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Welfare States, Real Incomes, and Poverty

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Welfare States, Real Incomes, and Poverty

Welfare state supporters typically contend that social-welfare programs boost the incomes of low-earning households. Critics argue that, over time, such programs reduce the growth of economic output and/or employment. As a result, redistribution may produce stagnant or even declining real incomes for those at the bottom. A number of recent cross-country empirical studies have found that welfare state generosity is strongly associated with low relative poverty, but there has been virtually no cross-national analysis of welfare state effects on absolute poverty, which is at the heart of the critics' argument. I use Luxembourg Income Study (LIS) data to examine the relationship between welfare state generosity and absolute poverty for working-age households in Sweden, Germany, the United Kingdom, Canada, and the United States from the mid-1970s to 2000. Consistent with the critics' charge, the countries with the most generous welfare states experienced rising pretax-pretransfer absolute poverty. Yet the actual causal significance of welfare state generosity in this development is questionable. On the whole, the comparative evidence seems more consistent with the view of welfare state supporters. Germany, with its relatively generous social-welfare programs, had the lowest levels of both pretax-pretransfer and posttax-posttransfer absolute poverty throughout the period. And the sharpest decline in posttax-posttransfer absolute poverty, as well as the second lowest level as of 2000, were found in Sweden, the country with by far the most generous welfare state.

In the view of most welfare state supporters, social-welfare programs help to raise the incomes of households with low earnings (Goodin et al. 1999). By contrast, many welfare state critics (Friedman and Friedman 1979; Lindbeck 1995; Murray 1984; Tullock 1997) and even some supporters (Arrow 1979; Okun 1975) contend that, over time, generous social-welfare programs reduce the growth of economic output and/or employment. As a result, redistribution may produce stagnant or even declining real incomes for those at the bottom.

The incomes of those at the bottom of the distribution are typically studied by analyzing poverty. Most analysts of cross-country differences in poverty prefer a *relative* poverty measure, which sets the poverty line for each country at a certain percentage (usually 50%) of the median income within that country. The poverty line thus differs across countries. However, to assess the possibility that redistribution is bad for real income growth, it is necessary to use an *absolute* measure of poverty. An absolute measure uses the same poverty line (in converted currency units) across all nations. Consider two hypothetical countries. Suppose that both the median level and the distribution of pretax-pretransfer income are identical in the two nations. Country

A's social-welfare programs redistribute more money from rich to poor, so after taxes and transfers only 10% of its citizens have incomes below half the median whereas 20% of country B's do. This would suggest that the welfare state helps to reduce poverty. But suppose that over the next several decades, country A's generous welfare state has the additional effect of reducing the growth of its GDP and/or employment compared to country B. Given its more extensive redistribution, country A might continue, at this later point in time, to have a lower rate of *relative* poverty than country B — that is, a smaller share of its citizens with posttax-posttransfer incomes below half of *its* median. Yet because of the differences in GDP growth or employment growth, the rate of *absolute* poverty — calculated using the same poverty line for both countries, rather than country-specific poverty lines — might be higher in country A.

A variety of recent studies have found that, across the most affluent OECD nations, welfare state generosity is associated with low relative poverty (Brady 2001; DeFina and Thanawala 2002; Goodin et al. 1999; Hicks and Kenworthy 2003; Kenworthy 1999; Kim 2000; Moller et al. 2003; OECD 2001b; Smeeding 1998; Smeeding, Rainwater, and Burtless 2001). Figure 1 illustrates this relationship for 14 countries as of the mid-1990s.¹ It is no surprise that welfare state generosity tends to reduce relative poverty. Since relative poverty is measured as the share with incomes below a certain percentage of the median within each country, it is essentially a measure of inequality. It differs from standard inequality measures, such as the Gini coefficient or the 90/10 percentile ratio, in that it takes into account only the bottom portion of the income distribution. But it shares with other inequality measures the fact that it is based strictly on the distribution of income rather than on income levels. Indeed, for the 14 countries shown in Figure 1, the correlation between the relative poverty rate and the Gini coefficient as of the mid-1990s is .93.

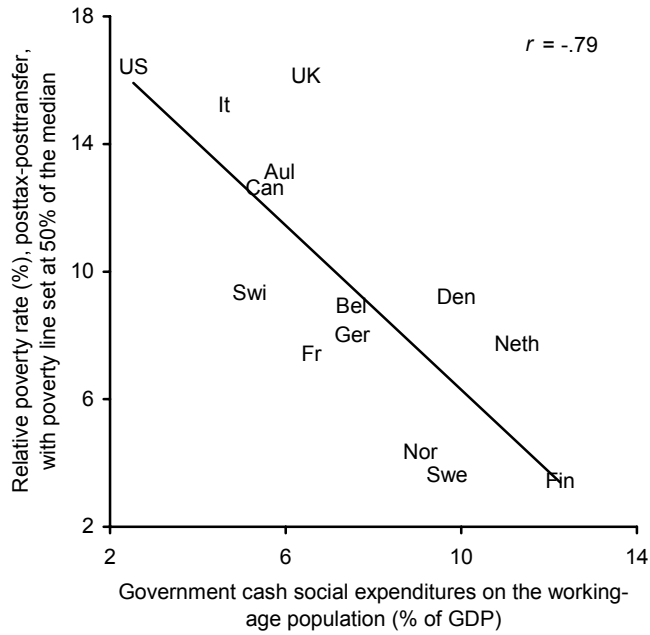
There are sound reasons for using a relative measure of poverty in comparative analyses of affluent countries. As Goodin et al. (1999, p. 28) note: "People feel themselves to be poor, and think others to be poor, in ways that matter both sociologically and ultimately morally, if they have substantially less than what is commonplace among others in their society" (see also Brady 2003; Iceland 2003). Yet the assertion that the poor may be harmed in an absolute sense if the welfare state worsens macroeconomic performance should not be lightly dismissed.² If it is correct, egalitarians

¹ The strong inverse association could conceivably be due to the fact that countries with generous welfare states also tend to have lower pretax-pretransfer relative poverty, but these studies find that the association between welfare state generosity and low posttax-posttransfer relative poverty is even stronger with pretax-pretransfer poverty controlled for.

² A related but separate assertion by welfare state critics focuses on static rather than dynamic effects. It holds that government benefits encourage some (or many) people to not work (or work less than they otherwise would) and thereby increase the poverty rate immediately, not just over time. I do not address this assertion here because it is less compelling on both theoretical and empirical grounds. In most countries, very few people in the situation of choosing between welfare and work would escape poverty immediately if they chose work. And contemporaneous measures

face a troubling dilemma: redistribution may help to reduce inequality and relative poverty but also contribute to lower real incomes for those at the bottom. Hence there is a compelling rationale for examining the welfare state's impact on absolute poverty.

Figure 1. Relative Poverty by Welfare State Generosity, Mid-1990s



Note: Poverty data refer to working-age households.

To date there has been very little cross-national research on the relationship between welfare state generosity and absolute poverty. In an earlier study (Kenworthy 1999) I found welfare state generosity from 1960 to 1990 to be associated with lower absolute poverty as of the early 1990s across 15 countries, but the cross-sectional framework of that analysis may have missed informative longitudinal developments. A number of studies have examined over-time patterns in the United States, yielding mixed conclusions (e.g., Bane and Ellwood 1994; Blank 1997, 2000; Danziger and Weinberg 1994; Freeman 2001; Murray 1984; Sawhill 1988). Hanratty and Blank (1992) found that absolute poverty decreased in Canada in the 1980s while it remained constant in the United States, and they attribute this to Canada's more gener-

of social-welfare program generosity and absolute poverty are negatively, rather than positively, correlated (Smeeding and Rainwater 2002).

ous social-welfare programs. Unfortunately, temporal variation in a variety of potentially important factors — particularly demographics and the state of the economy — makes it difficult for a one- or two-country analysis to isolate the effect of the welfare state on poverty. Also, the generalizability of the U.S. and Canadian cases is questionable. My aim in this article is to shed some light on the welfare state's overtime effects on absolute poverty using data from the Luxembourg Income Study (LIS).

What should we expect to find? The critics' argument is centered around a presumption that generous welfare states impede growth of economic output (and therefore incomes) and/or employment. An adverse effect on economic growth is expected to occur via reduction of investment and/or work incentives. Since those with high incomes account for a disproportionate share of savings and investment, redistributing money to those with lower incomes may reduce investment. It may also reduce work incentives: those with high earnings lose a larger share to taxes and may therefore choose to work less, while those with low earnings may find it more attractive to live off government benefits instead of working. In addition, the high tax rates necessary to finance a generous welfare state may interfere with the market allocation of resources, thereby causing some loss of efficiency.

On the other hand, by transferring money to those who tend to spend a larger portion of their incomes, redistribution may bolster consumer demand. It also may increase the ability of those with low earnings to invest in skill development — particularly a college education. In these ways redistribution may have a positive impact on growth that partially or fully offsets any negative impact due to reduced investment, diminished work effort, or resource misallocation.

There is an extensive empirical literature on the effects of social-welfare programs on economic growth in affluent countries, but it has yielded nothing close to a consensus. In his survey of this research, Atkinson (1994, p. 196) concludes that "While popular argument often refers in a casual way to the experience of Sweden or other countries with sizeable levels of spending, the results of econometric studies are mixed, and provide no overwhelming evidence that high spending on social transfers leads to lower growth rates." Esping-Andersen (1994), Gough (1996), and Lindert (2003) come to a similar conclusion in their reviews of this research.

What about employment? Generous benefits and high income tax rates may reduce the supply of labor by lowering its payoff relative to nonwork, and high payroll tax rates may reduce the demand for labor. Recent research on employment developments has tended to yield findings that do suggest adverse effects of certain elements of the welfare state. A variety of cross-country studies have found detrimental effects of tax rates and the level and/or duration of unemployment benefits on unemployment or employment (Adsera and Boix 2000; Blanchard and Wolfers 2000; Kenworthy 2003, 2004; Nickell and Layard 1999; Nickell et al. 2001; OECD 1994, chap. 8). On the other hand, across countries these welfare state-related policies tend to be fairly closely correlated with various labor market policies and institutions,

such as employment regulations, union strength, and the degree of pay inequality. This makes it somewhat difficult to isolate the causal effects of particular elements of these configurations. In addition, there are some elements of welfare state generosity that may have pro-employment effects. In particular, government provision or subsidization of child care may boost employment by facilitating women's labor market participation.

Suppose generous welfare states do tend to have an adverse effect on economic growth or employment growth. This may result in increasing pretax-pretransfer absolute poverty in such countries. But whether absolute poverty increases *after taxes and transfers are taken into account* depends on the structure and size of the tax-transfer system. For instance, social-welfare programs may be structured in such a way as to create significant work disincentives but without being generous enough to lift many people out of poverty. Conversely, such programs may create only minimal work disincentives (e.g., because they are available for only a short period of time) while also transferring enough money to the pretax-pretransfer poor to pull a substantial portion above the poverty line. It is impossible to be sure on theoretical grounds whether posttax-posttransfer absolute poverty in countries with generous welfare states will increase, decrease, or remain constant relative to countries with less generous social-welfare programs. The issue can only be settled empirically.

Data and Measures

Definitions and data sources for all variables are listed in Appendix A. The Luxembourg Income Study (LIS) is the most reliable source for comparable cross-country data on household earnings and incomes in affluent countries (Atkinson and Brandolini 2001). In the LIS database the first available year for many affluent nations is in the early- or mid-1980s and the most recent is in the mid-1990s. This is problematic for an assessment of long-run trends in incomes and poverty. There are, however, five countries for which LIS data are available from the mid-1970s through the year 2000: Sweden, Germany, the United Kingdom, Canada, and the United States (the most recent year is 1998 for Canada and 1999 for the U.K.). I examine developments in these nations during this 25-year period. Although the LIS country surveys are not from exactly the same year within each wave, the years are close enough to make comparison reasonable. An obvious potential complication is German unification, which occurred in the middle of the period being analyzed. It turns out, however, that the level of absolute poverty in unified Germany as a whole has tended to be very similar to that for the former West German regions (see Appendix B).

For my purposes these five countries happen to be useful ones. They include a representative of each of the three types of welfare regime highlighted by Esping-Andersen (1990, 1999): Sweden the social-democratic, Germany the conservative, Canada and the U.S. the liberal. The U.K. is classified by Esping-Andersen as a hy-

brid social-democratic and liberal welfare state. As Table 1 shows, the five countries differ on a variety of measures of welfare state size and generosity. The variation on these measures between the high-end and low-end nations, Sweden and the United States, is fairly pronounced. For instance, Sweden is about three times as high as the U.S. on Esping-Andersen's (1990) index of decommmodification and nearly twice as high in its level of government transfers and its tax rate on a typical worker.

Table 1. Indicators of Welfare State Size and Generosity

	Sweden	Germany	United Kingdom	Canada	United States
Overall					
Esping-Andersen decommmodification ^a					
1980	39	28	23	22	14
Government transfers as % of GDP ^b					
1965-75	11	13	9	8	7
1990-2000	21	18	14	13	13
Tax rate on a typical worker ^c					
1965-75	57	45	43	40	38
1990-95	78	52	47	50	45
Working-age population					
Government cash expenditures on the working-age population as % of GDP ^d					
1980	7	4	5	5	3
1990-99	9	6	6	6	3
Unemployment benefit replacement rate ^e					
1965-75	42	42	39	49	27
1990-98	90	38	27	57	28
Unemployment benefit eligibility duration ^f					
1965-75	.00	.57	.59	.31	.17
1990-95	.04	.61	.70	.22	.18

^a 1980 is the only year for which these data are available. Source: Esping-Andersen (1990, p. 52).

^b Source: My calculations from data in OECD (various years, table 6.3).

^c Sum of the average income, payroll, and consumption tax rates for a typical worker. 1995 is the most recent year for which data are available. Source: Nickell et al. (2001, p. 32).

^d Sum of cash family benefits and benefits for unemployment, disability, occupational injury and disease, sickness, and "other contingencies" (mainly low income) as a share of GDP. 1980 is the earliest year for which these data are available. Source: My calculations from data in OECD (2001a).

^e Gross replacement rate (share of previous earnings) for a worker with earnings at the 33rd percentile, in the first year after losing the job. Source: OECD (n.d.1).

^f Duration of eligibility for unemployment compensation (index). 1995 is the most recent year for which data are available. Source: Nickell et al. (2001, p. 27).

The first three measures in the table tap the size and generosity of the welfare state as a whole. On each of these measures the five countries can be rank-ordered from high to low as follows: Sweden, Germany, United Kingdom, Canada, United States. However, since work disincentives are a key reason why critics believe the

welfare state is ultimately ineffective at reducing poverty, I focus throughout this article on the working-age population. I include only households with "heads" age 25 to 59, which excludes those most likely to be students or retirees. The three measures in the bottom portion of the table attempt to tap the size and generosity of welfare state programs that primarily or exclusively benefit working-age households. For these Sweden remains at the high end (despite the very limited duration of unemployment benefits) and the United States at the low end, but the rank-ordering for the other three countries is less straightforward. The level of unemployment benefits is highest in Canada, the duration of benefits is longest in the United Kingdom, and the share of GDP going to benefits for the working-age population is the same in all three. Overall, in my estimation the five countries can be grouped into three categories with regard to welfare state size and generosity:

High: Sweden

Intermediate: Germany, United Kingdom, Canada (not necessarily in that order)

Low: United States

It is important to keep in mind that these measures emphasize only one aspect of welfare states: cash benefits. Governments also typically provide a variety of services, such as health care, education, and child care. These services are a central component of the supports welfare states offer to citizens, though their role varies across countries (Huber and Stephens 2001). I focus exclusively on cash benefits because poverty measurement is based on income, rather than on actual consumption of goods and services. This is a reasonable approach to poverty measurement, since income is an important resource for acquiring goods and services and there are no reliable comparative data on household consumption levels. But it is clearly an incomplete approach. In countries where governments provide services that are universal (available to all), low cost, and reasonably high quality, income-based poverty measures will understate the well-being of those with low incomes to a nontrivial degree. I return to this issue below.

Since my principal interest here is the effects of redistribution on incomes at the low end of the distribution, I examine trends in real income levels directly, rather than focusing solely on poverty. Incomes for households at various percentiles of the distribution can be calculated for each country using the LIS database. For purposes of cross-country comparison, these incomes must then be converted into a common currency. I do so using purchasing power parities (PPPs) from the OECD. Unlike exchange rates, PPPs are based on the cost of living for a typical household in each country. They therefore provide a better (albeit imperfect, as I discuss below) gauge of real living standards across countries. After using the PPPs to convert incomes into U.S. dollars, I adjust for inflation using the U.S. consumer price index (CPI-UR). I adjust these income figures for household size using a conventional equivalence scale: household income is divided by the square root of the number of persons

in the household (Atkinson, Rainwater, and Smeeding 1995; Canberra Group 2001). All income levels are thus expressed in year-2000 U.S. dollars per equivalent person.

Given that real incomes can be examined directly, the chief advantage of calculating a poverty rate is data reduction. A measure of the level of absolute poverty allows us to express information about real income levels at the bottom of the distribution with a single number. Following convention, I calculate the poverty rate for each nation as the percentage of persons living in households with incomes below the poverty line. I compute two poverty rates for each country in each year: one for pre-tax-pretransfer household income and the other for posttax-posttransfer household income. I set the poverty line at \$12,763, which is 50% of the 2000 median posttax-posttransfer household income per equivalent person in the United States.³ For a single-person household, the poverty line is thus \$12,763. For a household of two, it is \$18,050 (\$12,763 multiplied by the square root of 2). For a household of four it is \$25,526 (\$12,763 multiplied by the square root of 4).

The choice of \$12,763 per equivalent person is an arbitrary one, of course. But any other number would be equally arbitrary. The question is whether it is a substantively sensible choice. There is no easy answer to this question, as analysts differ greatly in their assessment of how much income is sufficient to ensure a minimally adequate standard of living in an affluent country these days (e.g., Bernstein, Brocht, and Spade-Aguilar 2000; Citro and Michael 1995, p. 6; Schwarz and Volgy 1992, p. 44). Most researchers who use a relative measure of poverty set the poverty line at 50% of the median within each country. A poverty line set at 50% of the median in the U.S., which is the richest country, might therefore seem too high. On the other hand, a recent study of the cost of living in metropolitan and rural areas throughout the United States finds that the amount of money required to meet a "basic family budget" is two to three times the official U.S. poverty line (Boushey et al. 2001, p. 11). This comes to more than \$35,000 for a family of four. And the median response of Americans to a 1996 Gallup Poll asking "How much income do you feel your family would need just to get by?" was \$30,000 (cited in Schiller 2001, p. 18). These levels are substantially higher than the poverty line I use here, which amounts to just over \$25,000 (in 2000 dollars) for a family of four.⁴

The poverty rate, or "headcount," is by far the most commonly used measure of poverty. But it is incomplete and thus potentially misleading. Also relevant is the depth of poverty, commonly measured using the poverty gap (Blank 1997; Sen 1976).⁵ The poverty gap is calculated by subtracting the average income among the

³ This poverty line is absolute not only across countries but also over time, which strikes me as sensible given that the period covered is only 25 years. Over a very long period, it seems more appropriate to adjust the poverty line for changes in living standards. For instance, few would argue that we should use the same poverty line for the year 2000 as for 1900.

⁴ The poverty line used by the U.S. government was \$17,500 for a family of four in 2000.

⁵ DeFina and Thanawala (2002, p. 24) find that measured reduction in relative poverty achieved by government taxes and transfers tends to be greater when the poverty measure incorporates the

poor from the poverty line and then dividing this difference by the poverty line.

The measure of poverty I use here, which I refer to as the "poverty level," is calculated as *the poverty rate multiplied by the poverty gap*. If 15% of the working-age population lives in households with incomes below the poverty line, the poverty rate is 15.0. If the average income among the poor is two-thirds of the poverty line, the poverty gap is .333. The rate x gap measure of poverty would therefore be $15.0 \times .333 = 5.0$. The figures for the poverty rates and poverty gaps themselves are shown, for selected years, in the appendix.

Changes in Pretax-Pretransfer Incomes and Poverty

Figure 2 shows trends from the mid-1970s through 2000 for real pretax-pretransfer incomes (per equivalent person) at the 10th, 15th, and 20th percentiles of the distribution. The United States had the best performance among the five countries, in that incomes at each of the percentiles were higher at the end of the 25-year period than at the beginning. That improvement was due entirely to the late 1990s. Between the mid-1970s and the mid-1990s real income levels declined.

Canada and Germany were the next best performers. In both countries incomes increased somewhat at the 20th percentile, were stagnant at the 15th, and declined at the 10th. The drop at the bottom was somewhat more severe in Germany than in Canada.

In Sweden, incomes at each of the three percentiles held roughly constant from the mid-1970s through the end of the 1980s, but then fell sharply during the economic crisis of the first half of the 1990s. By 2000 income levels at the 15th and 20th percentiles had nearly or fully returned to their pre-crisis levels, but at the 10th percentile they remained significantly lower.

Finally, in the United Kingdom incomes in 1999 were lower than in the mid-1970s for all three. During the recessions of the early 1980s and early 1990s real incomes dropped dramatically at the 10th and 15th percentiles.

Figure 3 shows trends in pretax-pretransfer absolute poverty, measured as described above. The figures for market poverty correlate strongly with those for real incomes at the 10th, 15th, and 20th percentiles of the distribution: $r = -.95$, $-.98$, and $-.94$, respectively. In other words, examining real income levels at these spots in the income distribution provides essentially the same information as a measure of absolute poverty.⁶

poverty gap than when it is based solely on the headcount. An additional aspect of the depth of poverty is the degree of inequality among the poor. However, several studies have found that, for affluent countries, including the degree of inequality among the poor makes little difference and thus adds unneeded complexity (see Brady 2003).

⁶ For the 5th and 25th percentiles the correlations are not quite as strong: $r = -.65$ and $-.82$, respectively.

Figure 2. Real Pretax-Pretransfer Incomes at the 10th, 15th, and 20th Percentiles, Mid-1970s to 2000

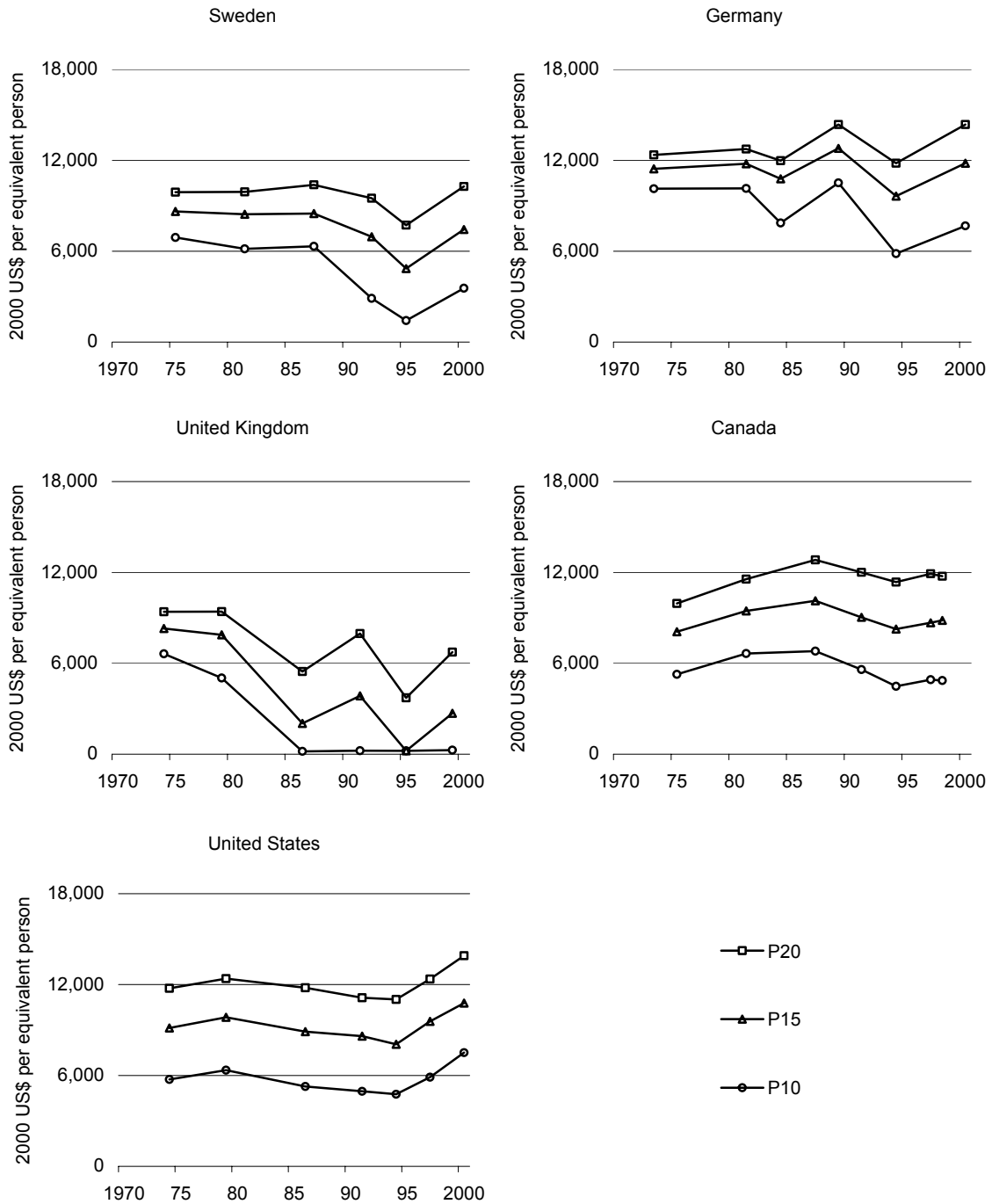
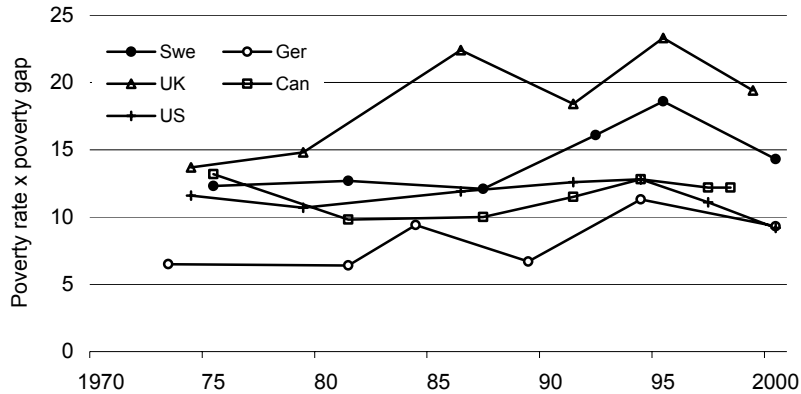


Figure 3. Pretax-Pretransfer Absolute Poverty, Mid-1970s to 2000



The United Kingdom, Sweden, and to a lesser extent Germany experienced rising market poverty, whereas the poverty level in Canada and the United States decreased slightly over the 25-year period. According to the measures in Table 1, the Swedish, German, and British welfare states were as generous as Canada's and clearly more generous than that of the U.S during these years. So did welfare state generosity contribute to increases in pretax-pretransfer absolute poverty?

We can begin by investigating the purported causal paths. The mechanism through which welfare state generosity is most commonly asserted to increase absolute poverty is reduced economic growth. Trends in GDP per capita are shown in Figure 4a. The trend was fairly similar for each of the five countries, though growth was a bit more rapid in the United States than elsewhere. There is little indication that the countries with more generous welfare states had notably slower economic growth. The scatterplot in the lower part of 4a suggests no association between patterns of growth and trends in market poverty.

A second possibility is that generous welfare states raised absolute poverty by reducing employment. Figure 4b shows trends in employment rates. Here the U.S. performed particularly well, starting at the second-lowest level among the five countries and finishing at the highest. Canada also had fairly strong employment performance. Sweden, Germany, and the U.K. each experienced stagnation or slight declines in employment. Sweden's trend was the most volatile. It had by far the highest employment rate from the mid-1970s until 1990, but then suffered a severe economic crisis. Between 1990 and 1995 the Swedish employment rate dropped from 81% to 72%. In the late 1990s it began to increase again, and by 2000 it had returned to its 1970 level — the second-highest among the five countries and only slightly lower than the U.S. rate.

Figure 4. Potential Macroeconomic Determinants of Change in Pretax-Pretransfer Absolute Poverty, Mid-1970s to 2000

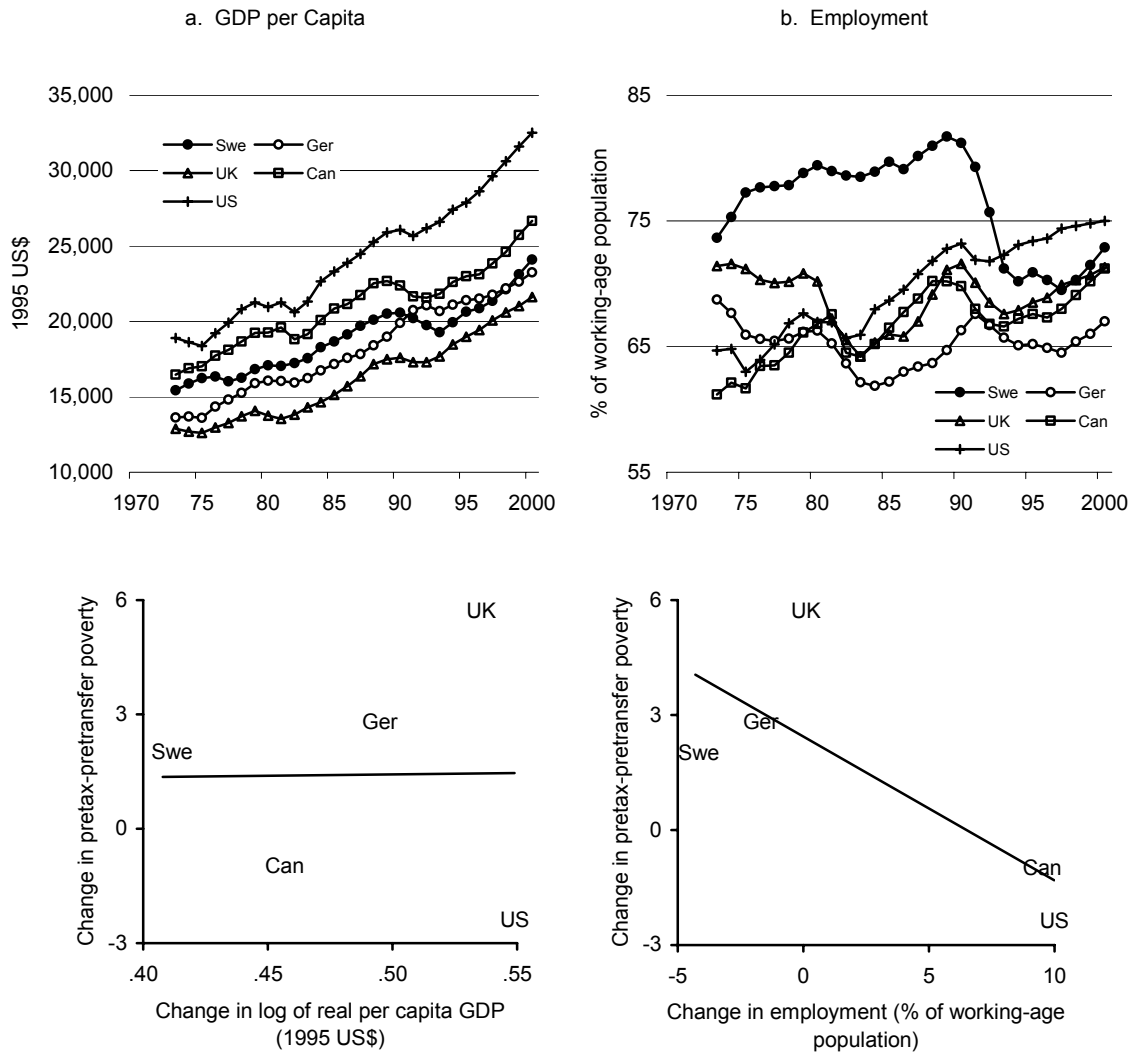
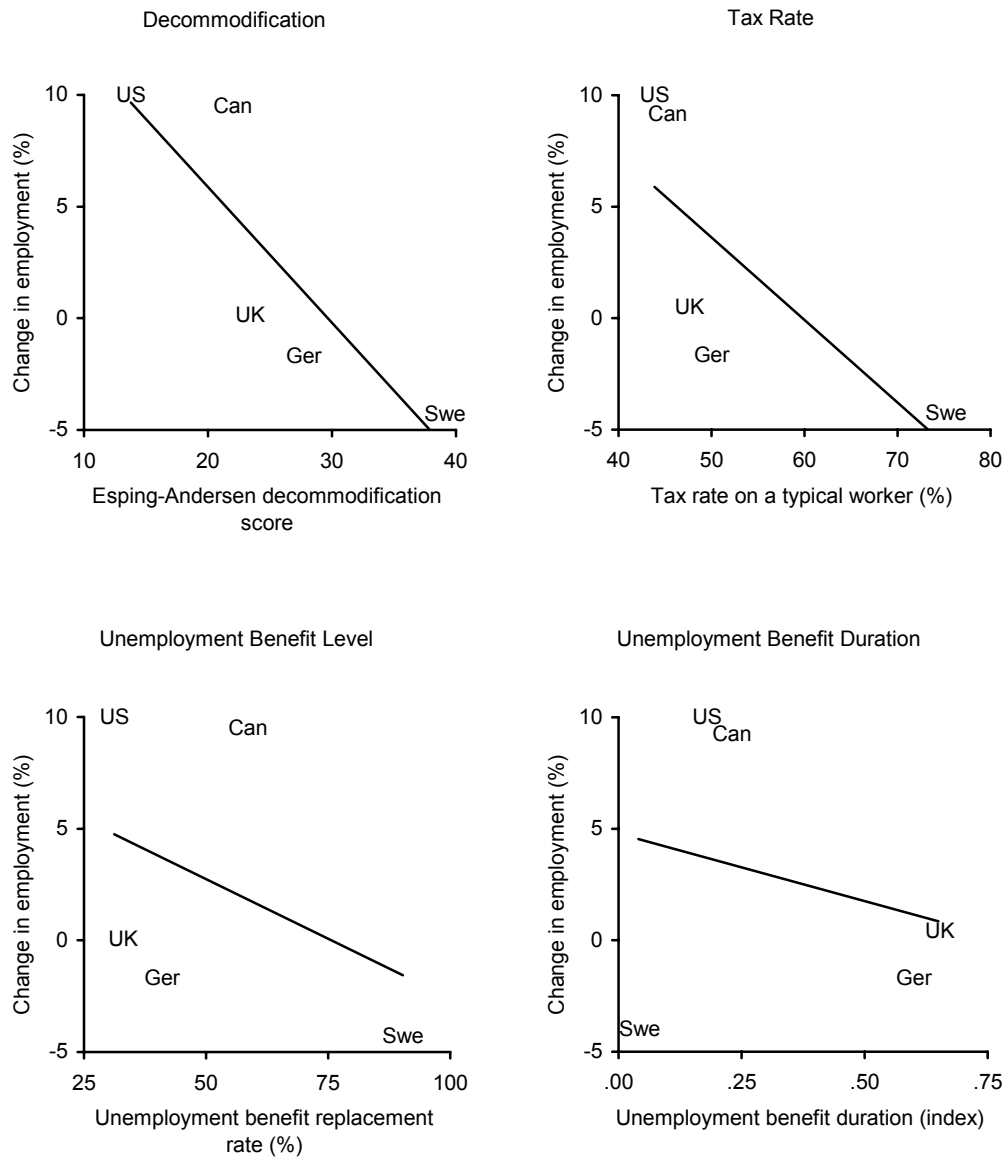


Figure 5. Potential Welfare State Determinants of Change in Employment, Mid-1970s to Mid-1990s



Note: Employment change (vertical axes) is change in employment as a share of the working-age population: 2000 value minus mid-1970s value. Welfare state measures (horizontal axes) are averages of levels from the mid-1970s to 2000 (or the most recent year for which data are available).

The scatterplot in Figure 4b shows that the three countries in which employment did not increase, the U.K., Sweden, and Germany, suffered increases in pretax-pretransfer absolute poverty, whereas the two countries with employment increases, the U.S. and Canada, experienced decreases in pretax-pretransfer absolute poverty. Of course, employment is not always a cure for poverty. Much research in the past two decades has emphasized the large number of working poor in the United States — people with paying jobs but whose earnings are below the poverty line (e.g., Schwarz and Volgy 1992). However, in comparative terms employment seems to have been important in influencing trends in pretax-pretransfer absolute poverty.

As noted earlier, recent cross-country studies have found apparent adverse effects of high tax rates, unemployment benefit replacement rates, and unemployment benefit duration on employment performance. Figure 5 shows, for the five countries examined here, the relationship between average levels over the mid-1970s to 2000 for these three welfare-state components and change in the employment rate during this period. It also includes a summary welfare-state indicator: Esping-Andersen's decommodification score, which is a composite measure of the rules governing access to various government benefits, the degree of income replacement provided by those benefits, and the range of entitlements they encompass. All four charts reveal an inverse association, suggesting that welfare state generosity may indeed have hindered job growth. There is reason, then, to suspect that generous welfare states may have increased pretax-pretransfer absolute poverty by contributing to employment declines.

But this conclusion is based on the aggregate cross-country pattern. Does it hold if we examine the individual cases?

Let's begin with Sweden. As the data in Table 1 indicate, Sweden's welfare state was the most generous of the five toward working-age households already by the mid-1970s. Perhaps most indicative, government cash transfers to the working-age population totaled 7% of GDP in Sweden as of 1980s, compared to 5% or less in each of the other four countries. Yet in seeming contradiction to the critics' view, Sweden's economy fared reasonably well through the 1970s and 1980s. Its rate of economic growth was not as rapid as in the other four countries, but the difference was relatively small. And Sweden's employment rate was by far the highest. Pretax-pretransfer absolute poverty remained flat through the late 1980s, and at the end of this period was at a level equal to that of the United States, well below that of the United Kingdom, and not much higher than that of Canada.

In the first half of the 1990s, however, Sweden's level of pretax-pretransfer absolute poverty shot up. This was a product of the economic crisis of the early 1990s, particularly the sharp drop in employment that occurred. Was the economic crisis due to Sweden's generous welfare state, as the welfare state critics' view would suggest? That is certainly the contention of some observers (Lindbeck 1997, p. 1312). In this view, the excessive generosity of the Swedish welfare state was causing economic strain through the 1970s and 1980s. Its adverse impact on macroeconomic

performance was masked by heavy public expenditures, and particularly by increases in government employment. The welfare state's adverse effects were therefore manifested not in a gradual deterioration, but rather in a dramatic crisis.

There is little doubt that by the end of the 1980s some components of the Swedish welfare state were creating adverse work incentives. The prime example is sickness leave, which had been made progressively more generous since the early 1960s. As Jonas Agell (1996, p. 1767) notes: "According to the rules in place by the end of the 1980s, employees were entitled to a 90% compensation level from the first day of reporting sick. Due to supplementary insurance agreements in the labour market, however, many employees had a compensation level of 100%. For the first seven days of sickness leave, a physician's certificate was not required. If individuals ever respond to economic incentives, work absenteeism ought to have been widespread in Sweden. The increase in the average number of sickness days per insured employee from 13 days in 1963 to 25 days in 1988 can hardly be attributed to a deteriorating health status of the population."

Yet other components of Sweden's welfare state seem likely to have increased employment. Most notably, the gradual extension of public provision and subsidization of child care for preschool-age children almost certainly increased labor force participation by mothers.

Many observers attribute the economic crisis of the early 1990s mainly to policy choices (Benner and Vad 2000, pp. 426-28; Furåker 2002; Palme et al. 2002, pp. 162-64; Scharpf 2000, p. 90; Wilensky 2002, p. 111). Of particular importance was the decision to tie Sweden's currency, the kronor, to the ECU in May 1991, which put the Swedish economy at the mercy of the German Bundesbank's hardcore monetarism. By the time the policy was abandoned in November of 1992, Sweden's unemployment rate had shot up from 2.5% to 7%, and it climbed to more than 9% in 1993. Then, in the midst of the recession the Swedish government raised taxes and reduced government expenditures (along with public employment), electing to focus on price stability and a balanced budget rather than on stimulation of the economy.

The health of the Swedish economy has improved considerably since the mid-1990s. As of 2002, unemployment was down to 5%, the employment rate was up to 75%, and real per capita GDP had grown by as much since 1995 as it did during the two decades between 1975 and 1995. Welfare state critics might attribute the recent economic improvement to cutbacks in social-welfare programs. In the early- and mid-1990s the replacement rates for sickness, occupational injury, and unemployment benefits were reduced, eligibility criteria were tightened, and waiting periods were increased (Huber and Stephens 2001, pp. 241-57; Palme et al. 2002; Ploug 1999, pp. 100-02). However, these reforms were relatively minor. For instance, the unemployment benefit replacement rate was reduced only from 90% to 80%, which was still higher than in any other affluent nation. It seems unlikely that such fairly minor cutbacks were the chief impetus for the Swedish economy's buoyancy since the mid-1990s.

It is difficult to reach a firm judgment about the cause(s) of the early 1990s Swedish economic crisis or of the ensuing turnaround. Yet despite the fact that as of 2000 Sweden's welfare state remained by far the most generous among the five countries examined here, its per capita GDP was third highest, its employment rate was second highest, and its level of market poverty, although second highest, was not markedly above that of most of the other countries (Figures 3 and 4).

The United Kingdom had the highest level of pretax-pretransfer absolute poverty as of the mid-1970s, but up to 1979 it was only marginally higher than the levels in several other nations. Then, in the four years from 1979 to 1983, the employment rate in the U.K. dropped from second highest among the five countries to nearly the lowest. Market poverty increased dramatically. Since then the level of market poverty has moved up and down in concert with the employment rate. Welfare state critics might suggest that the steep decline in employment in the early 1980s was the product of an excessively generous welfare state, but it seems clearly to have instead been the result of the Thatcher government's monetarist orientation and privatization efforts (Rhodes 2000).

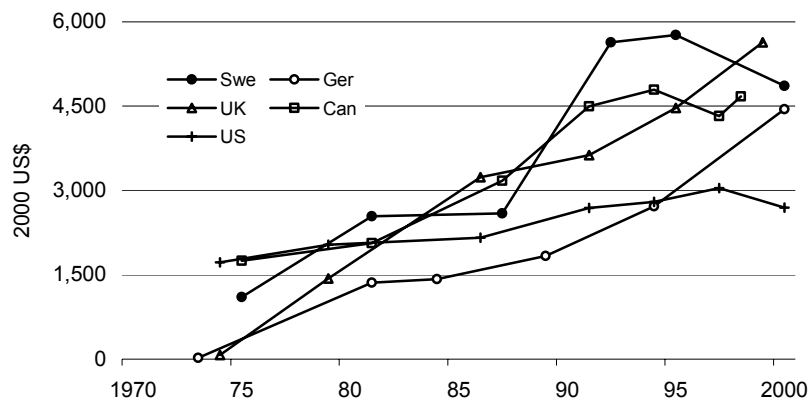
Germany is the third country in which pretax-pretransfer absolute poverty increased. This is likely in part a product of its starting point. As of the mid-1970s the level of market poverty was substantially lower in Germany than in any of the other four countries. As in Sweden and the U.K., however, the rise in market poverty appears to be a direct product of employment declines. In Germany there were two key periods of decline: the early 1980s and the early 1990s. The latter may be attributable partly to reunification with the East in 1990, which put considerable strain on the economy. Yet Germany's employment decline in the early 1990s was not notably more severe than the declines in other countries. Perhaps the most important employment barrier in Germany has been its tax system. German social-welfare programs are funded largely via heavy employer payroll taxes, which increase the cost of hiring. These taxes are certainly related to the level of welfare state generosity, but analysts who have studied this most carefully suggest that it is the *structure* of the German tax system rather than its level that constitutes the chief obstacle to a higher employment rate (Manow and Seils 2000; Scharpf 1997, 2000).

Examining the individual country experiences suggests, then, that there is reason to question the importance of welfare state generosity in causing employment declines and hence rising pretax-pretransfer absolute poverty in Sweden, the U.K., and Germany. It may have played some role, but other factors appear to have had greater causal significance. Furthermore, Canada's welfare state was comparable to those of Germany and the U.K. in generosity toward the working-age population (Table 1), and Canada's record of employment growth and hence market poverty was fairly strong during this period (Figure 4b).

Changes in Posttax-Posttransfer Incomes and Poverty

What ultimately matters to people is not their market income, but rather disposable income. The latter may be heavily affected by government transfers and taxes. Figure 6 shows net government transfers — cash and near-cash transfers received minus taxes paid — to working-age households with market incomes below the poverty line. The figures are averages for each country, in 2000 U.S. dollars per equivalent person. The level of net transfers is a product of two things: (1) the level of intended generosity, as expressed in the eligibility rules, benefit levels, and tax provisions for unemployment compensation, earnings subsidies, social assistance, and other programs; (2) the level of need, as determined by the unemployment rate, the degree of sickness and disability, wage levels in low-end jobs, and so on.

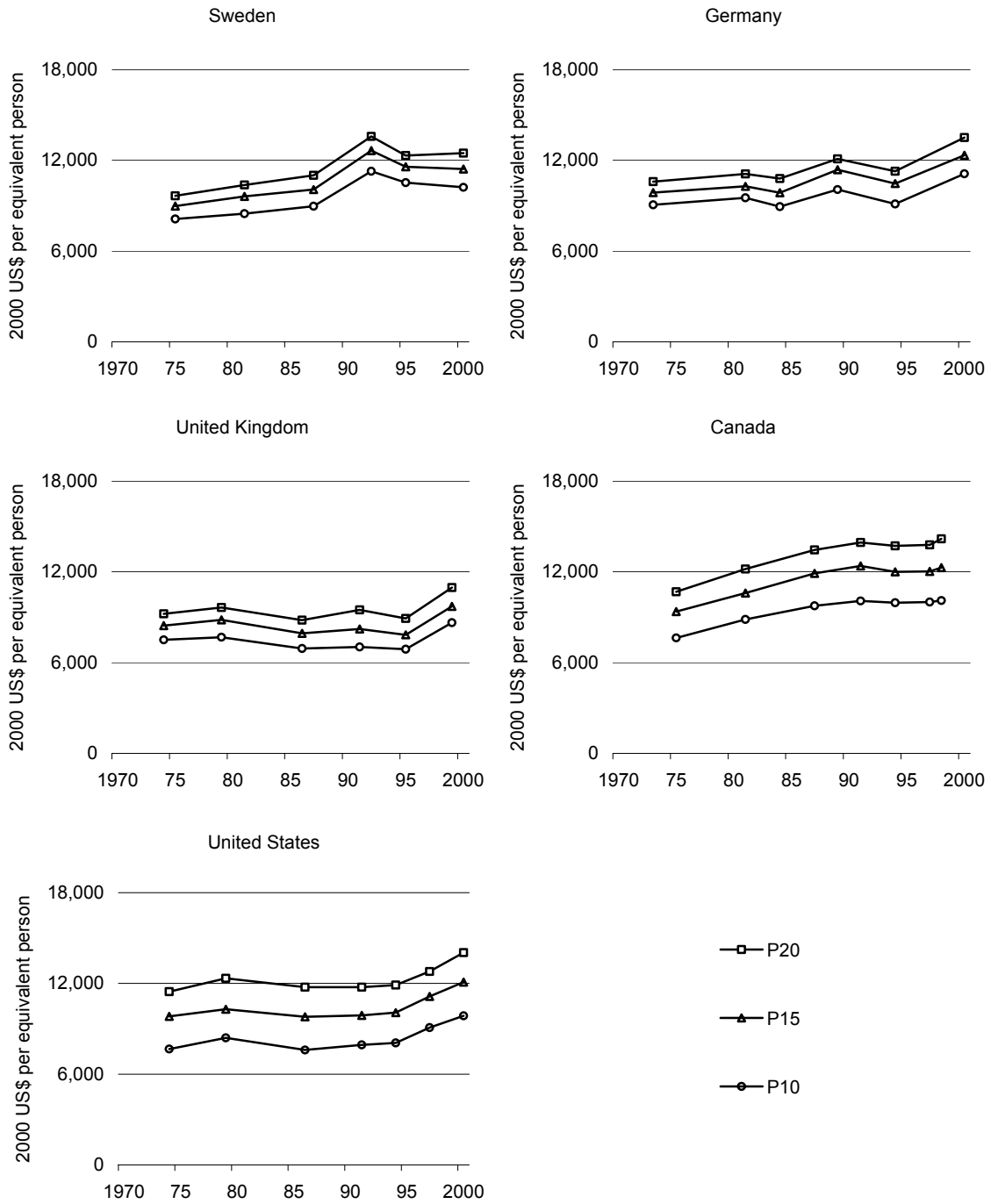
Figure 6. Net Government Transfers to the Poor, Mid-1970s to 2000



Note: Average transfers (cash and near-cash) minus taxes to working-age households with pretax-pretransfer incomes below the poverty line.

Net transfers increased over time in all five countries, but the degree of increase varied. Most notably, the United States had the highest level as of the mid-1970s (with Canada), but net transfers increased only modestly in the U.S. during the ensuing 25 years. By 2000 the level of net transfers was considerably lower in the United States than in the other four countries. This is partly a result of the more rapid increase in employment in the U.S. economy (Figure 4b), which meant that market incomes did not fall as much as in the other four countries (Figure 2). Of equal or greater importance is the comparative stinginess of the American welfare state: social-welfare programs are structured such that they achieve less in the way of net transfers for a given level of need.

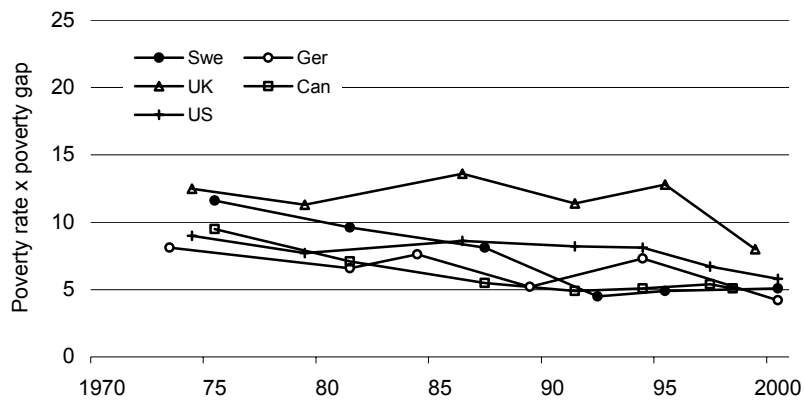
Figure 7. Real Posttax-Posttransfer Incomes at the 10th, 15th, and 20th Percentiles, Mid-1970s to 2000



Also interesting is the divergence during the late 1990s. Net transfers decreased in Sweden, Canada, and the U.S., due to rising employment and rising wages. However, net transfers also increased in the U.K. and Germany during this period, despite the fact that employment rose in these countries too. In the United Kingdom this appears to have been a result of the increase in government transfers initiated by the Labour government beginning in 1997, particularly via the Working Families Tax Credit. In Germany it was largely a product of the large transfers provided to households in the East following unification.

Figure 7 shows trends in real posttax-posttransfer income levels for working-age households at the low end of the distribution, and Figure 8 shows trends in posttax-posttransfer absolute poverty. As with pretax-pretransfer poverty, the poverty line is set at \$12,763 per equivalent person in 2000 U.S. dollars and poverty is measured as the poverty rate multiplied by the poverty gap.⁷ Once again the correlations between real income levels at the 10th, 15th, and 20th percentiles and absolute poverty levels are strong: $r = -.92$, $-.96$, and $-.92$, respectively.

Figure 8. Posttax-Posttransfer Absolute Poverty, Mid-1970s to 2000



As of the mid-1970s, the country rank-ordering for levels of posttax-posttransfer absolute poverty, from low to high, was: Germany, United States, Canada, Sweden,

⁷ Note that posttax-posttransfer poverty is not always substantially lower than pretax-pretransfer poverty. On the surface this is surprising. But these figures include only working-age households. Public pension programs are the largest category of social-welfare expenditures (along with health insurance) in each of these countries, and they are funded on a pay-as-you-go basis — earnings are taxed from the working-age population and transferred directly to the retired. These transfers pull many elderly households out of poverty, but the tax payments reduce the incomes of working-age households. While some low-income working-age households receive government benefits that more than offset the tax payments, not all do.

United Kingdom. During the ensuing 25 years all five countries experienced reductions. In most of the countries posttax-posttransfer poverty levels and low-end real incomes tracked relatively closely with pretax-pretransfer poverty and incomes. That was especially true in the United States, where net government transfers to the poor increased only minimally. In Germany and the United Kingdom the average amount of net transfers increased significantly. As a result, in the early 1980s and early 1990s posttax-posttransfer poverty did not rise nearly as much as market poverty. Similarly, a sizeable increase in net transfers allowed Canada to maintain a relatively low level of posttax-posttransfer poverty in the early 1990s despite a jump in market poverty.

The most striking change occurred in Sweden. As noted above, Sweden suffered a deep employment crisis in the early 1990s. Pretax-pretransfer incomes at the low end of the distribution fell steeply and market poverty increased by approximately half (Figures 2 and 3). Indeed, by the early 1990s Sweden had the second highest level of pretax-pretransfer absolute poverty among these five countries. Yet the average net transfer to poor households more than doubled in inflation-adjusted terms between the late 1980s and the early 1990s, and as a result the posttax-posttransfer poverty level actually decreased and real disposable incomes rose. Sweden's posttax-posttransfer poverty level was the second highest as of the mid-1970s, but by 2000 it had dropped to the second lowest, despite the fact that pretax-pretransfer poverty continued to be the second highest among the group. Sweden's welfare state appears to have been particularly effective at raising the incomes of households with market incomes below the poverty line.

The LIS database makes it possible to explore the impact of social-welfare benefits in greater detail. Table 2 splits those with market incomes below the poverty line into four subgroups. The data are for the year 2000 (1998 for Canada, 1999 for the U.K.). As before, the poverty line is \$12,763 per equivalent person. The first column, for people in households with market incomes from 0 to 25% of the poverty line, represents those in households with incomes from \$0 to \$3,191 per equivalent person; the second column represents those in households with market incomes from \$3,192 to \$6,382 per equivalent person; and so on.

Among all four subgroups, government transfers provided the least income support in the United States. Germany, the U.K., and Canada were fairly similar to one another in transfer levels. Sweden stands out as the most generous. For instance, among the very poorest, those with market incomes below 25% of the poverty line, the average amount of government transfer income was more than \$10,000 in Sweden, compared to \$8,500 or less in each of the other four countries and less than \$5,000 in the U.S. The very poor paid more in taxes in Sweden than in any of the other four countries, but even when this is taken into account the welfare state's net contribution was still most substantial in Sweden. As a result, average posttax-posttransfer incomes for the very poor — those with incomes from 0% to 25% and from 26% to 50% of the poverty line — were higher in Sweden than in the other countries (see also Figure 7).

Table 2. Sources of Income for Four Segments of the Pretax-Pretransfer Poor

	Market income as a percentage of the poverty line			
	0–25%	26–50%	51–75%	76–100%
Sweden 2000				
Share of all persons (%)	10	4	5	8
Income (\$)				
Market income	853	4,824	8,184	11,273
Government transfer income	10,312	8,535	6,355	6,085
Other income	148	393	520	422
Taxes	–2,000	–3,176	–3,620	–4,615
Posttax-posttransfer income	9,313	10,576	11,439	13,165
Germany 2000				
Share of all persons (%)	7	2	3	5
Income (\$)				
Market income	838	4,807	8,017	11,157
Government transfer income	7,349	5,338	4,432	4,011
Other income	973	744	295	549
Taxes	–277	–830	–1,650	–2,355
Posttax-posttransfer income	8,883	10,059	11,094	13,362
United Kingdom 1999				
Share of all persons (%)	16	4	4	5
Income (\$)				
Market income	582	4,769	7,933	11,217
Government transfer income	8,641	5,207	3,988	2,779
Other income	135	630	255	333
Taxes	–208	–838	–1,569	–2,601
Posttax-posttransfer income	9,150	9,768	10,607	11,728
Canada 1998				
Share of all persons (%)	8	4	4	5
Income (\$)				
Market income	786	4,484	8,019	11,154
Government transfer income	6,789	4,960	4,301	3,976
Other income	144	625	614	468
Taxes	–126	–344	–782	–1,372
Posttax-posttransfer income	7,593	9,725	12,152	14,226
United States 2000				
Share of all persons (%)	5	3	4	5
Income (\$)				
Market income	938	4,956	8,042	11,182
Government transfer income	4,898	3,675	2,747	1,914
Other income	485	503	452	372
Taxes	–60	–417	–744	–1,171
Posttax-posttransfer income	6,261	8,717	10,497	12,297

Note: My calculations from LIS data. All income figures are averages, in 2000 US dollars per equivalent person. "Other income" includes child support and alimony, interpersonal transfers, and income from unidentified sources.

As I noted at the outset of this article, it can be misleading to infer trends in posttax-posttransfer absolute poverty from trends in pretax-pretransfer poverty. The aggregate pattern of developments in pretax-pretransfer absolute poverty for these five countries corresponds roughly to what welfare state critics predict: the nations with the most generous welfare states tended to experience rising market poverty and falling real incomes for those at the low end of the distribution. Yet for posttax-posttransfer absolute poverty no such pattern is evident. It declined a bit more in the countries with more generous welfare states than in those with less generous ones. And it fell most of all in Sweden, the country with by far the most generous welfare state.

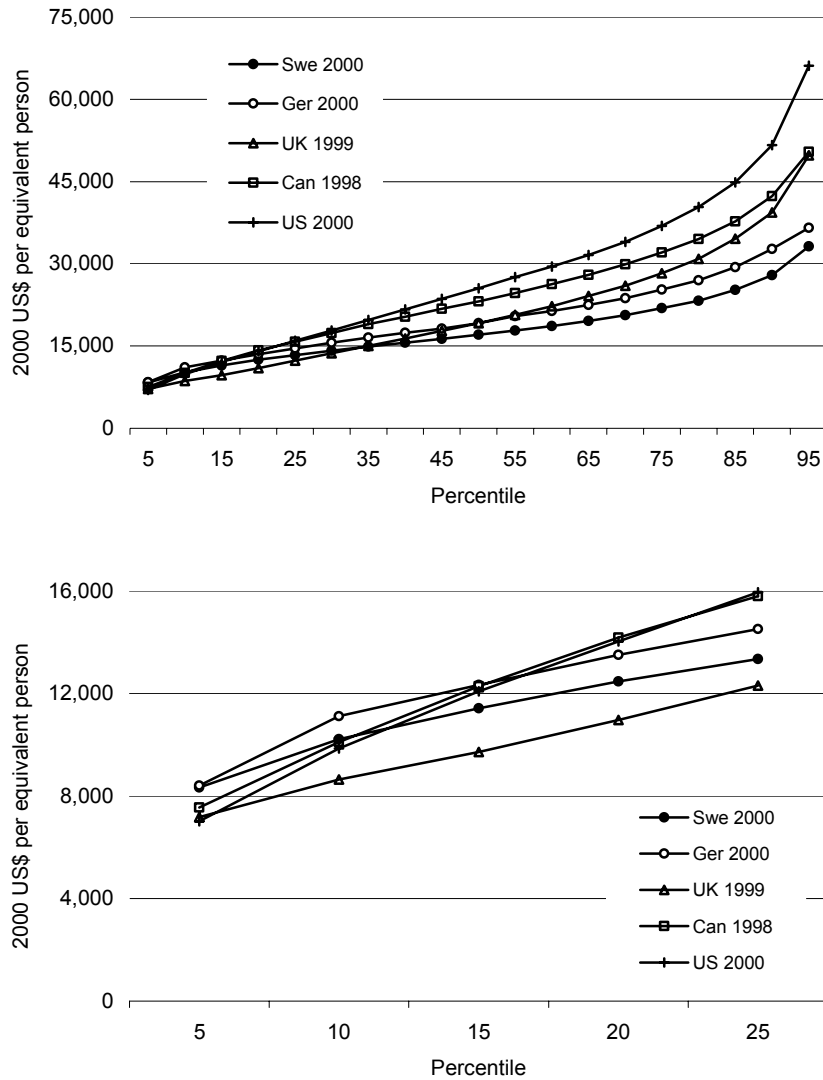
Comparing Levels of Real Income

Although my focus is on cross-country differences in change over time, a comparison of *levels* of income across the five countries is certainly of interest too. Figure 9 shows real posttax-posttransfer income levels as of 2000 throughout the income distribution. The top chart shows the entire distribution, from the 5th percentile to the 95th. The lower chart focuses on the 5th through the 25th percentiles, allowing a clearer view of cross-country differences at the low end of the distribution. The figures include only the working-age population.

Poverty reduction is not the chief aim of the liberal welfare state model. Instead, the aim is to maximize average well-being (Goodin et al. 1999). The top chart in Figure 9 suggests some support for the notion that a liberal welfare state is most conducive to achievement of that aim. Median incomes are highest in the United States and Canada, and in the top third of the distribution the United Kingdom has the next-highest levels. Germany and especially Sweden trail behind.

The chief goal of a social-democratic welfare state such as Sweden's or a conservative welfare state such as Germany's also is not low poverty. Instead, it is social equality and community (Goodin et al. 1999). Low absolute poverty certainly contributes to those goals, but low *relative* poverty, which refers to the degree of inequality in the bottom half of the distribution, is arguably more important. Figure 1 above indicates that relative poverty is lower in Sweden and Germany than in the U.S., Canada, and the U.K. (see also Smeeding and Rainwater 2002; Smeeding et al. 2001). And the top chart in Figure 9 reveals that there is less dispersion in incomes throughout the entire distribution in Sweden and Germany than in the other three countries. The size and characteristics of the Swedish welfare state also contribute to the goal of social equality directly, not merely indirectly via poverty reduction: extensive public services and universal-type transfer programs, from which everyone receives a benefit and on which everyone is taxed, foster a climate of solidarity (see Table 2; Rothstein 1998, p. 163).

Figure 9. Real Income Levels, 2000



Yet as the top chart in Figure 9 makes clear, low income inequality in Sweden and Germany is in large part a function of the fact that incomes from the 20th percentile up are lower than in the United States and Canada. Is that a good thing? In other words, is low inequality better than high inequality if it entails lower incomes for most of the population?

There are two responses. One is that low inequality can be considered desirable not merely on grounds of fairness but also because it contributes to other social goods. A society with less dispersion between those at the bottom and those at the top may be characterized by greater social harmony and solidarity. Less inequality may also help to keep the political influence of the rich in check, thereby contributing to a more democratic polity.

A second response is that lower incomes at the middle and top may be a price worth paying if incomes at the bottom are higher (Rawls 1971). Yet the bottom chart in Figure 9 indicates that, as of 2000, real incomes were highest in Sweden and Germany only at the 5th percentile. At the 10th percentile income levels in Sweden were no higher than in the U.S. and Canada, and the same is true for Germany at the 15th percentile. From the 20th percentile on up Swedish and German incomes were lower. This seemingly suggests that, relative to their counterparts in countries with liberal welfare states, many of those at the low end of Sweden and Germany's income distribution have not benefited in terms of real income levels from their country's generous social-welfare programs.

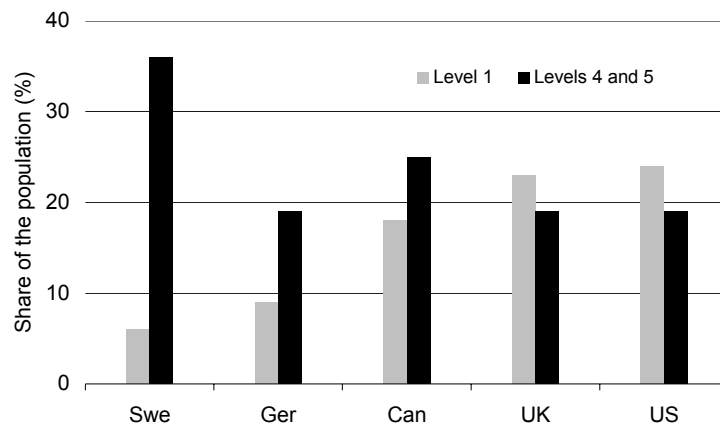
Recall, however, that the LIS income data do not include the value of government-provided services such as health care, education, and child care. An obvious difference between Sweden, Germany, and the United States is in health care. About 15-20% of Americans do not have health insurance. Most with very low incomes are covered by Medicaid, so those without coverage tend to have incomes between the 5th and 25th percentiles of the distribution. A conservative estimate (by a health insurers' association (Musco and Wildsmith 2002)) of the average yearly cost of purchasing health insurance through the private insurance market in the United States is \$2,000 per equivalent person (\$2,000 for an individual adult, \$4,000 for a family). Thus, the income figures for the United States at the 5th, 10th, 15th, and perhaps the 25th percentiles would need to be lowered by at least this amount to make them truly comparable to those in the other four countries, where health insurance is provided for all citizens at little or no direct cost to households.⁸

The quality of the public educational system is also likely to differ across countries. Every child in the United States has access to free public schooling from kindergarten through 12th grade, but because school funding is based heavily on local property taxes, schools in low-income areas tend to be considerably less well-funded

⁸ The low cost of such services in countries such as Sweden and Germany is incorporated to some degree into the income calculations used here, because currency adjustments are made using purchasing power parities. But this is true to only a limited extent, since PPPs represent the prices of *all* goods and services for a household with an *average* income. For example, the average U.S. household has employer-provided health insurance, so its estimated costs for health care in PPP calculations will be relatively low — higher than for its Swedish counterpart, but not much higher. Yet many low-income households in the United States (mainly those just below and just above the poverty line) do not have employer-provided or government-provided health insurance. Hence the real difference between the two countries in the cost of health care *for low-income households* is underestimated in the PPP adjustment.

than those in moderate- and high-income areas. This has obvious consequences for the quality of teachers, educational materials, and infrastructure (Biddle and Berliner 2002; Kozol 1991). Given that average spending per student is similar across countries (once administrative costs are taken into account), many American children whose parents are at the low end of the income distribution are likely to attend lower-quality schools than their counterparts in countries where funding is more equally distributed. The results of a cross-country OECD study on levels of functional literacy among adults in the mid-1990s may be illustrative of the effects. Individuals were scored on a scale of 1 to 5, with 1 indicating functional illiteracy and 5 indicating a very high level of functional literacy. Figure 10 shows the share of the population in each country that scored at level 1 and at levels of 4 or 5. The United States had the largest percentage scoring at level 1, followed by the U.K. and Canada. Sweden and Germany had by far the smallest share scoring at the lowest level, and Sweden had the largest share scoring at the top levels.

Figure 10. Functional Literacy among Adults, 1994-95



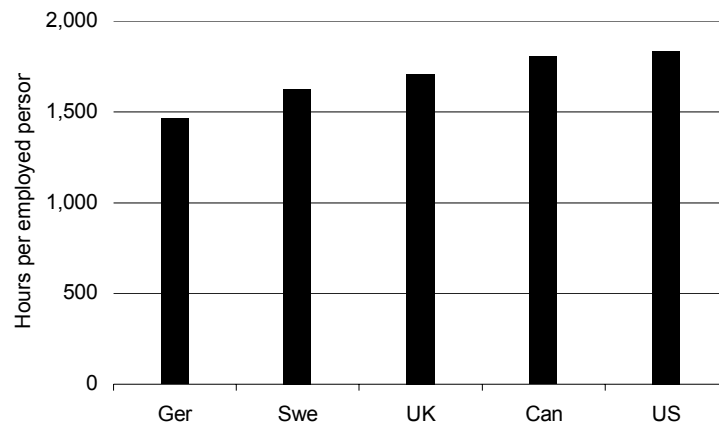
Note: Based on the OECD's 1994-95 International Adult Literacy Survey (OECD 1998, p. 54). Level 1 is the lowest possible score (indicating functional illiteracy); level 5 is the highest.

In many west European countries there is no tuition charge for college, and students from low-income families often receive a subsidy to help with housing and other living expenses. In the United States many students from lower-income families pay a relatively large amount to attend college. Among students from families with incomes below \$25,000, the average yearly cost of attending college as of 1996 was \$6,000. Of this, an average of \$3,000 was covered by financial aid, leaving the remaining \$3,000 to be paid by the student or her/his parents (U.S. Bureau of the Census 2002, table 6a).

Sweden's array of public services also includes extensive provision of high-quality public child care for preschool-age children. According to figures compiled by Gornick and Meyers (2003, chap. 7), approximately 50% of one- and two-year-olds and 80% of three-, four-, and five-year-olds in Sweden are enrolled in public child care and preschool programs, compared to just 5% and 50%, respectively, in the United States. Although the average child care cost paid by parents for preschool children appears to be similar in the two countries — around \$400 per month (Gornick and Meyers 2003; Smith 2002) — the quality of care purchased for this price tends to be superior in Sweden. The Swedish government spends around \$5,000 per child on public child care programs for young children, and both centers and staff are carefully regulated. In the United States, by contrast, most child care for preschool-age children tends to be of low quality, occurring in unregulated home settings rather than child care centers (Blau 2001; Gornick and Meyers 2003; Kamerman and Kahn 1995). This too may contribute to the difference between the two countries in functional literacy.

In addition to excluding the value of services, the LIS data do not incorporate cross-country differences in the quality of housing and neighborhoods. There is a noticeable contrast between cities in Sweden and Germany vs. the United States in the kind of apartment one can rent for, say, \$500 per month. This difference pertains also to the attractiveness and safety of the neighborhood in which such an apartment is likely to be located, and particularly to "public spaces" such as parks, libraries, and roads.

Figure 11. Annual Hours Worked, 2000



Finally, it is worth noting that Americans work longer hours for their incomes than do their counterparts in Sweden and Germany — or in any other rich country, for that matter. Figure 11 shows average annual hours worked in the five countries.

The typical German works 350 fewer hours per year than her or his American counterpart. That amounts to about 45 fewer eight-hour days over the course of a year.

In short, despite the fact that real incomes are lower in Sweden and Germany than in the United States from the 20th percentile up, incorporating the value of public services, the quality of housing and neighborhoods, and the quantity of working time suggests higher real living standards for low-income Swedish and German households than for their U.S. counterparts. Clearly at some point in the distribution American living standards are higher, but it is difficult to tell exactly where that point is. Nor is it clear how the real living standards of low-income Canadians compare with those of their Swedish and German counterparts. Better data on non-income sources of material well-being are needed in order to make such comparisons possible (see Mayer 1995).

Conclusion

In this article I have explored the over-time effects of welfare state generosity on real incomes at low end of the distribution in Sweden, Germany, the United Kingdom, Canada, and the United States. The countries with more generous welfare states tended to experience declines in pretax-pretransfer low-end incomes (increases in pretax-pretransfer absolute poverty) between the mid-1970s and 2000. Welfare state generosity may have contributed to employment losses and hence to lower real incomes for the poor. However, examination of the individual country histories suggests that the case for a significant causal role in the three nations that experienced employment declines (Sweden, Germany, and the U.K.) is tenuous.

Several aspects of the findings are clearly inconsistent with the notion of an equality-incomes tradeoff. For example, despite having a relatively generous welfare state, Germany has maintained the lowest levels of both pretax-pretransfer and post-tax-posttransfer absolute poverty among the five countries. This record is even more impressive when we take into account the cost and strain of reunification with the East, where incomes generally were much lower.

Proponents of a generous welfare state can also point to the Swedish case. Of the five countries, Sweden experienced the largest drop in posttax-posttransfer absolute poverty between the mid-1970s and 2000. Critics may counter that Sweden "purchased" low posttax-posttransfer absolute poverty via a sizeable expansion of its welfare state in the 1970s and 1980s (which was only partially offset by cutbacks in the 1990s). Eventually, in this view, Sweden's bloated welfare state will severely inhibit growth of GDP and/or employment, leading to very high rates of market poverty that cannot be overcome even by its generous social-welfare programs. Sweden's economic turnaround since the mid-1990s appears to contradict this assertion, but a full assessment will have to await another decade or two.

Appendix A: Variable Definitions and Data Sources

Absolute poverty level. Poverty rate (share of persons in households with incomes below the poverty line) multiplied by the poverty gap (poverty line minus the average income among the poor, divided by the poverty line). Poverty line set at \$12,763 per equivalent person, in 2000 U.S. dollars. Households with heads age 25 to 59 only. Incomes converted into U.S. dollars using purchasing power parities and adjusted for inflation using the U.S. consumer price index. Incomes adjusted for household size using the square root of the number of persons in the household as the equivalence scale. Incomes top-coded at 10 times the unequivalized median and bottom-coded at 1% of the equivalized mean. Source: My calculations from Luxembourg Income Study data (variables: MI for pretax-pretransfer income, DPI for posttax-posttransfer income).

Decommodification. Scale that taps the degree to which individuals "can uphold a socially acceptable standard of living independently of market participation" (Esping-Andersen 1990, p. 37). It takes into account the rules governing access to pension, sickness, and unemployment benefits, the degree of income replacement provided by those benefits, and the range of entitlements they encompass. Source: Esping-Andersen (1990, p. 52).

Employment. Employment as a share of the population age 15 to 64. Source: OECD (various years 1, 2).

Functional literacy among adults. Score on 1994-95 International Adult Literacy Survey. Source: OECD (1998, p. 54).

Government cash social expenditures on the working-age population. Sum of family benefits and benefits for unemployment, disability, occupational injury and disease, sickness, and "other contingencies" (mainly low income) as a share of GDP. Source: My calculations from data in OECD (2001a).

Government tax revenues. Current receipts of government as a share of GDP. Source: OECD (various years 2).

Government transfers as a share of GDP. Source: My calculations from data in OECD (various years 2, table 6.3).

Hours worked. Average annual hours worked per employed person. Source: OECD (2003a, p. 322).

Income inequality among households. Gini coefficient for household income. In chapters 3, 5, and 7: households with heads age 25 to 59 only. In chapter 4: all households. Income adjusted for household size using the square root of the number of persons in the household as the equivalence scale. Incomes top-coded at 10 times the unequivalized median and bottom-coded at 1% of the equivalized mean. Source: My calculations from Luxembourg Income Study data (variables: MI for pretax-pretransfer income; DPI for posttax-posttransfer income).

Net government transfers to the poor. Average transfers (cash and near-cash) minus taxes to working-age households with pretax-pretransfer incomes below the poverty line. Source: My calculations from Luxembourg Income Study data.

Real GDP per capita. Source: My calculations from data in OECD (2003b).

Real income levels. Household income per equivalent person at various percentiles of the distribution. Households with heads age 25 to 59 only. Converted into U.S. dollars using purchasing power parities and adjusted for inflation using the U.S. consumer price index (CPI-U-RS). Income adjusted for household size using the square root of the number of persons in the household as the equivalence scale. Incomes top-coded at 10 times the unequivalized median and bottom-coded at 1% of the equivalized mean. Source: My calculations from Luxembourg Income Study data (variables: MI for pretax-pretransfer income, DPI for posttax-posttransfer income).

Relative poverty rate. Share of persons in households with posttax-posttransfer incomes below the poverty line. Poverty line set at 50% of the median within each country. Households with heads age 25 to 59 only. Income adjusted for household size using the square root of the number of persons in the household as the equivalence scale. Incomes top-coded at 10 times the unequivalized median and bottom-coded at 1% of the equivalized mean. Source: My calculations from Luxembourg Income Study data (variable: DPI).

Tax rate on a typical worker. Sum of the average payroll, income, and consumption tax rates for a typical worker. Source: Nickell et al. (2001, table 8, p. 32).

Unemployment benefit duration. Calculated as: $[(.06 \times \text{replacement rate in 2nd and 3rd years of an unemployment spell}) + (.04 \times \text{replacement rate in 4th and 5th years of a spell})] \div (\text{replacement rate in 1st year of a spell})$. Source: Nickell et al. (2001, table 3, p. 27).

Unemployment benefit level. Percentage of a worker's former earnings (pretax) that is replaced by unemployment compensation and related benefits — for a worker with earnings at two-thirds of the national median (i.e., the 33rd percentile) in the first year after losing the job. Source: OECD (n.d.1); see Martin (1996) for discussion.

Appendix B: Poverty Rate and Poverty Gap Data

Table A-1. Absolute Poverty Rate and Poverty Gap Data, Selected Years

	Poverty rate	Poverty gap	Rate x Gap
Sweden 1975			
Pretax-pretransfer	34.6	.355	12.3
Posttax-posttransfer	49.7	.234	11.6
Sweden 2000			
Pretax-pretransfer	26.2	.545	14.3
Posttax-posttransfer	21.6	.237	5.1
Germany 1973			
Pretax-pretransfer	22.4	.288	6.5
Posttax-posttransfer	35.6	.227	8.1
Germany 2000			
Pretax-pretransfer	16.4	.566	9.3
Posttax-posttransfer	16.9	.251	4.2
West German regions 2000			
Pretax-pretransfer	13.5	.568	7.7
Posttax-posttransfer	15.1	.260	3.9
United Kingdom 1974			
Pretax-pretransfer	39.6	.345	13.7
Posttax-posttransfer	47.3	.265	12.5
United Kingdom 1999			
Pretax-pretransfer	28.3	.687	19.4
Posttax-posttransfer	26.7	.298	8.0
Canada 1975			
Pretax-pretransfer	28.8	.458	13.2
Posttax-posttransfer	29.2	.335	9.5
Canada 1998			
Pretax-pretransfer	21.6	.567	12.2
Posttax-posttransfer	16.3	.313	5.1
United States 1974			
Pretax-pretransfer	22.7	.512	11.6
Posttax-posttransfer	24.6	.364	9.0
United States 2000			
Pretax-pretransfer	18.1	.506	9.2
Posttax-posttransfer	16.8	.344	5.8

Note: Poverty line is \$12,763 per equivalent person, in 2000 US\$. Working-age households only. Poverty rate is the percentage of persons in households with incomes below the poverty line. Poverty gap is the poverty line minus the average income among households with poverty-level incomes, divided by the poverty line.

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