Decomposition of Cross-National Differences In Parental Earnings Distributions: A Non-Parametric Approach

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ABSTRACT. This paper uses a non-parametric decomposition technique proposed by Lemieux (*Canadian Journal of Economics*, 2002) to analyze comparative parental earnings distributions among four countries (Canada, Germany, Sweden and the United States) with data from the Luxembourg Income Study. Using the United States as an inequality benchmark, we find that the U.S. has high inequality at the upper end of the parental earnings distribution, in part due to the prevalence and the earnings of highly educated married couples. The U.S. does not have high inequality at the lower end of the parental earnings distribution; in particular, while single parents are more prevalent in the U.S. than in the other countries, they generally have higher earnings than in the other countries, mitigating the inequality.

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I. Introduction.

In advanced countries, children typically have very low earnings or none at all. Under the usual assumptions about household sharing, however, they have access to income from earnings, the earnings of other household members. Therefore, concern about the incomes available to children leads naturally to an inquiry about the earnings of households containing children. Household earnings may vary for several reasons: the number of potential labor force participants, the actual labor force participation of parents (and others), the employment success of each labor force participant, and the wages and hours of those who are actually employed. Since self-employment is a form of employment, it can also affect the earnings of households with children. For the remainder of the paper, we are going to refer to the earnings of households with children as "parental earnings," just so we have a term to use, though the earnings are not necessarily those of the parents only, nor do we include in "parental earnings" the earnings of parents who are not part of their children's households.

This paper analyzes the inequality of "parental earnings" in a cross-national context, using data from the Luxembourg Income Study (LIS) to look at four countries: Sweden, Germany, Canada and the United States. The choice of countries was initially constrained by data considerations, in that we require large datasets that contain both gross earnings data and detailed education codes, requirements that only a handful of LIS datasets meet. We have selected the most recent datasets, all for the year 2000. These four countries differ substantially in their child income distributions. As the summary data in the LIS Key Figures show, the ordering of child poverty (50% of the equivalized median household disposable income) is U.S.>Canada>Germany>Sweden.[1] If one then looks at the ordering of the percentage of children above 150% of equivalized household disposable income, the ordering is *exactly the same*, that is, the countries with the larger proportions of low-income children are also the countries with the larger proportions of high-income children.

We will first show that the pattern of child income inequality resembles the inequality in parental earnings at the top of the earnings distribution, though less so at the bottom. The principal focus of the research is the decomposition of cross-national differentials in parental earnings into differences in the endowments of covariates and differences in the coefficients associated with those covariates, using a technique developed by Lemieux (2002) that allows us to examine the effect of covariates and their coefficients for the entire earnings distribution. The covariates include both typical labor market traits (age and education) and family traits (marital status and the number of children).

Table 1 shows the stylized facts for the analysis. Whether measured by the coefficient of variation or the Gini coefficient, the U.S. has the highest inequality of parental earnings, followed by Canada, then Sweden, then Germany. That Sweden has more parental earnings inequality than Germany may seem surprising. The decile ratios for the tails of the distributions help in understanding how it happens. The 90/50 ratios follow the pattern of the Gini coefficients, though the values for the countries other than the U.S. are very similar to each other. The 50/10 ratios, however, take on a very different pattern. Sweden has the *highest* 50/10 ratio, and Canada the second-highest.

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[1] LIS Key Figures can be found at <http://www.lisproject.org/keyfigures/childpovdistrib.htm>.

Both Germany and the U.S. have substantially *less* earnings inequality at the bottom than either Sweden or Canada.

It would be desirable to know whether the differences in the patterns of earnings distribution statistics are due to differences in the characteristics of the populations (for example, the relative prevalence among parents of features like high educational attainment or single parenthood) or differences in the relative level of earnings with which these characteristics are associated in different societies. That is exactly the question that we propose to answer.

II. The Lemieux Decomposition.

Decomposition techniques are regularly employed in the analysis of earnings inequality. The Blinder (1973) / Oaxaca (1973) decomposition established the usefulness of decomposing a difference in group mean earnings into a difference in group mean endowments of covariates (such education or experience) and a difference in coefficients (returns to education and experience). Juhn, Murphy and Pierce (1993) contributed a major innovation by establishing the usefulness of counterfactual earnings distributions calculated by adding individual residuals onto estimated values of an individual's earnings, enabling the decomposition of differences in distributional statistics like Gini coefficients or decile ratios.

The decomposition technique described in Lemieux (2002) also allows us to decompose cross-national differences in distributional statistics. The covariates are measured as a set of mutually exclusive and exhaustive cells, making the procedure completely non-parametric.[2] For example, if education and age were the only covariates, and if there were three education categories and three age categories, then there would be nine education/age categories and thus nine cells described by nine dummy variables. Once the covariate categories are defined, the dependent variable—parental earnings in our case—is regressed (without an intercept term) on the cell dummies. The resulting coefficients are simply the mean earnings in each covariate cell, which we will hereafter call "cell means."

Supposing that there are two countries, A and B, it is useful to have the following algebra available to describe the results of the two regressions:

$$y_{iA} = \mu_{jA} + \varepsilon_{iA}$$

$$y_{iB} = \mu_{jB} + \varepsilon_{iB}\,,$$

where y_i designates each household's earnings,[3] μ_j is the coefficient (cell mean) of the dummy variable for the cell j to which person i belongs, and ε_i is the individual's residual. The first counterfactual earnings distribution is then formed as:

$$Y_{iA} = \mu_{jB}(\mu_A/\mu_B) + \varepsilon_{iA},$$

where μ_A and μ_B are the means of y_{iA} and y_{iB}. The difference between y_{iA} and Y_{iA} will be designated as the "difference due to different cell means," which plays the same role as the "difference due to different coefficients" in the Blinder-Oaxaca decomposition. A second counterfactual earnings distribution $\hat{Y}_{iA}$ can be calculated by reweighting Y_{iA} by (f_{jB}/f_{jA}), the relative cell frequencies in the category j.[4] The difference between Y_{iA} and $\hat{Y}_{iA}$ will be designated as the "difference due to different covariate frequencies," which

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[2] In contrast, for example, to the technique employed by Bourguignon, Ferreira and Leite (2002).

[3] Household earnings include self-employment earnings, which can be negative. Household earnings have been bottom-coded to zero.

[4] In practice the calculations are weighted to begin with, as required when using sample calculations as population estimates. Hence the term *re*weighting: see Lemieux (2002, pp. 655-657).

plays the same role as the "difference due to different endowments" in the standard Blinder-Oaxaca decomposition. The Blinder-Oaxaca decomposition, however, only decomposes differences in means. Because Y_{iA} (and therefore $\hat{Y}_{iA}$) are complete counterfactual distributions, they can be described with any distributional statistic that is used for the actual distribution y_{iA}. Therefore, differences in *any* distributional statistic can be decomposed into a "difference due to different cell means," a "difference due to different covariate frequencies," and a residual.[5]

III. Definitions of Covariates.

Because the technique requires that the covariates be arranged into mutually exclusive and exhaustive cells,[6] the groups must be defined fairly broadly to ensure that all of the cells contain adequate observations. Except for age categories, this requirement does not cause major problems for us. Regarding family arrangements, we distinguish single household heads from married couples (with cohabiting couples treated as married; recall that all of these households contain children), and we distinguish households with one child from households with more than one (similar to Todd and Sullivan (2002)). We use a division of educational attainments into categories of "primary attainment," "secondary attainment" and "university diploma," based on Sullivan and Smeeding (1997). To keep the number of cells reasonable, we use only three age categories: under 30, 30-44, and over age 44. For single heads these categories form 2x3x3=18 cells.

[5] An important distinction between the Lemieux (2002) technique we employ and the technique employed by Juhn, Murphy, and Pierce (1993) is that the latter treat the effect of covariates as a residual, rather than calculating the effects of covariates by reweighting covariate cell frequencies. The Lemieux technique seems to be more appropriate for our purposes.

[6] The technique obviously requires that an observation be omitted if it has a missing value for any variable. The one place where this caused a problem was that over 20% of Swedish household heads had missing values for educational attainment.

Because the age and education of both spouses may be important, we turned three age categories into five for married couples: husband under age 30; husband age 30-44, spouse under age 30; husband age 30-44, wife over age 29; husband over age 44, wife under age 45; and husband over age 44, wife over age 44. We created five educational categories using the same break of husbands into those with (at least) equivalently educated wives and those with less-educated wives. Thus, for married couples there are 2x5x5=50 cells. Canada, Sweden and the U.S. all had adequate frequencies in all 68 cells to permit the estimation. For Germany six cells had to be merged with adjacent cells to permit the estimation.[7] The weighted cell frequencies for all four countries are shown in Table 2.

III. Decompositions of Cross-National Differences in Parental Earnings Inequality.

Since there are four countries, there are six potential decompositions, and since each decomposition can be done with either country as the starting point, there are actually twelve. In Table 3 we display three of these. All three use the U.S. as the starting point, because it is the benchmark among OECD nations for "high" inequality, as the Gini coefficients in Table 1 suggested.

In the top panel of Table 3 we show the values for the U.S. in Row 1, then the counterfactual values using the other country's cell means in Row 2, then the counterfactual values generated by reweighting the Row 2 distribution using the other country's relative cell frequencies in Row 3, and finally the other country's actual values in Row 4. The lower panel uses these numbers to perform the decomposition: the

[7] Lemieux (2002, p. 656) describes an alternative procedure that avoids the requirement that all cells be populated in both countries, but that technique is not truly nonparametric.

difference between Rows 1 and 2 shows the effects of differing cell means (coefficients); the difference between Row 2 and Row 3 shows the effect of differing covariate frequencies; the remainder is a residual.

The decomposition of the difference in the Gini coefficient for Sweden versus the U.S. illustrates the technique rather nicely: of the .064 difference in the two countries' Gini coefficients of parental earnings, .010 is due to differences in cell means (coefficients) and .015 due to differences in covariate frequencies. It is not necessary that both differences in cell means and differences in covariate frequencies contribute to the decomposition. In Germany, the effect of the difference in cell means is to *increase* the Gini coefficient in earnings (though only slightly); the difference in covariates is the major factor. The decomposition of the Gini coefficient differential with Canada shows an example where the differences in cell means and the differences in covariate frequencies actually account for more than 100% of the differential. Summing up the Gini coefficient example, the differences in cell means contribute to the difference in Gini coefficients in both Sweden and Canada, but not in Germany; the differences in covariate frequencies contribute to the difference in Gini coefficients for all three countries.

The analysis of 90/50 ratios is very similar to that of Gini coefficients: both differences in cell means and differences in covariate frequencies contribute to the differential, and to roughly equal extents, except that for Germany the cell means matter very little.

The decomposition of the 50/10 ratios tells a different and complicated story. It is necessarily different, because, as noted above, the 50/10 ratios of parental earnings are *larger* (more unequal) for Sweden and Canada than for the U.S. In the case of Sweden, the differences in cell means contribute substantially to the result, though the differences in covariate frequencies work in the opposite direction. The difference in covariate frequencies is the principal contributor to the lower 50/10 ratio for Germany; inequality in the U.S. would actually be much *higher* with the German cell means. For Canada, it would seem that both differences in cell means and differences in covariate frequencies contribute to a *lower* 50/10 ratio of parental earnings, but in fact it is higher— the result of a peculiarly large residual effect.

IV. The Usual Suspects: Single Parenthood and Educational Attainment

Tables 4A, 4B and 4C show the pattern of cell means, normalized by the overall means to facilitate comparison. We have employed gray shading to indicate the cells in which the U.S. cell mean exceeds the cell mean for the comparison country. The visual impression is that the principal differences are that the U.S. has relatively higher cell means for single parents and for households (especially couples) with a highly educated head. Looking through Table 2, it seems that the difference in patterns of covariates follows the general lines of the same two factors: The U.S. has a relatively large proportion of single parents relative to both Canada and Germany (though not Sweden), and also a relatively large number of parents with high educational attainment.

Table 5 pursues the hypothesis that single parents and highly educated parents are particularly important sub-groups in understanding inequality among parents. The Lemieux decomposition can be performed for *selected* cell means and *selective* reweighting of cell frequencies. Accordingly, we have followed the same analysis as is found in Table 3 for these subgroups alone. That is, the counterfactual in Row 2 is that the U.S. cell means for single parents have been replaced with those of the other country, then row 3 reweights the row 2 counterfactual with the other country's cell frequencies for single parents. Rows 4 and 5 follow the same pattern for highly educated parents.

Consider the results for Sweden. Row 6, copied from Table 3, shows that the Swedish cell means would decrease the U.S. Gini coefficient and 90/50 ratio, but increase the U.S. 50/10 ratio. A likely source of the increased 50/10 ratio is easy to spot in Table 4A: Single parents in the U.S. have higher, often much higher, normalized earnings in almost every cell. The result is verified in Row 2 of Table 5: Almost the entire increase in the 50/10 ratio can be generated by substituting the Swedish cell means for single parents. On the other hand, Table 2 shows that the U.S. and Sweden have similar proportions of single parents with similar proportions of multiple children. It is therefore not surprising that a comparison of Rows 2 and 3 in Table 5 shows that reweighting by the Swedish cell frequencies would slightly decrease the 50/10 ratio. Since the U.S. has the higher normalized cell mean in almost every cell in which the household head has a university degree, one might expect that the difference in cell means for highly educated heads would have a larger impact on the 90/50 ratio than it does. The U.S. has more young and prime age (under 45) married couples for which both have a university degree, an observation that seems consistent with the idea that the Swedish covariate frequencies would somewhat decrease the 90/50 ratio, as the results in Table 5 suggest.

What we see in Table 4B for Germany is rather similar to what we saw in Table 4A for Sweden. Compared to Germany, the U.S. has a higher cell mean for most of the cells involving single parents, especially single parents with multiple children. Again, the married couple cells in which the U.S. has the larger mean are concentrated among those where the husband is a university graduate, though the pattern of cells in which the U.S. has the higher normalized mean is not so exclusively concentrated in high-earnings cells as it was for Sweden. Looking at Table 2, we see that single-parent households, particularly ones with multiple children, are much less prevalent in Germany than in the U.S. Also, German married couples are less likely to have a highly educated wife than American couples. Turning now to Table 5, we start by recalling from Table 3 that employing the German cell means would slightly decrease the 90/50 ratio, but dramatically increase the 50/10 ratio. The cell means for single parents and highly educated heads do not contribute to the increase in the 90/50 ratio, but the cell mean differential for single parents is more than sufficient to account for the increase in the 50/10 ratio. The effect of different covariate frequencies was to decrease inequality, however measured; both the lower frequency of single parents and the lower frequency of highly educated parents play a role.

The Canadian results in Table 4C present the least readily interpretable pattern. Canada has the higher cell means in a majority of the cells for single parents (and a substantially lower cell mean in only one cell: young, highly-educated single head of household with multiple children). The pattern for married couples is less easily characterized. The cell means for the highly educated are similar for the two countries, so the observation that the U.S. has higher means in the high earnings cells is not applicable to the comparison between the U.S. and Canada. What is true of all three comparison countries, however, is that they have higher cell means for young, less-educated married couples than the U.S. Looking at Table 2, the pattern of comparative cell frequencies between Canada and the U.S. is similar to that between the U.S. and Germany—the U.S. has more single parents, especially with multiple children, and more highly educated wives among married couples-- but the differences are less dramatic. Recall from Table 3 that both cell means and covariate frequencies contributed to the differential in the 90/50 ratio. The different cell means for single parents and highly educated heads play no meaningful role, but the different cell frequencies do.

V. Conclusions.

The Lemieux decomposition permits the non-parametric analysis of cross-national differences in inequality statistics into the familiar decomposition categories of "changes in coefficients" and "changes in endowments." It accomplishes this goal by constructing mutually exclusive and exhaustive population cells, then constructing counterfactual distributions, first by replacing one nation's cell means with another's to obtain the "difference due to changes in cell means (coefficients)," then by reweighting with the other nation's cell frequencies to obtain the "difference due to changes in covariates (endowments)."

The first substantive conclusion is that the high earnings inequality at the top end of the U.S. parental earnings distribution involves both differences in cell means and differences in covariate frequencies. A notable difference in cell means is that couples with highly educated husbands, particularly under the age of 45, tend to earn substantially more (compared to overall mean earnings) in the U.S. than in other countries. However, a simple counterfactual involving cell means for all cells with highly educated heads did not seem to explain the different 90/50 ratios. The U.S. generally has higher cell frequencies in cells involving highly educated heads, particularly those cells that also include highly-educated wives. The difference in the frequency of highly educated heads contributed to the 90/50 differential for all three country comparisons.

A second conclusion is that the U.S. does not in fact have high earnings inequality at the bottom of the parental earnings distribution—a little bit higher than Germany, but substantially lower than Canada or Sweden. Compared to Germany, the U.S. has both a high prevalence of single parents and high cell means for single parents. In the case of the single parenthood factor alone, the different cell means are the predominant factor, suggesting that Germany ought to have a higher 50/10 ratio than the U.S., but covariates other than single parenthood and highly educated heads are sufficient to reverse the result. The U.S. also has higher cell means for single parents than Sweden, and that difference contributes substantially to the fact that Sweden has such a high 50/10 ratio compared to the U.S. The reason for the high 50/10 ratio in Canada is more mysterious, since it does not seem to arise from either an unusual prevalence of groups with low earnings nor unusually low earnings in those groups.

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TABLE 1
Descriptive Statistics: Distributions of Earnings for Households with Children

	United States 2000	Sweden 2000	Germany 2000	Canada 2000
Distributional Statistic:				
Mean (local currency)	61,705	359,676	83,750	57,100
Coefficient of variation	1.011	0.875	0.618	0.895
Gini Coefficient	0.451	0.387	0.328	0.404
90/50 earnings gap	2.392	1.930	1.822	2.063
50/10 earnings gap	4.630	6.711	4.049	6.173
Number of observations	18,030	3,956	1,747	9,630

TABLE 2
Weighted Cell Proportions for Families with Children

Cell Categories				*Weighted Cell Proportion*			
Single/Married	# Kids	Age(s)[a]	Education(s)[b]	U.S. (2000)	Sweden (2000)	Germany (2000)	Canada (2000)
single	1	1	1	0.007	0.008	0.006	0.006
single	1	1	2	0.025	0.010	0.008	0.016
single	1	1	3	0.002	0.001	-------	0.002
single	1	2	1	0.006	0.010	0.015	0.007
single	1	2	2	0.036	0.044	0.044	0.036
single	1	2	3	0.009	0.012	0.006	0.006
single	1	3	1	0.009	0.006	0.006	0.007
single	1	3	2	0.024	0.019	0.009	0.017
single	1	3	3	0.010	0.015	0.004	0.006
single	>1	1	1	0.010	0.004	-------	0.005
single	>1	1	2	0.022	0.007	0.004	0.012
single	>1	1	3	0.001	0.001	-------	0.001
single	>1	2	1	0.012	0.015	0.010	0.010
single	>1	2	2	0.044	0.048	0.018	0.042
single	>1	2	3	0.008	0.016	0.001	0.004
single	>1	3	1	0.007	0.003	0.002	0.003
single	>1	3	2	0.013	0.006	0.002	0.007
single	>1	3	3	0.004	0.007	0.005	0.002
married	1	11	11	0.010	0.005	0.014	0.004
married	1	21	11	0.002	0.003	0.019	0.003
married	1	22	11	0.009	0.013	0.053	0.022
married	1	32	11	0.005	0.009	0.016	0.009
married	1	33	11	0.011	0.021	0.028	0.012
married	1	11	21	0.003	0.006	0.003	0.003
married	1	11	22	0.030	0.027	0.020	0.028
married	1	21	21	0.001	0.002	0.002	0.003
married	1	21	22	0.013	0.018	0.017	0.016
married	1	22	21	0.003	0.006	0.021	0.009
married	1	22	22	0.058	0.052	0.096	0.072
married	1	32	21	0.002	0.005	0.004	0.004
married	1	32	22	0.021	0.013	0.042	0.023
married	1	33	21	0.003	0.005	0.006	0.006
married	1	33	22	0.038	0.041	0.033	0.047
married	1	11	32	0.002	0.003	0.0003	0.003
married	1	11	33	0.005	0.002	-------	0.003
married	1	21	32	0.001	0.002	0.003	0.005
married	1	21	33	0.005	0.003	0.002	0.002
married	1	22	32	0.009	0.007	0.017	0.012
married	1	22	33	0.020	0.009	0.009	0.012
married	1	32	32	0.005	0.004	0.003	0.003
married	1	32	33	0.005	0.002	0.001	0.003
married	1	33	32	0.013	0.008	0.012	0.011
married	1	33	33	0.018	0.021	0.013	0.010
married	>1	11	11	0.014	0.004	0.007	0.007
married	>1	21	11	0.009	0.006	0.012	0.007
married	>1	22	11	0.029	0.040	0.080	0.040
married	>1	32	11	0.006	0.013	0.015	0.010
married	>1	33	11	0.008	0.009	0.007	0.005
married	>1	11	21	0.005	0.003	0.004	0.003
married	>1	11	22	0.036	0.022	0.013	0.022
married	>1	21	21	0.003	0.003	0.002	0.004
married	>1	21	22	0.021	0.022	0.019	0.023
married	>1	22	21	0.010	0.013	0.020	0.016
married	>1	22	22	0.131	0.172	0.146	0.193
married	>1	32	21	0.002	0.005	0.003	0.005
married	>1	32	22	0.026	0.031	0.012	0.032
married	>1	33	21	0.002	0.002	0.005	0.001
married	>1	33	22	0.017	0.019	0.023	0.027
married	>1	11	32	0.003	0.002	0.001	0.002
married	>1	11	33	0.003	0.001	-------	0.001
married	>1	21	32	0.004	0.003	0.0004	0.003
married	>1	21	33	0.004	0.001	-------	0.001
married	>1	22	32	0.029	0.026	0.022	0.027
married	>1	22	33	0.055	0.040	0.011	0.033
married	>1	32	32	0.008	0.008	0.006	0.007
married	>1	32	33	0.012	0.012	0.004	0.007
married	>1	33	32	0.007	0.004	0.007	0.006
married	>1	33	33	0.016	0.017	0.008	0.006

[a] '1'=age<30; '2'= age 30-44; '3'= age>44. In the case of married couple households, the head's age is listed first, followed by the (relative) age of the spouse.

[b] In the case of married couple households, the head's education is listed first, followed by the (relative) education of the spouse.

TABLE 3
Earnings Distribution Statistics for Households with Children

U.S. 2000 versus Sweden 2000

Earnings Distribution	Gini Coefficient	90/50	50/10
1. United States	0.451	2.392	4.630
2. U.S. with Sweden's cell means	0.441	2.228	5.988
3. U.S. with Sweden's cell means and covariates	0.426	2.128	5.076
4. Sweden	0.387	1.930	6.711
U.S. - Sweden difference	0.064	0.462	-2.082
Effect of			
Cell Means *(Row 1 - Row 2)*	0.010	0.164	-1.358
Covariates *(Row 2 - Row 3)*	0.015	0.100	0.912
Residual *(Row 3 - Row 4)*	0.039	0.198	-1.635

U.S. 2000 versus Germany 2000

Earnings Distribution	Gini Coefficient	90/50	50/10
1. United States	0.451	2.392	4.630
2. U.S. with Germany's cell means	0.458	2.299	13.158
3. U.S. with Germany's cell means and covariates	0.391	1.762	3.268
4. Germany	0.328	1.822	4.049
U.S. - Germany difference	0.123	0.570	0.581
Effect of			
Cell Means *(Row 1 - Row 2)*	-0.007	0.093	-8.528
Covariates *(Row 2 - Row 3)*	0.067	0.537	9.890
Residual *(Row 3 - Row 4)*	0.063	-0.060	-0.781

U.S. 2000 versus Canada 2000

Earnings Distribution	Gini Coefficient	90/50	50/10
1. United States	0.451	2.392	4.630
2. U.S. with Canada's cell means	0.416	2.245	3.584
3. U.S. with Canada's cell means and covariates	0.388	2.078	3.145
4. Canada	0.404	2.063	6.173
U.S. - Canada difference	0.047	0.329	-1.543
Effect of			
Cell Means *(Row 1 - Row 2)*	0.035	0.147	1.045
Covariates *(Row 2 - Row 3)*	0.028	0.167	0.440
Residual *(Row 3 - Row 4)*	-0.016	0.015	-3.028

TABLE 4A
Normalized Cell Means for Households with Children
United States (2000) and Sweden (2000)

Single/Married	# Kids	Age(s)[a]	Education(s)[b]	U.S. Cell Mean (as % of U.S. Earnings)	Sweden Cell Mean (as % of Sweden Earnings)
single	1	1	1	41.9	11.7
single	1	1	2	40.7	24.6
single	1	1	3	61.3	37.0
single	1	2	1	27.5	34.7
single	1	2	2	50.4	37.1
single	1	2	3	83.5	45.4
single	1	3	1	31.0	41.0
single	1	3	2	50.1	63.5
single	1	3	3	87.3	68.3
single	>1	1	1	23.8	10.4
single	>1	1	2	34.8	22.8
single	>1	1	3	91.1	24.1
single	>1	2	1	28.3	25.1
single	>1	2	2	40.4	39.8
single	>1	2	3	76.1	60.4
single	>1	3	1	34.3	42.9
single	>1	3	2	58.4	33.8
single	>1	3	3	129.3	73.1
married	1	11	11	49.7	60.5
married	1	21	11	55.9	74.2
married	1	22	11	71.4	91.1
married	1	32	11	79.4	110.5
married	1	33	11	70.0	106.3
married	1	11	21	43.7	53.5
married	1	11	22	78.3	83.9
married	1	21	21	46.0	72.6
married	1	21	22	97.4	114.6
married	1	22	21	81.8	118.9
married	1	22	22	110.2	112.4
married	1	32	21	79.1	98.8
married	1	32	22	114.7	115.1
married	1	33	21	63.9	97.1
married	1	33	22	111.2	139.2
married	1	11	32	105.5	79.0
married	1	11	33	150.2	83.1
married	1	21	32	113.5	68.2
married	1	21	33	157.5	69.9
married	1	22	32	147.8	127.7
married	1	22	33	177.5	133.8
married	1	32	32	165.0	120.5
married	1	32	33	197.7	143.8
married	1	33	32	178.9	134.2
married	1	33	33	227.9	186.3
married	>1	11	11	48.4	72.7
married	>1	21	11	56.1	65.1
married	>1	22	11	63.3	95.6
married	>1	32	11	56.8	93.6
married	>1	33	11	55.6	101.5
married	>1	11	21	51.5	76.7
married	>1	11	22	72.7	83.0
married	>1	21	21	59.5	22.7
married	>1	21	22	79.4	89.9
married	>1	22	21	74.7	98.4
married	>1	22	22	106.0	113.6
married	>1	32	21	59.3	81.8
married	>1	32	22	106.2	119.9
married	>1	33	21	97.9	110.4
married	>1	33	22	107.3	122.6
married	>1	11	32	90.5	63.1
married	>1	11	33	127.0	106.9
married	>1	21	32	109.7	109.0
married	>1	21	33	156.6	74.3
married	>1	22	32	155.9	153.7
married	>1	22	33	196.1	156.3
married	>1	32	32	157.1	172.2
married	>1	32	33	208.9	175.8
married	>1	33	32	148.2	216.7
married	>1	33	33	214.9	196.7

Note: Shaded areas represent variables for which the estimated coefficient for the U.S. is larger in value than the estimated coefficient for Sweden.

[a] '1'=age<30; '2'= age 30-44; '3'= age>44. In the case of married couple households, the head's age is listed first, followed by the (relative) age of the spouse.
[b] In the case of married couple households, the head's education is listed first, followed by the (relative) education of the spouse.

TABLE 4B
Normalized Cell Means for Households with Children
United States (2000) and Germany (2000)

Single/Married	# Kids	Age(s)[a]	Education(s)[b]	U.S. Cell Mean (as % of U.S. Earnings)	Germany Cell Mean (as % of Germany Earnings)
single	1	1	1	41.9	10.6
single	1	1	2	40.7	14.7
single	1	2	1	27.5	31.6
single	1	2	2	50.4	51.9
single	1	2	3	83.5	89.7
single	1	3	1	31.0	27.2
single	1	3	2	50.1	52.1
single	1	3	3	87.3	72.1
single	>1	1	2	34.8	12.2
single	>1	2	1	28.3	12.2
single	>1	2	2	40.4	16.2
single	>1	2	3	76.1	68.8
single	>1	3	1	34.3	18.6
single	>1	3	2	58.4	47.2
single	>1	3	3	129.3	86.0
married	1	11	11	49.7	73.2
married	1	21	11	55.9	59.0
married	1	22	11	71.4	106.5
married	1	32	11	79.4	95.1
married	1	33	11	70.0	97.1
married	1	11	21	43.7	71.3
married	1	11	22	78.3	73.3
married	1	21	21	46.0	78.0
married	1	21	22	97.4	63.3
married	1	22	21	81.8	103.7
married	1	22	22	110.2	115.4
married	1	32	21	79.1	69.4
married	1	32	22	114.7	119.8
married	1	33	21	63.9	158.3
married	1	33	22	111.2	111.5
married	1	11	32	105.5	163.3
married	1	21	32	113.5	46.8
married	1	21	33	157.5	111.0
married	1	22	32	147.8	148.5
married	1	22	33	177.5	152.7
married	1	32	32	165.0	120.1
married	1	32	33	197.7	207.1
married	1	33	32	178.9	164.7
married	1	33	33	227.9	185.4
married	>1	11	11	48.4	62.7
married	>1	21	11	56.1	82.0
married	>1	22	11	63.3	92.3
married	>1	32	11	56.8	90.2
married	>1	33	11	55.6	81.8
married	>1	11	21	51.5	89.6
married	>1	11	22	72.7	68.3
married	>1	21	21	59.5	71.6
married	>1	21	22	79.4	82.7
married	>1	22	21	74.7	101.5
married	>1	22	22	106.0	111.8
married	>1	32	21	59.3	109.0
married	>1	32	22	106.2	119.0
married	>1	33	21	97.9	135.3
married	>1	33	22	107.3	152.0
married	>1	11	32	90.5	62.5
married	>1	21	32	109.7	91.9
married	>1	22	32	155.9	136.2
married	>1	22	33	196.1	208.3
married	>1	32	32	157.1	176.3
married	>1	32	33	208.9	139.3
married	>1	33	32	148.2	152.9
married	>1	33	33	214.9	173.3

Note: Shaded areas represent variables for which the estimated coefficient for the U.S. is larger in value than the estimated coefficient for Germany.

[a] '1'=age<30; '2'= age 30-44; '3'= age>44. In the case of married couple households, the head's age is listed first, followed by the (relative) age of the spouse.

[b] In the case of married couple households, the head's education is listed first, followed by the (relative) education of the spouse.

TABLE 4C
Normalized Cell Means for Households with Children
United States (2000) and Canada (2000)

Single/Married	# Kids	Age(s)[a]	Education(s)[b]	U.S. Cell Mean (as % of U.S. Earnings)	Canada Cell Mean (as % of Canada Earnings)
single	1	1	1	41.9	46.9
single	1	1	2	40.7	53.0
single	1	1	3	61.3	76.7
single	1	2	1	27.5	31.0
single	1	2	2	50.4	58.0
single	1	2	3	83.5	76.5
single	1	3	1	31.0	41.3
single	1	3	2	50.1	58.8
single	1	3	3	87.3	86.9
single	>1	1	1	23.8	24.8
single	>1	1	2	34.8	33.6
single	>1	1	3	91.1	49.6
single	>1	2	1	28.3	28.1
single	>1	2	2	40.4	50.9
single	>1	2	3	76.1	81.4
single	>1	3	1	34.3	39.5
single	>1	3	2	58.4	55.4
single	>1	3	3	129.3	136.2
married	1	11	11	49.7	54.4
married	1	21	11	55.9	77.4
married	1	22	11	71.4	96.8
married	1	32	11	79.4	93.8
married	1	33	11	70.0	86.8
married	1	11	21	43.7	63.6
married	1	11	22	78.3	80.4
married	1	21	21	46.0	69.6
married	1	21	22	97.4	90.6
married	1	22	21	81.8	87.7
married	1	22	22	110.2	124.7
married	1	32	21	79.1	89.4
married	1	32	22	114.7	126.0
married	1	33	21	63.9	84.0
married	1	33	22	111.2	139.5
married	1	11	32	105.5	96.1
married	1	11	33	150.2	166.4
married	1	21	32	113.5	111.2
married	1	21	33	157.5	115.9
married	1	22	32	147.8	138.7
married	1	22	33	177.5	177.2
married	1	32	32	165.0	155.1
married	1	32	33	197.7	227.3
married	1	33	32	178.9	188.3
married	1	33	33	227.9	199.9
married	>1	11	11	48.4	65.4
married	>1	21	11	56.1	68.8
married	>1	22	11	63.3	85.2
married	>1	32	11	56.8	73.4
married	>1	33	11	55.6	79.7
married	>1	11	21	51.5	55.6
married	>1	11	22	72.7	86.9
married	>1	21	21	59.5	57.2
married	>1	21	22	79.4	95.3
married	>1	22	21	74.7	83.2
married	>1	22	22	106.0	122.8
married	>1	32	21	59.3	92.3
married	>1	32	22	106.2	111.5
married	>1	33	21	97.9	83.0
married	>1	33	22	107.3	122.1
married	>1	11	32	90.5	80.6
married	>1	11	33	127.0	112.6
married	>1	21	32	109.7	108.4
married	>1	21	33	156.6	124.7
married	>1	22	32	155.9	187.0
married	>1	22	33	196.1	207.9
married	>1	32	32	157.1	163.0
married	>1	32	33	208.9	254.6
married	>1	33	32	148.2	216.1
married	>1	33	33	214.9	252.0

Note: Shaded areas represent variables for which the estimated coefficient for the U.S. is larger in value than the estimated coefficient for Canada.

[a] '1'=age<30; '2'= age 30-44; '3'= age>44. In the case of married couple households, the head's age is listed first, followed by the (relative) age of the spouse.
[b] In the case of married couple households, the head's education is listed first, followed by the (relative) education of the spouse.

TABLE 5
Earnings Distribution Statistics for Households with Children

U.S. 2000 versus Sweden 2000

Earnings Distribution	Gini Coefficient	90/50	50/10
1. United States	0.451	2.392	4.630
2. U.S. with Sweden's cell means for single parents	0.463	2.407	6.369
3. U.S. with Sweden's cell means and covariates for single parents	0.457	2.326	6.329
4. U.S. with Sweden's cell means for highly educated head	0.461	2.388	5.319
5. U.S. with Sweden's cell means and covariates for highly educated head	0.455	2.334	5.348
6. U.S. with Sweden's cell means (from Table 3)	0.441	2.228	5.988
7. U.S. with Sweden's cell means and covariates (from Table 3)	0.426	2.128	5.076
8. Sweden	0.387	1.930	6.711
Effect of different cell means			
Cell means for single parents (Row 1 - Row 2)	-0.012	-0.015	-1.740
Cell means for highly educated head (Row 1 - Row 4)	-0.010	0.004	-0.690
All cell means (Row 1 - Row 6)	0.010	0.164	-1.358
Effect of different covariates			
Covariates for single parents (Row 2 - Row 3)	0.006	0.081	0.040
Covariates for highly educated head (Row 4 - Row 5)	0.006	0.054	-0.028
All covariates (Row 6 - Row 7)	0.015	0.100	0.912

U.S. 2000 versus Germany 2000

Earnings Distribution	Gini Coefficient	90/50	50/10
1. United States	0.451	2.392	4.630
2. U.S. with Germany's cell means for single parents	0.475	2.447	15.152
3. U.S. with Germany's cell means and covariates for single parents	0.471	2.378	13.699
4. U.S. with Germany's cell means for highly educated head	0.456	2.413	4.785
5. U.S. with Germany's cell means and covariates for highly educated head	0.453	2.360	4.695
6. U.S. with Germany's cell means (from Table 3)	0.458	2.299	13.158
7. U.S. with Germany's cell means and covariates (from Table 3)	0.391	1.762	3.268
8. Germany	0.328	1.822	4.049
Effect of different cell means			
Cell means for single parents (Row 1 - Row 2)	-0.024	-0.055	-10.522
Cell means for highly educated head (Row 1 - Row 4)	-0.005	-0.021	-0.155
All cell means (Row 1 - Row 6)	-0.007	0.093	-8.528
Effect of different covariates			
Covariates for single parents (Row 2 - Row 3)	0.004	0.069	1.453
Covariates for highly educated head (Row 4 - Row 5)	0.004	0.053	0.090
All covariates (Row 6 - Row 7)	0.067	0.537	9.890

U.S. 2000 versus Canada 2000

Earnings Distribution	Gini Coefficient	90/50	50/10
1. United States	0.451	2.392	4.630
2. U.S. with Canada's cell means for single parents	0.446	2.357	4.566
3. U.S. with Canada's cell means and covariates for single parents	0.443	2.318	4.566
4. U.S. with Canada's cell means for highly educated head	0.456	2.459	4.695
5. U.S. with Canada's cell means and covariates for highly educated head	0.453	2.421	4.587
6. U.S. with Canada's cell means (from Table 3)	0.416	2.245	3.584
7. U.S. with Canada's cell means and covariates (from Table 3)	0.388	2.078	3.145
8. Canada	0.404	2.063	6.173
Effect of different cell means			
Cell means for single parents (Row 1 - Row 2)	0.005	0.035	0.063
Cell means for highly educated head (Row 1 - Row 4)	-0.005	-0.067	-0.065
All cell means (Row 1 - Row 6)	0.035	0.147	1.045
Effect of different covariates			
Covariates for single parents (Row 2 - Row 3)	0.003	0.039	0.000
Covariates for highly educated head (Row 4 - Row 5)	0.003	0.038	0.108
All covariates (Row 6 - Row 7)	0.028	0.167	0.440