies, while Northern and Central European countries had the lowest levels. Only in Russia and Mexico, two middle-income economies, disposable income was more unequally distributed. No common trend in inequality is observed in the last quarter of a century across rich nations. Public redistribution through taxes and benefits influence both levels and changes in inequality.

JEL Classification – D31, H2, I3.

The comparison of inequality across countries, and over time, has a long tradition in economics. In 1897 Pareto used data from tax returns for a heterogeneous group of nations, spanning a period of almost four centuries, to conclude that income inequality was remarkably constant over time and space. An intense debate followed, such that the editors of *Econometrica* devoted the second “Annual Survey of Statistical Data” to Pareto’s Law (Bresciani-Turroni, 1939), which served to bring to an end the idea of a “natural” constancy of the distribution of income.

The study of international differences in income distribution gathered new momentum after World War II. In the 1950s, United Nations agencies pioneered the assembly of international datasets on income inequality (e.g. United Nations, 1951) and Kuznets (1955) stated his celebrated hypothesis of an inverted-U relationship between inequality and growth. Since those early days, international agencies and individual scholars have increasingly been

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engaged in collecting information on income distribution and comparing levels and trends of inequality across nations (Gottschalk and Smeeding, 1997; Atkinson and Brandolini, 2001). Cross-country comparisons of income inequality have become common in analysis informing policy-making: measures of income distribution are featured among the indicators of social cohesion agreed by the European Union to monitor the performance of member countries (Atkinson et al., 2002), and one of the first charts of the 2006 *World Development Report* ranks nations by the Gini index of income (or expenditure) to show that “Africa and Latin America have the world’s highest levels of inequality” (World Bank 2005, Figure 2.9, p. 39; the underlying data are reported in Table 1).

Focal variable. – As suggested by Sen (1992, p. 20), “the relative advantages and disadvantages that people have, compared with each other, can be judged in terms of many different variables, e.g. their respective incomes, wealths, utilities, resources, liberties, rights, quality of life, and so on. The plurality of variables on which we can possibly focus (the *focal variables*) to evaluate interpersonal inequality makes it necessary to face, at a very elementary level, a hard decision regarding the perspective to be adopted”. Pareto saw the distribution of income as a reflection of the natural distribution of abilities among persons, while Kuznets regarded its evolution as one of the characteristics of the process of economic growth, but they both agreed that the focal variable be income. However, other dimensions of economic inequality are relevant in international comparisons. Earnings dispersion and differences in employment rates capture inequality in the labour market. Wealth may be seen as an indicator of the capacity to face adverse events or of the power to control the resources of the society. The standard of living is much influenced by non-monetary aspects, such as a person’s health status or human capital – as stressed by the “capability approach” advocated by Sen (1992).

In this entry, the focal variable is taken to be income, the most common indicator of (current) economic resources in rich countries. Expenditure is an alternative variable often used, especially in less developed countries. The World Bank (2005, Table A2, pp. 280-1) reports income-based Gini indices for 22 of the 27 high-income economies for which the statistics are available vis-à-vis 20 of the 60 middle-income economies and only one of the 39 low-income economies. Mixing income-based and consumption-based statistics confounds international comparisons, as income tends to be more unequally distributed than expenditure – and to an extent that varies considerably from country to country (e.g. World Bank, 2005, Box 2.5, p. 38).

Wealth (net worth) is much more concentrated than income. Moreover, international comparisons of net worth are very problematic (Wolff, 1996; Davies and Shorrocks, 2000) as the assembling of cross-nationally comparable databases on household net worth is still in its infancy (Brandolini, Sierminska and Smeeding, 2006).

Methodology. – International comparisons of income inequality crucially depend on the underlying measurement assumptions. This has been known at least since Kravis (1962) and Kuznets (1963) and has received growing attention from the mid 1970s (e.g. Atkinson, 1974; Sawyer, 1976; Lydall, 1979). However, it was not until the assembling of the cross-nationally comparable database of the Luxembourg Income Study (LIS) that the impact of these assumptions was fully understood (Smeeding, 2004). Differences in methodology arise in the definition of income, the choice of the recipient unit, the quality of underlying sources, the treatment of individual data (O’Higgins, Rainwater and Smeeding, 1990; Atkinson, Rainwater and Smeeding, 1995; Gottschalk and Smeeding, 1997, 2000; Atkinson and Brandolini, 2001).

Income definitions differ in comprehensiveness, as certain income sources like capital gains, imputed rents on owner-occupied dwellings, or home production may or may not be

included. There are also widespread differences in the treatment of taxes (and social security contributions), as income may be taken before taxes, before taxes but after allowing for tax deductions, or after taxes. The definition of income may be augmented to include the imputed value of public in-kind benefits for education, health care and housing or to deduct indirect taxes. Moreover, income may be measured over a variety of time periods: the reference is often the year, but in some cases it is some “current” period (e.g. the most recent pay period for earnings in household surveys for the United Kingdom) and then the annual amount must be estimated.

The *reference unit* may be the household, the related or extended family, the tax unit, or the individual income earner. Information obtained from income tax records typically relates to the tax unit only, while sample surveys generally provide data for all members of a household. The total income may be adjusted for the size and the composition of the reference unit by dividing by an *equivalence scale*. Indeed not adjusting income implies that the welfare achievable in a household with a certain income is independent of the number of its occupants. At the other extreme, taking income per capita amounts to an assumption that no economies of scale arise from cohabitation and that people do not differ in their needs. The *welfare unit* may be the person (person-weighted) or the household (household-weighted): in the former case the welfare indicator represented by (equivalent) income is counted as many times as there are persons in the household, while in the latter it is counted only once. This welfare weighting is a separate issue from that of the equivalence scale: for instance, European Commission (2002) typically reports statistics for the distribution of *equivalent disposable incomes* among *persons*, while the U.S. Census Bureau (2005) presents figures for the distribution of *unadjusted money incomes before taxes* among *households*.

Diversity in definitions is not the only factor that affects the comparability of income inequality statistics. There are also differences in the *nature of the data source*, the most

important distinction being between sample surveys and administrative archives. Data may cover the whole population or only the household population, excluding people living permanently in institutions like boarding houses, nursing homes for the elderly, prisons, or military bases. Administrative data reflect the purposes for which they were collected. Even when sources have the same nature, they may considerably vary in quality, through differences in the response rate, the under-reporting of certain income components, or the coverage of the bottom and the top of the distribution. Lastly, significant differences can originate in the way data are processed. For example, the Gini index may be computed from micro-data or from observations grouped by income classes. When the ranking of observations is based on a variable different from that of concern, say before-tax income instead of after-tax income, measures of inequality are understated.

All these factors influence international comparisons of income inequality, as shown for instance by Buhmann et al. (1988) with regard to equivalence scales and by Smeeding et al. (1993) with regard to the inclusion of in-kind public benefits. These differences need to be kept in mind when making international comparisons. While perfect comparability is not achievable, it is important to raise the ratio of signal to noise by minimising data and methodological differences across nations (Gottschalk and Smeeding, 2000).

Relative inequality levels. – Figure 1 compares the distribution of equivalent disposable income among persons in 32 nations for various years around the turn of the century, or for the most recent year available in the LIS database. Disposable income is defined as the sum of wages, salaries and earnings from self-employment, cash receipts from property, private pension schemes, alimony and child support, public transfer payments (retirement, family allowances, unemployment compensation, and welfare benefits) less income taxes and social security contributions. Observations are top- and bottom-coded in

order to reduce the influence of anomalous income values. Total household income, the sum over all household members, is divided by a simple equivalence coefficient (the square-root of the household size) and then attributed to each person in the household.

Figure 1 reports, for each country, the ratio to the median of the income of a person at the 10th percentile (P10 or “Low Income”) and a person at the 90th percentile (P90 or “High Income”). P10 and P90 provide some indication of how far below or above the middle of the distribution the poor and the rich are on the continuum of income. The ratio between P90 and P10, the “decile ratio”, is a measure of the gap between the rich and the poor. While these statistics refer to specific points of the distribution, the Gini index measures inequality across the entire distribution. For non-negative values, it varies between zero (perfect equality) and one (maximum inequality).

There is a wide range of income inequality among the nations of Figure 1. The United States is an outlier among rich nations, and only Russia and Mexico, two middle-income economies, have higher levels of inequality. A low-income American at the 10th percentile in 2000 had an income that was only 39 per cent of the median income. By contrast, in most countries of Central, Northern and Eastern Europe the income of the poor exceeded 50 per cent of the income of middle-income person; in the other Anglo-Saxon nations and in the Southern European countries, plus Israel, it was above 40 per cent. Only in Russia and Mexico the poor fared relatively worse than in the United States. In Greece, Portugal, Spain, Israel as well as the United States and the United Kingdom the rich persons earn more than twice the national median incomes. In poorer countries the 90th percentile can also be very high in relative terms – e.g., Mexico, Russia, and Estonia.

The countries in Figure 1 fall into some distinctive clusters. Inequality, as measured by the decile ratio, is least in Nordic countries plus the Netherlands and the Czech and Slovak Republics with values of three or less. The two other Benelux countries (Belgium and

Luxembourg), Central Europe (France, Switzerland, Germany, Austria, Slovenia) and three other Eastern European countries (Hungary, Poland, Romania) come next at 3.2-3.6. These precede the Anglo-Saxon nations (Canada, Australia, Ireland and the United Kingdom), which have decile ratios comprised between 3.9 and 4.6, and the Southern European countries (Italy, Spain, Greece and Portugal) plus Israel, whose ratios fall between 4.5 and 5.0. Only the United States, Estonia, Mexico and Russia have values in excess of five. With decile ratios around four, the two Asian countries, Taiwan and Japan, are in an intermediate position.

Inequality differs much more across middle-income than high-income economies. While Estonia, Russia and Mexico show a very unequal distribution of income, the other five countries, all from Eastern Europe, exhibit moderate or low levels of inequality. The shape of the income distribution was noticeably different across these formerly planned-economies already in the mid-1980s, with Czechoslovakia showing the least inequality and the Soviet Union the highest (Atkinson and Micklewright, 1992).

In Figure 1 countries are arranged, within the two categories of high-income and middle-income, by the decile ratio, from lowest to highest. This country rank order does not need to coincide with that based on the other statistics reported: P10, P90 and the Gini index. For instance, Denmark is ranked 6th by its P10, despite showing the lowest Gini index and decile ratio. This follows from the fact that the Danish at the 90th percentile is much closer to the middle than in any other country in Figure 1. The rankings of countries in international comparisons depends on which part of the distribution is analysed, e.g. the bottom with P10 or the top with P90, or in the way single observations are weighted by a summary measure of inequality like the Gini index, or the Theil and Atkinson indices. Different summary measures may produce different results reflecting differences at the top and bottom of the distribution. More robust, but partial, rankings are obtained by comparing the entire distributions by Lorenz dominance. Although countries may switch their relative positions, still indices are in general

highly correlated: for instance, the correlation between decile ratio and Gini index in Figure 1 is 0.96. The basic patterns of international inequality are clear regardless of the measure of inequality employed.

Redistribution. – Every nation's tax and benefit system reduces market income inequality, but not all are equally effective in doing so. The efficiency with which nations accomplish this redistribution may vary over time as well as space. A common measure of the level of redistribution is represented by the difference between the Gini index for market incomes, that is before public transfers are added and taxes and social security contributions are deducted, and the Gini index for disposable incomes. This difference provides only a first estimate of the actual impact of public redistribution, as it ignores how market income inequality would be different if there were no taxes and benefits. Table 2 shows the extent of redistribution in 17 countries using LIS data.

In all nations disposable incomes are more equally distributed than market incomes, suggesting that the tax and benefit system narrows the overall distribution. On average, inequality falls by about a third, from a Gini index of 44 to one of 29 per cent. Cross-country variation in original inequality is wider than after redistribution: the Gini index ranges from 33 to 52 per cent for market incomes, and from 24 to 37 per cent for disposable incomes. The United States has the highest inequality of disposable incomes, although the dispersion of market incomes is on the high side but not far from most other countries; it is below the values recorded for France and the United Kingdom, besides Poland and Israel. The fact is that the percentage reduction in before-tax-and-benefit inequality in the United States is a mere 22 per cent. If we exclude Taiwan, where redistribution has a tiny impact, only Switzerland shows a reduction as low as the United States, but the Swiss start from a much more equal distribution and end with a Gini index below the average.

These percentage reductions are very consistent with the patterns of aggregate public spending. High-spending Northern and Central European nations have the highest degree of inequality reduction, from 36 to 45 per cent; the Anglo-Saxon (excluding the United States) nations are next with 28 to 33 per cent reductions; the United States and Switzerland are, as just seen, at the bottom of the scale. The degree of redistribution in Southern Europe is lower than in Ireland and the United Kingdom, especially if public pensions are not included among transfers, according to the EUROMOD estimates based on micro-simulations rather than the records of the original micro-data sources (Immervoll et al., 2005). The nations which redistribute the most are not necessarily the ones who have the greatest degree of market income inequality: before-tax-and-benefit incomes in Finland and the Netherlands are far more equally distributed than in the United States.

Absolute inequality levels. – The comparisons in Figure 1 regard *relative* inequality. The income of the poor at the 10th percentile is compared with the income of the person at the middle of the distribution in the same country. When average standards of living differ across nations, results may look quite different if comparisons are made in terms of *real* income, i.e. the amount of goods that a certain income can purchase.

The statistics in Figure 2 on real incomes in 2000 international dollars are derived by adjusting the original incomes by the national consumer price indices (CPI) and converting them by means of the purchasing power parities (PPP) for gross domestic product (GDP). The real P10 and P90 are then recomputed as a fraction of the U.S. median real income. These comparisons are very rough indicators of differences in “real living standards”. First, the conversion to real income across countries and time is sensitive to the PPP and CPI indices used. Second, the PPPs are computed for national accounts which are intrinsically different from survey data (Deaton, 2005). For instance the ratios of total survey incomes to GDP

aggregates vary considerably across these countries. Thus countries with surveys that capture less of national income appear to have much lower mean living standards than countries whose surveys or administrative records capture a larger share of that income. Third, it is questionable that the same conversion factor should be applied across the entire distribution. Lastly, real income does not account for goods and services such as education and health care that are provided at different prices and under different financing schemes in different nations. As low-income citizens in some countries need to spend more out of pocket for these goods than do low-income citizens in other countries, their living standard is relatively lower than that measured by PPP-adjusted income.

The living standard of the median German or Belgian appears to be about 71-72 per cent of that of the median American; but the living standard of poor Germans and Belgians is roughly the same as that of their American counterparts, around 38-39 per cent of the U.S. median. Low-income people in Denmark, Norway, Switzerland, Taiwan and, especially, Luxembourg are much better off than elsewhere. In all Southern European countries but also, to a lesser extent, in Ireland and the United Kingdom, the living standards of low-income households were lower than in the United States. Of course, they are a great deal lower in all middle-income economies. At the other extreme, the rich Americans far surpass the rich in any other nation observed, save for the Luxembourgers.

Long-run Trends in High-Income Economies. – Movements of inequality over time follow irregular trajectories rather than smooth profiles, with more substantial changes often concentrated in few episodes (Atkinson 1997). Some causes are common to many countries, such as the spreading of skilled-biased technologies, the greater world economic integration, or the ageing of population in more recent decades; some others are more specific to national experiences, typically changes in tax-and-benefit systems but also modifications in institutions

such as wage setting policies. The evolution of inequality reflects the joint working of these factors which sometimes balance out and sometimes reinforce each other, making arduous to disentangle common trends from idiosyncratic variations. Moreover, changes in data collection and statistical methodology interrupt the continuity of time series. And so the interpretation of long-run movements needs to allow for the patchwork nature of the evidence.

The temporal patterns show some similarity in the United States and the United Kingdom where inequality was considerably less in the 1940s than prior to World War II. It then moderately declined until the mid 1970s, when this trend abruptly reversed. But we have no consistent overall trends running this far back for other nations (see Gottschalk and Smeeding, 2000, Figures 6a and 6b for the longer term U.S. and U.K. trends). The best we can do on a reasonable comparative basis is shown in Figure 3, beginning in the mid 1960s. Indeed the 1980s saw a substantial rise of inequality, more pronounced in Britain than in the United States, though the starting level was lower. In the 1990s the two nations parted: income distribution kept widening in the United States, while it broadly stabilised in the United Kingdom. Both Finland and Sweden experienced a fall in inequality until the early 1980s and then a modest rise afterwards, which has strengthened around the turn of the century. A tendency toward higher inequality followed by a period of stability seems to characterise the 1980s and the 1990s in the Netherlands and Norway as well as Australia and New Zealand. Canadian income inequality exhibited some variation but no clear trend from 1965 to mid-1990s, when it started to slowly rise. In the Federal Republic of Germany a sharp fall between 1962 and 1973 was followed by a period of stability and a modest rise over the 1990s. Income distribution narrowed in Italy from the 1970s through the 1980s; after a sharp widening at the beginning of the 1990s, there was virtually no change until 2004. In France alone, inequality decreased from 1970 until 1997.

In summary, national experiences vary and there is no one overarching common story. However, there was a general tendency for the disposable income distribution to narrow until mid-1970s. Some increase in inequality was experienced by most nations in the 1980s through the 1990s, but its timing and magnitude largely differed across countries. In particular there was and is no regression to the mean pattern of change in the United States. It began with the most inequality in the late 1970s and has increasingly pulled away from the other nations in the early years of the 21st century.

These observations mainly relate to disposable incomes. In six countries for which data are available (Canada, the Federal Republic of Germany, Finland, Sweden, the United Kingdom and the United States), movements in market income inequality appear to be more synchronous, with a rise in the 1980s followed by stability thereafter. Changing public redistribution appears to be an important determinant of the time pattern of the inequality of disposable incomes. Taking as before the absolute difference between Gini indices, the redistributive impact of taxes and transfers initially increased and then stabilised or dropped in all countries except for the United States, where it remained rather stable over time. The United Kingdom stands out for the most dramatic switch of regime, as in the early 1980s it apparently shifted from a situation not too different from the two Nordic countries to a model closer to that of the two North American countries.

It is not possible to infer from this simple measure if changes in redistribution are the automatic response of a progressive tax-and-benefit system to changes in the distribution of market incomes, or are instead the product of explicit policy choices (Atkinson, 2004). Nevertheless, they confirm that a widening of the market income distribution need not result in a drastic increase in the inequality of disposable incomes. Rising levels of redistribution in Finland, Sweden, and to a lesser extent Canada – where policies have been growingly targeted

to the poor – have been more effective in muting increasing market income inequality than have stable but low levels of redistribution in the United States.

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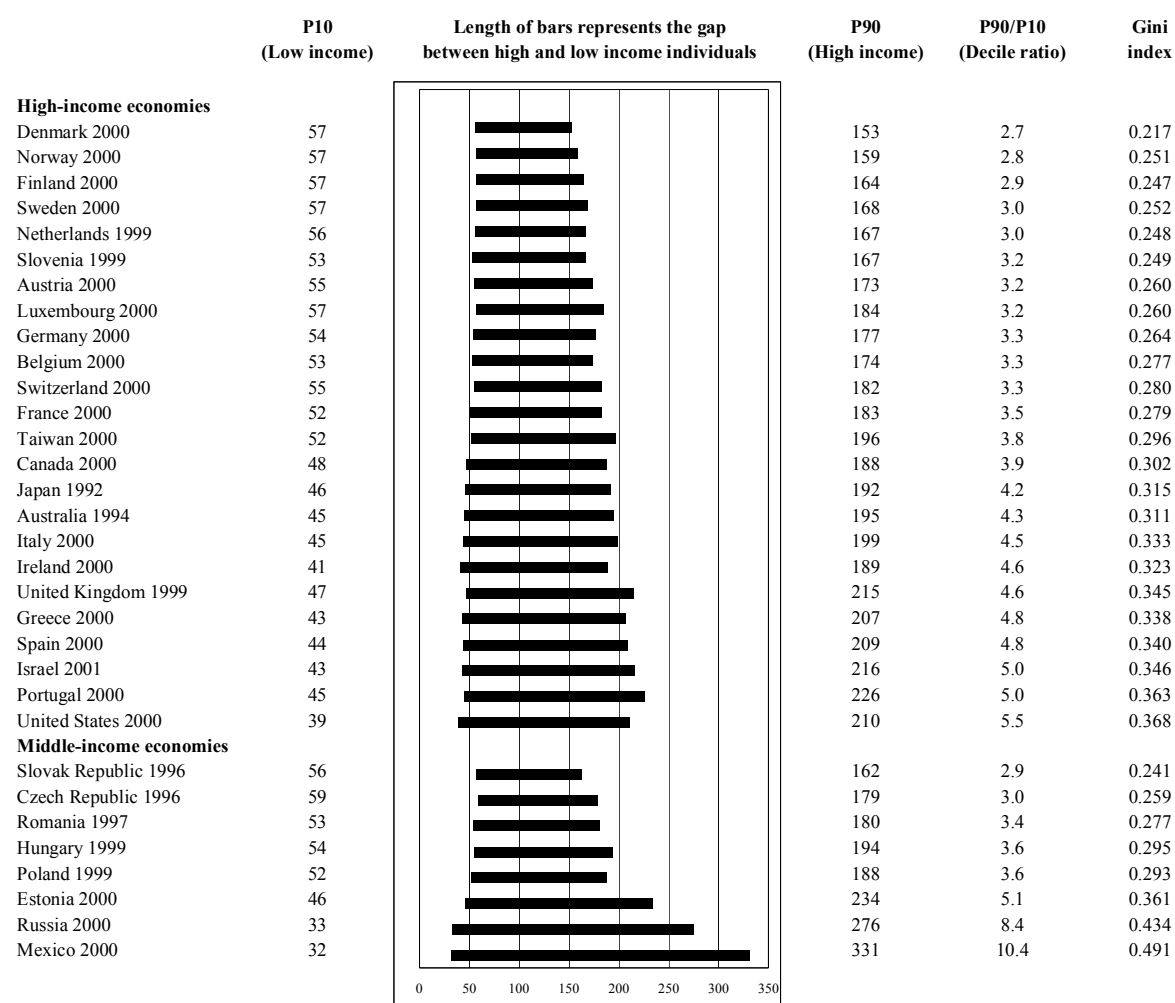
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Table 1. World Bank's Estimates of Inequality Levels. Income and Expenditure Gini Indices

Country	Year	Gini index	Income group	Country	Year	Gini index	Income group
<u>High-Income Economies</u>				<u>Europe and Central Asia</u>			
<i>Expenditure</i>				<i>Expenditure</i>			
Taiwan	2000	0.24	HIC	Hungary	2002	0.24	UMC
Italy	2000	0.31	HIC	Bosnia & Herzegovina	2001	0.25	LMC
Israel	2001	0.35	HIC	Armenia	2003	0.26	LMC
Greece	1998	0.36	HIC	Uzbekistan	2000	0.27	LIC
<i>Income</i>				<i>Income</i>			
Finland	2000	0.25	HIC	Bulgaria	2003	0.28	LMC
Japan	1993	0.25	HIC	Romania	2002	0.28	LMC
Sweden	2000	0.25	HIC	Serbia & Montenegro	2003	0.28	LMC
Belgium	2000	0.26	HIC	Slovenia	1998	0.28	HIC
Denmark	1997	0.27	HIC	Croatia	2001	0.29	UMC
Norway	2000	0.27	HIC	Kyrgyzstan	2002	0.29	LIC
Austria	1997	0.28	HIC	Lithuania	2000	0.29	UMC
Germany	2000	0.28	HIC	Belarus	2000	0.30	LMC
Luxembourg	2000	0.29	HIC	Kazakhstan	2003	0.30	LMC
Netherlands	1999	0.29	HIC	Albania	2002	0.31	LMC
France	1994	0.31	HIC	Poland	2002	0.31	UMC
Ireland	2000	0.31	HIC	Estonia	1998	0.32	UMC
Switzerland	1992	0.31	HIC	Russian Federation	2002	0.32	UMC
Australia	1994	0.32	HIC	Tajikistan	2003	0.32	LIC
Republic of Korea	1998	0.32	HIC	Latvia	1998	0.34	UMC
Canada	2000	0.33	HIC	Azerbaijan	2001	0.36	LMC
United Kingdom	1999	0.34	HIC	Macedonia	2003	0.36	LMC
Spain	2000	0.35	HIC	Moldova	2001	0.36	LIC
New Zealand	1997	0.37	HIC	Turkey	2002	0.37	UMC
United States	2000	0.38	HIC	Georgia	2002	0.38	LMC
Portugal	1997	0.39	HIC	Turkmenistan	1998	0.41	LMC
Singapore	1998	0.43	HIC	<i>Income</i>			
<u>Middle East and North Africa</u>				Czech Republic	1996	0.25	UMC
<i>Expenditure</i>				Slovak Republic	1996	0.26	UMC
Yemen	1998	0.33	LIC	Ukraine	1999	0.29	LMC
Egypt	2000	0.34	LMC	<u>Latin America and the Caribbean</u>			
Algeria	1995	0.35	LMC	<i>Expenditure</i>			
Morocco	1998	0.38	LMC	Trinidad & Tobago	1992	0.39	UMC
Jordan	2002	0.39	LMC	Nicaragua	2001	0.40	LIC
Tunisia	2000	0.40	LMC	Jamaica	2001	0.42	LMC
Iran	1998	0.43	LMC	St. Lucia	1995	0.44	UMC
<u>South Asia</u>				Peru	2000	0.48	LMC
<i>Expenditure</i>				Panama	2000	0.55	UMC
Pakistan	2001	0.27	LIC	<i>Income</i>			
Bangladesh	2000	0.31	LIC	Venezuela	2000	0.42	UMC
India	1999/2000	0.33	LIC	Uruguay (urban)	2000	0.43	UMC
Nepal	1996	0.36	LIC	Guyana	1998	0.45	LMC
Sri Lanka	2002	0.38	LMC	Costa Rica	2000	0.46	UMC
<u>East Asia and Pacific</u>				Dominican Republic	1997	0.47	LMC
<i>Expenditure</i>				Mexico	2002	0.49	UMC
Mongolia	1998	0.30	LIC	El Salvador	2002	0.50	LMC
Indonesia	2000	0.34	LMC	Argentina (urban)	2001	0.51	UMC
Lao PDR	1997/1998	0.35	LIC	Chile	2000	0.51	UMC
Vietnam	2002	0.35	LIC	Honduras	1999	0.52	LMC
Cambodia	1997	0.40	LIC	Colombia	1999	0.54	LMC
Thailand	2002	0.40	LMC	Ecuador	1998	0.54	LMC
China	2001	0.45	LMC	Paraguay	2001	0.55	LMC
Philippines	2000	0.46	LMC	Bolivia	2002	0.58	LMC
<i>Income</i>				Guatemala	2000	0.58	LMC
Malaysia	1997	0.49	UMC	Brazil	2001	0.59	LMC
				Haiti	2001	0.68	LIC

Source: World Bank (2005), Table A2, pp. 280-1. Economies are classified by the World Bank according to 2004 per capita gross national income in the following income groups: low-income economies (LIC), \$825 or less; lower-middle-income economies (LMC), \$826–3,255; upper-middle income economies (UMC), \$3,256–10,065; and high-income economies (HIC), \$10,066 or more.

Figure 1. The Distribution of Disposable Income in 32 High- and Middle-Income Economies



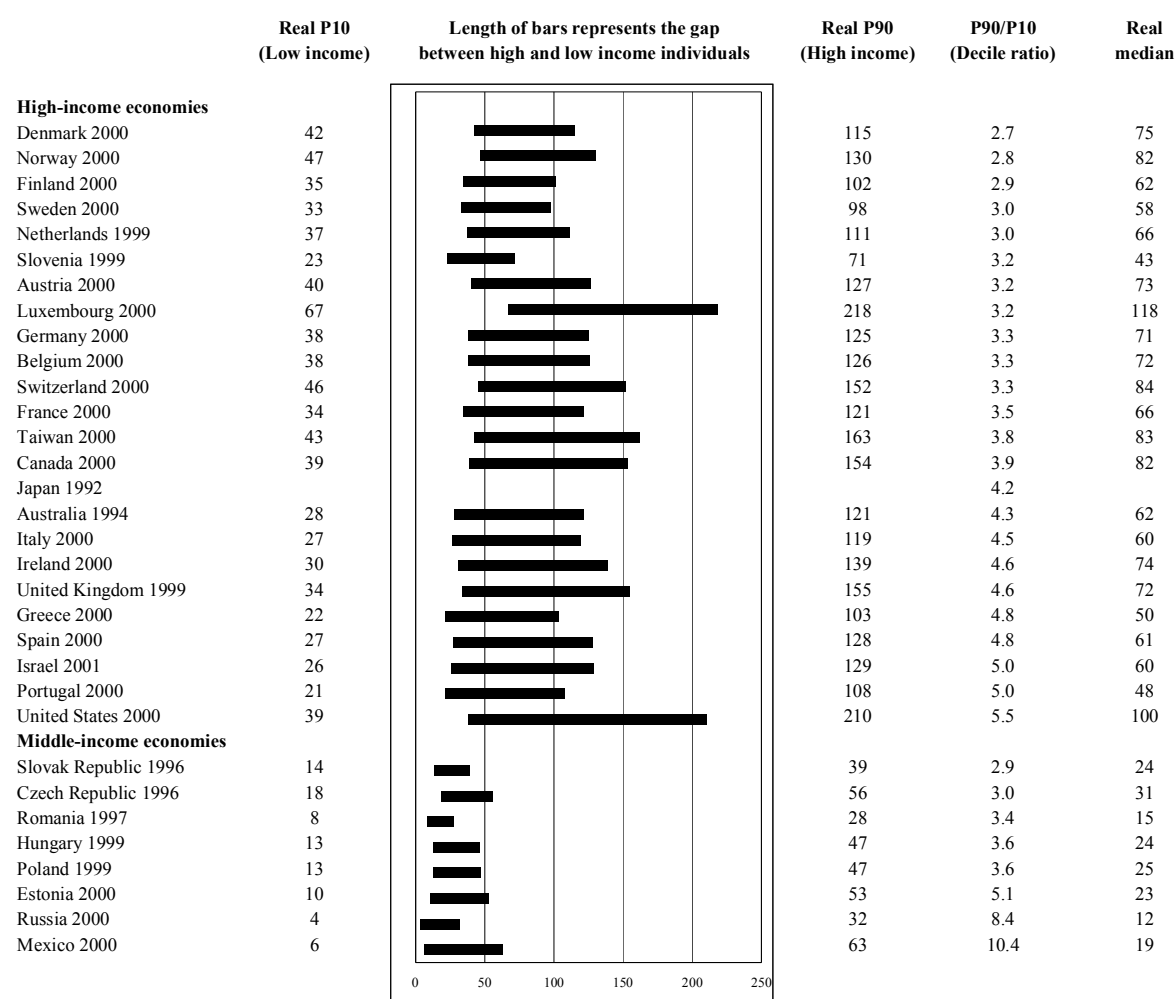
Source: Authors' calculations from the Luxembourg Income Study database (figures coincide with those reported in <http://www.lisproject.org/keyfigures/ineqtable.htm>, as of 15 February 2006) and the European Community Household Panel database, Waves 1-8, December 2003 (for Denmark, France and Portugal only); statistics for Japan were computed according to the same methodology as all other figures by Ishikawa for Gottschalk and Smeeding (2000). P10 and P90 are the ratios to the median of the 10th and 90th percentiles, respectively. Observations are bottom-coded at 1 per cent of the mean of equivalent disposable income and top-coded at 10 times the median of unadjusted disposable income. Incomes are adjusted for household size by the square-root equivalence scale. See note to Table 1 for the definition of high- and middle-income economy.

Table 2. Gini Indices of Market Income and Disposable Income in 17 Countries (per cent)

Country	Year	Gini index for market income [1]	Gini index for disposable income [2]	Absolute reduction [3]=[1]-[2]	Percentage reduction [4]=[3]/[1]
High-income economies					
Denmark	1992	43	24	19	45
Finland	2000	38	25	14	36
Netherlands	1999	39	25	14	36
Norway	2000	41	25	16	39
Sweden	2000	46	25	21	45
Germany	2000	47	26	20	43
Switzerland	2000	36	28	8	22
France	1994	49	29	21	42
Taiwan	2000	33	30	3	9
Canada	2000	42	30	12	28
Australia	1994	46	31	15	32
United Kingdom	1999	51	35	17	33
Israel	2001	52	35	17	33
United States	2000	47	37	11	22
Middle-income economies					
Czech Republic	1996	44	26	18	41
Romania	1997	38	28	10	27
Poland	1999	50	29	21	41
Simple average		44	29	15	34

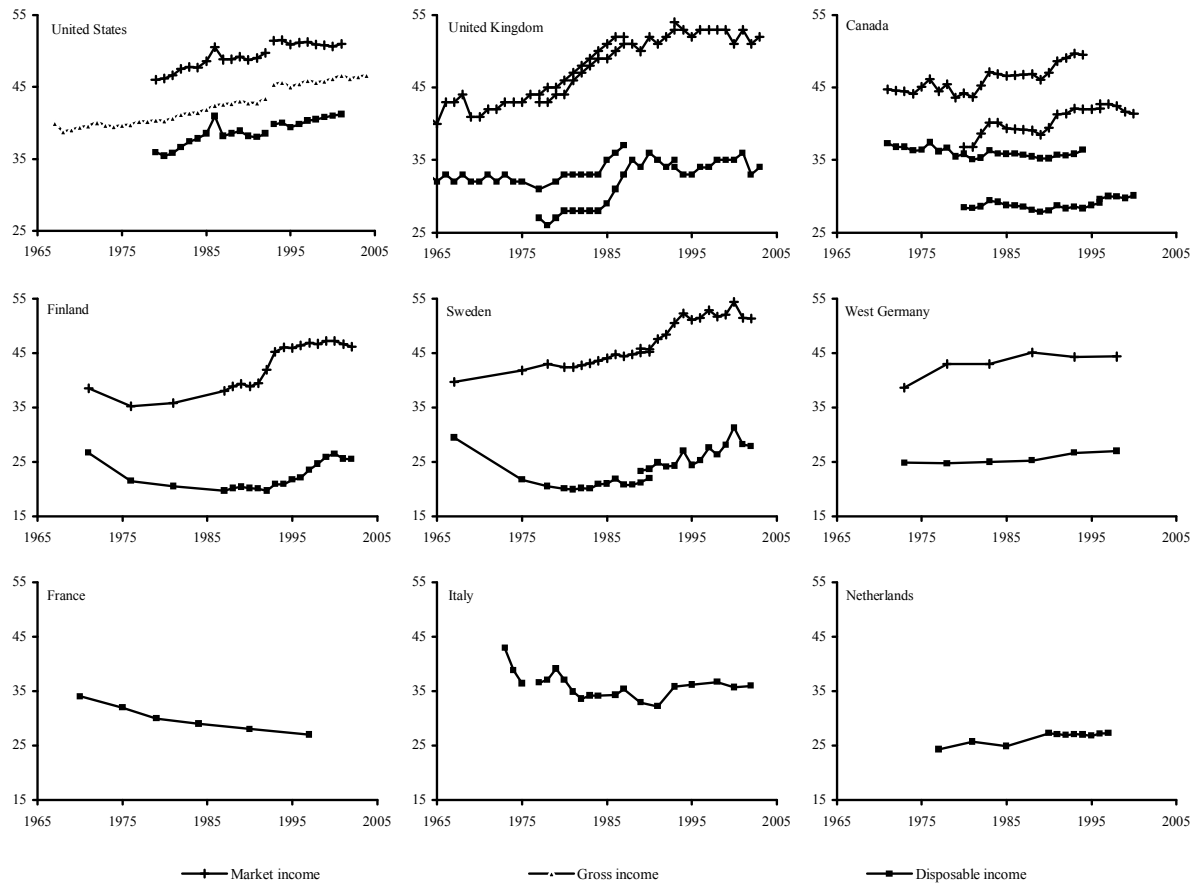
Source: Authors' calculations from the Luxembourg Income Study database, as of 15 February 2006. Observations for disposable income are bottom-coded at 1 per cent of the mean of equivalent disposable income and top-coded at 10 times the median of unadjusted disposable income. Changes in disposable incomes due to bottom- and top-coding are entirely attributed to market incomes. Both market and disposable incomes are adjusted for household size by the square-root equivalence scale.

Figure 2. The Distribution of Real Disposable Income in 32 High- and Middle-Income Economies



Source: Authors' calculations from the Luxembourg Income Study database, as of 15 February 2006, and the European Community Household Panel database, Waves 1-8, December 2003 (for Denmark, France and Portugal only); statistics for Japan were computed according to the same methodology as all other figures by Ishikawa for Gottschalk and Smeeding (2000). Real P10 and P90 are the percentage ratios to the U.S. median of the 10th and 90th percentiles, respectively; real median is expressed as a percentage ratio of the U.S. median. Observations are bottom-coded at 1 per cent of the mean of equivalent disposable income and top-coded at 10 times the median of unadjusted disposable income. Incomes are adjusted for household size by the square-root equivalence scale. Consumer price indices and purchasing power parity conversion factors from local currency units to international dollars are from International Monetary Fund, *World Economic Outlook 2005*, for Taiwan, and from World Bank, *World Development Indicators 2005*, for all other countries.

Figure 3. Inequality Trends in Selected High-Income Economies (Gini index, per cent)



Source: Authors' elaboration on national sources.