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Sources of Equality and Inequality: Wages, Jobs, Households and Redistribution

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It is helpful to think about inequality of earnings and income at three levels:

1. Inequality of earnings among employed individuals. This is frequently referred to as "earnings inequality," "pay inequality," or "wage inequality."

2. Inequality of earnings and investment income among households. This is often termed "pretax-pretransfer income inequality" or "market income inequality."

3. Inequality of income among households when government taxes and transfers are included. This is typically referred to as "posttax-posttransfer income inequality" or "disposable income inequality."

In my view, the most important of these is the third: posttax-posttransfer income inequality among households. Earnings are pooled (albeit not always equally) within households, and certainly the money available after taxes and transfers is of more relevance to households than their market income. If there is a level of inequality on which we should focus the most attention, this is it.

What are the principal sources of posttax-posttransfer inequality in affluent countries? To what extent do inequality of individual earnings, inequality of mar-

* Forthcoming as chapter 3 in Lane Kenworthy, *Jobs with Equality*, Oxford University Press, 2008.

ket household incomes, redistribution, and other factors influence the posttax-posttransfer income distribution? And what do the answers to these questions tell us about the best route to low posttax-posttransfer inequality? 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.

Wages

I begin with earnings inequality among employed individuals. Many things are likely to contribute to pay differentials. One candidate is the degree of inequality in skills and/or education. Greater skill dispersion should result in more inequality of pay levels. The distribution of skills also interacts with the level of demand for workers with high or low skills. If there are more less-skilled workers than employers want, there will be downward pressure on wage levels for such workers, which may result in greater pay inequality. Similarly, if there are fewer high-skilled employees than employers want, there will be upward pressure on pay levels for such employees, again generating higher pay inequality. Another factor is the sectoral composition of employment. Earnings are generally less unequal among those employed in the manufacturing sector than among those employed in services and agriculture. The larger the share in manufacturing, therefore, the less pay inequality there should be. Similarly, wages are normally more compressed in the public sector than in the private sector. The larger the share of the work force in public sector jobs, then, the less inequality we would expect to find. Government imposition of a minimum wage level sets a floor at the bottom of the pay distribution and may thereby reduce inequality. Unions often favor compression of pay levels. The stronger their position vis-à-vis employers, and the larger the segment of the work force they bargain for, the less pay inequality there is likely to be.

The best comparative data on earnings inequality among individuals are in a data set compiled by the OECD. The data are for weekly, monthly, or annual earnings at various percentiles of the distribution, such as the tenth, twentieth, fiftieth (median), and ninetieth. They cover only individuals who are employed full-time, which is sensible because part-time workers often earn less per week or month or year than full-time workers simply because they are working fewer hours.

A variety of "percentile ratio" measures of inequality can be constructed from the OECD earnings data set. A common one is the "P90/P10" ratio. It is calculated as the earnings level at the ninetieth percentile of the distribution divided by the earnings level at the tenth percentile. Figure 1 shows P90/P10 ratios

for each of the twelve countries for all years in which they are available since 1979. For many of the countries the data are available for most of these years, but for a few — Norway, Italy, and Canada — they cover a much smaller portion of this period.

The Nordic countries have tended to have the lowest levels of individual earnings inequality, followed by the continental countries, with the English-speaking nations having the highest levels. Italy and Australia are exceptions. Italy's level of earnings inequality is similar to that in the Nordic countries (as of the late 1990s), and Australia's is similar to that in the continental countries.

The difference in levels of earnings inequality across countries is due first and foremost to union strength and the structure of the wage-setting process (Wallerstein 1999; Rueda and Pontusson 2000; Blau and Kahn 2002b; Devroye and Freeman 2002; OECD 2004b; EC 2005; Lucifora, McKnight, and Salverda 2005; Oskarsson 2005). In countries with higher levels of unionization or collective bargaining coverage and/or in which wages are bargained in more centralized fashion, unions' preference for wage compression tends to have more influence.

The United States is the only one of the twelve countries in which earnings inequality rose steadily and substantially through the two and a half decades. Inequality also increased rapidly in the United Kingdom, but only in the 1980s. In the other nations for which data are available throughout the time period, the overall pattern suggests limited change, though in most countries there has been some rise since the mid-1990s. (The apparent jump in the Netherlands in 1995 owes to a change in the data series.)

There is a wide-ranging debate over the determinants of the rise in earnings inequality in the United States (Katz and Autor 1999; Morris and Western 1999; Gottschalk and Danziger 2005; Mishel, Bernstein, and Allegretto 2007). Most research has focused on the effects of technological change and globalization. But other countries also experienced technological change and globalization — some in a more pronounced way than the United States — and yet had no comparable increase in earnings inequality, which casts some doubt on the causal importance of these two factors. A key element of earnings inequality in the U.S. has been stagnant real wages and earnings for those at the bottom of the distribution. Perhaps most important, then, is the fact that the United States has lacked effective institutions to prevent such stagnation. Unions have weakened considerably during this period: the unionized share of the work force dropped from 25% in 1979 to 13% in 2005. And the inflation-adjusted value of the statutory minimum wage declined from $7.80 per hour in 1979 to $5.15 per hour in 2005 (in 2005 dollars). In the other eleven countries, with the partial exception of the United Kingdom, unions have not declined to nearly the same extent and collective bargaining arrangements have continued to have considerable influence (EC 2004, ch. 1).

Jobs

The earnings inequality data shown in figure 1 include only individuals who are employed full-time. This leaves out the fact that many people are not employed and therefore have zero earnings. And others work part-time rather than full-time.

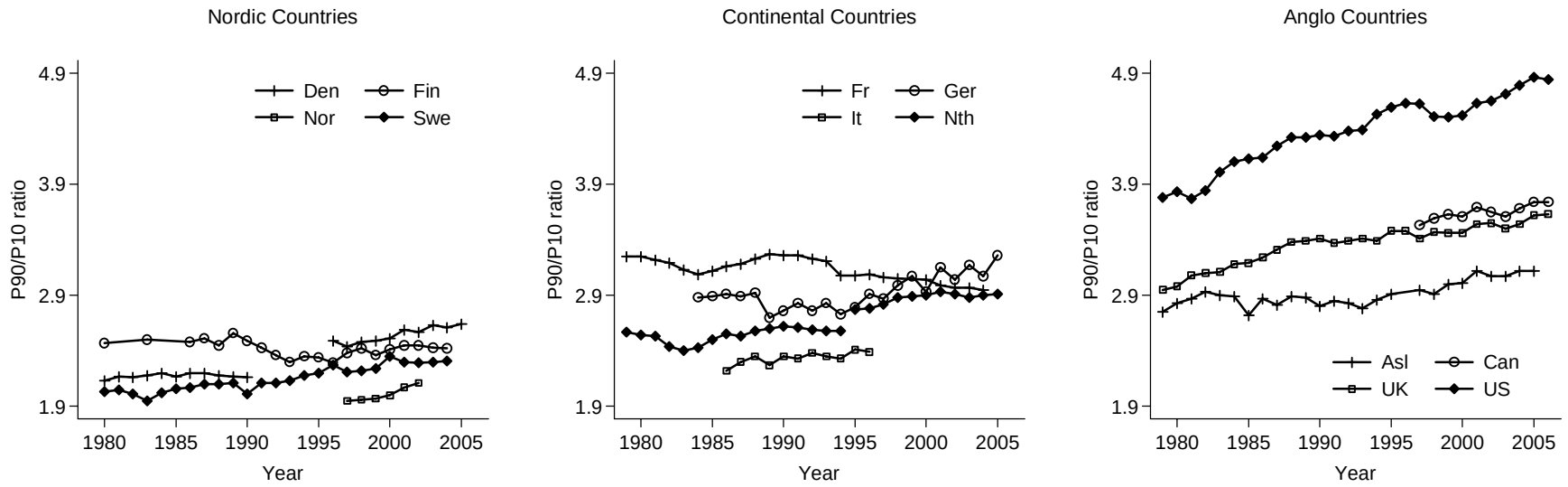
Figure 2 show trends in the employment rates — employed persons as a share of the working-age population — since the late 1970s. The Nordic countries have tended to have the highest levels of employment, though the rates in Sweden and especially Finland fell severely during their economic crises in the early 1990s and have yet to fully recover. The Anglo countries have the next highest levels, with the United States performing best among this group. Employment rates in the four continental countries have tended to be lower, but there is considerable variation within this group. Employment in the Netherlands has increased dramatically since the mid-1980s and is now on par with the levels in Sweden and the United States. Germany's employment rate is only a bit below those of the other three Anglo countries. France and particularly Italy have the lowest rates among the twelve countries.

The share of the working-age population that is not employed ranges from 20% in Denmark and Norway to 40% in Italy. Earnings inequality would be higher in all countries were we to include these individuals in the calculation, but including them would increase measured inequality to a much greater extent in Italy than in Denmark or Norway.

The same holds for part-time employment. Between 5% and 25% of the working-age population in these countries is employed part-time. Part-timers tend to earn less than those employed full-time, in part because their pay level per hour tends to be lower and in part because they work fewer hours. Including them would increase the degree of earnings inequality among individuals. Figure 3 shows over-time trends in the part-time employment rate, calculated as persons in part-time employment as a share of the working-age population. In Finland and Italy the share in part-time jobs has tended to be quite low, so their inclusion probably would not dramatically alter the level of measured inequality. In the Netherlands, where one-quarter of the working-age population is in part-time employment, inclusion would have a larger impact.

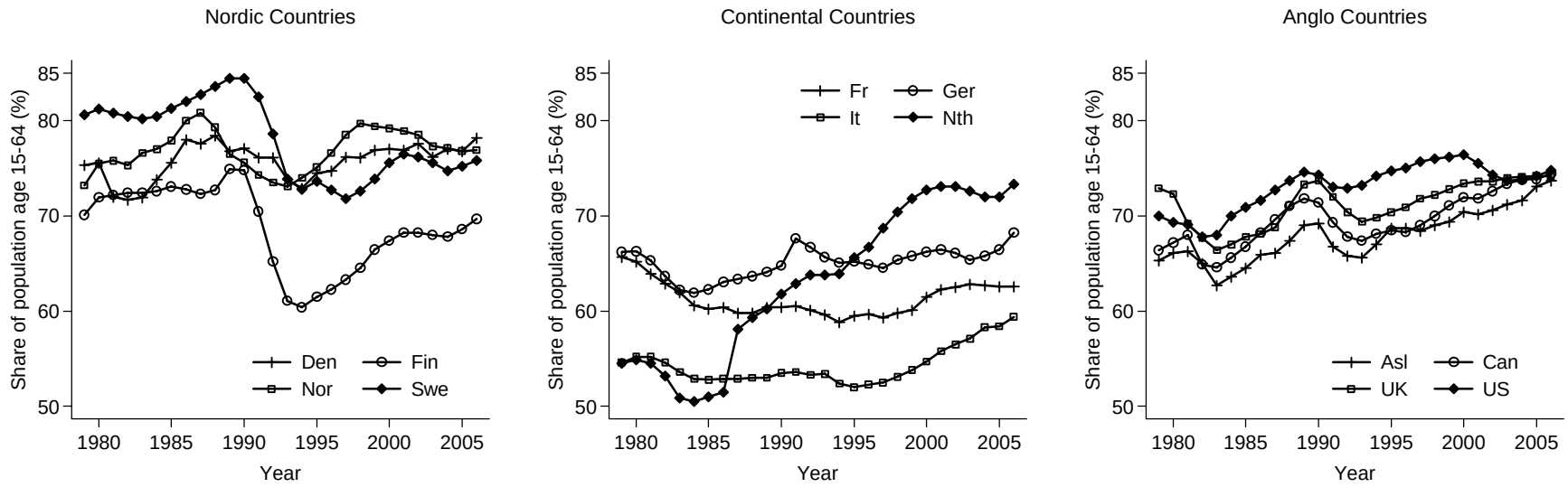
Individuals combine to form households, and they typically share their income among household (usually family) members. For this reason, households are, arguably, the unit we should care most about in thinking about inequality. A non-employed individual or one who has a low-wage job may be cause for concern, but seemingly less so if his spouse has a moderate- or high-paying job that ensures the household a decent overall income.

Figure 1. Earnings Inequality among Full-Time Employed Individuals, 1979ff.



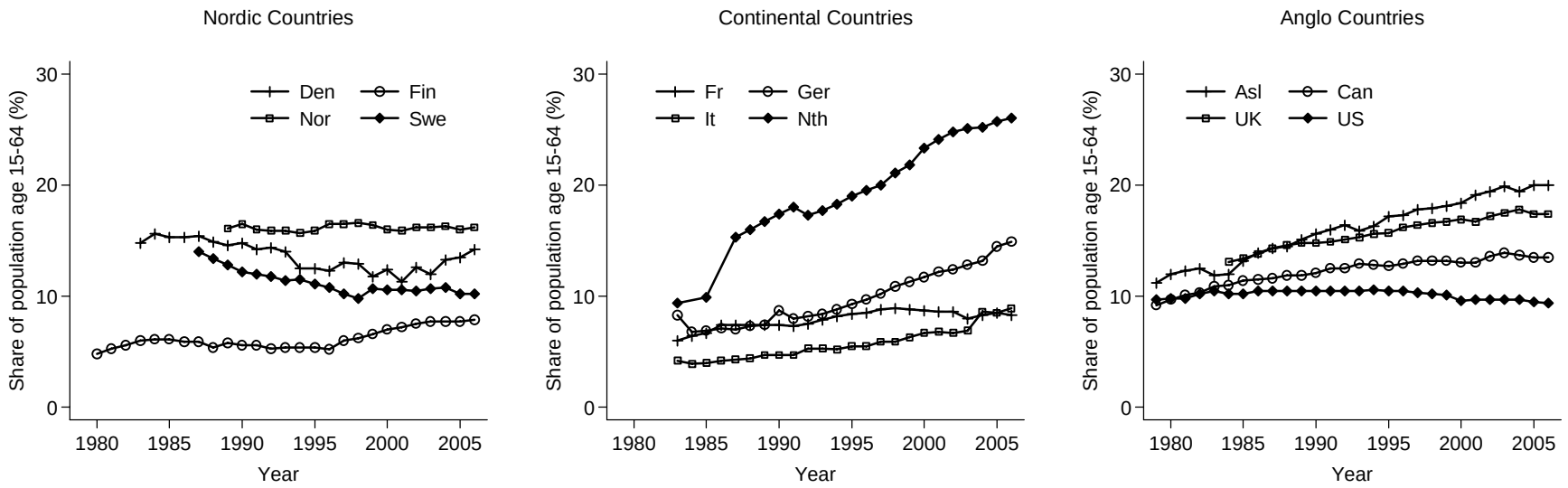
Note: Vertical axes of the charts are truncated (do not begin at one). The gaps for Denmark and the Netherlands represent a break in the time series for the former and a change in the data series for the latter. For data definitions and sources, see the appendix.

Figure 2. Employment Rates, 1979ff.



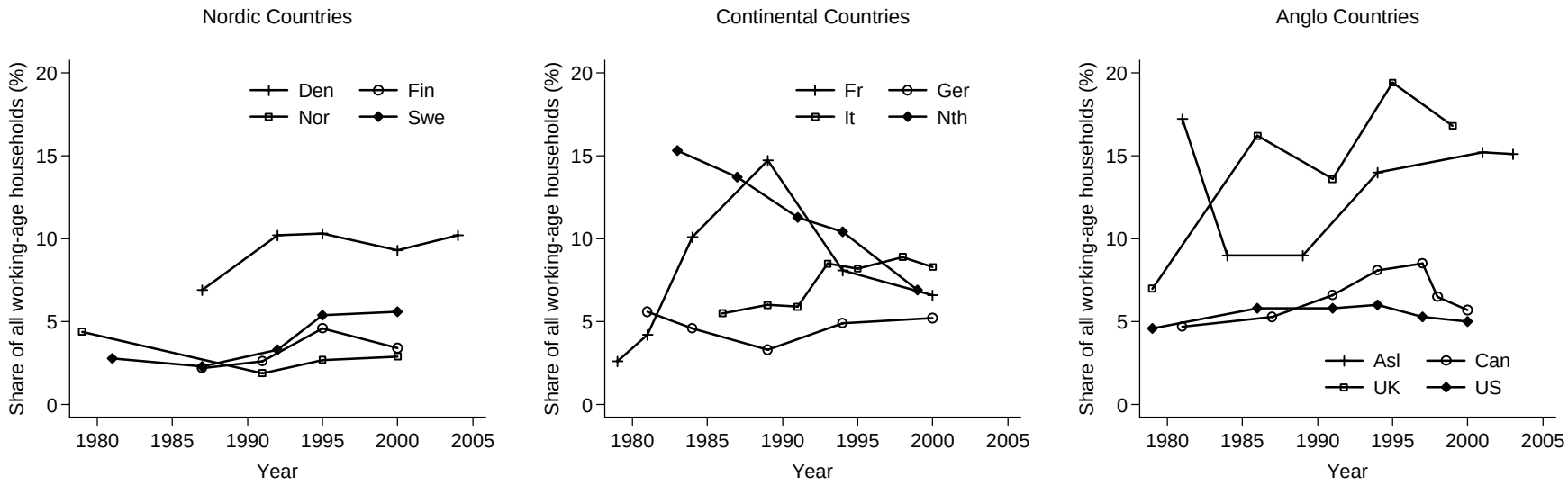
Note: Vertical axes are truncated (do not begin at zero). For data definitions and sources, see the appendix.

Figure 3. Part-Time Employment Rates, 1979ff.



Note: For data definitions and sources, see the appendix.

Figure 4. Zero-Earner Working-Age Households, 1979ff.



Note: For data definitions and sources, see the appendix.

If every household had one employed person, the distribution of earnings among households would be determined solely by the distribution of earnings among employed individuals. But that is not the case. Households vary in the number of employed persons they have. Some have one, some one-and-a-half (if we take into account part-time employment), others two, others more than two.

Perhaps most important in terms of the distribution of employment among households is the distinction between households that have some earner(s) and those that have none. The larger the share of households that have zero earners, the greater the degree of inequality in household incomes is likely to be. Figure 4 shows trends in the share of households with zero earners in the twelve countries. With the exception of Denmark, the Nordic countries have tended to have a relatively small share of zero-earner households. Around 5% of working-age households in Finland, Norway, and Sweden have no earners. There is more variation within the continental and English-speaking groups. Germany has maintained a consistently small proportion. In France the share has tended to be relatively high, but with considerable fluctuation over time. In Italy the share of zero-earner households has increased steadily, while in the Netherlands it was quite high in the early 1980s but has fallen since then. Among the Anglo countries, the share has been consistently low in the United States. That is true of Canada too for most of the period. Since the early 1990s Australia and especially the United Kingdom have consistently had the largest share of households with zero earners among the twelve countries.

Household Composition

A major contributor to the number of employed persons in a household is the number of adults in the household. Single-adult households by definition can have only one earner (assuming no employed children). Married or partnered couples may have one or two earners. And some households may have more than two adults that are employed.

An additional aspect of household composition that may affect income inequality has to do with earnings levels in households that have more than one earner. Some households have two low earners, others one low and one high earner, and others two high earners. Since there is a tendency for people with similar educational levels to couple, we typically find more low-low and high-high pairs than low-high pairs. This phenomenon is referred to as "marital homogamy." The degree of homogamy differs across countries. The larger the correlation between spouses' earnings in a country, the higher the degree of inequality among households is likely to be. As of 2000, the correlation between spouses' earnings in dual-earner couples ranged from .03 in the Netherlands to .32 in France and .33 in Italy (my calculations using LIS data).

Effects of Wages, Jobs, and Household Composition on Pretax-Pretransfer Household Income Inequality

What impact do individual earnings inequality, employment, and household composition have on household income inequality? To find out, we need to examine inequality of households' market income.

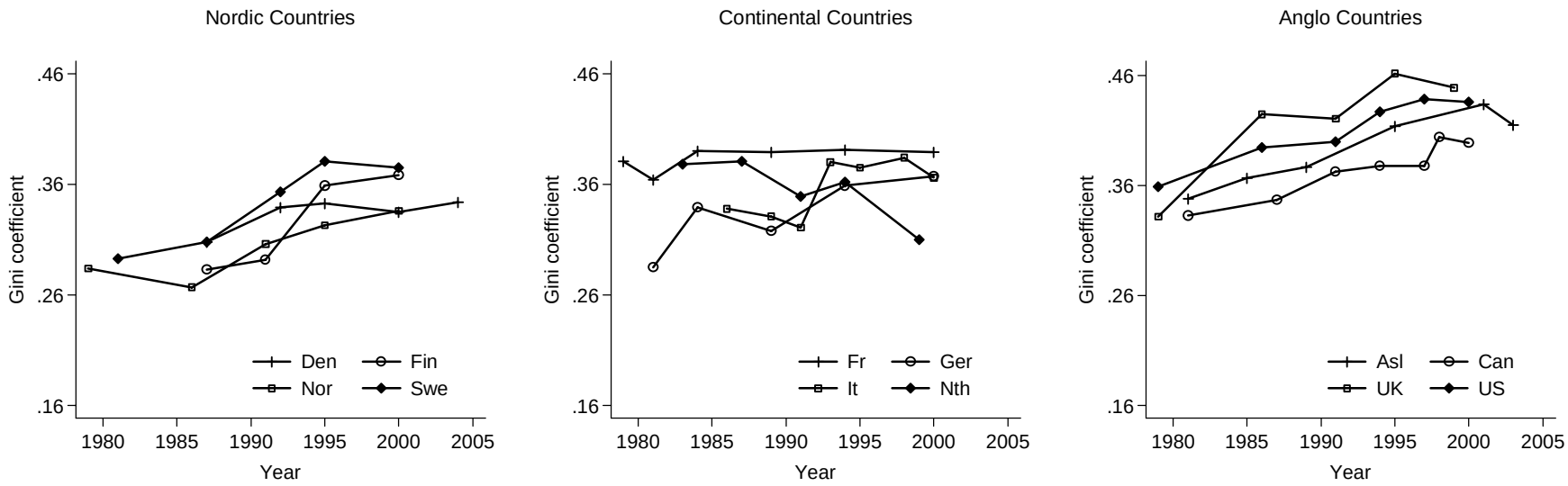
Each of these three factors affects household earnings, and earnings are the main source of income for most households in affluent countries. Some households, though, have market income from sources other than earnings. The principal additional source is investment income — interest, dividends, and rental income. Because investment income tends to be concentrated among households with higher earnings, its inclusion increases the degree of measured inequality. It turns out, however, that investment income has very little impact on levels of household income inequality in the twelve countries and does not alter the variation across countries at all (Kenworthy 2004, ch. 3).

In calculating household income inequality, I use data from the Luxembourg Income Study (LIS) database. This is the most reliable source for comparable cross-country data on household earnings and incomes in affluent nations (Atkinson and Brandolini 2001). The LIS data come from surveys or tax records collected in the individual countries, but considerable effort is made to harmonize the data sets so that they are truly comparable across nations. Extensive documentation of these efforts is available on the LIS website at www.lisproject.org. The LIS data are available in "waves." For each country there is an observation around 1985, 1990, and 1995, and for most there are ones around 1980 and 2000. For a handful of countries there also is an observation around 1975. Because the LIS database consists of household-level data for each country, it is possible to calculate inequality measures with specifications chosen by the researcher.

Three additional points regarding measurement: First, I focus on working-age households (including the children in them). The household income and inequality data I present refer to households with "heads" age 25 to 59. This excludes those most likely to be university students or retirees.

Second, households with differing numbers of persons presumably have different income needs. It is thus standard practice to adjust household income figures for household size. I do so using a conventional "equivalence scale": household income is divided by the square root of the number of persons in the household (Atkinson, Rainwater, and Smeeding 1995; Canberra Group 2001). This presumes that larger households enjoy economies of scale in their use of income; for instance, a household of four is assumed to need only twice as much income as a household of one, rather than four times as much. Figures for household income inequality thus are for household income per "equivalent person."

Figure 5. Pretax-Pretransfer Income Inequality among Working-Age Households, 1979ff.



Note: Vertical axes are truncated. Vertical axis scale is the same as for posttax-posttransfer inequality in figure 11. For data definitions and sources, see the appendix.

Third, respondents to surveys may overestimate or underestimate their income. To minimize the effect of this, it is standard practice in analyses using the LIS data to top-code and bottom-code the country data sets in calculating income levels and income inequality. That is, an upper and lower limit for incomes is set based on some multiple and fraction of the median or mean. Any reported incomes above or below these figures are recoded as the limit figures. I follow the official LIS practice (see www.lisproject.org) of top-coding at 10 times the unequivalized median household income and bottom-coding at 1% of the equivalized mean. In other words, extremely high incomes are recoded as 10 times the median prior to adjustment for household size, and extremely low incomes are recoded as 1% of the mean after adjustment for household size. Households reporting a posttax-posttransfer income of zero are dropped.

Figure 5 shows levels of pretax-pretransfer household income inequality in the twelve countries since the late 1970s. Inequality is measured here using the Gini coefficient. The Gini coefficient ranges from zero to one, with larger numbers indicating more inequality. A Gini coefficient of zero indicates a perfectly equal distribution across households; it would equal one (1.0) if a single household had all of the income.

The Nordic countries and Germany began the 1980s with the lowest levels, but all experienced increases in the 1990s. Italy began with a moderate level which then increased in the 1990s. France and the Netherlands started with comparatively high levels. France stayed high, while market inequality in the Netherlands declined steadily. As of 2000 the level of pretax-pretransfer inequality in France, Germany, and Italy was roughly the same as in the Nordic countries. The Anglo countries entered the 1980s with levels similar to those in the continental nations, but each experienced sharp increases in the 1980s and 1990s. As of 2000 the Anglo countries had the highest levels among the twelve.

Figure 6 has a set of scatterplot charts showing the relationships across the twelve countries between pretax-pretransfer income inequality among working-age households (vertical axes) and earnings inequality among full-time employed individuals, three measures of employment, and two measures of household composition (horizontal axes). The data are for 2000. In each instance the pattern looks similar if we consider data for all available years, which run from the mid-1970s to 2000 (not shown).

The first chart shows household pretax-pretransfer income inequality by individual earnings inequality. To best gauge the relationship between these two levels of inequality, it is helpful to use the same inequality measure for both. Unfortunately, it is not possible to calculate Gini coefficients from the OECD's percentile earnings data for employed individuals. An alternative is therefore to use the P90/P10 ratio, as in figure 1. But for household pretax-pretransfer income the P90/P10 ratio turns out to be problematic. In some countries in certain years more than 10% of households had no earner. This means household pretax-

pretransfer income at the tenth percentile of the distribution was either zero or only slightly above zero. As a result, the P90/P10 ratio is extremely large, rendering it effectively incomparable to those in other nations and to the P90/P10 ratios for earnings inequality among individuals. I therefore use the P75/P25 ratio. This measure incorporates less of the full range of the distribution than do the Gini coefficient and the P90/P10 ratio. But it nevertheless conveys a similar story: across the twelve countries, for earnings inequality among employed individuals the P75/P25 ratio correlates at .99 with the P90/P10 ratio, and for pretax-pretransfer household income inequality the P75/P25 ratio correlates at .95 with the Gini coefficient.

The fact that the data points are located in the upper-left portion of the chart indicates that in each of the countries there is considerably greater inequality of pretax-pretransfer income among households than of earnings among full-time employed individuals. That is not surprising: consistent with what I suggested earlier, it indicates that employment patterns and household composition increase the degree of inequality as we move from individuals to households.

There is a fairly strong positive association across the countries between the two levels of inequality. The countries with the highest levels of individual earnings inequality tend to have the highest levels of household market income inequality. There is some bunching of the low-inequality countries. As of 2000, Germany, the Netherlands, Denmark, Finland, Italy, and Sweden had similar levels of individual earnings inequality, whereas they differed a bit in inequality of household market income. Nevertheless, the relationship is relatively strong.

The second chart in figure 6 shows market household income inequality by the employment rate. Here we see no relationship. Two of the countries with the highest employment rates, Denmark and Norway, had very low levels of pretax-pretransfer income inequality. Yet Germany and the Netherlands had low inequality despite only moderate employment. And the United States and United Kingdom had comparatively high employment together with very high levels of household inequality.

The same is true for part-time employment, shown in the third chart. Here too there is no apparent association across the twelve countries.

The fourth chart shows the share of working-age households that have no earner. Here we do observe a relatively strong relationship. Countries with more zero-earner households tended to have higher levels of inequality of pretax-pretransfer household income. The main exception to the pattern is the United States, which had very high inequality despite having relatively few zero-earner households. This suggests that market income inequality among U.S. households may stem more from individual earnings inequality and/or household composition than is true for the other countries. The Netherlands is also somewhat of an exception, having a comparatively large share of zero-earner households but relatively low market inequality.

Figure 6. Pretax-Pretransfer Income Inequality among Working-Age Households by Earnings Inequality among Full-Time Employed Individuals, Employment, and Household Composition, 2000

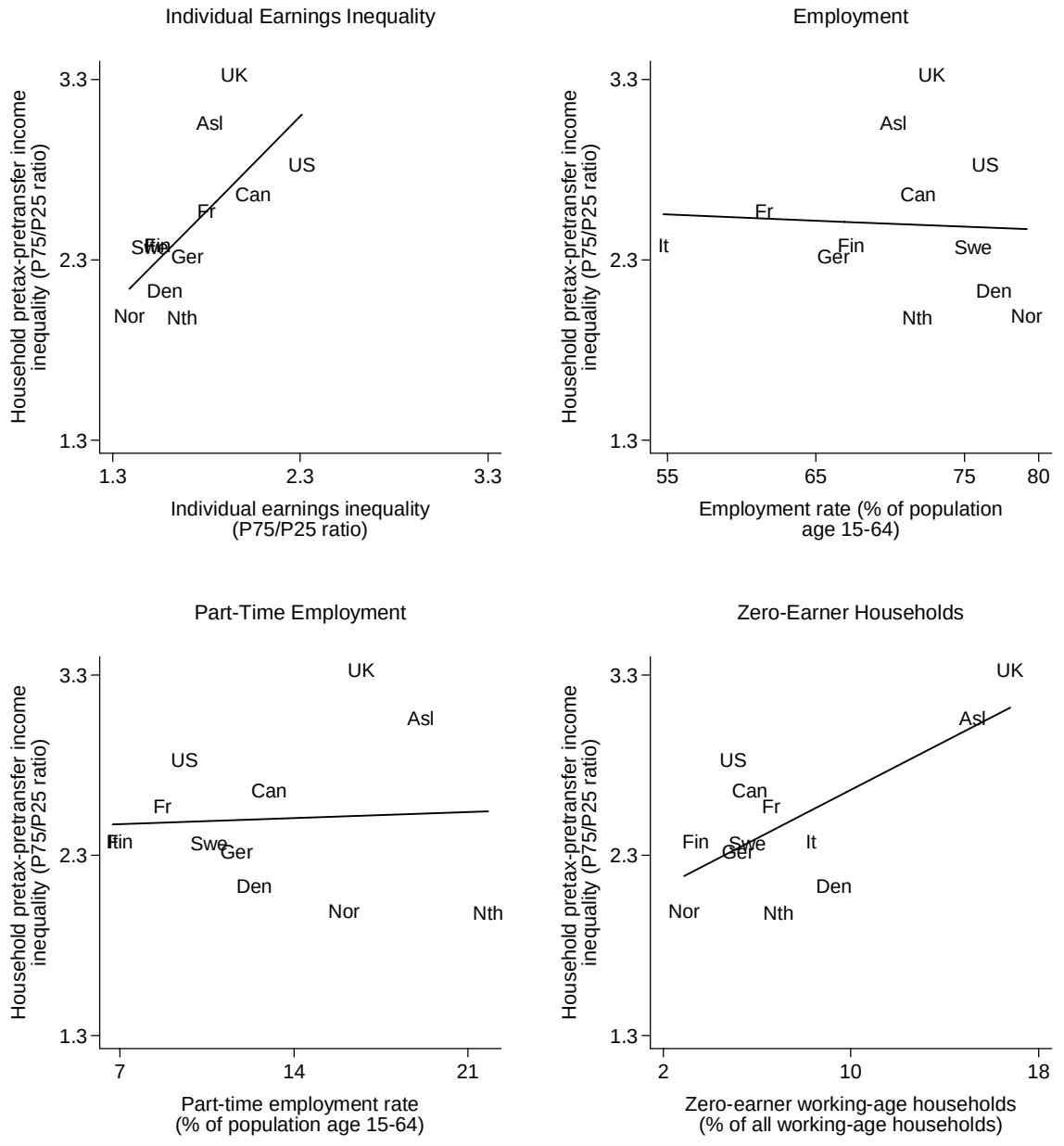
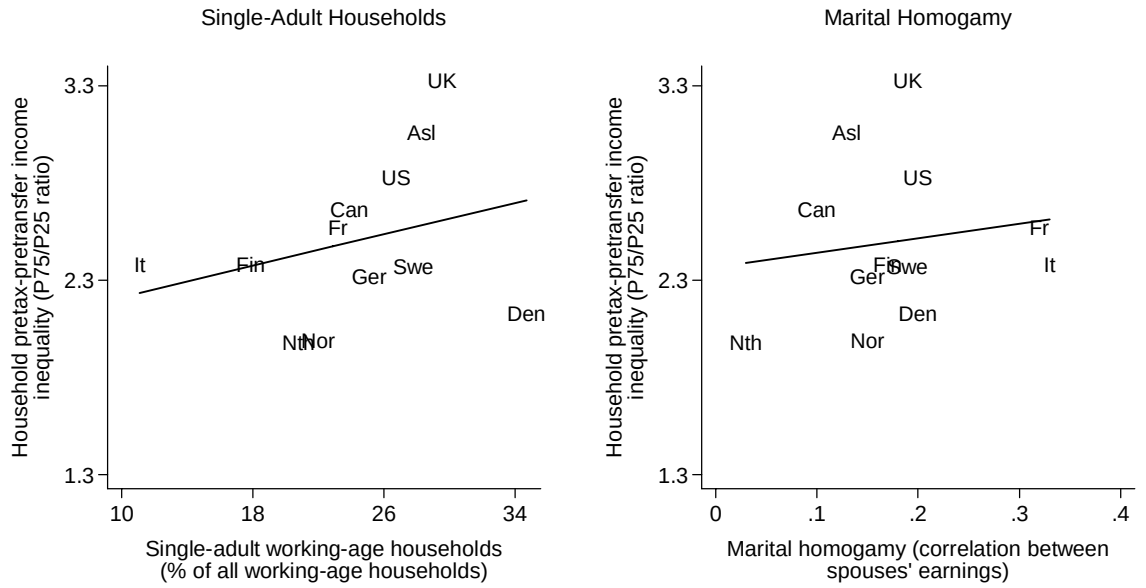


Figure 6. (continued)



Note: Some axes are truncated. Vertical axis scale is the same as that for individual earnings inequality (horizontal axis of the first chart in the figure). For data definitions and sources, see the appendix.

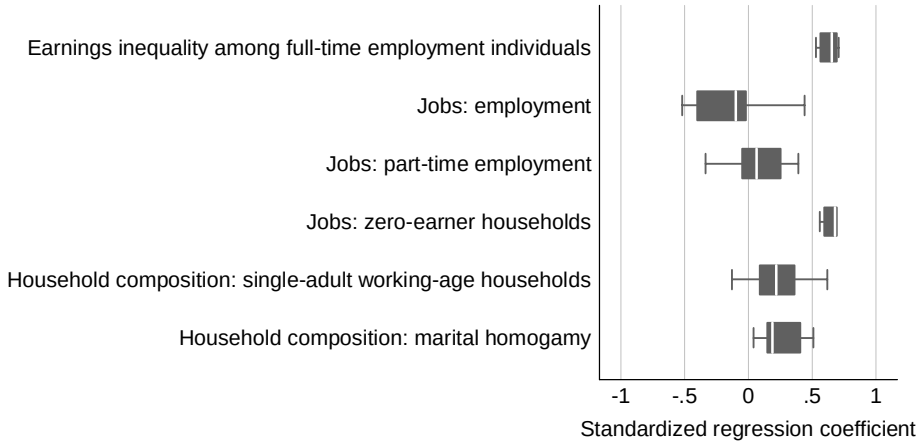
The last two charts in figure 6 show pretax-pretransfer household income inequality by two measures of household composition: single-adult households and marital homogamy. The pattern suggests a weak positive association with the share of working-age households that have just one adult. This share is highest in Denmark, but it does not have particularly high inequality of market household income. In most of the countries the share of single-adult households is between 20% and 30%, but these countries have widely varying degrees of inequality, from Norway at the low end to Australia and the United Kingdom at the high end.

Marital homogamy appears to be associated in the expected positive direction with household inequality. Countries with a larger correlation among spouses' earnings tend to have higher levels of inequality. But the association is not terribly strong, as there are a number of exceptions.

To more thoroughly assess the relative import of these various factors, I estimated a variety of multivariate regressions with levels of pretax-pretransfer household income inequality as the dependent variable. Since there are only twelve countries and six independent variables, I tried all possible combinations of three or fewer of the independent variables. Figure 7 shows the results. The

figure reports the results for each determinant of market inequality in a "box-and-whisker" plot (boxplot). 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.

Figure 7. Regression Results: Sources of Cross-Country Variation in Pretax-Pretransfer Income Inequality among Working-Age Households, 2000



Note: Standardized coefficients from ordinary least squares (OLS) regressions using all possible combinations of three or fewer of the independent variables. Dependent variable is pretax-pretransfer income inequality among working-age households. *N* = 12. For data definitions and sources, see the appendix. 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.

The results of these regressions are largely consistent with the patterns shown in the bivariate scatterplots. Individual earnings inequality and zero-earner households seem clearly to have an impact, and the same is likely true for single-adult households and marital homogamy.

Like the scatterplots, the regressions suggest no effect of either the employment rate or the part-time employment rate; the median coefficient for each is very close to zero. However, this is almost certainly not because employment and part-time employment have no impact on household income inequality. Instead, it is because these measures are too crude. What we really need is a measure of inequality of hours worked across households. Unfortunately, to my knowledge there are no cross-nationally comparable data from which such a measure could be calculated.

Figure 5 showed that the level of market income inequality among households has increased significantly in both the Nordic and Anglo countries since the late 1970s. Individual earnings inequality seems unlikely to have been the main culprit, since figure 1 indicates that individual earnings inequality increased sub-

stantially only in the United States and the United Kingdom during those two decades. In the United States the rise in earnings inequality among employed individuals does indeed seem to have been the main precipitant of the increase in household market income inequality, though increases in single-adult households and in marital homogamy also appear to have played a role (Burtless 1999; Reed and Cancian 2001). But in the other countries, particularly in Sweden and Finland, changes in employment were a key factor (Kenworthy 2004, ch. 3; Kenworthy and Pontusson 2005). In these countries employment losses increased the share of households with only one earner or with no earners, and this affected already-low-earning households to a greater extent than households higher up in the distribution. As a result, pretax-pretransfer income declined for households at the bottom, which increased inequality. In the Netherlands the opposite occurred. Employment increases reduced the number of households with zero earners or just one earner, thereby raising household incomes at the low end of the distribution. Consequently, the Netherlands was the one country in which market income inequality among households decreased during the 1980s and 1990s.

Redistribution

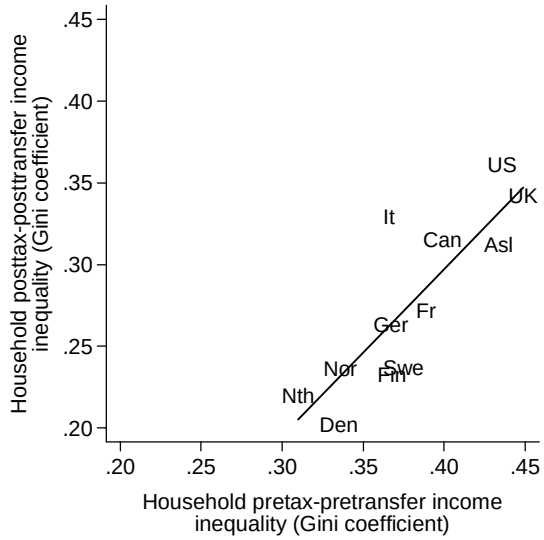
The final step in examining the various sources of inequality is to move from household pretax-pretransfer income inequality to household posttax-posttransfer income inequality. The difference between these is due to redistribution via government taxes and transfers. Figure 8 shows the relationship between household "pre" and "post" income inequality as of 2000. Here I use the Gini coefficient, though the charts look very similar if the P75/P25 ratio is used (not shown).

The cross-country association between these two levels of inequality is positive, indicating that countries with higher levels of pretax-pretransfer income inequality also tend to have higher levels of posttax-posttransfer income inequality. That does not mean redistribution has no impact. I use the same range of values on both axes, and the data points are all located in the bottom-right portion of the chart. This indicates that inequality of posttax-posttransfer income (vertical axis) tends to be lower than inequality of pretax-pretransfer income (horizontal axis). Among the twelve countries government taxes and transfers reduced the degree of household income inequality by an average of 25% (calculated by subtracting the "post" Gini from the "pre" Gini and then dividing by the "pre" Gini). On the high end, redistribution reduced inequality by nearly 40% in Denmark, Finland, and Sweden. On the low end, it did so in Italy by just 10%.

Figures 9 and 10 show trends in two measures of redistribution in the twelve countries since the late 1970s. The first is government cash social expenditures on the working-age population. This measure is calculated as public spending on family benefits and benefits for unemployment, disability, occupational injury

and disease, sickness, and "other contingencies" (mainly low income) as a share of GDP. The second is a measure of actual redistribution. It is calculated as the Gini coefficient for pretax-pretransfer household income minus the Gini coefficient for posttax-posttransfer household income. (Neither measure includes spending on public services such as education, health care, child care, job training, and so on.)

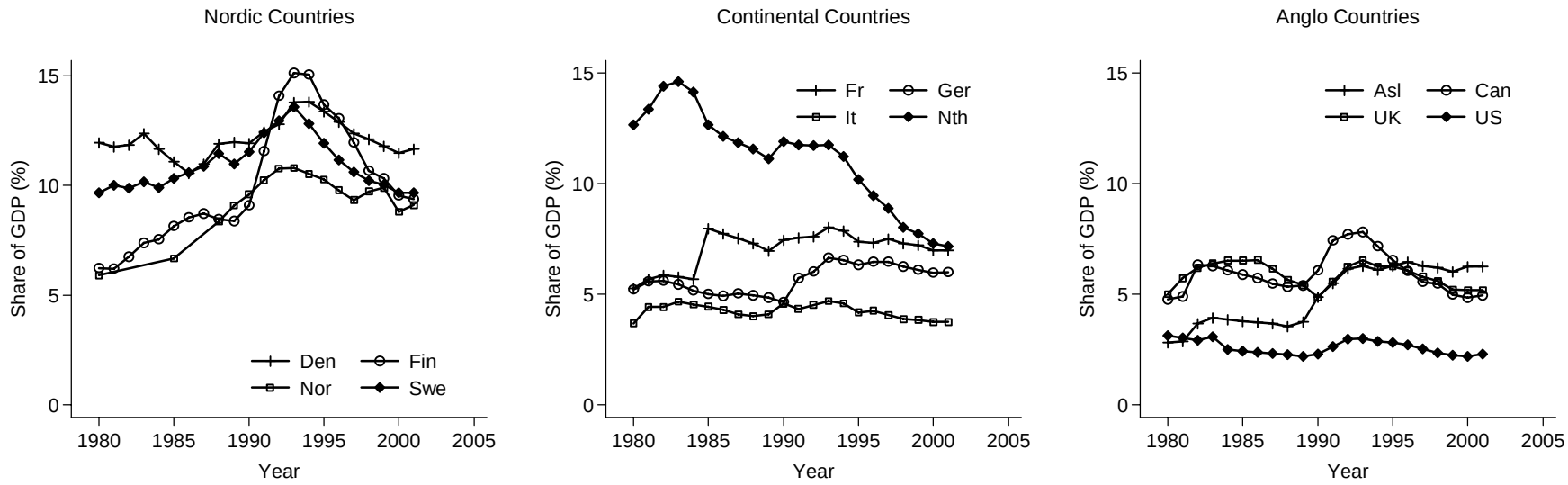
Figure 8. Posttax-Posttransfer Income Inequality among Working-Age Households by Pretax-Pretransfer income Inequality among Working-Age Households, 2000



Note: Chart axes are truncated. For data definitions and sources, see the appendix.

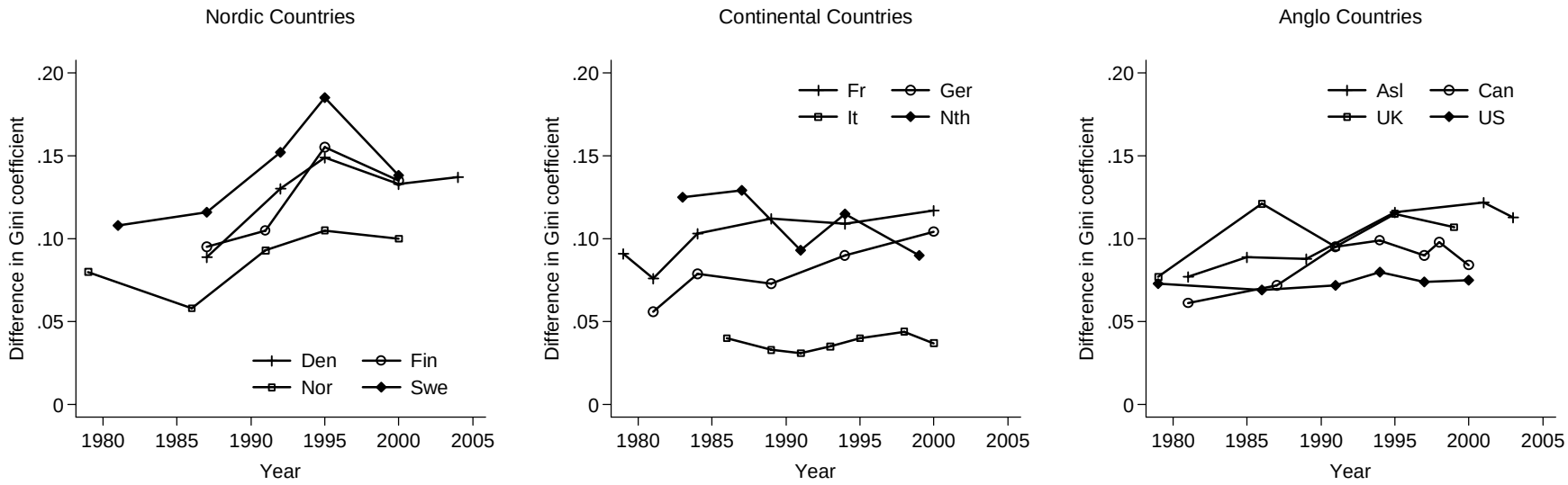
The two measures of redistribution tell a similar story. The four Nordic countries have the highest levels. And in each of these four nations redistribution increased significantly, though temporarily, in the early 1990s in response to the countries' economic crises. The continental and Anglo countries have had lower and roughly similar levels of redistribution. On the cash social expenditures measure the United States stands apart as the least redistributive country, while on the measure of actual redistribution Italy is at the low end. Both measures indicate a decline in redistribution in the Netherlands, which is a product of employment replacing the welfare state as the principal source of income for many households at the low end of the distribution.

Figure 9. Redistribution: Government Cash Social Expenditures on the Working-Age Population, 1979ff.



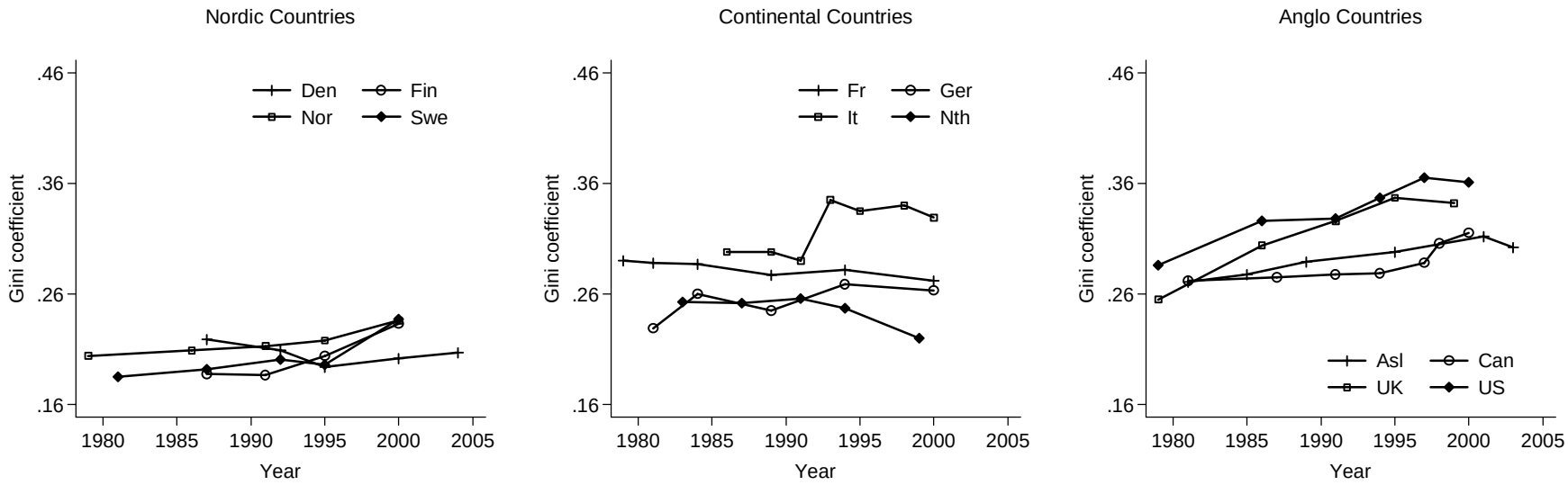
Note: For data definitions and sources, see the appendix.

Figure 10. Redistribution: Pretax-Pretransfer Income Inequality among Working-Age Households Minus Posttax-Posttransfer Income Inequality among Working-Age Households, 1979ff.



Note: For data definitions and sources, see the appendix. For France and Italy, only information on redistribution via transfers (not taxes) is available.

Figure 11. Posttax-Posttransfer Income Inequality among Working-Age Households, 1979ff.



Note: Vertical axes are truncated. Vertical axis scale is the same as for pretax-pretransfer inequality in figure 5. For data definitions and sources, see the appendix.

Posttax-Posttransfer Household Income Inequality

Figure 10 shows inequality of posttax-posttransfer household income since the late 1970s. As already suggested in figure 8, the Nordic countries have tended to have the lowest levels, followed by the continental countries, with the highest levels in the Anglo nations (see also Smeeding 2004; Förster and d'Ercole 2005). This rank-ordering is not surprising. The Nordic countries have featured low-to-moderate market inequality and high redistribution. The continental countries have had moderate market inequality and moderate-to-low redistribution. And the Anglo countries have had moderate-to-high market inequality and moderate-to-low redistribution.

In the 1990s posttax-posttransfer inequality increased in three of the four Nordic countries — Finland, Norway, and Sweden. By 2000 these countries had levels similar to France and Germany, with Denmark and the Netherlands slightly lower. The level of inequality in Italy increased sharply in the early 1990s, putting it at the high end among the twelve nations along with the United Kingdom and Untied States. The Anglo countries diverged somewhat over the two decades. They began the 1980s with similar levels of posttax-posttransfer inequality, and inequality increased in all four, but it did so to a much greater extent in the United States and United Kingdom than in Australia and Canada.

Posttax-posttransfer income inequality increased most dramatically in the 1980s and 1990s in the United States, the United Kingdom, and Italy. This is not because they suffered the largest rise in market inequality (figure 5). It is mainly because in these three countries there was little or no increase in redistribution to compensate for the increase in market inequality (figure 10). In the Nordic countries, and particularly in Sweden and Finland, redistribution did increase in response to the rise in market inequality of the early nineties. It did so not because social programs were made more generous by policy makers, but rather because unemployment insurance, social assistance, and other programs kicked in automatically as people lost jobs during the deep recessions in these countries (Kenworthy 2004, ch. 3; Kenworthy and Pontusson 2005). The United States, United Kingdom, and Italy have less generous programs, and the rise in market inequality was less a function of job loss in those countries. Hence the "automatic compensation" effect of redistributive programs (Rhodes 1996) was weaker in those three countries.

At the end of the 1990s, on the other hand, posttax-posttransfer inequality increased in Finland, Norway, and Sweden. This happened despite the fact that market inequality rose less rapidly than it had earlier in the decade (figure 5). It was due to declining redistribution (figures 9 and 10), a product of reductions in the generosity of social programs that occurred during the early and mid-1990s.

In each of these countries replacement rates were reduced and eligibility requirements stiffened (Ploug 1999; Huber and Stephens 2001; Pierson 2001; Swank 2002). The changes were relatively minor, and the Nordic countries' programs remain comparatively generous. But the cutbacks do appear to have had the effect of allowing posttax-posttransfer income inequality to rise.

Thus, while much of the cross-country variation in levels of posttax-posttransfer income inequality is a product of differences in levels of market inequality (figure 8), redistribution is also important. And for understanding developments over time, redistribution is front and center (see also Kenworthy 2004, ch. 3; Kenworthy and Pontusson 2005).

What Path to Low Inequality?

Wages, jobs, households, and redistribution each play a role in influencing the degree of income inequality in a society. On which of these should countries focus in attempting to limit inequality of posttax-posttransfer household incomes? In my view, the focus ought to be chiefly on employment and redistribution, rather than on wage inequality and/or household composition.

As a practical matter, it is likely to be difficult to contain rising wage inequality in coming years. Unions have been weakening steadily in many affluent countries, and wage setting has tended to become more decentralized. The share of the work force covered by collective bargaining agreements has remained fairly stable, and in some countries temporary "pacts" between labor and employers associations, sometimes with government involvement, have had a recentralizing effect (EC 2004, ch. 1). Yet the trend toward increased autonomy for individual firms in determining wages is clear, and there is no compelling reason to think that this will be reversed. In addition, factors that may have already contributed to rising wage inequality, such as skill-biased technological change, globalization, and immigration, may generate further pressure in this direction (Nahuis and de Groot 2003). As of the mid-2000s earnings inequality among the full-time employed had risen to only a limited extent in most countries (figure 1). But this shift seems likely to continue. Moreover, there may be reason to *favor* greater individual-level earnings inequality (Kenworthy 2008, ch. 5). I do not mean to suggest that wage compression should be abandoned — merely that it should not be the centerpiece of a strategy for low inequality.

Of the four sources of inequality, household composition is probably the most difficult to change via policy. Policy makers are not impotent in this area, but in a liberal democratic society there are severe limits on the degree to which they can influence individuals' choices about forming partnerships (marital or otherwise) and remaining in them. And even if it were desirable to do so, it is not

clear that policy makers could have much impact on the degree of marital homogamy.

To be sure, there also are limits on what can be done via redistribution. But those limits have mainly to do with resources. One way to increase the resources available for redistribution is to increase employment. When more people are employed, the tax base is larger; tax revenues are increased without an increase in tax rates. Higher employment is also likely to reduce the need for redistribution, as fewer individuals and households will have very low market incomes.

These considerations suggest an egalitarian path in which there may be a moderate degree of individual earnings inequality and a moderate or even high proportion of single-adult households, and in which inequality is held in check principally via high employment and redistribution. The key, then, is to figure out how to combine high employment with generously redistributive social policies. For one attempt to do so, see Kenworthy (2008).

Appendix: Data Definitions and Sources

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

Employment: part-time. Persons employed part-time as a share of the population age 15 to 64 (or as a share of total employment). Defined as usually working less than 30 hours per week. Source: Author's calculations from data in OECD (2006, 2008).

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

Inequality of earnings among full-time employed individuals. Ratio of pretax earnings of a person at the 90th percentile of the earnings distribution to a person at the 10th percentile. 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 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).

Marital homogamy. Pearson correlation between earnings of household "heads" and earnings of household "spouses." Households with heads age 25 to 59 only. Source: Author's calculations from Luxembourg Income Study data (variables: V39, V41).

Single-adult households. Single-adult households as a share of all households. Households with heads age 25 to 59 only. Source: Author's calculations from Luxembourg Income Study data (variables: D4, D27).

Zero-earner households. Share of households with heads age 25 to 59 that have no earners. Source: Author's calculations from Luxembourg Income Study data (variable: D6).

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