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# **Luxembourg Income Study Working Paper Series**

**Working Paper No. 472**

**Government Benefits, Inequality,  
and Employment**

**Lane Kenworthy**

**January 2008**



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# Government Benefits, Inequality, and Employment\*

Lane Kenworthy

January 15, 2008

Redistribution is one of the principal mechanisms through which countries secure low income inequality. Maintaining moderately high wage levels at the low end of the distribution may be increasingly difficult and perhaps even counterproductive from an egalitarian perspective (Kenworthy 2008, ch. 5). If so, redistribution is likely to become even more critical. Redistribution can be achieved through the tax system, via government transfers, or both. In practice, however, very little redistribution is accomplished via taxation, and a shift toward greater use of taxes to achieve redistributive ends is unlikely. Benefits, therefore, may be the key to successful pursuit of low inequality for affluent countries.

But generous benefits can create employment disincentives. This produces a bind for policy makers. Generous benefits secure the redistribution countries need to get low inequality. Because of aging and capital mobility, a high employment rate is needed to finance those benefits. But if benefits are generous, they may reduce the employment rate. Is there a way out of this dilemma?

I begin by examining the relationship between government benefits and inequality and between benefits and employment. I explore these issues in a comparative fashion, focusing on the experiences of twelve countries — Denmark, Finland, Norway, Sweden, France, Germany, Italy, the Netherlands, Australia, Canada, the United Kingdom, and the United States — since the 1970s. In doing so I utilize a new approach to measuring comparative benefit generosity.

\* Forthcoming as chapter 7 in Lane Kenworthy, *Jobs with Equality*, Oxford University Press, 2008.

I then outline a policy package that can potentially provide generous benefits to working-age individuals and households who need them without creating excessive employment disincentives. The package features generous transfers to those unable to work due to involuntary job loss, sickness, disability, or family responsibilities. However, benefits provided on a temporary basis should be of relatively short duration, and eligibility criteria for those provided on a permanent basis should be fairly strict. In exchange for this strictness, extensive support should be provided for those entering or returning to the work force, in the form of training, job placement, public employment, and child care. A key component of the benefit package is an employment-conditional earnings subsidy.

### **Measuring Benefit Generosity**

Let me begin with a brief summary of different types of social policy. Given my concern with employment, it is useful to distinguish between programs in terms of the work incentives and disincentives they create (see also Björklund and Freeman 1997).

A first type consists of benefits to individuals or households that have low earnings or incomes. Typically these benefits are means-tested, in that eligibility is conditional on low household income and limited assets. Eligibility is not conditional on prior employment. The benefit is reduced or lost altogether if the recipient becomes employed or increases earnings. In most countries the principal program of this type is called social assistance. Housing benefits and energy assistance also often take this form, as does Food Stamps in the United States. Such programs tend to discourage employment, though the severity of the effect depends greatly on program details and other factors such as the minimum wage level and the availability of jobs and affordable child care.

At the opposite end of the spectrum are employment-conditional earnings subsidies. This type of benefit also goes primarily to individuals or households with low earnings or incomes. But typically it is not means-tested. The benefit is conditional on employment and increases with earnings, thereby encouraging rather than discouraging employment. At a certain earnings level the benefit peaks and then declines gradually. The principal examples of this type of program are the Earned Income Tax Credit in the United States and the Working Tax Credit in the United Kingdom.

A third type is social insurance programs that provide benefits to individuals who are not employed but who have previously been employed. Examples include unemployment compensation, sickness compensation, work injury compensation, disability compensation, pensions, and paid parental leave. In theoretical terms, the impact of these programs on employment is ambiguous. On the one hand, because benefit eligibility is conditional on prior employment, they create a

pro-employment incentive. On the other hand, the existence of such programs encourages people to make use of them once eligible and to then remain on them rather than return to work.

A fourth type consists of government service programs that create positive work incentives. The best example is public provision or subsidization of child care, which facilitates parents' entry into and continuity in employment.

A fifth type is transfers and government services that have no direct effect of either encouraging or discouraging employment. Employment, earnings, and income have no impact on eligibility, benefit or service levels, and duration of receipt. Schooling, medical care, and child allowances are prominent examples.

How should we measure the generosity of government benefits? Until very recently virtually all comparative research on the causes and consequences of such benefits relied on a crude proxy measure: government transfers as a share of GDP. One problem with this measure is that a considerable portion of the money transferred by governments does not go to households or individuals with low incomes. Another is that this type of measure fuses what might be termed the "intended generosity" of benefits with the need for benefits. The former refers to the level of generosity policy makers have in mind in constructing and altering benefit programs; for most analysts, this is the concept of interest. The latter is determined by the size of the elderly, unemployed, sick, disabled, and low income populations. A country with a relatively large elderly population or a comparatively high level of unemployment may score high on the transfers-as-percentage-of-GDP measure even if its benefit programs are not particularly generous in their structure.

In the past decade the OECD has created a new database of government expenditures on social programs (OECD 2004f). These data are available beginning in 1980. They include expenditures on cash benefit programs such as pensions, unemployment insurance, sickness insurance, disability benefits, and various means-tested transfers as well as on services such as health care and job training. These data get closer to a measure of the generosity of benefits, but they nonetheless suffer from the same problems as the government transfers measure.

In his 1990 book *The Three Worlds of Welfare Capitalism*, Gøsta Esping-Andersen urged comparative researchers to turn their attention from expenditure totals to program characteristics. Esping-Andersen combined information about eligibility criteria, benefit levels, and benefit duration to create a measure of "decommodification" for three types of benefits: pensions, unemployment insurance, and sickness insurance. This was an important step forward. It moved measurement closer to the "intended generosity" of social programs. However, the restricted set of programs included in the measure and the fact that it was available for only a single year, 1980, limited its utility. Recently Lyle Scruggs (2004) has addressed the latter problem by creating country scores for each aspect of these three programs, from eligibility to benefit level to duration, in each year from

1971 to 2002. Scruggs (2005a, 2005b) also has reexamined Esping-Andersen's decommodification measure, made some adjustments, and made the resulting scores available for each of these years. However, like Esping-Andersen's, the Scruggs data do not include several important programs such as social assistance, disability compensation, and others.

Since the mid-1990s the OECD has been assembling information on benefit packages — specifically, net replacement rates — available to households of various size and composition in each country (OECD 2004a). These too are useful data, and the country publications provide a wealth of information on country-specific program details (e.g., OECD 2004b, 2004c, 2004d). However, the focus is largely on unemployment insurance, and these data are available for only a limited number of years. In addition, it is not clear how, if at all, these various program details can be combined into a summary measure suitable for macro-comparative analysis.

An alternative to the expenditures and program details approaches to measuring benefit generosity is to examine the empirical distribution of government benefits. In recent years several researchers have used Luxembourg Income Study (LIS) data to create a direct measure of redistribution (Bradley et al. 2003; Kenworthy 2004a; Kenworthy and Pontusson 2005; Mahler and Jesuit 2006). This approach, which follows the lead of some earlier scholars (Hicks and Swank 1984; Mitchell 1991), subtracts the Gini coefficient for posttax-posttransfer household income from that for pretax-pretransfer household income. (This also can be divided by the pretax-pretransfer Gini to create a percentage, rather than absolute, measure of redistribution.) However, while this is a very useful measure of redistribution, it is only an indirect measure of benefit generosity.

I make use of a new measure here, based on LIS data. It too draws on the empirical distribution of transfers and taxes. But it focuses directly on that distribution, rather than on the degree of inequality reduction achieved. I measure comparative benefit generosity by examining the posttax-posttransfer (disposable) incomes of households with low pretax-pretransfer (market) incomes.

I begin by looking at the relationship between pretax-pretransfer income and posttax-posttransfer income for low-income households of a particular size and structure — e.g., a single working-age adult with no children — in a particular country in a particular year. "Low income" is defined here as pretax-pretransfer household income less than 50% of the country's median household income. Some such households have pretax-pretransfer income of zero. Others have some but not very much market income. Others have market incomes close to 50% of the median. The difference between pretax-pretransfer and posttax-posttransfer income is "net government benefits" — cash and near-cash transfers received minus tax payments.

Table 1 lists the types of benefits and taxes included and not included in the measures I use throughout this paper. They include the main cash and near-cash

transfer programs in these countries. Because I focus on households with working-age heads, pension benefits, though included, are far less important than would be the case if I were examining households of all ages. Tax payments include those for income and payroll taxes. The LIS data do not include information on the value of services such as medical care, nor on consumption tax payments. These are therefore not included in my benefit generosity measures.

Among those with a particular level of pretax-pretransfer income, the amount received in benefits and the amount paid in taxes will vary somewhat. Typically, net benefits vary inversely with pretax-pretransfer income; that is, households with less market income tend to receive more in benefits and pay less in taxes than do those with more market income. Two pieces of information that can be gleaned from these data are helpful in measuring the generosity of government benefits. One is the average posttax-posttransfer income when pretax-pretransfer income is zero. This can be thought of as the country's (average) minimum income. The other is the average amount that posttax-posttransfer income increases per unit (dollar, euro, pound, kronor) increase in market income. This represents the (average) payoff to additional earnings. We would expect this payoff to be less than 1.0, since households with more earnings typically receive less in government transfers and pay more in taxes than those with less earnings.

Table 1. Types of Transfers and Taxes Included in Benefit Generosity Measures in This Paper

	Included	Not Included
Transfers	Unemployment compensation Sickness, accident, and disability compensation Pension Child/family allowance Maternity/parental benefit Military/veteran/war benefit Social assistance Near-cash benefits (e.g., food, housing, energy assistance) Employment-conditional earnings subsidies (EITC, WTC)	Value of government services (e.g., medical care, child care)
Taxes	Income Payroll	Consumption

Note: All information is from the Luxembourg Income Study database.

Figure 1 shows this information as of 2000 for four countries: Sweden, Germany, the Netherlands, and the United States. In each chart pretax-pretransfer income is on the horizontal axis and posttax-posttransfer household income is on the vertical axis. Both are expressed as a percentage of the country's median household income. The dotted line is a "45-degree" line; it shows posttax-posttransfer income equal to pretax-pretransfer income, which obtains if net gov-

ernment benefits are zero. There are three solid lines in each chart. They are regression lines describing the pattern of posttax-posttransfer income by pretax-pretransfer income for three types of households with working age "heads": one adult with no children, one adult with one child, and one adult with two children.

The charts provide us with the two pieces of information mentioned above: the (average) minimum posttax-posttransfer income and the (average) payoff to additional earnings. These are represented by, respectively, the y-intercepts and the slopes of the regression lines. For instance, in Sweden in 2000 the y-intercept for the lowest solid line is 25. This indicates that households with one working-age adult and no children and zero market income had an average posttax-posttransfer income equal to 25% of Sweden's median pretax-pretransfer household income. The slope of that solid line is .27, indicating an average gain in posttax-posttransfer income of 27 kroner for each additional 100 kroner of market income. The earnings payoff was similar for the other two types of household, but the minimum incomes were higher, as we would expect given the greater number of children (and thus larger government benefits). For example, among households with one adult and two children and no market income, the average posttax-posttransfer income was nearly 45% of the median pretax-pretransfer income.

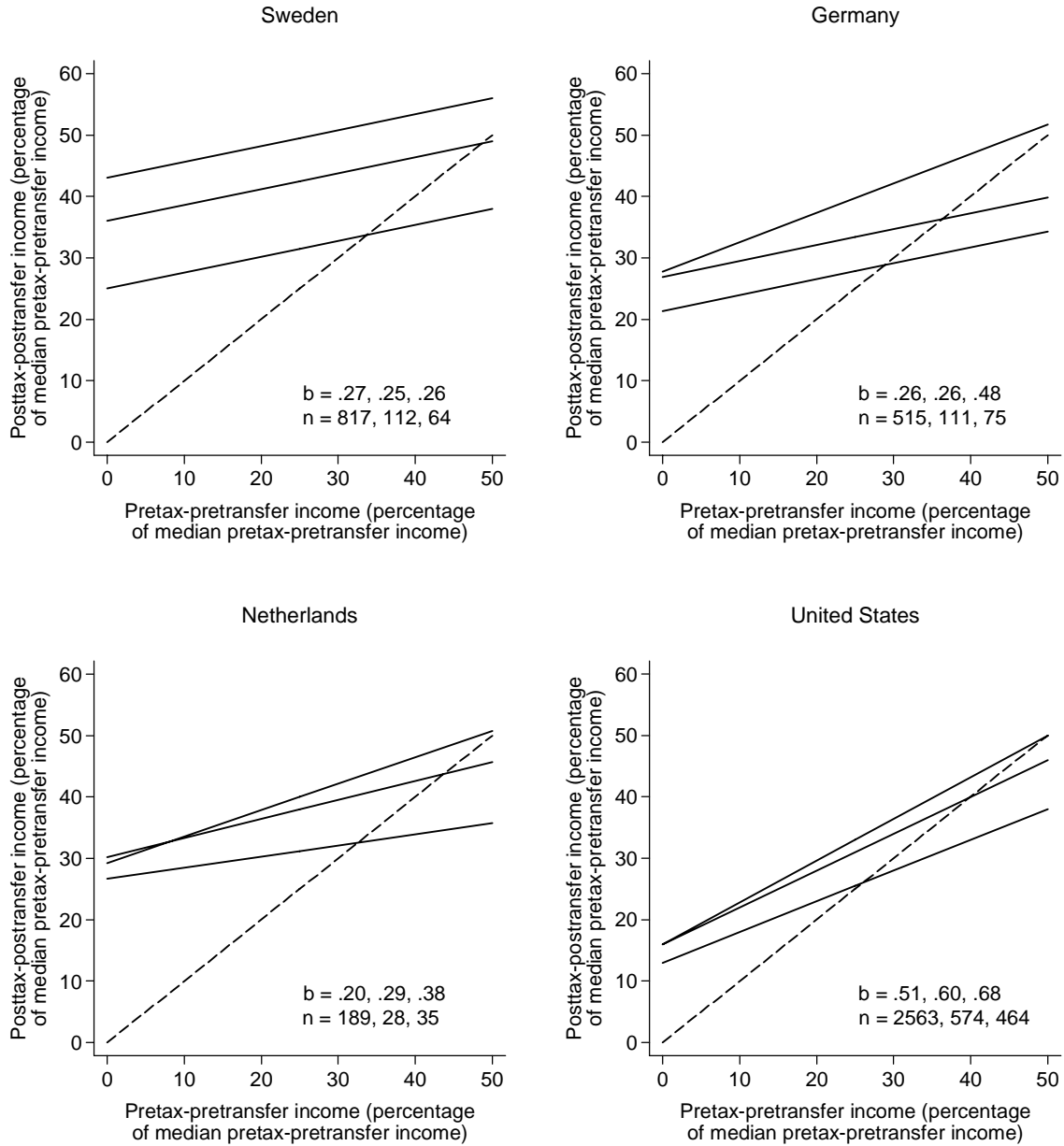
Note that the regression lines for households with no children and those with one child cross the 45-degree line. At that point such households begin, on average, to pay more in taxes than they receive in government benefits (their posttax-posttransfer income is less than their pretax-pretransfer income). Households with a single adult and two children continue to receive more in benefits than they pay in taxes until some point beyond market income of 50% of the median.

Why do I express benefits and posttax-posttransfer incomes relative to the country median, rather than with an absolute measure? The main reason is that one of my goals here is to examine the impact of benefit generosity on employment. What is likely to matter to a person considering whether to work or live off government benefits is how generous benefits are relative to wages and incomes in that country at that particular point in time, rather than how generous they are relative to benefits in other countries or to those in their own country at some point in the past.

How do the other three countries compare to Sweden? In Germany, average posttax-posttransfer incomes for each of the three household types were lower than in Sweden (relative to the country median). For instance, among those with zero market income, average posttax-posttransfer income was 25%, 38%, and 43% of the median in Sweden, compared to 22%, 28%, and 29% in Germany. The same was true for those with market income at half of the median, though incomes for single-adult households with two children were a little closer to those in Sweden.

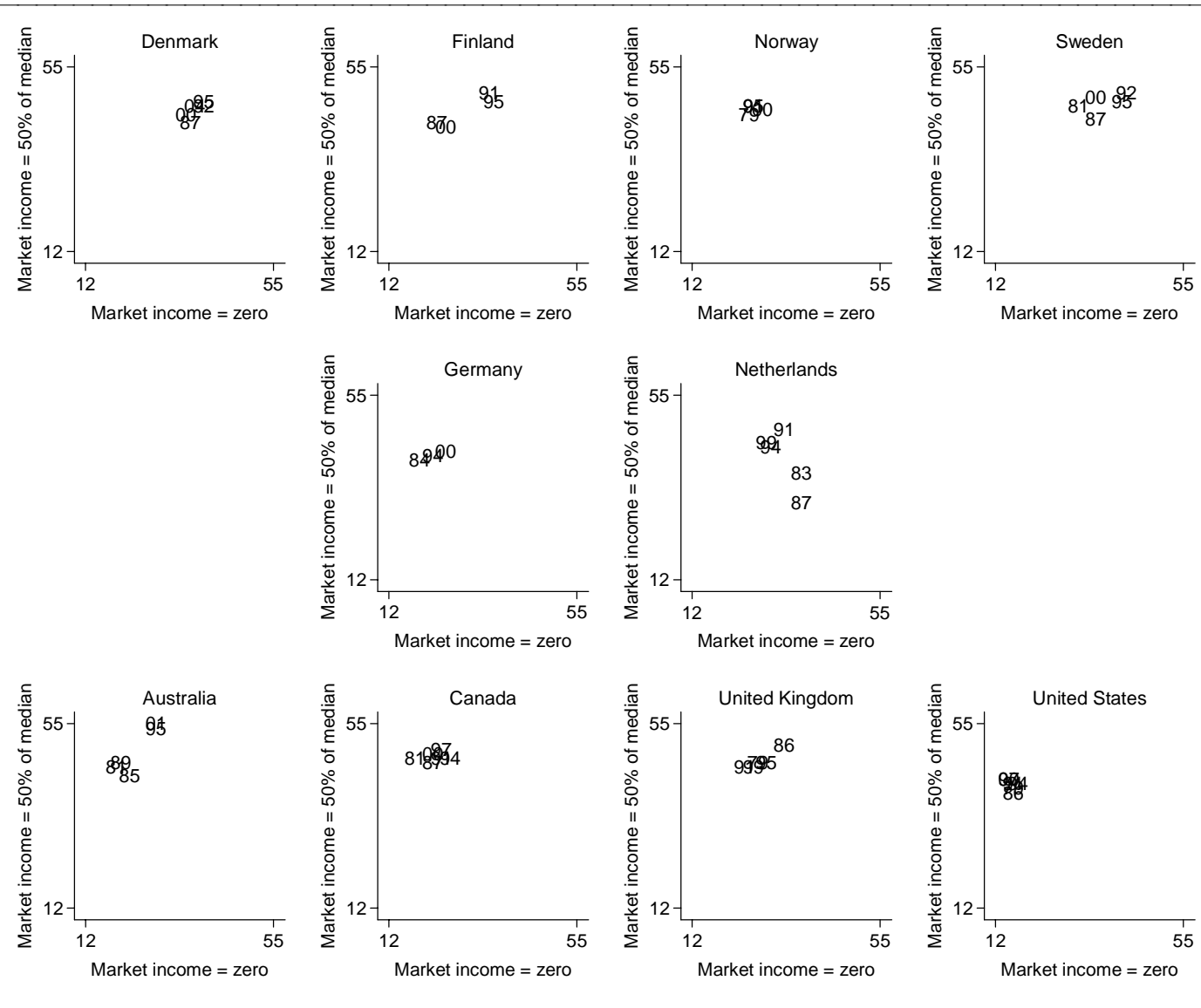


Figure 1. Government Benefit Generosity for Three Types of Low-Income Households, 2000



Note: Actual year is 1999 for the Netherlands. Included are households with a "head" age 25 to 59 and a market income less than 50% of the national median. From lowest to highest solid line and from left to right in the legend, the household types are: one adult with no children, one adult with one child, and one adult with two children. The solid lines are regression lines. The dotted line shows posttax-posttransfer income equal to pretax-pretransfer income. "b" is the coefficient from a regression of posttax-posttransfer income on pretax-pretransfer income. "n" is the number of observations. For data definitions and sources, see the appendix.

Figure 2. Government Benefit Generosity for Three Types of Low-Income Households, 1979ff.



Note: Chart axes are truncated. The data are for average posttax-posttransfer household income when pretax-pretransfer household income is zero (horizontal axis) and when it is 50% of the country median (vertical axis). The figures are averaged for the three types of single-adult households featured in figure 1. Numbers in the charts represent years; for instance, "00" refers to the year 2000. Two data sets for Germany (1981 and 1989) and one for Norway (1986) are omitted because sample sizes for some household types are too small. France and Italy are not included due to lack of data on pretax-pretransfer income. For data definitions and sources, see the appendix.

In the Netherlands, the average posttax-posttransfer income for the three household types tended to be higher than in Germany but lower than in Sweden.

The United States differs sharply from the other three countries in having lower minimum incomes and higher earnings payoffs. For example, the average posttax-posttransfer income for households with one adult and two children and no market income was more than twice as high in Sweden (43% of the Swedish median) as in the United States (17% of the U.S. median), and the earnings payoff for this type of household in Sweden (.26) was less than half that in the United States (.68). As a result, posttax-posttransfer incomes among those with very low market incomes were strikingly lower (relative to the median) in the United States than in the other three countries, whereas posttax-posttransfer incomes among households with market incomes closer to half of the median in the United States were comparable to those in the other countries.

One limitation of this measure is that it is based only on single-adult households. That is because for some countries the sample sizes of two-adult households with low market income are too small to permit reliable estimates.

Another limitation of this measure is that it does not distinguish between the types of benefits received by various households. Consider, for example, the group of one adult-one child households with zero pretax-pretransfer income in a particular country in a given year. Suppose the average posttax-posttransfer income among such households is approximately one-third of the median household income. All of the income for such households comes from government benefits. But those benefits may consist largely or entirely of social assistance for some of the households, of unemployment insurance or disability compensation for others, and of some combination of these and other types of benefits for others. And the mix of benefits will differ across countries and over time within countries.

Do changes in the mix of benefits result in noteworthy within-country shifts in this measure of benefit generosity over time? Figure 2 shows the average minimum income for each country in each year since 1979 for which there are available data in the LIS database. Figure 1 showed regression lines indicating the average income throughout the set of low-income households — that is, among those with pretax-pretransfer incomes ranging from zero up to 50% of the median. In order to convey changes over time in a manageable way, figure 2 employs two types of data reduction. First, the charts show average posttax-posttransfer income at only two points in the distribution of low-income households: for those with pretax-pretransfer income of zero (horizontal axis) and for those with pretax-pretransfer income equal to 50% of the median (vertical axis). Second, I average the figures for the three types of households. The numbers in the charts refer to years; for instance, "00" refers to the year 2000. France and Italy are not included in the charts because data for pretax income are not available for these countries in the LIS database.

These charts can be used to assess cross-country differences in the degree of benefit generosity. For example, in most years Sweden is in the upper-right corner, indicating relatively generous benefits both for households with no market income and for households with market income at half the country median. The United States, by contrast, is to the left on the horizontal axis and lower than most other countries on the vertical axis, indicating relatively stingy benefits.

With respect to changes over time, the key point to note is that in most of the countries the degree of benefit generosity has been quite stable.

There are three main exceptions to this constancy: Finland in 1991 and 1995, Sweden in 1992 and 1995, and the Netherlands in 1983 and 1987. In Sweden and Finland this owes to the fact that households with zero market income received more in benefits (as a share of median household income) in those two years. This was a product of the deep economic crises these two countries experienced in the first half of the 1990s. The main way in which the crisis affected benefit generosity as measured here is by increasing unemployment. In Finland, the unemployment rate jumped from 3% in 1990 to 15% in 1995; in Sweden, it rose from 2% to 9%. As a result, in these years a larger share of households with little or no market income were receiving unemployment compensation, which typically pays more than social assistance (my calculations; see also OECD 2005a, p. 111). A second impact of the crisis was that median household income dropped in both countries. I measure benefit generosity using posttax-posttransfer income as a percentage of median income (for a given level of pretax-pretransfer income). Thus, if the median declines while benefit levels remain the same, benefit generosity will increase somewhat.

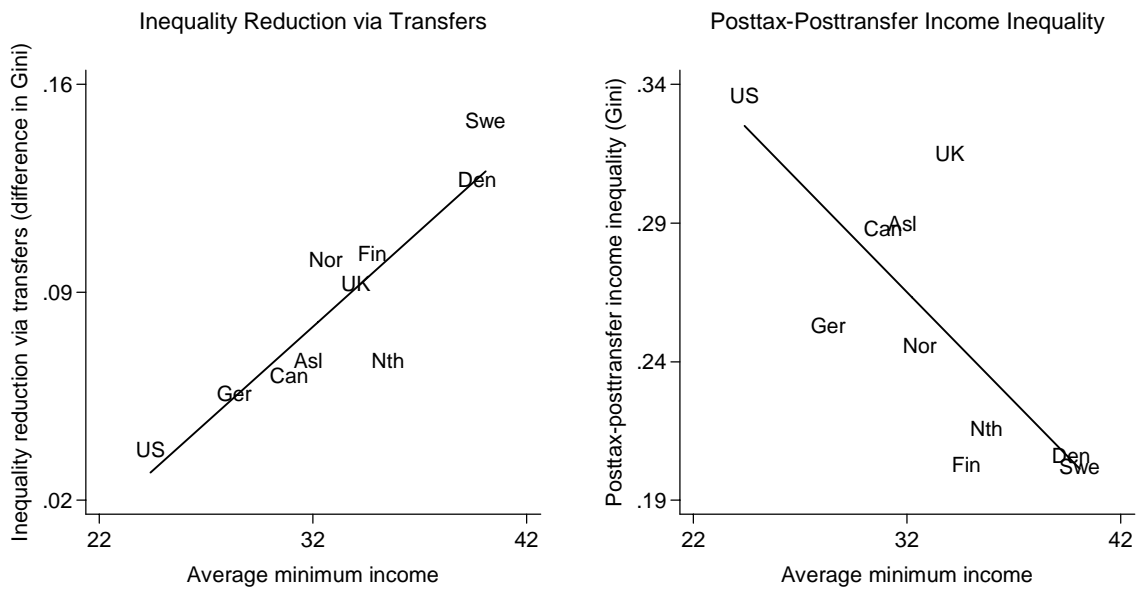
The apparent shift between the late 1980s and the early 1990s in the Netherlands owes to the fact that the Dutch data set used in the Luxembourg Income Study database was switched after the 1980s. The data for 1983 and 1987 are from the Public Services Survey. Beginning in the 1990s the data are from the Dutch Socio-Economic Panel.

## **Benefit Generosity and Inequality**

Do generous government benefits help to reduce income inequality? Yes, they do. Figure 3 shows this in two ways. The first chart in the figure plots "inequality reduction via transfers" by "average minimum income."

Inequality reduction via transfers is calculated as the Gini coefficient for pretax-pretransfer income minus the Gini for pretax-posttransfer income (for households with heads age 25-59). It is the amount by which income inequality among working-age households is reduced by government transfers.

Figure 3. Inequality Reduction via Transfers and Posttax-Posttransfer Income Inequality by Government Benefit Generosity, 1979-2006



Note: Chart axes are truncated. All of the measures are averaged over all available 1979-2006 LIS years, though for most countries the most recent available LIS data set as of this writing (January 2008) is for the year 2000. "Average minimum income" is a measure of government benefit generosity; it is calculated as described in the text and also in the appendix. "Inequality reduction via transfers" is calculated as the Gini coefficient for household pretax-pretransfer income minus the Gini for household pretax-posttransfer income. France and Italy are not included due to lack of data on pretax-pretransfer income. For data definitions and sources, see the appendix.

"Average minimum income" is a measure of government benefit generosity. It is computed for each country by averaging the scores along the horizontal axis in figure 2, multiplying the result by two, adding the average of the scores along the vertical axis, and dividing that sum by three. Let me elaborate. The measure is an average for three types of households: single adult with no children, single adult with one child, and single adult with two children. It is based on average posttax-posttransfer income (as a percentage of the country median) for households at two points in the income distribution: those with pretax-pretransfer income of zero and those with pretax-pretransfer equal to 50% of the country median. Whereas figure 2 showed these two data separately, in figure 3 I have combined them to create a single indicator for each country. The measure is a weighted average of the two: posttax-posttransfer income for those with zero market income is multiplied by two and then added to posttax-posttransfer income for those with market income at half the median; the resulting sum is then

divided by three. A measure of benefit generosity surely should weight benefits to households with lower incomes more heavily than benefits to those with higher incomes. The choice here to weight the former twice as heavily as the latter is arbitrary. We might just as well weight them three times as heavily, or four times, or more. But doing so has little impact on the cross-country variation in the measure. The measure in figure 3 also differs from that in figure 2 in that, rather than showing each LIS year separately, I have averaged the scores for each country across all 1979-2006 LIS years.

As the first chart in figure 3 indicates, benefit generosity measured in this way is very closely correlated with inequality reduction via transfers ( $r = .89$ ). Although unsurprising, this is not true by definition. Suppose a country offered very generous benefits to households with no market income and even more generous benefits to those with market incomes around half of the median. In figure 1, the country's regression lines would have large y-intercepts and steep slopes. Such a country would score high on the measure of benefit generosity but would accomplish relatively little inequality reduction via transfers. In the first scatterplot in figure 3, it would be in the lower-right corner.

The second chart in figure 3 shows posttax-posttransfer income inequality by government benefit generosity. Inequality of disposable income is heavily influenced by inequality of market income (Kenworthy 2008, ch. 3), so the correlation is not quite as strong as with inequality reduction. Even so, it *is* rather strong ( $r = -.77$ ).

## **Benefit Generosity and Employment**

Many empirical studies have concluded that generous government benefits contribute to poor employment performance (Murray 1984; OECD 1994, 2006a; Siebert 1997; Elmeskov et al. 1998; Nickell and Layard 1999; Krueger and Meyer 2002; Peter 2004; Nickell, Nunziata, and Ochel 2005; Bassanini and Duval 2006). There is no doubt that at some level of generosity benefits will indeed have the effect of discouraging employment. A number of individual-level studies confirm this (Moffitt 1992; Meyer 1995). The question is: Is the impact large enough to matter for aggregate employment rates? And if so, how large is it?

### ***Comparative Patterns***

I focus here exclusively on cross-country variation in employment performance. I use a measure of government benefit generosity slightly different from that in the previous section. It is based on the same data: those for posttax-posttransfer income among three types of low-income households. However, instead of averaging posttax-posttransfer income at various levels of pretax-pretransfer income, I use two indicators. The first is average — for three household types and over all

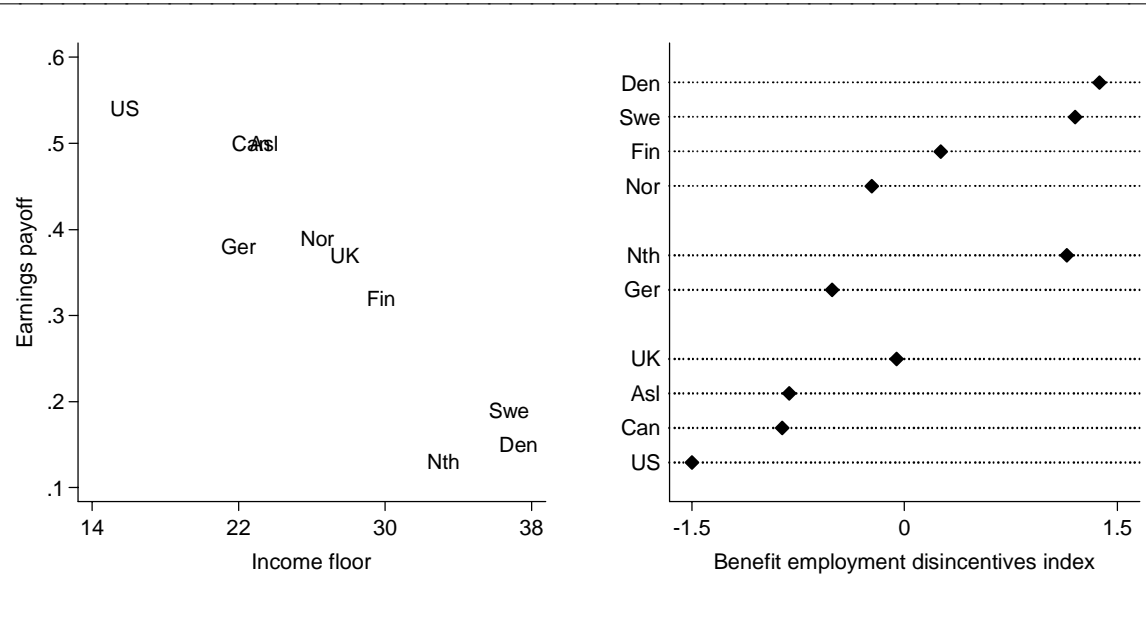
available LIS years between 1979 and 2006 — posttax-posttransfer income among households with zero market income. This is, in effect, the (average) income floor. It is the average y-intercept of the regression lines shown in figure 1. The second is the average slope of the regression lines in figure 1. This I refer to as the "earnings payoff." It represents the average amount by which posttax-posttransfer income increases for each additional unit (dollars, euros, pounds, kroner, etc.) of market income.

My aim is for a measure of work disincentives created by government benefits. Work disincentives are greater the higher the income floor and the smaller the earnings payoff. To illustrate, let's return to figure 1 and compare Sweden with the United States. In Sweden the income floor (posttax-posttransfer income when market income is zero) is larger (relative to the country median) for each type of household than in the United States; Sweden's y-intercepts are greater. All else equal, this creates stronger work disincentives in Sweden. The earnings payoff is smaller in Sweden than in the U.S.; Sweden's regression lines have flatter slopes. This too creates stronger work disincentives in Sweden. Although these two indicators coincide in comparing Sweden with the United States — that is, both imply greater work disincentives in Sweden — it is possible for a country to have a higher income floor but also a larger earnings payoff. I therefore combine these two indicators into a composite measure of "benefit employment disincentives." The measure is calculated by first standardizing both the income floor and earnings payoff measures. I then reverse the sign for the earnings payoff standardized scores, so that higher scores represent a smaller earnings payoff. I then average the two standardized scores for each country. This yields a measure of benefit employment disincentives that ranges from approximately -1.5 to +1.5, with positive values indicating stronger work disincentives.

The first chart in figure 4 shows the average earnings payoff by the average income floor for each country. Both indicators are averaged for all available years between 1979 and 2006. As it turns out, the employment disincentives created by these two indicators are relatively consistent across countries. In other words, countries with a more generous income floor tend to also have a smaller earnings payoff. The second chart shows the combined measure of benefit employment disincentives. Benefit systems in Denmark, Sweden, and the Netherlands create the strongest work disincentives, whereas those in the United States create the weakest. In Denmark during the 1980s and 1990s working-age single-adult households with zero, one, or two children and no market income ended up with posttax-posttransfer incomes of, on average, nearly 40% of the Danish median pretax-pretransfer household income. Their American counterparts ended up with average posttax-posttransfer incomes just 15% of the U.S. median. For American single-adult households with market incomes less than half the national median, the average payoff from an increase in market income was 55%. In other words, on average an increase in market income of \$10,000 resulted in

an increase in posttax-posttransfer income of \$5,500. For their Danish counterparts, the average earnings payoff was just 15%.

Figure 4. Government Benefit Generosity and Employment Disincentives



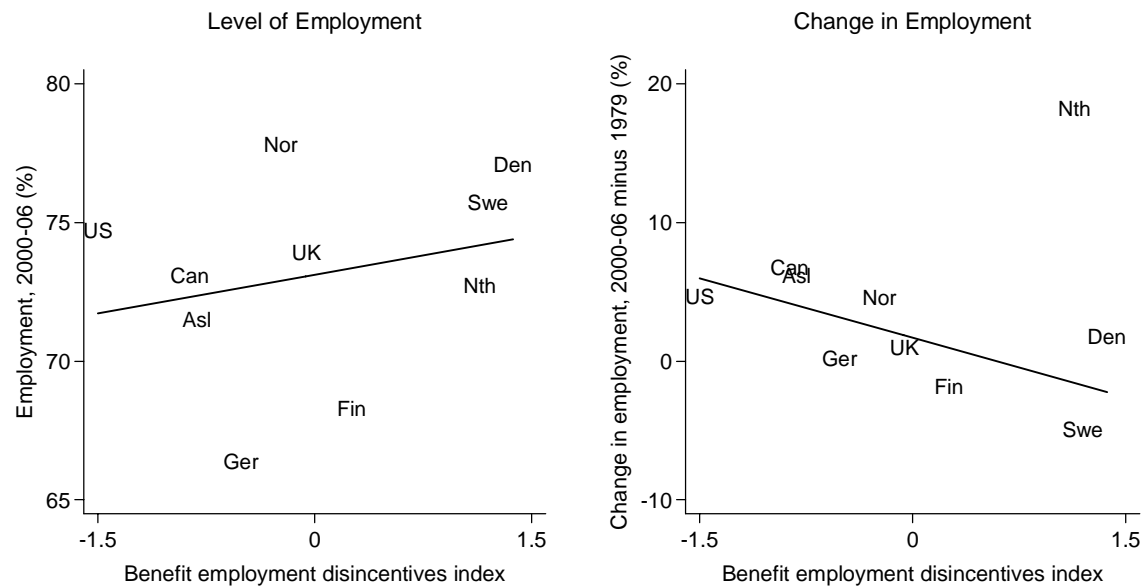
Note: Axes in the first chart are truncated. The data are averaged across all available LIS years between 1979 and 2006, though for most countries the most recent available LIS data set as of this writing (January 2008) is for the year 2000. "Income floor," "earnings payoff," and "benefit employment disincentives index" are measures of government benefit generosity; they are calculated as described in the text (and in the appendix). France and Italy are not included due to lack of data on pretax-pretransfer income. For data definitions and sources, see the appendix.

Have the employment disincentives created by government benefits affected employment performance? Figure 5 shows two relevant charts. The first plots employment rates as of 2000-2006 by the benefit employment disincentives measure. To the extent there is a relationship evident, it is in the "wrong" direction; stronger employment disincentives are associated with higher employment.

However, it is more useful to examine *changes* in employment during these years, as few suggest there was any noteworthy tradeoff between benefit generosity and employment prior to the late 1970s (Kenworthy 2008, ch. 4). The second chart replaces employment levels on vertical axis with employment change, measured as the employment rate in 2000-06 minus the rate in 1979. Here, if we set aside the Netherlands, we see a pattern consistent with the conventional expectation. Countries with stronger benefit employment disincentives tended to experience employment decline or relatively little growth, while those with weaker employment disincentives experienced more rapid employment growth.



Figure 5. Employment Levels and Employment Changes by Benefit-Generated Employment Disincentives

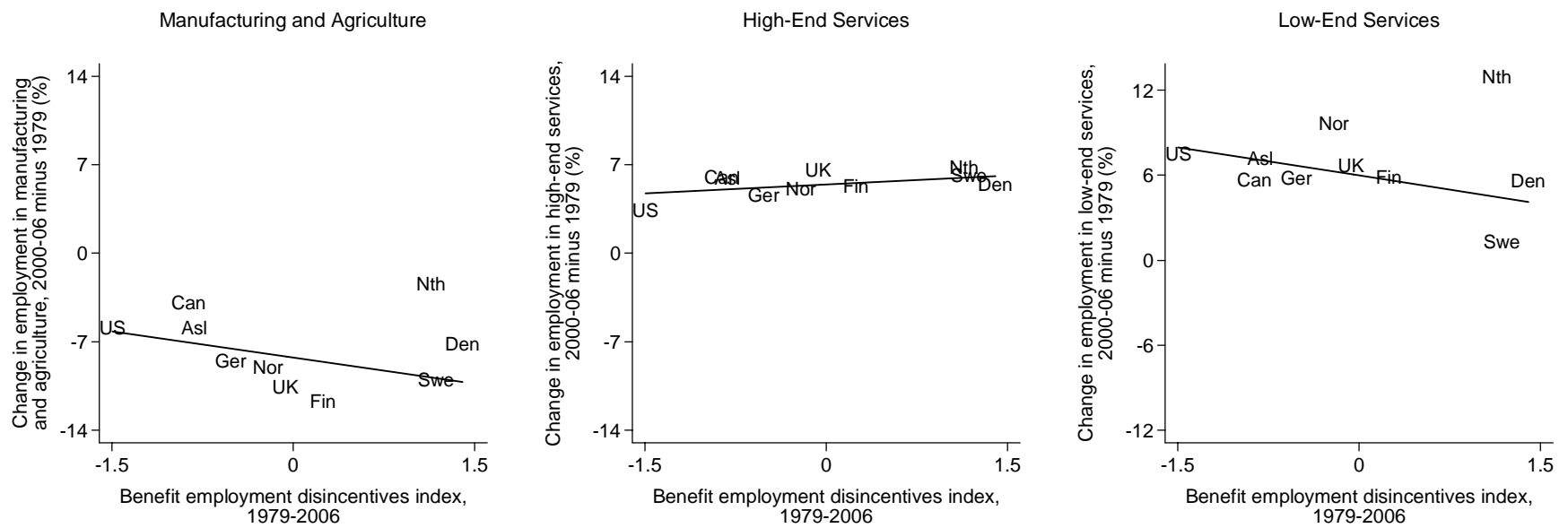


*Note:* Vertical axis in the first chart is truncated. The regression line in the second chart is calculated with the Netherlands excluded. "Benefit employment disincentives index" is a measure of government benefit generosity; it is calculated as described in the text (and in the appendix). The benefit employment disincentives index is an average for all available LIS years between 1979 and 2006, though for most countries the most recent available LIS data set as of this writing (January 2008) is for the year 2000. France and Italy are not included due to lack of data. For data definitions and sources, see the appendix.

However, we need to disaggregate employment growth by sector. I do so in figure 6. The three charts show employment change from 1979 to 2000-06 in, respectively, manufacturing and agriculture, high-end services, and low-end services. "High-end" services include finance, insurance, real estate, and other business services (ISIC 8). "Low-end" services include wholesale and retail trade, restaurants, and hotels (ISIC 6) and community, social, and personal services (ISIC 9). Because of its outlier status with respect to employment growth, the Netherlands is not included in calculating the regression lines in these charts.

The first chart suggests that part of the association between benefit-generated work disincentives and employment change is due to manufacturing and agriculture. Employment trends in manufacturing and agriculture are explained almost entirely by the level of employment in these two sectors at the beginning of the period (Kenworthy 2008, ch. 4). All of these countries experienced job loss in manufacturing and agriculture, and the degree of loss was directly proportional to the level of manufacturing and agricultural employment in 1979. It is possible that the generosity of government benefits played some role in employment developments in these sectors, but if so that role is likely to have been fairly minor.

Figure 6. Change in Employment in Various Sectors, 1979 to 2000-06, by Benefit Employment Disincentives



Note: "High-end services" include finance, insurance, real estate, and other business services (ISIC 8). "Low-end services" include wholesale and retail trade, restaurants, and hotels (ISIC 6) and community, social, and personal services (ISIC 9). "Benefit employment disincentives index" is a measure of government benefit generosity; it is calculated as described in the text (and in the appendix). The benefit employment disincentives index is an average for all available LIS years between 1979 and 2006, though for most countries the most recent available LIS data set as of this writing (January 2008) is for the year 2000. France and Italy are not included due to lack of data. Change in employment is calculated as the 2000-06 employment rate minus the 1979 employment rate. The regression lines are calculated with the Netherlands excluded. For data definitions and sources, see the appendix.

There is no association between the benefit employment disincentives index and employment change in high-end services. That is not surprising. Jobs in this sector tend to pay relatively well, so for most people even relatively generous benefits will not discourage employment.

It is in low-end services that we would expect to observe the strongest impact of benefit generosity. With the Netherlands excluded, there is indeed a negative association between the benefit employment disincentives index and employment growth in low-end services. For total employment, shown in the second chart in figure 5, a regression of employment change on the employment disincentives index yields a coefficient of -2.8. This suggests that a country with a score at the low end of the index (around -1.5) would have enjoyed about 8.4 percentage points more employment growth than a country at the high end (around 1.5). For low-end services, the coefficient is only half as large: -1.3. And note that the pattern is heavily influenced by the Swedish case. If Sweden is omitted, the regression coefficient drops to -0.5.

Figure 7. Change in Employment in Low-End Services, 1979 to 2000-06, by Cash Social Expenditures on the Working-Age Population — 19 Countries



Note: The regression line is calculated with the Netherlands excluded. Cash social expenditures on the working-age population is an alternative measure of government benefit generosity; it is used here because it allows inclusion of more countries. France is not included due to lack of data on employment by sector. For data definitions and sources, see the appendix.

Data are available for other countries for a substitute measure of government benefit generosity: cash social expenditures directed toward the working-age population, measured as a share of GDP. As I suggested above, this is a crude measure of benefit generosity. However, for the ten countries for which the benefit employment disincentives index can be calculated, the two measures (with each calculated as an average over all available years in the 1980s and 1990s) are very closely correlated:  $r = .94$ . The cash social expenditures measure is thus likely to be a useful substitute.

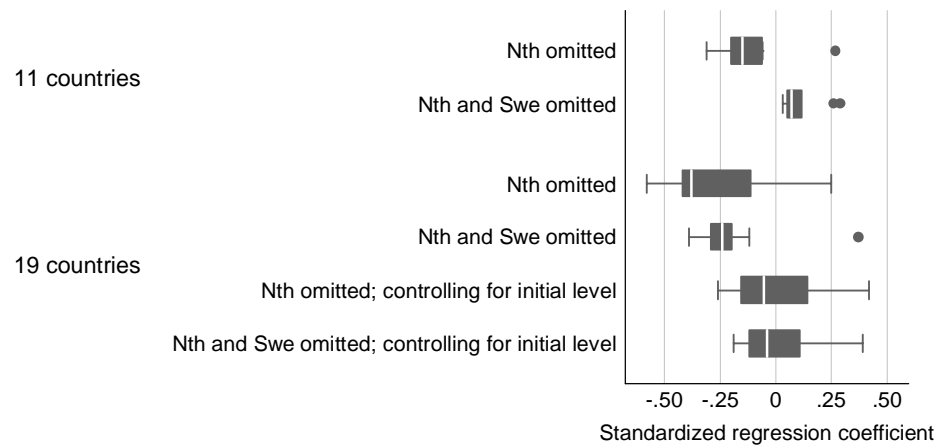
Figure 7 replicates the third chart in figure 6 with eight additional countries: Austria, Belgium, Ireland, Italy, Japan, New Zealand, Portugal, Spain, and Switzerland. The association is again negative, and similar in magnitude. With the cash social expenditures measure of benefit generosity used, the coefficient for regression line in the third chart of figure 6, with 10 countries, is  $-.27$ . For the nineteen countries in figure 7, the coefficient is  $-.37$ . (The Netherlands is excluded from both calculations.) The difference between the low-end country and the high-end country on the cash social expenditures measure is approximately ten percentage points. Thus, if  $-.37$  is the true effect of government benefit generosity, a country at the low end has experienced nearly 4 percentage points less growth in low-end service employment since the late 1970s than a country at the high end.

This, however, is without controlling for other determinants of employment growth. Figure 8 shows coefficients for government benefit generosity from a variety of regressions with employment change over 1979 to 2000-06 in low-end services as the dependent variable. The figure reports the results for the government benefit generosity variable in each set of regressions in boxplots. I use the cash social expenditures on the working-age population measure of benefit generosity, as it is available for more countries than the employment benefit disincentives measure. The regressions include all possible combinations of the cash social expenditures variable and one or two of a set of other variables commonly thought to affect employment growth: earnings inequality (low-end wages), employment protection regulations, payroll and consumption taxes, real long-term interest rates, imports, change in real unit labor costs, and product market regulations (see Kenworthy 2008, ch. 4). For the smaller group of countries, earnings inequality and imports are too closely correlated with government benefit generosity to be included in the regressions. For the larger group of countries I control for the "catch-up" effect by estimating an additional set of regressions that include a variable representing the 1979 employment level in low-end services.

The coefficients for the government benefit generosity variable vary widely depending on the model specification and the countries included. For several of the sets of regressions, particularly those with Sweden excluded, the median coefficient is close to zero. For example, for the larger group with Sweden excluded and a control for 1979 employment in low-end services, the median coefficient is

-.04. If that is the true effect of government benefit generosity on employment growth in low-end services, a country at the high end has experienced less than half of one percentage point less growth since the late 1970s than a country at the high end. If that were to continue for 100 years, it would amount to a noteworthy difference. But in the medium-run it is not particularly large.

Figure 8. Regression Results: Estimated Effect of Government Benefit Generosity on Employment Change in Low-End Services, 1979 to 2000-06



Note: Unstandardized coefficients for government benefit generosity — measured as cash social expenditures on the working-age population variable as a share of GDP — from ordinary least squares (OLS) regressions using all possible combinations of government benefit generosity and one or two of the following additional independent variables: earnings inequality (P50/P10 ratio), employment protection regulations (index), payroll and consumption taxes (% of GDP), real long-term interest rates (%), imports (% of GDP), real unit labor cost changes (%), and product market regulations (index). Finland is missing from regressions that include the real interest rate variable. The third and fourth sets of regressions for 19 countries also include a variable representing the level of employment in low-end services in 1979 to control for "catch-up" effects. The dependent variable is absolute change in the employment rate in low-end services: the employment rate in 2000-06 minus the rate in 1979. For data definitions and sources, see the appendix.

France is not included due to lack of data on employment by sector. Finland is missing from regressions that include the real interest rate variable.

With 11 countries, there are 13 regressions. For this group of countries the earnings inequality and imports variables are not included due to multicollinearity. With 19 countries, there are 26 regressions.

The "whiskers" refer to the minimum and maximum coefficients. The edges of the box indicate the 25th- and 75th-percentile coefficients. The vertical white line is the median coefficient. Separate dots indicate "outliers" — coefficients that are substantially larger or smaller than the others in that set.

### Country Experiences

Given the ambiguity of the cross-country comparative evidence, it would be helpful for analytical purposes to have a country or two in which government benefit generosity decreased substantially over time. If employment in low-end services subsequently increased, this would provide stronger support for a conclusion that benefit generosity is an important determinant of employment out-

comes. Most affluent countries have reformed their social policy programs in one way or another during the past several decades (Huber and Stephens 2001; Pierson 2001; Swank 2002; Korpi and Palme 2003; Scruggs 2004; Hicks and Zorn 2005). Yet the charts in figure 2 above indicate that degree of benefit generosity for low-earning working-age households has not shifted appreciably in any of the countries since the late 1970s.

### **A Generous and Employment-Friendly Benefit Package**

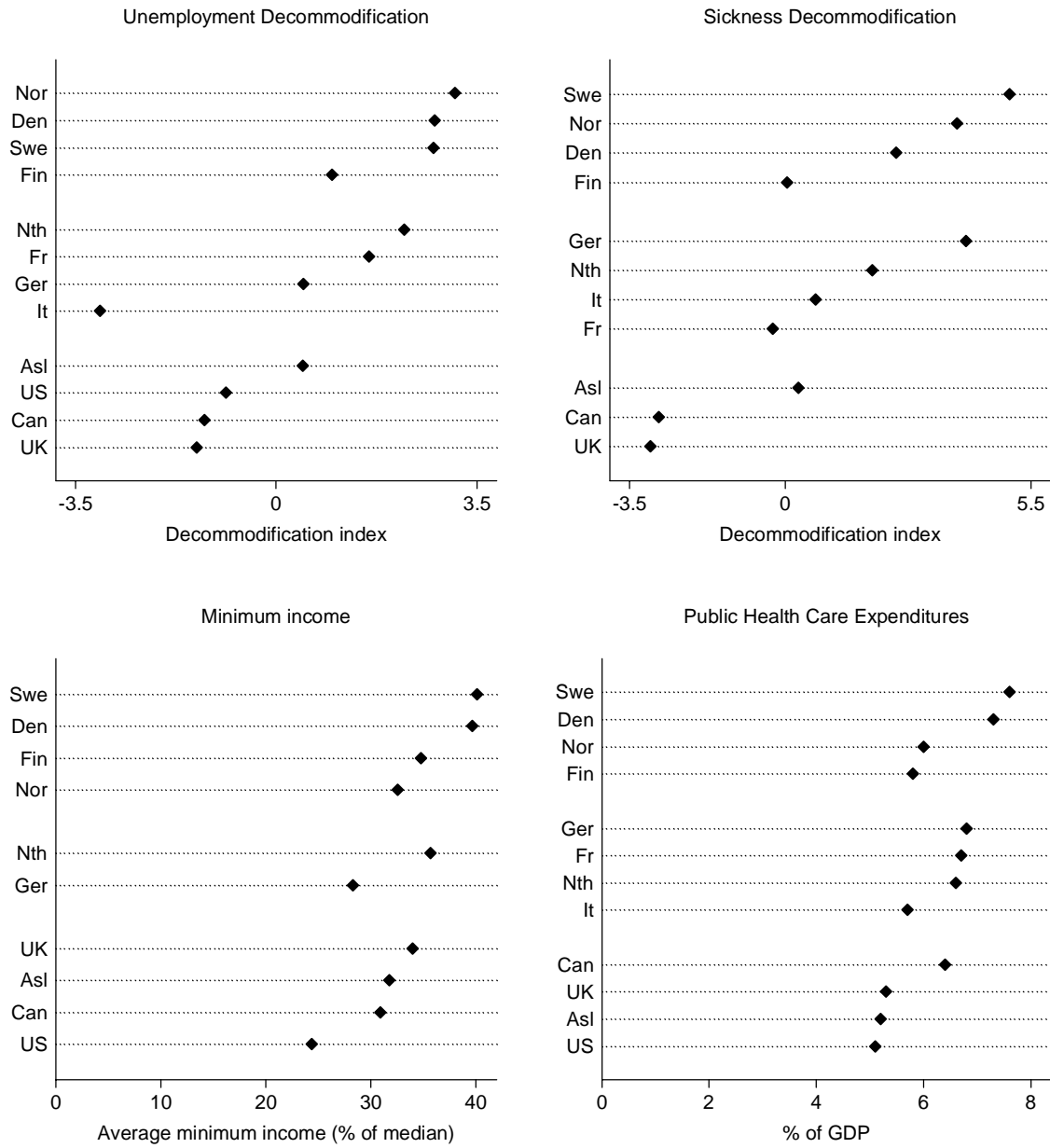
Even if their impact on employment growth has not been large, generous benefits do create employment disincentives. One way to reduce such disincentives is to reduce the generosity of benefits. But for those interested in achieving both high employment and low inequality, that is not a desirable strategy. Are there other options? A policy strategy that includes generous benefits but also is conducive to high employment would be to couple a number of elements of the "social democratic approach" pursued in the Nordic countries with a type of benefit originating in the United Kingdom and the United States.

#### ***The Social Democratic Approach***

The Nordic countries do many things right with respect to employment-friendly social policy. Cash and near-cash benefit programs tend to be comprehensive (they cover most types of social risk) and generous, and they are effective at reducing income inequality and poverty (Esping-Andersen 1990; Björklund and Freeman 1997; Björklund 1998; Korpi and Palme 1998; Kenworthy 1999, 2004a; Huber and Stephens 2001; DeFina and Thanawala 2004; Smeeding 2004; OECD 2005a, ch. 6; Pontusson 2005, 2007; Scruggs and Allan 2005; Abrahamson 2006). Let me illustrate with reference to programs in Denmark and Sweden.

Unemployment and sickness insurance programs in these two countries are among the world's most generous (Scruggs 2004). The first two charts in figure 9 show a measure of decommodification for these two policies. The decommodification score is an index based largely on the share of the labor force that is eligible for the program and on the average replacement rate — that is, the share of former income that the program benefit replaces. During the 1980s and 1990s, more than 70% (in the 1990s more than 80%) of the labor force was eligible for unemployment compensation in both countries. The net replacement rate — the amount of benefit after taxes relative to the worker's former wage or salary — was about 65% in Denmark and 75-80% in Sweden. More than 95% of the labor force in both countries was eligible for sickness compensation, and the replacement rate averaged around 65% in Denmark and 75-85% in Sweden.

Figure 9. Key Types of Benefit Generosity in the Social Democratic Approach, 1979ff.



Note: Data are 1979ff period averages. Ending year is 2002 for the two decommodification indexes, 2006 for minimum income, and 2001 for public health care expenditures. "Average minimum income" is a measure of government benefit generosity; it is calculated as described in the text (and in the appendix). France and Italy are not included in the "minimum income" chart due to lack of data on pretax income. The United States has no public sickness insurance program. For data definitions and sources, see the appendix.

Figure 10. Policies to Boost Employment in the Social Democratic Approach, 1979ff.



Note: Data are 1979-2001 period average for active labor market policy and 1979-97 period average for public employment. Data on active labor market policy expenditures are not available for Italy. For data definitions and sources, see the appendix.

Social assistance and disability compensation also are comparatively generous in these two countries. This is indicated perhaps most clearly by the high average posttax-posttransfer income (relative to the median) for single-adult households with no market income. These figures, which were used in figure 3 above, are reproduced here in the third chart in figure 9.

Sweden and Denmark also offer extensive provision of public services such as health care. Services are not included in measures of income, so public service provision has no direct impact on the measured degree of income inequality. But provision of high-quality public services clearly has an equalizing effect in practice. Service provision is equivalent to offering a flat-rate cash benefit to all households, which is inherently redistributive as long as service consumption is relatively equal throughout the income distribution and the tax system is not structured too regressively. The fourth chart in figure 9 shows that Denmark and Sweden devote a larger share of GDP to public expenditures on health care than do other countries.

What do these countries do to encourage and support employment? One way to do so is via eligibility rules and duration of benefit receipt. Here Sweden and Denmark have had mixed success. In both countries there is a "productivist" orientation toward work and welfare; with some exceptions, non-disabled work-



ing-age adults are expected to work. Yet this has been partially offset by some of the characteristics of benefit programs.

In Sweden, to qualify for unemployment insurance a person must have been employed for a full year and (except for 1988 to 1992) there is a five-day waiting period before eligibility for the benefit commences. For a typical worker the maximum duration of benefit receipt is 60 months. These are reasonably stringent criteria. For sickness insurance, by contrast, there is no prior-length-of-employment stipulation for eligibility, the waiting period is just one day, and there is no formal limit on the duration of receipt. As a result, the sickness leave program has almost certainly encouraged abuse. 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."

In Denmark, work disincentives have been produced mainly by the unemployment insurance program. Since the early 1980s individuals have been eligible for sickness benefits for only two years, and more recently just one year. Unemployment benefits, by contrast, had no de facto duration limit prior to the mid-1990s. At that point duration was reduced to five years. This remains a comparatively long period for benefit eligibility, but the change appears to have had a beneficial impact on job-seeking and employment (Benner and Vad 2000; Björklund 2000; Goul Andersen 2002).

Sweden and Denmark have used active labor market programs such as retraining and job placement assistance to help improve the efficiency of the private-sector labor market and public employment to increase demand for labor (Ginsburg 1983; Rehn 1985; Björklund and Freeman 1997; Benner and Vad 2000; Björklund 2000; Martin 2000; Goul Andersen 2002; Kvist and Ploug 2003; OECD 2003a, pp. 202-14; Madsen 2006). As figure 10 shows, Denmark and especially Sweden have tended to commit a larger share of GDP to such programs than other countries. Sweden has long been at the forefront in use of active labor market policy. Swedish firms must notify their local board in advance when employees are to be laid off and when they have job openings that have lasted more than ten days. Workers who are displaced or who leave their job by choice can receive subsidized training through the employment service. Officials in local labor market boards keep in close communication with firms and with officials in other areas regarding trends in skill needs. The training programs are full-time and range in duration from two weeks to more than a year. The service then

helps to place workers in new positions. If necessary, an employer subsidy may be used to encourage a private-sector employer to hire, or a public-sector job may be created. Denmark increased pursuit of active labor market programs in the mid-1990s, with apparently beneficial effects.

Figure 10 shows average levels of public employment as a share of the working-age population since the late 1970s. In these two countries the government employs around one in five working-age persons, compared to fewer than one in ten in a number of the other nations.

These two countries have been in the vanguard in introducing and expanding a variety of "women-friendly" policies that both encourage women to enter the labor market and facilitate their continuation in employment despite family needs. The most notable such policies are affordable child care, paid maternity leave, public employment, supports for part-time work, and tax systems that do not discourage a second earner within households. Both countries provide very extensive provision of and generous support for high-quality child care and preschool, and both offer a generous but not-too-lengthy paid parental leave.

### ***Employment-Conditional Earnings Subsidies***

The Social Democratic approach to benefits has two important drawbacks. One is that it is expensive (Björklund and Freeman 1997; Esping-Andersen 1999; Scharpf 2000; Andersen 2004; Iversen 2005). Part of the apparent cost is artificial. The Nordic countries provide generous benefits but then tax back a portion of them (Ferrarini and Nelson 2003). The measured level of expenditure and taxation is therefore exaggerated. But a substantial portion of the expense is real. As figure 2 above indicates, these countries, and particularly Denmark and Sweden, offer comparatively generous net benefits to households with low market income. Sustaining the tax base necessary for such transfers poses a significant political challenge.

The second drawback is that the generosity of the benefits creates employment disincentives. One way to alleviate this problem is to establish stringent eligibility criteria and keep the duration of benefit eligibility relatively short (OECD 1994, 2005a, ch. 7; Layard and Nickell 2003). Although sensible in principle, this approach may not be so easy to implement in practice. If any countries are in position to pursue this approach, Sweden and Denmark fit the bill. As noted earlier, both have a "productivist" culture that values employment. And the governments in both countries offer an array of supports for employment, from job training and placement assistance to public sector jobs to quality child care. These supports are likely to make stringent eligibility criteria for benefits more politically palatable. Yet both countries have struggled to some degree with what may be excessively lenient eligibility rules and/or excessively lengthy duration of particular types of benefits — Sweden with sickness compensation and Denmark with unemployment compensation.

An alternative approach is to offset the employment disincentives stemming from generous benefits by setting the wage floor at a relatively high level. However, doing so can create employment disincentives on the demand (employer) side. That is, more people may be encouraged to work by the high wages, but because wages are high employers may be unable or unwilling to hire them — at least in low-productivity positions.

A potentially effective tool for addressing this seeming impasse is an employment-conditional earnings subsidy. Such a subsidy permits lower wages at the low end of the distribution without excessive loss of household income. It also creates an employment incentive. And to the extent it promotes greater employment, it reduces expenditures on various types of benefits.

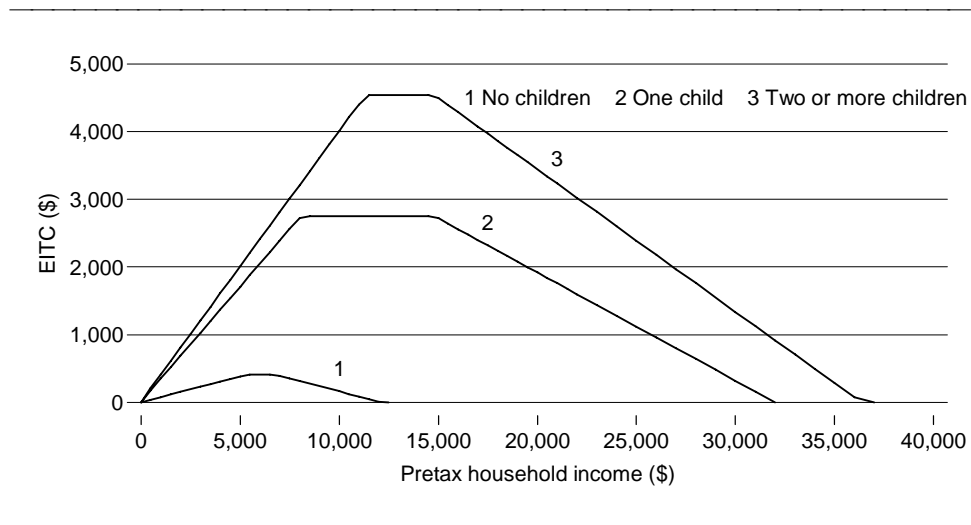
There are two main types of employment-conditional earnings subsidies (Pearson and Scarpetta 2000; OECD 1999, 2003b, 2004a, 2005b). The Earned Income Tax Credit (EITC) in the United States and the Working Tax Credit (WTC) in the United Kingdom are examples of subsidies that are paid in the form of cash benefits — actually, refundable tax credits — to households, with the amount of the subsidy determined by household income. France, Germany, and the Netherlands, by contrast, have subsidies that take the form of a payroll tax reduction for employees and are targeted to individuals rather than households.

The United Kingdom was the first country to introduce an employment-conditional earnings subsidy (Blundell et al. 2000; Dilnot and Macrae 2000; Brewer 2001; HM Treasury 2002). The Family Income Supplement, created in 1971, provided a means-tested benefit to adults working 24 hours or more per week with a dependent child. In 1988 the program name was changed to Family Credit. In the early 1990s the hours requirement was reduced to 16 per week, and a child-care disregard was added. In 1999 the Labour government replaced the Family Credit with the Working Families Tax Credit, substantially easing eligibility criteria and increasing the generosity of the benefit. These changes had large effects on program use and generosity. Within four years the average benefit level increased by nearly half and the number of recipients doubled (Leigh 2005, p. 6). In 2003 the credit was extended to childless households and the program name was changed to Working Tax Credit.

I will focus on the Earned Income Tax Credit (EITC) in the United States. The EITC was created in 1975. As of 2006, it provided a tax credit to households with at least one working adult and a pretax household income up to \$36,000. The amount of the credit depends on household size and income. Figure 11 shows the benefit levels in 2006 for a couple with two or more children, a single adult with one child, and a single adult with no children. For a household with two or more children, the EITC provided a 40% earnings subsidy for those with earnings up to \$11,000, a flat subsidy of \$4,536 to those with earnings between \$11,000 and \$14,500, and a subsidy of \$4,536 minus 21% of earnings above

\$14,500 for those with earnings between \$14,500 and \$36,000. The current level of the credit, which was established in 1993 and adjusted for inflation each year since then, is designed to ensure that a family of four with one full-time year-round minimum wage worker has an income at or above the official U.S. poverty line through a combination of earnings, the EITC, and food stamps (Ellwood 1996). The EITC is refundable, which means that if it amounts to more than the household owes in federal income taxes, as is often the case, the household receives the difference as a cash refund. It therefore functions like a cash benefit.

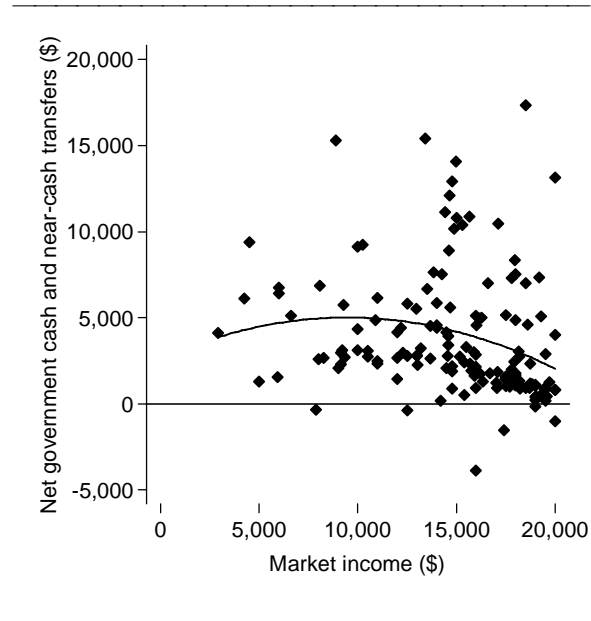
Figure 11. U.S. Earned Income Tax Credit, 2006



Note: The households are assumed here to have non-married adult(s); at certain pretax income levels, the benefit is slightly higher for a married couple. Source: Center on Budget and Policy Priorities (2006).

Figure 12 illustrates the impact of the EITC on incomes for low-earning households. Using LIS data, it plots net government transfers (benefits minus taxes) by pretax-pretransfer income for U.S. households with two employed adults and two children and market income of less than \$20,000 in the year 2000. The dots in the chart represent households. (They are approximations, as LIS confidentiality rules prohibit researchers from accessing information about individual households.) There is considerable variation in the amount of net benefits received by such households at any given level of market income. This is to be expected, as these households may have received various types of transfers, including unemployment insurance, Temporary Assistance for Needy Families (TANF), Food Stamps, Supplemental Security Income (SSI), the Earned Income Tax Credit, and others. Still, the overall pattern is heavily influenced by the structure of the EITC.

Figure 12. Net Government Transfers by Market Income for Four-Person Families with Two Working-Age Employed Adults and Two Children, United States, 2000



*Note:* Dots represent households. "Net government transfers" refers to total government cash and near-cash transfers received by the household minus payroll and income taxes paid. These data are approximations, as the Luxembourg Income Study does not permit researchers to obtain data for individual households. For data definitions and sources, see the appendix.

The Earned Income Tax Credit is an effective program in several respects. First, it directly boosts the incomes of low-earning households. The EITC has been found to be more effective at increasing the incomes of low-earning households than employer hiring subsidies and the minimum wage (Dickert-Conlin and Holtz-Eakin 2000; Hotz and Scholz 2000; Neumark and Wascher 2000). This is largely because it is targeted to households rather than individuals. An employment-conditional earnings subsidy can, alternatively, be directed to individual low-wage workers (Haveman 1997). But a low-earning individual may or may not be part of a low-earning household. Since earnings tend to be pooled within households, *households* are, arguably, the unit to which subsidies should be provided (Blank 2000; Kenworthy 2004a). Second, studies consistently find that the EITC tends to encourage labor market participation (Blank, Card, and Robbins 2000; Hotz and Scholz 2000, 2004; Meyer and Rosenbaum 2002; Blank 2003, p. 1140; Hoffman and Seidman 2003). Third, the EITC is relatively inexpensive to administer. It has far lower administrative costs than more bureaucratic American programs such as AFDC-TANF and Food Stamps (Hotz and Scholz 2000).

Fourth, because the EITC is implemented through the tax system, recipients avoid the discomfort and stigma associated with going to a public office to apply for assistance.

Table 2. Earnings and Posttax-Posttransfer Income for a Hotel Room Cleaner in Denmark and the United States, 2006

Denmark		
Earnings	\$ 32,744	\$16.36 per hour x 1,740 hours, plus 15% (260 hours) vacation pay
Unemployment insurance contribution	-1,273	
Income tax	-10,891	
Wage subsidy (tax credit)	+120	
Subtotal	20,700	
Consumption tax	-5,175	25% on two-thirds of net income (\$20,680 x .25)
Total	\$ 15,505	
United States		
Earnings	\$ 10,500	\$5.25 per hour x 2,000 hours
Social Security & Medicare tax	-800	7.65%
Federal income tax	-0	
State income tax	-1,000	Estimate
Earned Income Tax Credit	+4,210	Assuming two children (\$2,750 if one child; \$250 if no children)
Child tax credit	+0	Kicks in at income of \$12,000
Food Stamps	+2,570	Average monthly benefit as of 2006 = \$214 (\$214 x 12)
Subtotal	15,480	
Consumption tax	-520	5% on two-thirds of net income (\$10,370 x .05)
Total	\$ 14,960	

*Note:* Assumes two children. Conversion rate: 5.5 Danish kroner = 1 U.S. dollar. Source: Author's calculations with help from Niels Westergaard-Nielsen.

Table 2 offers some comparative insight into how the Earned Income Tax Credit can help to pull up incomes of low-wage workers. It compares the earnings and disposable incomes of low-wage workers in Denmark and the United States. The wage rates are representative for a hotel room cleaner as of 2006. The hourly wage in Denmark is three times that in the U.S.: \$16.36 per hour versus \$5.25. But in Denmark income taxes take a significant chunk. In the United States income taxes on earnings this low are collected only by state governments, and they are relatively small. Payroll taxes (Social Security and Medicare) also reduce net income, but again by a fairly small amount. For a household with two children (assumed here), the EITC payment significantly boosts the household's

income. In the end the two households have similar disposable incomes despite the stark difference in wages.

There are important caveats. One is that if the household has only one child the EITC benefit is reduced by more than \$2,000, and with no children it drops to virtually nothing. Second, the high tax payments in Denmark fund government services such as health care and childcare/preschool, which substantially boost living standards for low-income (and other) households. Third, in Denmark employees receive paid vacation equivalent to 15% of their gross earnings, which means the Danish worker receives earnings equivalent to 2,000 hours of work but in fact only has to work 1,740 hours. The point of this comparison is simply to illustrate how helpful an employment-conditional earnings subsidy can be in a low-wage context.

The EITC is now by far the most widely used cash or near-cash transfer program for working-age Americans; approximately 20% of the population receive EITC benefits (Kenworthy 2004a, p. 157). While the share of AFDC-TANF and Food Stamp recipients has dropped steadily since the mid-1990s, EITC use has remained high. This is a function of increased labor market participation among those with low skills and a 1993 expansion of eligibility criteria. As of the mid-2000s, approximately \$36 billion was spent on the EITC, compared to \$16 billion on TANF.

With respect to the goals of high employment and low inequality, it is clearly on the latter that the United States fares worst in comparative terms. Given the EITC's success at boosting incomes while simultaneously encouraging employment, one policy strategy for moving toward jobs with equality in the United States might center on increasing the generosity of the EITC. This would need to be complemented by an increase in the minimum wage.

Suppose we believe a minimally decent income for a family of one adult and two children is \$22,000 after taxes and transfers. As of 2006, the official poverty line for a household of this size and composition was approximately \$16,000, which is almost certainly far too low. A decade earlier, in 1996, the median response of Americans to a 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). A 2001 study of the cost of living in metropolitan and rural areas throughout the United States concluded 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 implies somewhere between \$30,000 and \$45,000. So let's use \$22,000 as a very conservative estimate of a minimum acceptable income for a family of three.

How can this family get to \$22,000? Suppose the adult works full-time year-round at a minimum wage job. She or he earns \$10,712 (\$5.15 per hour multiplied by 2,080 hours per year). Payroll (Social Security and Medicare) taxes will reduce this by about \$700, leaving approximately \$10,000. Let's assume no fed-

eral or state income taxes are owed. Food Stamps would add approximately \$2,000 (Stoker and Wilson 2006, p. 92). This yields roughly \$12,000. To get to \$22,000, the family needs an additional \$10,000. As of 2006, this family would receive \$4,200 from the EITC. Thus, the EITC benefit level would need to be more than doubled in order for this family to reach \$22,000 in posttax-posttransfer income.

EITC payouts total approximately \$36 billion. At first glance, then, doubling the benefit level presumably would cost approximately twice this much. Government cash social expenditures on the working-age population in the United States totaled about \$240 billion (and a great deal more is spent on Social Security and Medicare), so doubling the EITC would represent an addition to social spending on this segment of the population of about 15%. That is certainly affordable. And it would not be unprecedented: the 1993 expansion of the EITC doubled the value of the credit for most households.

But a doubling of the benefit level would likely cost substantially more than this. The reason has to do with the phase-out range of the credit. Suppose that the maximum value of the credit for a family of four continued to kick in at a pretax income of \$11,500 and that the phase-out continued to begin at \$14,500. If the credit continued to decrease to zero at a pretax income of \$36,000, the phase-out rate — the slope of the line on the right side of figure 11 — would increase sharply. This might create work nontrivial disincentives. That is especially true for two-adult households: because the level of the EITC benefit is based on total household income, it can potentially deter labor market entry for a spouse when her/his partner has a paying job with earnings at some point in the phase-out region (OECD 2003b, pp. 118-19). At the current phase-out rate, this disincentive appears to have relatively little impact (Wasow 2000).

If the EITC benefit level were doubled, the credit would have to extend to households farther up the income distribution in order to keep the phase-out rate the same as it is now. To be precise, the credit would reach zero for families of three (one adult and two children) with a pretax income of approximately \$58,000. That is almost exactly the median for a household of this size and type. Because the income distribution is roughly bell-shaped (though with a pronounced skew at high income levels), there are many households in the middle of the distribution. Thus, making those in the middle of the distribution eligible for the EITC would dramatically increase the number of recipients. While this would enlarge the base of political support for the program, it also would substantially increase its cost. The latter could prove to be a sizeable political problem.

An alternative way to achieve the desired end would be to combine an increase in the EITC benefit level with an increase in the minimum wage (Blank 2001; Sawhill and Thomas 2001). Suppose, for instance, that the minimum wage were increased to \$7.50 per hour. Now annual earnings in a minimum wage job would be approximately \$15,600. Payroll taxes would subtract \$1,200, and Food



Stamps would again add about \$1,600. This leaves \$16,000, so our three-person family needs \$6,000 to reach \$22,000. At this earnings level the family would currently receive about \$4,000 from the EITC. Now, in other words, the EITC would need to be increased by approximately 1.5 times, rather than doubled.

This calculation applies to only one type of household, of course. But it illustrates the point that it would be difficult to rely on the Earned Income Tax Credit alone to pull single-adult families up to even a fairly low income. An additional reason for combining an increase in the EITC with an increase in the minimum wage, rather than relying solely on the EITC, is to ensure that both taxpayers and employers, rather than the former alone, bear the cost of ensuring decent incomes for those at the low end of the distribution.

Aside from the potentially large financial cost of a substantial increase in its generosity, are there other reasons to be less than fully enthusiastic about using the Earned Income Tax Credit as the centerpiece of a jobs-with-equality strategy for the United States? The policy does have some limitations and drawbacks.

One limitation is that, as figure 11 indicates, the EITC benefit for households with no children is very low. It should be increased.

A second is underutilization, which results from the fact that a household cannot receive the credit without filing a federal income tax return. An estimated 15-20% of those eligible fail to claim the credit (Center on Budget and Policy Priorities 2002).

A third drawback is fraud. A study of 1999 filings by the Internal Revenue Service found that claims for the EITC exceeded the amount to which filers were actually eligible by approximately 30% (Hotz and Scholz 2004). However, this seems likely to have been an overestimate, and new compliance measures enacted in subsequent years have almost certainly reduced this (Greenstein 2003). For purposes of comparison, data on overall U.S. tax compliance suggest that approximately 15-20% of total taxes owed are not paid.

Fourth, a generous EITC could potentially allow employers to keep wages artificially low or even reduce them. We have little information on the extent to which this has occurred thus far. Prior to 1993 the EITC benefit was almost certainly too low to have had any such impact. The real value of the benefit was effectively doubled in the years immediately after 1993. Yet from 1995 to 2000, real wages and earnings at the low end of the American labor market increased for the first time in more than two decades (Mishel, Bernstein, and Allegretto 2007). This seemingly contradicts the expectation that employers might use a generous earnings subsidy to freeze or reduce wages. But the mid-to-late 1990s was a boom period for the American economy, with a tight labor market. It is impossible to know what would have happened in the counterfactual scenario of an expanded EITC without an economic boom. Hence we have little evidence to help us assess the effect of a generous EITC on wage levels and trends.

A fifth concern has to do with the impact of the EITC on the underlying structure of the labor market. Subsidizing low-wage jobs means forgoing the opportunity to force employers to improve productivity (Bertola 2000). It reduces the incentive for individuals in low-wage jobs to upgrade their skills in order to advance up the earnings ladder. More fundamentally, it signals a commitment by citizens and policy makers to a low-wage economy. For some, this is the wrong choice to make. Instead, affluent countries should seek to upgrade the occupational and earnings structure so that a progressively larger share of the population is employed in jobs requiring moderate-to-high skills and paying moderate-to-high wages. Although this is an appealing vision, I am skeptical. As societies increase in affluence, citizens tend to spend a larger share of discretionary income on consumer and personal services: medical care, child care, restaurants, hotels, cleaning. People become more willing to pay someone to keep them healthy, to help take care of their children, to prepare and serve them meals, to keep their home and yard and clothes clean. These jobs expand in numbers, seemingly inexorably. That is not a bad thing in and of itself. It provides opportunity for more people to be employed. The problem is that productivity levels in these jobs are relatively low and difficult to increase. Hence there are limits to pay levels. Should we try to reduce the number of such jobs? Or should we accept them, even embrace them, and find a way to ensure decent incomes for those who work in them? My inclination is that the latter is the more sensible choice.

Finally, one of the chief appeals of the Earned Income Tax Credit is that it can potentially contribute to low inequality by increasing employment and thereby helping to finance a generous welfare state in a context of population aging and constraints on taxation. But if the policy consists of government payments to low-income households, will it really add to government revenues? Or might it actually cost more (Dickens and Ellwood 2001; Iversen 2005, pp. 254, 256)? It is difficult to be sure about this, but there are several reasons for optimism. First, subsidizing low earnings is cheaper than paying full support (e.g., social assistance) to such people. Second, those who are employed and therefore eligible for the EITC pay payroll taxes. (Indeed, the EITC was initially conceived of by policy makers not as a transfer, but rather as a refund for the payroll taxes paid by low earners.) Third, those who become employed in order to qualify for the EITC will increase their work experience and perhaps other forms of human capital. At least some will later rise in the earnings ladder and thus no longer be recipients of the credit. A fourth consideration has to do with the EITC's direct impact on income inequality — that is, apart from its effect on government revenues. The EITC reduces household income inequality directly, by lowering the number of households that have no earners.

Would an employment-conditional earnings subsidy in the form of a cash payment or tax credit for low-income households be a useful policy tool for the Nordic and/or continental European countries? Three of these nations, Finland,

France, and the Netherlands, have adopted one, but in all three cases the level of the benefit is quite small. The "Earned Income Allowance" in Finland is a tax deduction; it reduces the amount of income tax owed. The "*prime pour l'emploi*" (PPE) in France is a refundable tax credit like the EITC and WTC. The "Combination Tax Credit" in the Netherlands is a nonrefundable tax credit. The maximum value of the benefit is less than 3% of the country's average production worker wage in France, less than 2% in Finland, and less than 1% in the Netherlands (OECD 2005b, pp. 141-44). For the U.S. Earned Income Tax Credit and the U.K. Working Tax Credit, the corresponding figures are 13% and 35%, respectively. Instead, France, Germany, and the Netherlands have prioritized a different form of employment-conditional subsidy: a reduction or elimination of payroll taxes paid by employees with low earnings and/or in particular types of low-paying jobs.

There are several reasons why the continental countries have preferred to offer the subsidy as a payroll-tax reduction rather than as a cash subsidy or tax credit to households. The most important is that payroll taxes are heavy in these countries. In Germany, for example, employees pay 21% of their earnings in payroll taxes. Elimination of the tax thus amounts to a 21% earnings subsidy.

Second, key political parties, unions, and many citizens in these countries do not want to embrace a U.S.-style labor market with a sizeable low-wage segment. Adoption of an EITC-style earnings subsidy is viewed as a movement in that direction.

Others, who might favor a shift toward lower wages at the bottom of the labor market with those wages supplemented by a tax credit for households, see a practical impediment. In most European countries (France and the Netherlands are exceptions), it is not governments but rather unions that determine the minimum wage level. And unions will likely be very resistant to an increase in wage inequality, not to mention an absolute reduction in wage levels at the low end of the distribution.

Might it be useful for Nordic and/or continental countries to introduce a household-based subsidy/credit even if low-end wages do not drop? If the bottom half of the wage distribution is relatively compressed, policy makers may feel compelled to make the subsidy's phase-out (withdrawal) rate fairly steep. Otherwise, a very large share of the population will qualify for the subsidy, which can dramatically increase the program's cost. But as noted earlier, a steep phase-out rate creates work disincentives in the phase-out range.

Yet for a "universal" welfare state such as those in the Nordic countries, a household-based tax credit for which a sizeable share of households qualify is not necessarily problematic. Many benefit programs in these countries are structured so that even households well above the low end of the income distribution are potentially eligible. This structure is viewed as creating strong and stable political support for such programs (Korpi and Palme 1998; Rothstein 1998). The cost is

held down by taxing a portion of such benefits via the income tax. The same could be done with a household-based employment-conditional earnings subsidy or tax credit.

An additional perceived practical impediment is the difficulty of administering a tax credit directed to households in a country in which the tax system is individualized — that is, in which the tax unit is the individual rather than the household or family. This, however, is not an insurmountable problem. The United Kingdom has had an individualized tax system since 1990 and yet has a household-based earnings subsidy. The default is that the benefit is paid to the mother, though if both spouses agree it can instead be paid to the father.

Each of these considerations is relevant, and some or all of them may continue to discourage the Nordic and continental countries from adopting a U.S.- or U.K.-style employment-conditional earnings subsidy. The individualized payroll-tax-reduction subsidies currently used in France, Germany, and the Netherlands may be appropriate given the circumstances of those countries. Mark Pearson and Stefano Scarpetta (2000, p. 19) argue as much in a review of research on policies to "make work pay":

It seems that countries fall into two camps. In those with a low tax-benefit environment and relatively low minimum wages, the essential problem is to encourage labour supply and to provide higher incomes for those in poorly paid jobs. In these circumstances, it seems reasonable to place greater stress on in-work benefits. By contrast, in countries with high levels of taxes and benefits and relatively high wage floors, making work pay schemes are likely to have high fiscal costs and risk reinforcing disincentive effects related to higher marginal effective tax rates. As a result, policy interventions in the second group of countries should probably focus on wage subsidies, as the essential problem is one of increasing labour demand for low-skilled or inexperienced workers.

Then again, analyses of the U.S. labor market have found that a relatively small share of individuals at the low end of the wage distribution in the United States live in households similarly far down in the household income distribution (Dickert-Conlin and Holtz-Eakin 1999, p. 4; Sawhill and Thomas 2001, pp. 17-18). Though the magnitude of the phenomenon may differ, the same is likely true in other countries. There is, therefore, a compelling argument to be made in favor of households rather than individuals as the unit to which the subsidy should be directed.

An employment-conditional earnings subsidy might also be useful for Australia and Canada. Labor market and social policy in Australia have a very different history than in any of the other countries, including the three other Anglo nations. Until the early 1980s, Australia's economy was structured around commodity exports and a high level of protection of domestic product markets. For approximately a century this was successful at generating high living standards

for the population. Social policy worked largely through employment. Product market protection plus Keynesian demand management ensured full employment. Wages set through a centralized arbitration system ensured a decent family wage for those with jobs. Government transfers were minimal but heavily targeted to those whose livelihood was not effectively ensured through the labor market. For the working class, the chief advantage of the minimalist welfare state was very low taxation.

By the early 1980s it was clear that the old system based around protection of the domestic market and full employment for male breadwinners was no longer feasible. With globalization, higher unemployment, more single-adult families (particularly single mothers), and a need for wage restraint, it was no longer possible to rely so heavily on wages to secure decent incomes for households at the low end of the distribution. Under five successive Labour governments from 1983 to 1996, the system was transformed, in some respects gradually and in others rapidly (Castles 1996; Pierson 2002).

The generosity of some types of benefits has been increased and new programs have been introduced to fill in gaps in the system (Whiteford and Angenent 2002). The heavily targeted character of benefit programs has been maintained, and actually accentuated. Australia is the only one of the four Anglo countries in which government expenditures on transfers directed to working-age households has increased as a share of GDP since the late 1970s, and as of the early 2000s the level of such expenditures was higher than in the other three. The country has a statutory minimum wage, and the level of that minimum is high compared to that in other affluent nations. Wage inequality has not increased since the late 1970s.

This new system has functioned reasonably effectively up until now. But it is premised on a societal norm of having mothers stay home with their children until formal schooling begins, whether there is an employed father (or other adult in the home) or not. To the extent this changes, due to shifting norms or a need for higher employment, there may be a rationale for allowing the minimum wage to fall a bit and compensating with an employment-conditional subsidy (Dawkins 2001).

Canada's statutory minimum wage is only slightly higher than that in the United States, and thus not particularly high by comparative standards. An employment-conditional earnings subsidy could therefore be a useful policy tool. Since 1993 Canada has had a refundable tax credit, the Universal Child Benefit (Myles and Pierson 1997). But it is not conditional on employment; instead it goes to all low-income families with children. Given the economic and political centrality of the child benefit, it may be through the provinces that an employment-conditional subsidy is most likely to be developed. Indeed, Quebec has introduced just such a subsidy, the *Prime au travail*. The maximum amount of

the benefit is for a couple with two or more children, at 7% of average production worker pay (OECD 2005b, p. 141).

## Conclusion

Generous benefits for those with low market incomes are critical to effective redistribution, which in turn is key to successful pursuit of low income inequality (figure 3). A generation ago the chief constraint on benefit generosity was the level of taxation a country's citizens were willing to accept. But governments are now more constrained in their ability to raise tax rates, and in coming decades a larger share of government revenues will have to be devoted to pensions and health care for a growing elderly population. A high employment rate can help to fund generous benefits. Affluent countries thus need to be more attentive than ever to the employment disincentives created by such benefits.

The macrocomparative evidence examined in this paper suggests that benefit generosity may have contributed to cross-country differences in employment growth since the 1970s. But it also suggests that if so, the magnitude of the effect may not have been very large. Radical reductions in benefit generosity are therefore unlikely to be necessary to produce reasonably healthy employment rates.

A benefit package conducive to low inequality and high employment might usefully include much of what the Nordic countries, and in particular Denmark and Sweden, have done over the past several decades coupled with an employment-conditional earnings subsidy.

## Appendix: Data Definitions and Sources

*Active labor market policy.* Expenditures on active labor market programs as a share of GDP. Source: OECD (2004f).

*Employment.* Employed persons as a share of the population age 15 to 64. Source: Author's calculations from data in OECD (2006b, 2008).

*Employment: high-end services.* Employment in finance, insurance, real estate, and business services (ISIC 8) as a share of the population age 15 to 64. Source: Author's calculations from data in OECD (2006b, 2008).

*Employment: low-end services.* Employment in wholesale and retail trade, restaurants, and hotels (ISIC 6) and community, social, and personal services (ISIC 9) as a share of the population age 15 to 64. Source: Author's calculations from data in OECD (2006b, 2008).

*Employment: manufacturing and agriculture.* Employment in manufacturing (ISIC 3) and agriculture, hunting, forestry, and fishing (ISIC 1) as a share of

the population age 15 to 64. Source: Author's calculations from data in OECD (2006b, 2008).

*Employment protection regulations.* Index representing the strictness of employment protection regulations — both legislation and collective agreements. Range is 0 to 3.5, with higher scores indicating greater strictness. Source: Bassanini and Duval (2006) update of data in OECD (2004f).

*Government benefit generosity: average minimum income.* Average posttax-posttransfer income when pretax-pretransfer income is zero, expressed as a percentage of the country's median pretax-pretransfer household income. Calculated for single-adult households with no children, one child, and two children. 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: Author's calculations from Luxembourg Income Study data (variables: MI, DPI). Another version of this measure, which I refer to as the "income floor" in figure 4, is calculated as the average minimum income across all three types of households and over all years for which LIS data are available.

*Government benefit generosity: payoff to additional earnings.* Average amount that posttax-posttransfer income increases per unit (dollar, euro, kronor) increase in market income, expressed as a percentage of the country's median pretax-pretransfer household income. Calculated for single-adult households with no children, one child, and two children. 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: Author's calculations from Luxembourg Income Study data (variables: MI, DPI).

*Government benefit generosity: benefit employment disincentives.* Composite measure that combines the average minimum income and the payoff to additional earnings. The measure is calculated by first standardizing both the income floor and earnings payoff measures. I then reverse the sign for the earnings payoff standardized scores, so that higher scores represent a smaller earnings payoff. I then average the two standardized scores for each country. This yields a measure of benefit employment disincentives that ranges from approximately -1.5 to +1.5, with positive values indicating stronger work disincentives.

*Government cash social expenditures on the working-age population.* Sum of family benefits and benefits for incapacity (disability, occupational injury and disease, sickness), unemployment, and "other contingencies" (mainly low income) as a share of GDP. The categories of public social expenditures that I do *not* include in this measure are old age, survivors, health, active la-

bor market programs, and housing assistance. Source: Author's calculations from data in OECD (2004f).

*Imports.* Imports as a share of gross domestic product. Source: Author's calculations from data in OECD (2008).

*Inequality of earnings among full-time employed individuals.* Ratio of pretax earnings of a person at the 50th percentile of the earnings distribution to a person at the 10th percentile. Or the 90th to the 10th; or the 75th to the 25th. Annual earnings for Canada, Finland, France (posttax), the Netherlands, and Sweden. Monthly earnings for Germany and Italy. Weekly earnings for Australia, the United Kingdom, and the United States. Hourly earnings for Denmark and Norway. The P75/P25 ratios used in chapter 3 are estimated for Denmark, France, Italy, and Sweden. Source: Author's calculations from data in OECD (2007).

*Inequality of income among households.* Gini coefficient for pretax-pretransfer or posttax-posttransfer household income. 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. For France and Italy, the pretax-pretransfer income data actually are posttax-pretransfer. Source: Author's calculations from Luxembourg Income Study data (variables: MI, DPI).

*Inequality reduction via transfers.* Gini coefficient for pretax-pretransfer household income minus Gini coefficient for pretax-posttransfer household income. Households with heads age 25-59 only. Source: Author's calculations from Luxembourg Income Study data.

*Interest rates: real long-term.* Long-term nominal interest rate (yield on long-term government bonds) minus current rate of inflation. Source: Author's calculations from interest rate data in IMF (n.d.) and OECD (2008) and inflation data in OECD (2008).

*Product market regulations.* Index representing regulatory impediments to competition in seven industries: gas, electricity, post, telecommunications, passenger air transportation, rail transportation (freight and passenger), and road freight. Range is 0 to 6, with higher scores indicating greater strictness. Source: Bassanini and Duval (2006).

*Public employment.* Persons employed in the public sector as a share of the population age 15 to 64. These data are not available beyond 1997. Source: Author's calculations from data in OECD (2008).

*Public health care expenditures.* As a share of GDP. Source: Author's calculation from data in OECD (2004f).

*Real unit labor cost changes.* Year-to-year percentage change in employee compensation, adjusted for changes in productivity and for inflation. Source: Au-



thor's calculations from nominal unit labor cost and consumer price index data in OECD (2008).

*Sickness decommmodification.* Decommmodification index for sickness insurance. Source: Scruggs (2005a).

*Payroll and consumption taxes.* Government revenues from social security contributions, payroll taxes, and taxes on goods and services as a share of GDP. Source: OECD (2008).

*Unemployment decommmodification.* Decommmodification index for unemployment insurance. Source: Scruggs (2005a).

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