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COMPARING LIVING STANDARDS ACROSS NATIONS: REAL INCOMES AT THE TOP, THE BOTTOM AND THE MIDDLE

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Comparing Living Standards across Nations: Real Incomes at the Top, the Bottom, and the Middle

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I. Introduction

The types of yardsticks used by economists to measure living standards (or economic well-being across nations) are basically two. Macroeconomists use aggregate gross domestic product (GDP) per capita—a single value summary of economic output per person in a nation—to measure economic well-being. By converting currencies into comparable dollars (into real "purchasing power adjusted" terms) one creates a "one number per country" measure of economic well-being. In contrast, microeconomists compare the distribution of disposable income across households to assess the distribution of economic well-being, expressed in terms of income per equivalent adult (or per equivalent child). Here the comparisons of well-being are almost always relative "within-nation" comparisons of many points in the income distribution, including measures of central tendency such as the median or mean, but also the spread of incomes among people.

These analyses lead to dissatisfying results from both perspectives. Real GDP per capita includes much more than is actually consumed by households, and by definition ignores the distribution of income among households (within countries). Distributions of income measure differences in sustainable consumption across the population within a country, but they are only relative and thereby ignore differences in "real" standards of living across countries.

The usual exchange over these differences as they concern the United States runs something like this: the first analyst suggests that "the United States is the richest nation on earth," the second retorts that "income inequality is also highest in the United States." The first then responds: "Yes, but the United States is so rich that being poor in the United States is better than being middle income in other rich countries." Thus, the conundrum is presented and the question posed, what is the distribution of real income within as well as across countries?

The purpose of this paper is to try to answer this question by presenting estimates of the real purchasing power (PPP) parity-adjusted distribution of disposable income for a number of countries. This is not an easy task, as we will argue below. The major tool for converting (relative) nominal national incomes into real incomes is "purchasing power parities" or PPPs (e.g., OECD 2001). While, these PPPs are designed for aggregate macroeconomic statistics, not for microdata-based measures of disposable income, careful comparisons can yield approximate answers to the questions posed. And, in fact, we find that comparisons of "real" economic well-being or "living standards" look very different across countries depending on where in the income distribution one decides to make these comparisons.

The next section of the paper introduces the issue by defining terms, measurement issues, and data. Next we move to comparing macroeconomic "average" incomes and microdata-based "relative" incomes across countries, before moving to PPP-adjusted distributional measures of living standards for all households and for households with children. We include children as a separate group here because most analysts argue that children are a particularly scarce resource in modern rich societies, and we agree with others that nations may be fairly judged by the way they treat their children (Carlson 1993).

II. Methodology: Measures, Data, Terminology, and PPPs

Economic well-being is the primary indicator of living standards for most economists and the only one we rely on here. At its broadest, economic well-being refers to the material resources available to households.[1] The concern with these resources is not with consumption per se but rather with the ability to consume and with the capabilities they give household members to participate in their societies (Sen 1992). These capabilities are inputs to social activities, and participation in these activities produces a given level of well-being for adults and for other

household members (Rainwater 1990; Coleman and Rainwater 1978). They also allow families to invest in their children, using private resources to supplement publicly-provided goods and services such as education or health care.

All advanced industrial societies are highly stratified socially. The opportunities for social participation are vitally affected by the differences in resources that the family has at its disposal, particularly in nations like the United States where there is heavy reliance on the market to purchase goods such as health care, education and child care services (Rainwater 1974). But even in other rich nations which provide higher levels of social goods from tax dollars and not from personal resources, money income is the central resource. In this paper, we are concerned not only with the distribution of disposable money income (as described more fully below) but also with its noncash components.

Unfortunately, we cannot take a direct account of the major in-kind benefits which are available in most countries—for example, health care, education, day care and preschool, general subsidies to housing and the like. To the extent that the level and distribution of these resources are different in different countries our analysis of money income must be treated with some caution. However, such differences would be unlikely to change the conclusions reached in this paper. In fact, as we later argue in a secondary analysis of health and education benefits alone, inclusion of these benefits may even exacerbate these differences. (See Smeeding et al. 1993 for an analysis that includes more of these benefits; see also Smeeding, Rainwater, and Burtless 2001.)

Measuring Economic Inequality: The Basic Dimensions

Here we briefly review the sources of our evidence and their strengths and weaknesses. There are currently no international standards for income distribution which parallel the international standards used for systems of national income accounts.[2] Hence, researchers need

to decide what they want to measure and how far they can measure it on a comparable basis. The Luxembourg Income Study (LIS), which underlies much of this paper, offers the reader many choices of perspective in terms of country, income measure, accounting unit, and time frame.[3]

Our attention is focused here on the distribution of *disposable money income*, that is, income after direct taxes and including transfer payments and refundable tax credits. The period of income measurement is the calendar year, with income measured on an annual basis.[4]

Two important points should be noted about this choice:

- the definition of income falls considerably short of a comprehensive definition, typically excluding much of capital gains, imputed rents, home production, and most of income in-kind (with the exception of near-cash benefits, such as food stamps and housing allowances);

- no account is taken of indirect taxes or of the benefits from public spending (other than cash and near-cash transfers) such as those from health care, education, or most housing subsidies.

For example, one country may help low-income families through money benefits (included in cash income), whereas another provides subsidized housing, child care, or education (which is not taken into account). While one study (Smeeding et al. 1993) finds that the distribution of housing, education, and health care benefits reinforces the general differences in income distribution for a subset of the western nations examined here, there is no guarantee that these relationships hold for alternative countries or methods of accounting (Gardiner et al. 1995). Because noncash benefits are more equally distributed than are cash benefits, levels of inequality within high noncash spending countries are lessened (as mentioned above), but the same rank ordering of these countries, with respect to inequality levels that is found here using cash alone, persists when noncash benefits are added in (Smeeding et al. 1993). And while we use income, not consumption, as the basis for our comparisons, due to the relative ease of measurement and comparability of the former, there is strong evidence that consumption inequalities are similar to,

but less than, income inequalities in major European nations and in the United States (de Vos and Zaidi 1996; Johnson and Smeeding 1997).

The distribution of disposable income requires answers to both the "what" and the "among whom" questions. Regarding the former, earned income from wages and salaries and self-employment, cash property income (but not capital gains or losses), and other private cash income transfers (occupational pensions, alimony, and child support) or "market income" is the primary source of disposable income for most families. To reach the disposable income concept used in this paper, governments add public transfer payments (social retirement, family allowances, unemployment compensation, welfare benefits) and deduct personal income tax and social security contributions from market income. Direct tax subsidies such as refundable tax credits, the United States Earned Income Tax Credit (EITC) and the United Kingdom's Family Tax Credit are also included. Near-cash benefits, those that are virtually equivalent to cash (food stamps in the United States and housing allowances in the United Kingdom and Sweden), are also included in the disposable income measure used here.

The question of distribution "among whom" is answered: among individuals, either all persons or persons living in households with children, including children per se as separate individuals. When assessing disposable income inequality, however, the unit of aggregation is the household: the incomes of all household members are aggregated and then divided by an equivalence scale to arrive at individual equivalent income, or EI.

Complete intrahousehold income sharing is assumed, despite the fact that members of the same household probably do not equally share in all household resources. However, to assume that unrelated individuals living with others do not at all share in common household incomes or household "public goods" (such as heat, durables) and should therefore be treated as separate units is a worse assumption in our judgment. Similarly, we assume that children share equally in

the resources controlled by their parents or by other adults in the household. Thus, our unit of account is the household.

Income and Needs

Families differ not only in terms of resources but also in terms of their needs. We take account of differing needs, based on household size and on the head's stage in the life course, into account by adjusting income for family size, using three different equivalence scales (one for the macro measure of living standards, and two for the micro-based measures). The equivalence adjustment for household size is designed to account for the different requirements families of different sizes have for participating in society at a given level. Different equivalence scales will yield different distributions of well-being, depending on differences in household size and structure within and across nations.[5]

Several studies in Europe, the United States, and Australia point to an equivalence scale that implies rather dramatic economies of scale in the conversion of money incomes to social participation among families with children (Buhmann et al. 1988; Bradbury 1989; Rainwater 1990; Burkhauser, Smeeding, and Merz 1996). Analysis of some of these surveys also suggests that there are important variations in need as a function of the head of the household's age.

Drawing on these studies, we use two equivalence scales for the microdata-based analyses. The equivalence scale used to make the relative income comparison in the next section of this paper is the square root of household size. This initial "equivalent income" or "adjusted disposable income" (EI) concept is produced by dividing (unadjusted) disposable income (Y) by family size (S) raised to the power 0.5. This is the same scale used in Atkinson, Rainwater, and Smeeding (1995) and by numerous other analysts (see also Buhmann et al. 1988). It produces the following computation for equivalent income:

$$EI = Y / S^{.5} \qquad (1)$$

For the real income comparisons of children (or adults) that follow, we use a scale that defines need as the product of the cube root of family size multiplied by a factor which sees need as increasing roughly 1 percent per year for head's age up to 45 years and then decreasing at the same rate. Hence, we define equivalent income in the following way:

$$EI = Y/(S^{.33} * .99^{|A-45|}) \quad (2)$$

That is, equivalent income (*EI*) here is defined as an individual family disposable income (*Y*) divided by the product of the cube root of the family's size (*S*) and multiplied by 0.99 compounded by the number of years difference between the head's age (*A*) and 45 (see also Rainwater and Smeeding 2000). The reader should keep in mind that all of the real income estimates in the paper are based on adjusted or equivalent income calculated according to formula (2) above.[6]

Having defined equivalent income in these ways, we determine the median of all individuals in each country. We first examine the distribution of incomes of all households in relation to the median for all individuals **within** each nation in our relative analyses. In the "real" analyses we express the incomes of all persons (or all children) relative to the median EI of all United States persons, expressed in 1997 PPP dollars. In the final figures for children, we tabulate the well-being of children who live at various points in the income distribution. In technical terms, our calculations are weighted by the number of persons in each household in the initial analyses, and by the number of children in our final set of figures.

Real Incomes: PPPs and Microdata

If we are to convert nominal national incomes into comparable "real" incomes of comparable value we have two choices: current exchange rates or purchasing power parities (PPPs). Most economists prefer the latter for these comparisons since they price out "equivalent" market baskets of goods and services in each nation, thereby converting incomes into units of

equal purchasing power (e.g., Summers and Heston 1991; OECD 2001). In contrast, current exchange rates may be influenced by a large number of factors that are independent of the cost of living in a nation, e.g., capital market flows, currency markets, and related factors that only indirectly affect "real" living standards. However they are conceptualized, PPPs were developed to permit accurate comparison of aggregate domestic product and national consumption across countries rather than disposable incomes or the consumption expenditures of households. This means that, even though PPPs are appropriate for comparing national output (or output per capita), they are less appropriate for establishing consistent microdata-based disposable income distributions comparisons.

The Penn World Tables Mark V PPPs were judged to be accurate and consistent for the 1980s for all nations except Italy (Summers and Heston 1991). However, they have not been systematically updated. The OECD and World Bank have finally taken up this task and developed their own sets of PPPs. We do not present comparisons of real income distribution over time due to the intertemporal inconsistency of PPPs compared to household income data dating back to the early 1980s or earlier.[7]

Our estimates of real income distributions are based on a single set of PPP rates, the most recent set benchmarked by the OECD for year 1996, extended back or forward to cover the period from 1992 to 1997. This is the most recent OECD base year for estimating such PPP rates (OECD 2001) and limits our calculations to those OECD nations for which we have LIS data for the same period.[8] We use the OECD estimates of PPP exchange rates to translate household incomes in each country into 1997 United States dollars and then compare income distributions relative to the United States median disposable income per equivalent adult using the equivalence scale formula outlined above equation (2). For 1997, this figure is $28,005 per equivalent United States adult.

The OECD's estimates of PPP exchange rates are particularly far from ideal for comparing the well-being of low-income households in different countries. In principle, the PPPs permit us to calculate the amount of money needed in country A to purchase the same bundle of consumption items in country B. If relative prices on different consumption items differ widely between the two countries, however, the PPP rate may only be correct for one particular collection of items. Some analysts worry about the market basket for the "poor" compared to the market basket for the "average" household. However, this is not our primary concern here, and most early studies of this phenomenon indicate that the differences caused by different relative weights for consumption items at low levels of income compared to average levels are not very great (Heston 1986; Smeeding 1974). But this is not our only concern.

The PPP rates calculated by the OECD are accurate for overall aggregate national consumption including consumption spending by governments as well as by households (Castles 1996). Thus, the PPP rates are appropriate for comparing market baskets of all final consumption, including government-provided healthcare, education, and housing. These goods are paid for in different ways in different nations, however. In most countries, health care as well as some rental housing, childcare, and education are subsidized more generously by those governments than is the case in the United States. Thus, disposable incomes in countries with publicly financed health and higher education systems reflect the fact that health and education costs have already been subtracted from households' incomes (in the form of direct tax payments to the government). One implication is that in countries where in-kind benefits are larger than average, real incomes may be understated because citizens actually face a lower effective price level for privately purchased goods than is reflected by OECD's estimates of the PPP rate.[9] The opposite is true for those counties whose citizens must pay larger amounts for health care and education out of their disposable incomes. Since on average other nations spend slightly more on

noncash benefits than does the United States (Table 1), the United States real incomes are likely to be overstated in the comparisons that follow. In contrast, European countries (Sweden, France, and Germany) provide higher levels of tax-financed health care and education benefits, and so their real incomes are likely understated. On the other hand, Canada, United States and Australia spend more on noncash benefits than on cash benefits (Table 1). Therefore, noncash benefits may have a significant effect on well-being comparisons across income groups.

A different problem for comparing real income distribution across countries arises because of differences in the quality of the household income survey data used to measure income distribution. For example, the LIS survey for the United States is the Current Population Survey (or CPS). The CPS captures about 89 percent of the total household incomes that are estimated from other sources (national income accounts data and government agency administrative records). Most, but not all, of the other surveys used by LIS capture approximately the same percentage of total income (Atkinson, Rainwater, and Smeeding 1995). The household surveys of the Scandinavian countries capture between 93 and 94 percent of the incomes reflected in the aggregate statistical sources, while the Australian survey captures 83 percent of the total, about the same as Germany and France. Unfortunately, not all countries have performed the calculations that would allow us to determine the overall quality of their household survey data. We used a rough methodology to compare the quality of survey data for the different LIS countries. Only those countries with LIS household surveys that captured a large percentage of national income are included in our comparisons of real income distributions.[10,11]

Assuming that the household surveys from different countries yield information about disposable incomes with comparable reliability, we should expect that once incomes are converted into a common currency unit, we can do a fairly good job at comparing real disposable

cash incomes across nations at points other than the average or "median," despite the fact that noncash incomes will not be included.

Noncash Benefits

While we are not able to distribute noncash government benefits across the disposable incomes here, we can at least see if noncash benefits vary directly or indirectly with cash benefits (Table 1). First, we see that noncash benefits, on average, are 70 percent as large as cash benefits in these nations. In fact, we find that the 1995 distribution of cash and noncash benefits is similar to those earlier found for the 1980s in Smeeding et al. (1993). The countries in Table 1 are ordered according to cash social expenditures (OECD 2001a). Public health and education benefits are included, but housing is excluded.[12] While noncash benefits as a percent of GDP are far more equal across nations than are cash benefits, we find that the nations that spend the most in cash incomes (Sweden, Germany, France) also spend the most on health and education combined. Australia and the United States are low spenders on noncash benefits and cash benefits. The two anomalies are Canada, where noncash benefits are bigger than average, and The Netherlands, where noncash benefits are lower relative to cash benefits.

However, we also note that noncash public spending exceeds governmental cash spending in Canada, Australia and the United States. Thus, tax-financed noncash benefits are very important in most nations, most especially in low-cash-benefit nations, and may affect the distributional comparisons of real income offered below.

Because the United States spends less than the average country on noncash benefits, while its consumers pay most out of pocket for these services (Freund and Smeeding 2002), one can argue that the real income comparisons presented below are liable to overstate real incomes in the United States and understate them in other nations (Smeeding, Rainwater, and Burtless 2001). However, some counterarguments can also be made, particularly for low-income

households. More than 85 percent of Americans are covered by some type of health insurance. They do not pay for most of the health care they consume out of the disposable income measured here, though they do pay more out of pocket for healthcare, on average (see Rainwater, Smeeding, and Burtless 2001, note 4; Freund and Smeeding 2002, Table 3). In other words, the average insured American does not pay the full "price" of medical services reflected in OECD's PPP estimates for the United States, but they do pay more out of pocket than do their counterparts in other nations. For a large majority of low-income Americans, insurance is provided for free through the Medicaid program or at reduced cost under Medicare. For others, it is subsidized by an employer's contribution to a company-sponsored health plan. Employer benefits are roughly an additional 1.1 percent of GDP. While low-income people in most, if not all, LIS nations pay lower net prices for medical care than do residents of the United States, the United States probably has the highest final consumption prices for medical care of all OECD countries. The OECD's PPP estimates should therefore show that the United States has a high cost of living (at least for medical care).

Second, nearly one-quarter of low-income Americans receive housing subsidies, either directly—through vouchers to cover some fraction of rents—or indirectly—through below-market rents on publicly subsidized apartments. Still, our comparative basis as United States public housing benefits are less than .25 percent of GDP (OECD 2001a). European subsidies for rental housing vary by country, but they are generally larger than in the United States.

Third, some consumption items that are more important to low-income families than to high income families are dramatically cheaper in the United States than they are in most other OECD countries. Food is one such item. Because food consumption likely has a greater weight in the consumption of the poor than it does in aggregate consumption, the OECD's PPP exchange rates are biased against the United States.

In summary, while we could develop better PPP exchange rates for purposes of comparing low-income families across OECD countries, it is not obvious that a superior set of PPPs would reveal a systematically different pattern of income distribution. Hence, we feel that our comparisons are about as good as any that could be done at this time.

Database

The data we use for this analysis are from the Luxembourg Income Study (LIS) database, which now contains almost 100 household income data files for 26 nations covering the period 1967 to 1998 (*LIS Database List* 2002). We can analyze both the level and trend in poverty and low incomes for a considerable period across a wide range of nations. To compute the level of relative inequality, we have selected 21 nations. For the real income comparisons we use 13 OECD nations with incomes measured between 1992 and 1997. The 21 countries are the largest and richest in the world and include all of the G7 nations, Scandinavia, Canada, Australia, and most of Europe. We include all of Germany in our analysis, including the Eastern states rejoined to West Germany in 1989.

The LIS has overcome some, but not all, of the problems of making comparisons across countries that plagued earlier studies. Some problems, such as the use of data from different types of sources, still remain. But all of the data are drawn from household income surveys, or their equivalent, and in no case are synthetic data used. One major advantage of LIS is the availability of microdata. Access to the microdata means that it is possible to produce results on the same basis, starting from individual household records, and to test their sensitivity to alternative choices of units, definition, and other concepts. The data all cover, at least in principle, the whole non-institutionalized population, though the treatment of immigrants may differ across nations. These data are supplemented here by data provided by one major nation not yet a member of LIS (Japan) where a national expert calculated income inequality measures with

the consultation of the LIS staff (Ishikawa 1996). The rest of the calculations were made by the authors and the LIS project team.[13]

Measuring Living Standards: A Conceptual Interpretation

Our measure of living standards is based only on disposable incomes, but that allows us the luxury of examining incomes for not only the middle or average person in society (median person) but also those at other percentiles of the income distribution. Comparing points in the distribution allows us to examine differences across persons within nations as well as across nations, all expressed in 1997 United States PPP dollars and all relative to the median EI in the United States in 1997.

In addition to the median person, we also compute the real income of a low-income person (or child) and a high-income person (or child) in each nation. The low-income person (or child) is measured at the 10^{th} percentile (median of bottom quintile) while the high income person (child) is measured at the 90^{th} percentile (median of the top quintile).

We refer to the difference between persons with high and low incomes as "social distance" in making both relative and absolute comparisons here. This distance can be measured in ratio format (e.g., the decile ratio or P_{90}/P_{10}), in bar graph format, or with the real income distance between these points measured in PPP-adjusted dollars per equivalent person (or per equivalent child).[14]

Particularly when we refer to children in the second half of the paper, we like to think of the measure of social distance as a measure of equality of opportunity within each nation. Nations with smaller social distances (or smaller decile ratios) have higher levels of "equal opportunity" across the population of parents and children. We also like to focus on the distance between the middle-income child and the low-income child as a measure of "fair chance." Our measure of equality of opportunity captures only the real economic distance between the high-

and low-income child. We are also vitally interested in the absolute level of resources available to the low-income child, relative to similar children in other nations. Children in nations with relatively higher real income levels for "low-income children" have more of a "fair chance" in that nation, when compared to similar children in other nations. In an era where the United States President evokes the slogan "leave no child behind" it will be useful to see which nations leave their children behind, which ones give them a good start, and by how much.

III. Traditional Results from Macro and Micro Perspectives

We begin where traditional measures of living standards begin—"real" GDP per capita (Table 2). We present both PPP-based and exchange rate-based estimates here to compare the two sets of results.[15] Countries are ranked from lowest to highest according to PPP-adjusted GDP per capita in 1999.[16] On this basis, the United States is the richest nation of all, with a real 1999 income of $33,836 per person. Other nations are bunched between 65 and 85 percent of the United States average in Table 2. In contrast, the exchange rate-based figures run from 63 to 107 percent of the United States average and with somewhat different rankings of nations. Clearly there is a major difference depending on whether one uses PPPs or exchange rates, and we choose the former.[17]

While these results give some idea of the overall living standard in a nation, they are far less than satisfying because they are void of distributional content. In fact, one cannot even interpret these as the income of the "average" person in a nation. The average person is the median person, not the overall national average income per person, an amount of income which may, in fact, not accrue to any one person. In fact, the greater the level of inequality in a nation, the larger the difference between the mean income amount and the median person's income (Gottschalk and Smeeding 1997; Smeeding 2000).

Relative income distributions are the second traditional measure of well-being. The LIS data sets are used here to compare the distribution of disposable income in 21 nations around 1995 and in earlier periods where 1995 data are not yet available. We focus here on relative (Figure 1) income differences, not absolute income differences. As has been demonstrated, the relative inequality patterns found here correspond roughly to the results found in Atkinson, Rainwater, and Smeeding (1995), which use LIS data from earlier years in most cases (Smeeding 2000). Our choice of inequality measures are the three mentioned earlier: the ratio of the income of the person at the bottom and top 10^{th} percentiles to the median—P_{10} and P_{90}, respectively—and the ratio of the income of the person at the 90^{th} percentile to the person at the 10^{th} percentile—the decile ratio—(one measure of "social distance"). We also present a bar chart to visualize social distance.

At the bottom of Figure 1 we find that in the United States a low-income person at the 10^{th} percentile in 1997 (P_{10}) has an equivalent (or adjusted) income that is 38 percent of the median equivalent income. While this figure is low, the 1997 estimate is above that found in either the 1995 or 1991 United States LIS database (Smeeding 2000). A high-income person at the 90^{th} percentile (P_{90}), in contrast, has 214 percent of the median. The United States decile ratio is 5.64, meaning the income of the typical high-income person is more than five-and-a-half times larger than the income of the typical low-income person, even after we have adjusted for taxes, transfers, and family size. In contrast, the average low-income person has 51 percent of the income of the middle person in the average country; the average rich person has 184 percent as much, and the decile ratio shows an average "social distance" between rich and poor of 3.6 times P_{10}. At the other end of the chart, a Swedish citizen at P_{10} has 60 percent of the median, the P_{90} is 156, and the decile ratio is 2.59, less than one-half as large as the United States value. This

evidence suggests that the range of inequality and relative social distance between rich and poor in the rich nations of the world is rather large in the mid-to-late 1990s.

Countries in Figure 1 fall into clusters, with inequality the least in Scandinavia (Finland, Sweden, Denmark, Norway) and Northern Europe (Belgium, Denmark, Luxembourg). Here the P_{10} values average 58 percent of the median and the decile ratios are less than 3, ranging from 2.59 to 2.92. Central Europe comes next (The Netherlands, Germany, Austria, and France) with decile ratios from 2.89 to 3.32. Taiwan is an anomalous entry in the middle of the table, with a decile ratio (3.36) in the middle European range. Canada appears next with a lower decile ratio (3.90) than any other Anglo-Saxon nation and with less inequality than is found in Southern Europe. Spain, Israel, Japan, Australia, Switzerland, and Ireland come next with decile ratios from 3.96 to 4.33. Finally, Italy (4.68) and the English-speaking countries of the United Kingdom (4.52), and the United States (5.64) come last with the highest levels of inequality and the greatest social differences.

The United States has the highest decile ratio due in large part to its low relative incomes at the bottom of the distribution. The closest ratios to their P_{10} value of 38 are the United Kingdom (46), Italy (43), Australia (45), Switzerland (45), Canada (47), and Japan (46). No other nation has a value below 50. At the top of the distribution, incomes in the United States are less different from those in other high inequality nations. The P_{90} of 214 is highest followed by Ireland and the United Kingdom (209), Israel (205), and Italy (201). But we find no others above 200.

In sum, there is a wide range of inequality among rich nations. Measures of social distance and overall disposable income inequality indicate that the United States has the most unequal distribution of adjusted household income among all 21 countries covered in this study, while Sweden has the most equal. In terms of groupings, the Scandinavian and Benelux countries

have the most equal distributions, Central Europe is in the middle of the groupings, and the United Kingdom and Italy come closest to the degree of inequality found in the United States.

But these rankings are incomplete in other ways. While we now have distributional measures that are based on variance in incomes relative to the middle person in each nation, comparisons across nations are limited to relative incomes only. There is no absolute measure of living standards. Thus, we are left with some questions, especially concerning low-income persons in the United States, which is both the richest nation and the most unequal nation of those studied here. In the next section of the paper, real income distribution comparisons will allow us to examine both relative and absolute standards of living at one time.

IV. Real Income Distribution Measures of Living Standards

Combining PPPs and relative income data for 13 countries, we can compare the distribution of real incomes across nations and over the income spectrum.[18] Before we look at the distributions, however, consider the differences in ranking by "average" economic status alone when moving from macrodata to microdata measures of "average" economic well-being.

The first two columns of Table 3 compare the average standards of living using macro-based GDP per capita and microdata-based equivalent income (EI, or disposable personal income) per equivalent adult from equation (2) for the same countries. Despite the differences in years (1999 for GDP vs. 1997 dollars for the micro-based measures), in income measures (GDP vs. LIS), and in equivalence scales (per capita vs. adult equivalent income), the two rankings of the "average" living standard are very similar. The more heavily taxed countries (e.g., Sweden, Denmark, Belgium, Norway) have a bit lower ranking according to EI compared to GDP per capita, but the rankings are not that dissimilar. While the range of GDP per capita is only from 65 to 85 percent as large as the United States, the range of EI for all persons is from 68 to 98 (or

to 92 leaving out Switzerland). By both rankings the United States citizens enjoy the highest average standard of living.

Children's equivalent incomes vary from 62 to 95 percent of the United States overall median, on average (column 3), and 70 to 95 percent (excluding the United Kingdom), which is not very different from the overall range of incomes in column 2. But, on average, children are worse off than the overall population (see column 4). The average child in a nation has a higher level of real income compared to the population as a whole in that nation, in only four countries: Sweden, Denmark, Finland, and Canada.

In the United States, United Kingdom, and Belgium, children's real incomes are 89 percent or less of the overall average real EI of an American person, with United States children having the lowest average real incomes at 88 percent of the overall average income. Note also that on a per child basis the United States no longer has the highest living standard. Swiss and Canadian children are slightly better off, and Norwegian children are equally as well off as are American children using this measure of real living standards per person.[19]

Real Income for All Persons

Moving to our distributional measures of PPP-adjusted EI, we find quite different levels of real income at various points in the income distribution. The measures of social distance (Figure 2) are similar to Figure 1 though they differ slightly because of the flatter second equivalence scale used in Figures 2-6. However, we can now compare real, not just relative, incomes at both the P_{10} and P_{90} income levels, because all percentiles are given as a fraction of the median United States equivalent disposable income per person ($28,005 in 1997 dollars).

At the 10^{th} percentile, the United States has the third lowest real income level relative to the median. Only in Australia and the United Kingdom (with average incomes that are 67 and 79 percent of the United States median, respectively) do low-income persons have a lower real

living standard (in money terms) compared to that in the United States. All other nations have higher living standards for the average low-income person measured in equivalent disposable cash income terms, despite the fact that all have average real incomes (and average GDP per capita) far below those found in the United States (see Tables 2 and 3). For instance, the average Dutchman has a real income 80 percent as large as that of an average American, but the low-income Dutchman has an income that is 110 percent of an average American (that is, the Dutch real income at the 10^{th} percentile is 43 percent of the United States median compared to 39 percent in the United States). The United States is about 10 percent below the 13-country average P_{10} of 43 percent of the median.

At the other end of the spectrum, the average high-income American has a living standard that is 209 percent of the living standard of the average American. The next nearest nation is at 185 percent of the United States median (Switzerland) and the next one 167 percent (Canada). On average, a rich person in the United States has a living standard that is 43 percent higher than the average rich person in the other 12 nations (i.e., 209 compared to 146).

Combining these percentiles, we find two measures of social distance the, decile ratio and the real income gap between the 10^{th} and 90^{th} percentiles (expressed in EI 1997 United States dollar terms). The gap between rich and poor in America given by the decile ratio is the largest of all the countries at 5.36. The equivalent income (EI) of a low-income person is $10,927 (or 39 percent of $28,005) while that of a high-income person is $58,530 (209 percent of $28,005), producing a gap of $47,608. This amount is 1.64 times the average gap of $29,081, and is more than $11,000 higher than the next nearest gap ($36,406 in Switzerland). The smallest gap ($17,643) is found in Sweden.

Real Incomes of Children

Although we would argue that economic well-being (at least in developed countries) is most crucially a function of the individual's relative position in the distribution of income, real levels of living are also important in comparing living standards and well-being across nations. Interest in real income for children goes beyond the situation of poor children alone—in comparative studies one also wants to know about the real standard of living of average and well-off children as well. These measures can be also understood as measures of equality of opportunity and dollar measures of the types of life chances that parents can provide for their children. Figures 3, 4, 5, and 6 address the issue of real incomes for children, presenting the same information in several ways.

First of all, Figure 3 is constructed exactly the same as Figure 2, with all incomes expressed as a fraction of the 1997 United States overall median EI ($28,005). The percentiles differ because the figure presents only the EI's for all persons in families with children. On average, children's real incomes at the 10^{th} percentile are the same as all persons' real incomes at the 10^{th} percentile (43 percent of the median in both Figures 2 and 3), but the average incomes of families with children are less than those of all families (Table 2), mainly because the 90^{th} percentile for children (132) is below that for the whole population (146, comparing Figures 2 and 3). Thus, inequality as measured by the decile ratio is less than average for children and the real income gap is also lower for children. In fact, use of the first microdata-based equivalence scale (equation 1 above) would produce more inequality and therefore larger real income gaps.

Looking first at our measure of "fair chance," the nations with the highest P_{10} offer their children the best economic chance for future success. We agree with Mayer (1997) and others that income alone is a poor proxy for life chances for middle class households with children. Another $100 or $1,000 per child for middle income or well-to-do families makes little

difference to their children's overall life chances compared to other influences (such as parents, schools, communities, and peers). But we also agree with Duncan et al. (1998) that a child being born into a family with very low income significantly decreases that child's overall life chances.[20] Thus, we believe that the P_{10} for children is a meaningful and important indicator of a fair life chance.

On this basis, only a child in the United Kingdom has a less fair chance, at 31 percent of the median, than does a child in the United States, at 35 percent of the median, based on real incomes alone. Australian children are at roughly the same level of living as the United States kids while the next nearest is the unified Germany at 40 percent. All other nations have children's living standards that are above the average standard of 43 percent, which is 8 percentage points above the United States level, or 23 percent higher than the 35 percent United States value.

At the other end of the scale, United States children in prosperous United States households have living standards 179 percent above the median United States person. Swiss children are also relatively better off (at 165 percent of the median). The average incomes of the best off children are 135 percent of the median, while United States children are 44 percentage points above this level. In Sweden, the high-income child actually has a living standard (measured by cash income) just below that of the average United States person.[21]

These percentiles translate into decile ratios and real income gaps for children that are similar to those found in Figure 2. Here we interpret the social distance measure as a measure of equality of opportunity. Nations with smaller social distances (or lower real income gaps) provide more equal chances for their children, both high- and low-income children. The United States gap in decile ratio (5.11) and real EI terms is again the highest. Only one other nation (the United Kingdom) has a decile ratio above 4.00. The real income gap in the United States of

$40,327 is by far the largest, with Switzerland and Canada the only others above the $30,000 level, and with the other nations near or below the $25,528 average difference. The above average gaps between poor and rich kids in these three nations must be seen in light of the fact that all three have above average P_{10} ratios as well. The real income gap of $40,327 in the United States means that low-income children have resources of $9,802, assuming all resources are evenly split among household members. In contrast, high-income families have $50,129 to spend on each child.

For Every Dollar...

Perhaps an easier way to understand these differences across nations is to compare children at average, low and high-income levels directly. Figure 4 presents the "supra chance" or average standard of living for the high-income United States child compared to the high-income child in 12 other nations. For every dollar the average high-income United States child has, other nations children have far less. Only Swiss and Canadian children are nearby, with 92 and 87 cents per dollar, respectively. All other rich children have less in spendable income by a wide margin. Parents of rich children in Sweden have resources less than 55 cents on the dollar compared to a well-to-do child in the United States. Our high-income children are truly advantaged by this measure of living standards. Smaller family sizes, higher earnings for married women with children, and assortive mating all help raise the standard living among high-income United States children (Gottschalk and Smeeding 1997, 2000). The United States is likely the best place to be born a rich child.

The average United States child also fares well (Figure 5). For every dollar available to a United States child, children in almost all other nations have less, with a Swiss child the only one more "advantaged" on average (108 percent) in an absolute dollar sense, and with the average Canadian child (102 percent) at a similar living standard. Other nations are now closer to the

United States, but a Swedish (80 cents per dollar) or a British child (70 cents on the dollar) still has a lesser level of resources by a significant amount.

Given these comparisons, Figure 6 should come as something of a surprise to most observers. For every dollar available to a low-income United States child, the low-income children in every nation but one (the United Kingdom) have more. Swiss, Norwegian, Danish and Swedish children are 37 to 57 percent better off, while other European low-income children (Canada, Belgium, France, The Netherlands), are at least 20 percent better off. Even Australian children have a 3 percent higher living standard than do United States children in real spendable dollar terms.

Stated differently, if one were unsure of their economic status in childhood, or if one were a risk averse child, there would be a considerable difference in real living standards depending on one's nation of birth. For those born to low-income families in rich nations, the United States is not such a good place to grow up.

The high overall living standards in the United States must be balanced by the fact that these advantages do not translate directly to low-income children. Race, ethnicity. and single parenthood play roles in explaining these differences, but low parental wages and lack of social income support are the two most important factors that explain this result (Smeeding, Rainwater, and Burtless 2001; Burtless and Smeeding 2000; Smeeding 1997).

Summary

While the United States has a higher real level of overall income than all of our comparison countries, it is the high- and middle-income persons (in general), and particularly the well-to-do children in our nation who reap the benefits (and much more the former than the latter). Low-income American children suffer in both absolute and relative terms. The average low-income child in the other 12 countries is at least 25 percent better off than is the average

low-income American child. If we were able to add measures of the cost, quality, and access to other social goods such as primary and secondary education (including childcare) and health care, we doubt that it would very much reduce the crossnational differences shown here. The inequality of access to health care in the United States is well known, as is the average to poor performance of schools and the poor educational outcomes evident in many low-income areas in this nation. We might even be able to generalize that societies with wide income disparities across families with children have less support for public and social goods such as tax-financed health care, child care, and education, because high-income families can privately purchase above average levels of those goods with their higher incomes, rather than supporting high overall levels of tax-financed goods and sharing them with less well off children.

V. Discussion and Conclusion

This paper has tried to broaden the economic concept of "standard-of-living" to encompass a wider range of points than the "average." The advantage of microdata-based measures of living standards is that they can show variance within nations and across nations. And in nations with a great deal of inequality, the "average"—be it the mean or the median—can be a poor descriptor of the living standards of the rich or the poor.

When we translate all incomes into "real" PPP-adjusted incomes, we find that rankings of countries and living standards can be quite different depending on where in the income distribution we focus and on which group we focus (e.g., overall vs. children). Clearly the nation with the highest real GDP per capita and the highest real disposable equivalent income per person is also the most unequal. And this inequality manifests itself in terms of relatively and absolutely lower living standards at the bottom of the United States income distribution, especially for children.

The distributions of noncash benefits are not expected to change these findings by much. While public noncash spending is relatively larger than cash spending in the three low cash-spending nations of Australia, Canada, and the United States, we know that noncash benefits may vary according to both quality of services provided and the amount of income paid for them by consumers. Perhaps, most importantly, we do not know how low-income families value noncash benefits relative to cash benefits. While health and education benefits received below cost most certainly improve well-being, many low-cash-income families might prefer to receive the benefits in more flexible cash terms. (Canberra Group 2001, Chapter 4). If this is the case, we cannot simply add noncash incomes to cash incomes without overstating the real incomes of poor families.[22]

The findings have political and policy implications as well. United Kingdom children have the lowest real living standards of any of the children observed here. But they also have a Prime Minister who has set a national goal of improving living standards and eradicating child poverty in Britain over the next decade, and who has matched his political rhetoric with some modicum of real fiscal and community efforts (Bradshaw 2001; Walker and Wiseman 2001; Micklewright 2001). In contrast, the United States is led by a President whose slogan "leave no child behind" is rather hollow and whose fiscal stance is to use income tax reductions for the rich and fiscal stringency for the poor to further increase the overall gap between rich and poor United States children. As we have seen, the gap between American rich and poor children is already the highest, even accounting for the effect of the Earned Income Tax Credit (EITC) which has increased the income of United States children in the 10^{th} percentile by a substantial amount since the early 1990s. Instead of public dollars for children, the United States President prefers voluntary "faith based efforts" which are complementary to, but are not substitutes for, adequate public safety nets.

Unfortunately, analyses such as the one presented here have not had a substantial effect on these policies. It is often remarked that analyses of living standards and child outcomes are better and more complete for the United States than for any other nation (e.g., Mickewright 2001). Unfortunately these analyses do not easily transform themselves into policy actions or into better outcomes for United States children.

Endnotes

1 . We use the terms household and family interchangeably. Our formal unit of aggregation is the household—all persons living together and sharing the same housing facilities—in almost all nations. In Sweden and Canada the "household" refers to a slightly more narrow definition of the "family" unit.

2. However, the "Canberra Group" of National Statistical offices and organizations (including LIS, the World Bank, the United Nations and others) have recently produced such a standard (Canberra Group 2001).

3. But its relatively short time frame (1979-1997 for most nations, but 1968-1997 for five countries) and limited number of observation periods per country (three to five periods per country at present) currently limits its usefulness for studying longer term trends in income distribution. Coupled with the problems of defining PPPs over time, we do not present trend data for real incomes here.

4. The United Kingdom data are the only exception to this rule; their Family Expenditure Survey (FES) uses a bi-weekly accounting period with rules for aggregating up to annual totals. In Germany, LIS has aggregated the monthly and quarterly data into annual income amounts.

5 . In fact, the selection of per capita income (as with macroeconomic measures of living standards) is one choice of an equivalence scale, and one that suggests there are zero economies of scale for different family sizes. The cost of reaching a given level of well-being increases proportionately with family size. Thus, a family of four needs four times as much as a single person to reach the same living standard. Such a scale does not make much sense to most microeconomists, who realize that two can reach the same standard of living less cheaply by living together rather than apart, and that a family of four can reach a similar standard of living at less cost per person than four times the individual amount.

6. According to the square root formula, four persons need twice as much as one to be as well off. According to the second "cube root" formula for a 45-year-old head, the household of four needs to 1.6 times as much as a family of one. Thus, the second formula suggests a lower cost of children (assuming they are the third or fourth members of the household) than the first. The use of the second formula therefore presents our most conservative estimate of the costs of children in the final section of this paper.

7. For additional comments on PPPs and microdata-based comparisons of well-being, see Gottschalk and Smeeding (2000), Rainwater and Smeeding (1999), Smeeding et al. (2000), Smeeding, Rainwater, and Burtless (2001), Castles (1996), and Bradbury and Jäntti (1999, Appendix). The OECD has a set of PPPs that go back to the 1970s but that are inconsistent with household income datasets over the same period.

8. The base year is important because PPPs are reconfigured with a different "base" market basket only every four to five years. Between base years, price indices are used to adjust base baskets for comparisons. These price indices may differ from the consumer price index (CPI) used to adjust incomes within countries and the choice of CPI may also affect the results. Hence, we stick with 1996 base year PPPs adjusting back to 1992 PPPs or forward to 1997 PPPs using the implicit OECD price index.

9. Indirect taxes are reflected in the final prices used to adjust PPPs and therefore do not affect these comparisons.

10. We compared grossed-up LIS market incomes to OECD final domestic consumption aggregates. The one nation for which we have mid-1990s data and which differed most from the rest was Italy, which captured only about 47 percent of OECD gross final consumption in its LIS survey, compared to 89 percent for the United States. Most other nations were close to the United States level; a few were above it.

11. Underreporting of income has a large impact in comparing real income distribution across countries. The smaller the percentage of aggregate income that is reported in the household survey, the lower the measured level of real income. Underreporting may also affect comparisons if income at either the bottom or the top of the income distribution is differentially underreported. Unfortunately, we cannot currently assess the relative importance of income underreporting in different parts of the income distribution.

12 . Since public housing benefits are already included in cash incomes in the United Kingdom and Sweden, the major omission is for France, where public housing equals .85 percent of the GDP. In all other countries, public housing benefits are less than .33 percent of GDP (OECD 2001a). We also take no account of imputed rent for owner-occupiers.

13. Distributional results similar to those reported here in Figure 1 are directly available from the "key figures" section of the LIS Web site along with the program used to generate them. (http://www.lisproject.org/keyfigures.htm).

14. While we have used this measure before (e.g., Rainwater and Smeeding 2000; Smeeding 1997, 2000) others have developed more sophisticated measures if polarization and social distance. For a good introduction to these, see D'Ambrosio (2001).

15. The 13 nations mentioned here are the same 13 that are used later for the real income distribution analyses.

16. The results are about the same for 1995 GDP per capita using PPPs. See Appendix Table A-1.

17. For reasons why one might choose the latter, for example to determine the cost of a particular commodity such as a prescription drug available only in one country at that country's prices, see Ward (2001).

18. The eight nations that drop out from Figure 1 are those with income data before 1992 (Spain, Austria, Ireland), nations without OECD PPPs (Taiwan, Israel), nations with extraordinarily low incomes as measured by their LIS surveys (Italy), nations for which we have no microdata at LIS (Japan), and one tiny nation with 400,000 persons and GDP per capita 135 percent larger than the United States (Luxembourg).

19. Canadian LIS data do not include payroll taxes paid by the employee. These vary considerably by province, income level, and program, with exemptions, deductions, and exclusions. Employee payroll taxes in Canada average about 4 percent of wages, and overall employer and employee taxes are lower than in the United States as a percentage of GDP. Were we able to adjust for employee payroll taxes, the average level of disposable income in Canada would decline by about 3 percentage points (Lin 2000). In Table 2 this would leave Canadian children slightly worse off, on average, compared to American children. Because of low wage exemptions and other features of Canadian payroll taxes, we cannot estimate how other points in the distribution would be affected.

20. Duncan et al. (1998) find that United States children who live in families with incomes at or below 75 percent of the United States poverty line (roughly 33 to 36 percent of the median income) do less well than do other United States children. Similar studies have not been done for other nations. Similar figures to those found here but from an earlier period can be found in Rainwater and Smeeding (2000).

21. However, because the Swedish household treats children living at home who are aged 18 and over the same as children who live alone, the effects of this structure may be to understate the true EI of such children.

22. From a child's perspective (or that of a taxpayer) we might argue that research spending is as large as cash spending.

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Table 1.
Cash and Noncash Social Expenditures as a Percent of Gross Domestic Product (GDP), 1995

Category	Health	Education	Health plus Education	Cash	Total	Health plus Education/Total
Sweden	5.90	6.31	12.21	25.28	37.49	0.33
Netherlands	6.74	4.57	11.31	21.32	32.63	0.35
France	7.98	5.94	13.92	20.43	34.35	0.41
Germany	8.13	4.49	12.62	20.39	33.01	0.38
UK	5.73	4.84	10.57	14.82	25.39	0.42
Canada	6.58	6.22	12.80	12.12	24.92	0.51
US	6.53	4.99	11.52	9.69	21.21	0.54
Australia	5.74	4.46	10.20	9.51	19.71	0.52
Average	6.67	5.23	11.89	16.70	28.59	0.42

Sources: OECD (2001a); OECD (2001b).

Table 2. Average Living Standards from a Macro Perspective
(Real GDP Per Capita for 1999/ Converted to U.S. Dollars
Using PPP's or Exchange Rates)

Country	Amount (US Dollars)		Index (USA=100)	
	PPPs	Exchange	PPPs	Exchange
France [1]	$22,067	$23,764	65	70
Finland	22,723	25,046	67	74
United Kingdom	22,861	24,228	68	72
Sweden	23,017	27,256	68	81
Germany	23,819	25,729	70	76
Belgium	24,845	24,347	73	72
Australia	25,590	21,432	76	63
Netherlands	25,923	24,906	77	74
Canada	26,424	20,822	78	62
Denmark	27,073	33,124	80	98
Norway	28,133	34,277	83	101
Switzerland [2]	28,672	36,247	85	107
United States	33,836	33,836	100	100
Average	**$25,768**	**$27,309**	**76**	**81**

Source: *National Accounts of OECD Countries, main aggregates, Volume 1*
Notes:
[1] Figures include Overseas Departments.
[2] Countries still using SNA 68.

Table 3. The Average Economic Well-Being of All Persons and of Children for 13 Nations Compared to the Average Person in the United States in U.S. Dollars

	Macrodata [1]	Microdata [2]		
Country	Average Overall GDP per Capita	Average Person Relative to USA Person (USA=100)	Average Child Relative to USA Person (USA=100)	Within Nation Ratio of Child to Overall [3]
Sweden	68	67.8	70.1	1.03
United Kingdom	68	69.2	61.5	0.89
Finland	67	70.7	72.1	1.02
Australia	76	79.0	72.1	0.91
France	65	79.2	76.6	0.97
Germany	70	79.2	72.4	0.91
Netherlands	77	79.6	72.0	0.90
Denmark	80	80.9	83.2	1.03
Belgium	73	87.3	78.0	0.89
Canada	78	88.7	89.5	1.01
Norway	83	92.3	87.5	0.95
Switzerland	85	98.4	94.9	0.96
United States	100	100.0	87.9	0.88

Note: [1] GDP figures and rankings based on 1999 OECD PPP's from Table 1, columns 1 and 3, expressed as a percent of 1999 U.S. GDP per capita of $33,896.

[2] Equivalent income, or disposable income per equivalent adult using equation 2 and OECD PPPs to bring all nations to 1997 U.S. dollars. Figures expresed as a percent of 1997 U.S. median equivalent income or $28,005 per equivalent adult.

[3] Ratio of Column 3 to Column 2.

Source: OECD (2001) and Luxembourg Income Study.

Figure 1. "Social Distance": Relative Income Comparisons Across 21 Nations in the 1990s
(Decile Ratios for Adjusted Disposable Income)
(numbers given are percent of median in each nation)

	P10 (Low Income)	Length of bars represents the gap between high and low income individuals	P90 (High Income)	P90/P10 (Decile Ratio)
Sweden 1995	60		156	2.59
Finland 1995	59		159	2.68
Belgium 1992	59		162	2.76
Norway 1995	56		157	2.82
Denmark 1992	54		155	2.84
Austria 1987	56		162	2.89
Luxembourg 1994	59		173	2.92
Netherlands 1994	56		171	3.08
Germany 1994	54		174	3.18
France 1994	54		179	3.32
Taiwan 1995	56		188	3.36
Canada 1994	47		184	3.90
Spain 1990	50		197	3.96
Israel 1992	50		205	4.12
Japan 1992	46		192	4.17
Ireland 1987	50		209	4.20
Switzerland 1992	45		192	4.22
Australia 1994	45		195	4.33
United Kingdom 1995	46		209	4.52
Italy 1995	43		201	4.68
United States 1997	38		214	5.64
		0 50 100 150 200 250		
Average[1]	52		183	3.63

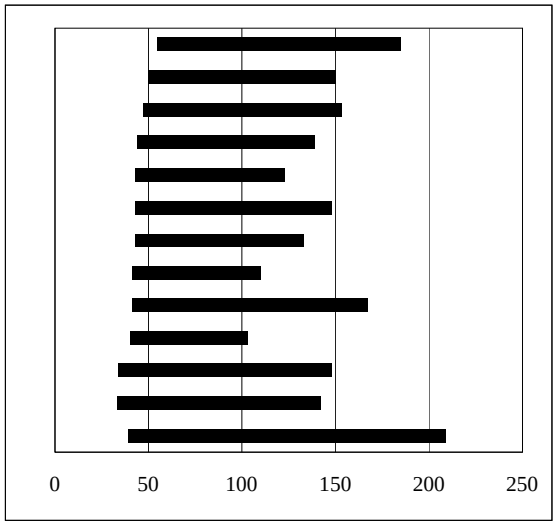
Source: Author's calculations from Luxembourg Income Study and Japan taken from Ishikawa (1996).

[1]Simple average.

Figure 2. Social Distance and Real Standards of Living

(numbers given are percent of overall US 1997 Median Equivalent Income in PPP terms)

	P10 (Low Income)	Length of bars represents the gap between high and low income individuals	P90 (High Income)	P90/P10 (Decile Ratio)	Real Income Gap [3]
Switzerland 1992	55		185	3.36	$36,406
Norway 1995	50		143	2.86	26,044
Belgium 1996	47		153	3.26	29,685
Germany 1994	44		139	3.16	26,604
Denmark 1995	43		123	2.86	22,404
France 1994	43		148	3.44	29,405
Netherlands 1994	43		133	3.09	25,204
Finland 1995	41		110	2.68	19,323
Canada 1994	41		167	4.07	35,286
Sweden 1995	40		103	2.58	17,643
Australia 1994	34		148	4.35	31,925
United Kingdom 1995	33		142	4.30	30,525
United States 1997 [1]	39		209	5.36	47,608
		0 50 100 150 200 250			
Average[2]	43		146	3.49	$29,081



Notes: [1] US estimate differs from that shown in Figure 1 due to a different equivalence scale, see text. The United States median income per equivalent person in 1997 was $28,005.

[2] Simple average.

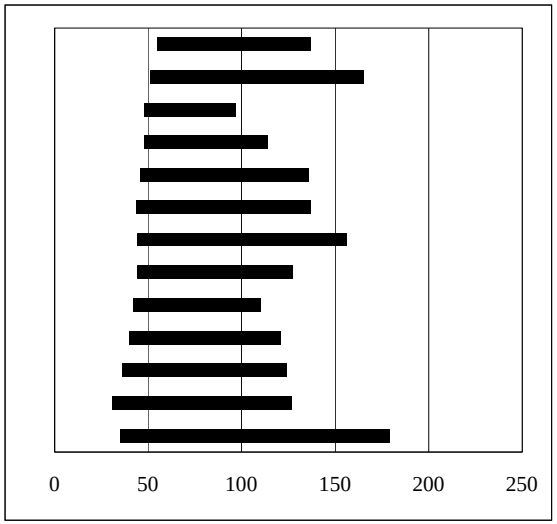
[3] Figures given are expressed in 1997 U.S. PPP adjusted dollars per equivalent person, weighted by the number of persons per household.

Source: Authors' calculations from Luxembourg Income Study.

Figure 3. Equal Opportunity and Fair Chance: Real Standards of Living for Children

(Numbers given are percent of overall US 1997 Median Equivalent Income in PPP terms)

	P10 (Fair Chance or Low Income)	Length of bars represents the gap between high and low income individuals	P90 (High Income)	Equal Opportunity P90/P10 (Decile Ratio)	Equal Opportunity Real Income Gap [3]
Norway 1995	55		126	2.29	19,884
Switzerland 1992	51		165	3.24	31,926
Sweden 1995	48		97	2.02	13,722
Denmark 1995	48		114	2.38	18,483
Finland 1995	46		136	2.96	25,205
France 1994	44		137	3.11	26,045
Canada 1994	44		156	3.55	31,366
Belgium 1996	44		127	2.89	23,244
Netherlands 1994	42		110	2.62	19,043
Germany 1994	40		121	3.03	22,684
Australia 1994	36		124	3.44	24,644
United Kingdom 1995	31		127	4.10	26,885
United States 1997 [1]	35		179	5.11	40,327
Average[2]	43		132	3.13	$24,881



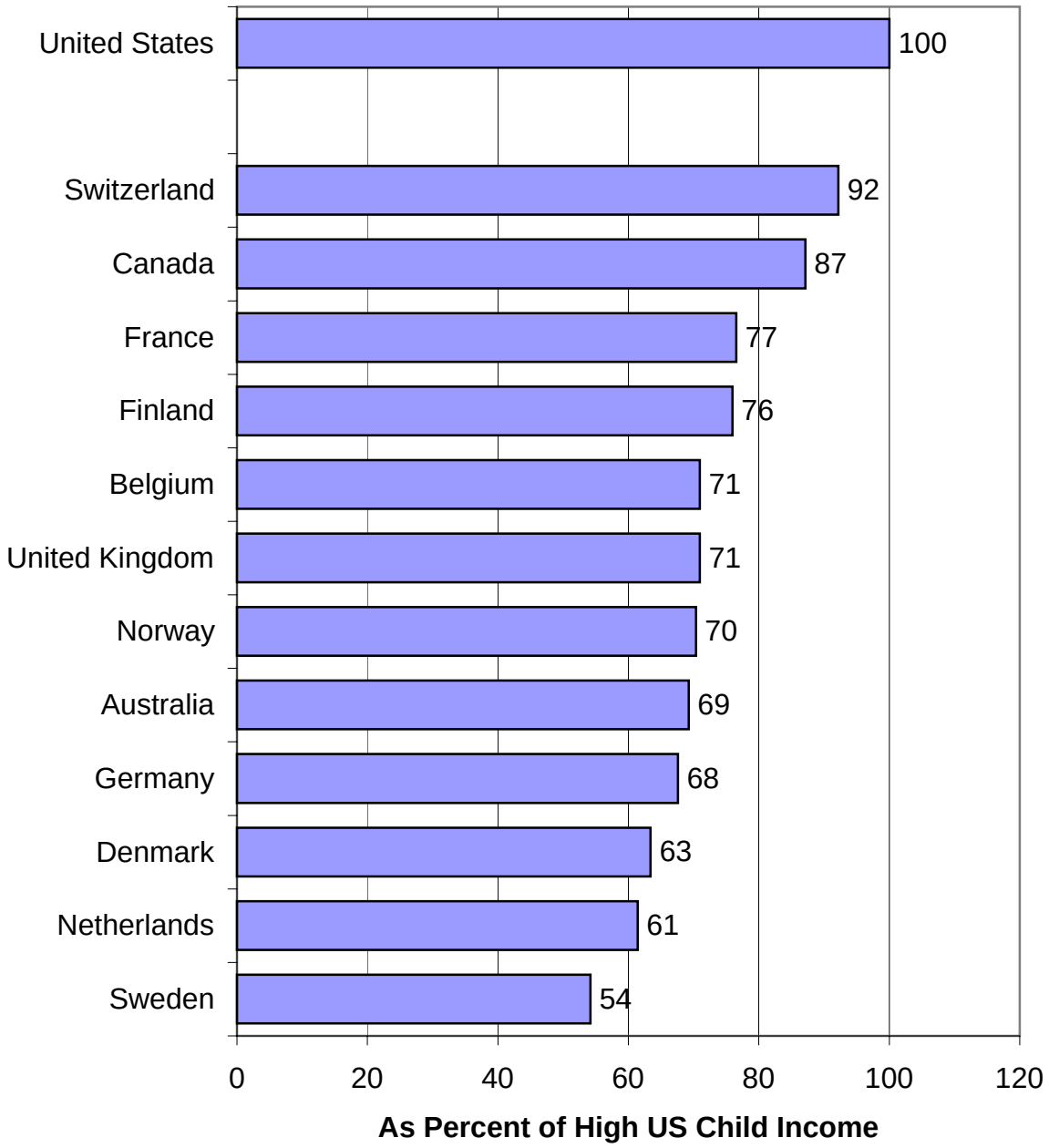
Notes: [1] Figures given are 1997 USA PPP adjusted dollars per equivalent person, weighted for the number of children in each unit size.

[2]Simple average.

[3] Figures differ from Figure 2 because we weight by children, not all persons, and because we include only families with children in this table. The overall U.S. median income per equivalent person was $28,005 in 1997; the median per equivalent was $24,620 or 87.9 percent of the overall median.

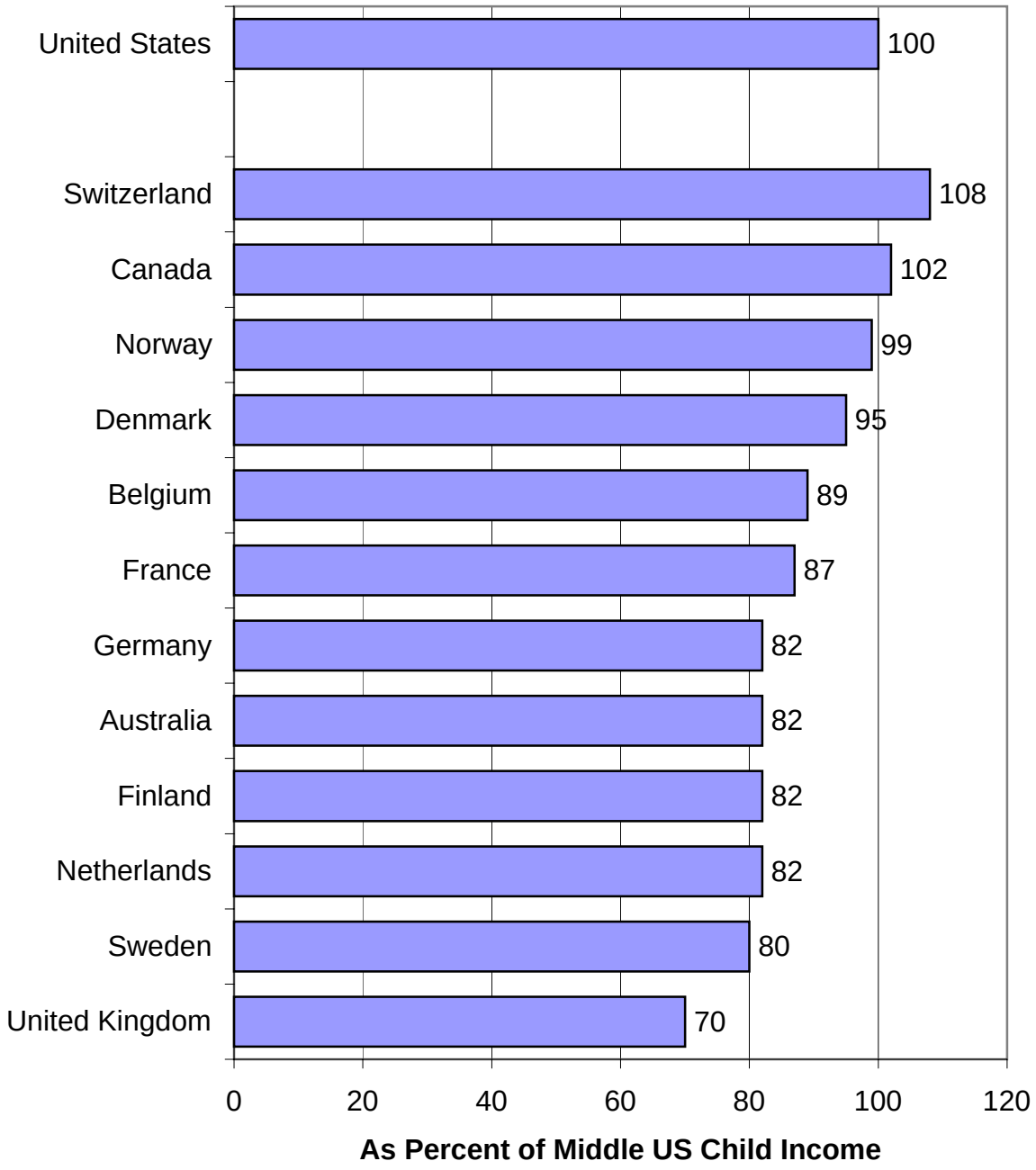
Source: Author's calculations from Luxembourg Income Study.

Figure 4. Supra Chance: Real Incomes of the High Income Child



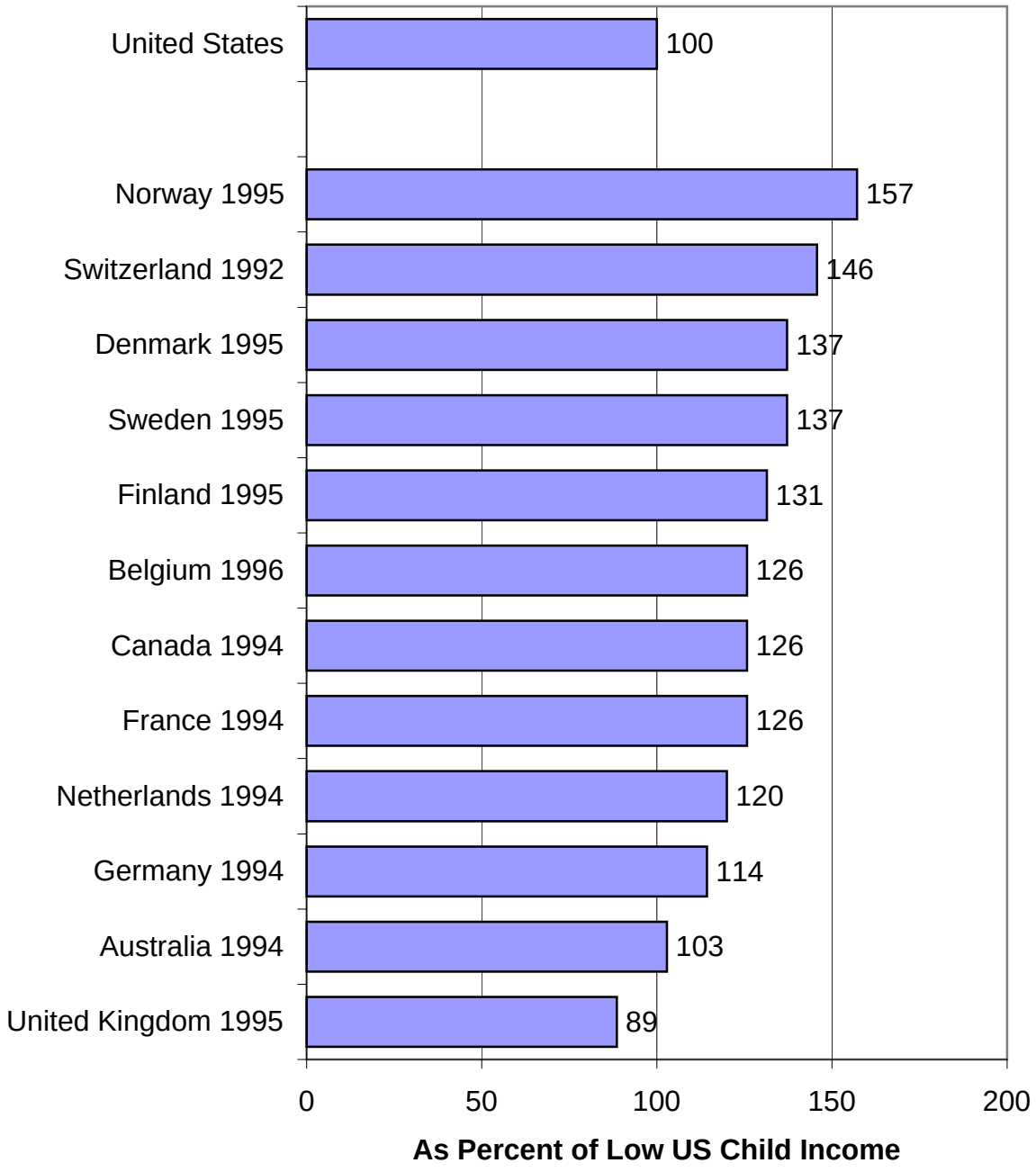
* Child in a household at the 50th percentile (median) of the U.S. equivalent income distribution for households with children, all other currencies converted to 1997 US dollars using Purchasing Power Parities.
Source: Figure 3, P90 column.

Figure 5. Average Chance: Real Incomes of the Average Child



* Child in a household at the 50th percentile (median) of the U.S. equivalent income distribution for households with children, all other currencies converted to 1997 US dollars using Purchasing Power Parities.
Source: Table 2, 4th column.

Figure 6. Fair Chance: Real Incomes of the Low Income Child



* Child in a household at the 50th percentile (median) of the U.S. equivalent income distribution for households with children, all other currencies converted to 1997 US dollars using Purchasing Power Parities.
Source: Figure 3, P10 column.

Table A-1

Countries	1995 GDP/Capita		1999 GDP/Capita	
	Amount	**Index**	**Amount**	**Index**
United Kingdom	$18,743	67	$22,861	68
Finland	18,861	68	22,723	67
Sweden	19,949	72	23,017	68
France	20,198	72	22,067	65
Netherlands	21,222	76	25,923	77
Germany	21,357	77	23,819	70
Australia	21,459	77	25,590	76
Belgium	21,840	78	24,845	73
Canada	22,951	82	26,424	78
Denmark	22,965	82	27,073	80
Norway	23,316	84	28,133	83
Switzerland	25,672	92	28,672	85
United States	27,895	100	33,836	100
Average	**$22,033**	**79**	**$25,768**	**76**