ASSESSING THE EFFECTS OF WIVES' EARNINGS ON FAMILY INCOME INEQUALITY

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Abstract—We argue that the effect of wives' earnings can be assessed meaningfully only by comparing the observed distribution of income with a reference distribution. The components of the standard decomposition of the Gini coefficient have no implicit reference distribution and therefore should not be interpreted as a measure of the effect of an income source on inequality. We suggest several intuitive counterfactual reference distributions and illustrate their use with 1979 and 1989 U.S. data. We conclude that wives' earnings reduced inequality in that the income distribution would have been less equal in their absence. Alternative measures of the impact have mixed results.

I. Introduction

In the last two decades, the market work of married women increased dramatically. As male wages stagnated, wives' earnings became the principal sources of growth in the family income for married couples. The disproportionate growth in labor force participation for women with high-earners husbands has heightened concerns that wives' earnings may increase income inequality among married couples.1,2

Research on the impact of wives' earnings on income inequality provides mixed evidence. Shorrock (1983), Lerman and Yitzhaki (1985), and Karoly and Burtless (1995) decompose indexes of inequality by income source and conclude that wives' earnings "contribute" to family income inequality. In contrast, Blackburn and Bloom (1987), Ryscavage (1992), and Cancian et al. (1993b) find that wives' earnings "equalize" the distribution of income.3

While the studies differ in several important ways (such as source of data, years considered, selection of sample, definition of income, index of inequality), we discuss a key issue that has not been analyzed: the different formulations of the question "Do wives' earnings contribute to income inequality?" That is, the aforementioned analyses differ fundamentally in the way they assess the effects of wives' earnings on family income inequality. In most cases each researcher has considered only one of several possible approaches, sometimes without explicitly distinguishing the approach or mentioning alternatives.

An income source may increase or reduce income inequality, but relative to what? We argue that the impact of an income source on the distribution of income can be assessed meaningfully only by comparing the observed distribution of income with a reference distribution. We describe several measures of the impact of wives' earnings based on counterfactual reference distributions. For each measure, when the observed distribution of income is more equal than the counterfactual distribution, wives' earnings reduce inequality. We show that the impact of wives' earnings depends on the measure used. We also argue that the components of the standard decomposition of the Gini coefficient have no implicit reference distribution and therefore should not be interpreted as a measure of the effect of an income source on inequality.

Before turning to measures of the impact of wives' earnings on inequality, we first describe the indexes of inequality used in this paper: the coefficient of variation and the Gini coefficient. In section III we propose three counterfactual-based measures of the impact of wives' earnings on the distribution of income at a point in time. We illustrate the use of these measures with U.S. data for the years of 1979 and 1989. In section IV we propose two counterfactual-based measures of the impact of the change in wives' earnings on the change in inequality over time. We illustrate the use of these measures using the changes in the U.S. distribution of income between 1979 and 1989.

II. Indexes of Inequality

We use the coefficient of variation and the Gini coefficient as summary measures of the level of inequality.4 In this section we provide decomposition equations for these indexes. In the following sections we will use the decomposition equations to calculate the values of the indexes under alternative counterfactuals.

The coefficient of variation is defined as the standard deviation of income divided by the arithmetic mean. For

three income sources, the square of the coefficient of variation $CV$ can be expressed as

$$CV_j^2 = S_k^2 CV_k^2 + S_p^2 CV_p^2 + S_r^2 CV_r^2 + 2\rho_{hp} S_h S_p CV_h CV_p + 2\rho_{hp} S_h S_r CV_h CV_r + 2\rho_{pr} S_p S_r CV_p CV_r$$

(1)

where

$$S_k = \mu_k / (\mu_h + \mu_w + \mu_r)$$

and $CV_k$ is the coefficient of variation for income component $k$, $\rho$ is the correlation between a pair of income components, $S_k$ is the share of total family income from component $k$, and $\mu_k$ is the mean of income from component $k$. The subscript $f$ denotes family income, $h$ husbands' earnings, $w$ wives' earnings, and $r$ residual income from other sources.

The Gini coefficient of family income $G_f$ for three income sources can be expressed as

$$G_f = S_h R_h G_h + S_w R_w G_w + S_r R_r G_r$$

(2)

where $G_k$ is the Gini coefficient of the $k$th income source, $S_k$ is the share of total income from the $k$th source, and $R_k$ is the Gini correlation between income source $k$ and total income. The Gini correlation for source $k$ is defined as the covariance between income from source $k$ and the rank of total income, divided by the covariance between income from source $k$ and the rank of source $k$.

It is common practice to refer to the Gini decomposition term $S_h R_h G_h$ as the contribution of source $h$ to income inequality. This terminology is misleading. The word contribution suggests that if the term corresponding to wives' earnings is positive $(S_w R_w G_w > 0)$, then wives' earnings increase inequality. But relative to what? The Gini decomposition equation (2) has no implicit reference distribution. In particular, if we exclude $S_h R_h G_h$ from equation (2), the remaining terms $(S_w R_w G_w + S_r R_r G_r)$ do not sum to the Gini coefficient of income less wives' earnings. Notice that $R_h$ is the Gini correlation between husbands' earnings and total income. Since wives' earnings are included in the total income, part of their impact is through $R_h$.

A simple example demonstrates that the decomposition component $S_w R_w G_w$ is not a meaningful measure of the effect of wives' earnings on family income inequality. Consider the hypothetical situation in which wives' earnings are equal across all married couples. In the absence of wives' earnings, the distribution of family income would become less equal. In this sense, the wives' earnings reduce income inequality. However, the Gini contribution of wives' earnings to family income inequality is zero $(R_w = G_w = S_w R_w G_w = 0)$, suggesting that wives' earnings have no impact on family income inequality.

III. Impact of Wives' Earnings on Family Income Inequality

A. Alternative Measures

In this section we propose three measures of the effect of wives' earnings on family income inequality. Each measure is based on an alternative counterfactual reference distribution. The impact of wives' earnings is measured as the difference between income inequality in the reference distribution and the observed distribution.

Our first measure of the impact of wives' earnings compares the observed level of inequality with the level of inequality that would occur if wives had no earnings. Total family income less wives' earnings is perhaps the most intuitive reference distribution. We evaluate the coefficient of variation in the absence of wives' earnings using the summary statistics in table 1 and substituting into equation (1) the appropriate terms. In particular, given $\mu_w = 0$ we have $S_w = CV_w = \rho_{hw} = \rho_{wr} = 0$, $S_h = \mu_h / (\mu_h + \mu_r)$, and $S_r = \mu_r / (\mu_r + \mu_h)$. We cannot use the decomposition equation (2) to evaluate the Gini coefficient without returning to the micro data because the effect of the absence of wives' earnings on the ranking of total income (and thus $R_h$ and $R_r$) cannot be discerned from summary statistics. Thus we calculate the Gini coefficient for the reference distribution by setting wives' earnings equal to zero in the micro data.

Wives' earnings may reduce income inequality under our first measure even when wives' earnings are correlated positively with other sources of income if the correlation is less than perfect or the inequality of wives' earnings is less than the inequality of other sources. For example, differentiating the $CV^2$ decomposition equation (1) (holding $CV_w$ constant) and solving for the inequality-minimizing share of wives' earnings leads to the following:

$$\frac{\partial CV^2_w}{\partial S_w} = 2S_w CV_w^2 + CV_o - 2\rho_{wo} CV_w CV_o$$

(3)

$$S^*_w = \frac{CV^2_w - \rho_{wo} CV_w CV_o}{CV^2_w + CV^2_o - 2\rho_{wo} CV_w CV_o}$$

(4)

In the absence of wives' earnings, the Gini coefficient would be higher because scale-free measures of inequality (such as the Gini coefficient and the coefficient of variation) are increased by lump-sum negative transfers. In this example the standard deviation of income would not be different in the absence of wives' earnings, but the coefficient of variation would increase due to the fall in mean income.

All of the studies cited in the introduction that found wives' earnings to be "equalizing" use this counterfactual reference distribution.
where, for simplification, we use the subscript $o$ to denote the sum of incomes from sources other than wives’ earnings. Equation (4) implies that the share of income from wives’ earnings that minimizes $CV^2$ will be greater than zero whenever $\rho_{wo} CV_w < CV_o$.

Our second measure of the impact of wives’ earnings compares the observed level of inequality with the level of inequality that would occur if each wife’s earnings were decreased by a small percentage.\(^9\) A small percentage decrease in the mean is equivalent to a marginal decrease in the share holding inequality of the income source constant. We use equation (3) to evaluate the impact of a small percentage decrease in wives’ earnings on the coefficient of variation. Differentiating the Gini decomposition equation (2) leads to the following expression for the impact of a small percentage change in wives’ earnings:

$$\left(1 - S_w\right)^{-1}(R_w G_w - G_f)$$

(5)

when the change in wives’ earnings is small enough not to affect the ranking of total income.\(^10\)

The direction of the impact of a marginal decrease in wives’ earnings (our second measure) can be different from the direction of the impact of removing all wives’ earnings (our first measure). This can be seen in equation (3) where the partial derivative of $CV^2$ is an increasing function of $S_w$. For some values of $\rho_{wo}$, $CV_w$, and $CV_o$, the coefficient of variation of family income will first decrease and then increase as $S_w$ falls.

Our third measure compares the observed inequality with the level that would occur if wives’ earnings were distributed equally. In this reference distribution, every wife has earnings equal to the sample mean of wives’ earnings. Shorrocks (1982) suggests this measure of the contribution of source inequality to total inequality. We calculate $CV$ for the reference distribution by setting $CV^2_w = 0$ in equation (1). As with our first measure, we cannot use equation (2) to calculate the Gini for the reference distribution. We calculate the Gini from the micro data replacing each wife’s earnings with $\mu_w$.

We can also evaluate our third measure by differentiating the $CV^2$ decomposition equation (1) with respect to the $CV$ of wives’ earnings,

$$\frac{\partial CV^2_f}{\partial CV_w} = 2S_w^2 CV_w + 2\rho_{wo} S_w S_o CV_o.$$  

(6)

Reducing the $CV$ of wives’ earnings will reduce income inequality whenever $\rho_{wo} > 0$.

These three measures of the impact of wives’ earnings on the distribution of income are fundamentally accounting concepts. We measure the direct impact of wives’ earnings on income inequality, but not the indirect impact through behavioral linkages. For example, in the absence of wives’ earnings, husbands might adjust their own earnings such that the true counterfactual distribution would differ from observed income less wives’ earnings. Estimating the indirect effects of wives’ earnings requires modeling the behavioral linkages between wives’ earnings and other sources of income and is beyond the scope of this paper.

### B. Results

We use data from the March Current Population Survey for income years 1979 and 1989 to illustrate the use of the counterfactual-based measures of the impact of wives’ earnings. It is not our purpose here to produce a definitive answer to the question: “Do wives’ earnings increase income inequality?” Such an answer depends not only on the counterfactual used, but also on important issues that we do not explore in this paper (especially the definition of the sample and the adjustments for household size). We include empirical estimates primarily to illustrate the use of alternative reference distributions and the problems associated with interpreting the Gini decomposition component as a measure of the effect of wives’ earnings on inequality.

We calculate the distribution of family (pretax, posttransfer) income for married couples where both spouses are between 25 and 64 years of age. In calculating the inequality of total family income we divide total income into three sources: husband’s earnings, wife’s earnings, and other income.\(^11\) In this section we are interested in measures of the impact of wives’ earnings on the distribution of income at a point in time. We present results from both 1979 and 1989, but focus on the more recent year. We include the 1979 results primarily as background for the discussion, in the next section, of changes in the impact of wives’ earnings over time.

As shown in the first row of table 1, in 1979 the coefficient of variation of family income was 0.558. Between 1979 and 1989 the coefficient of variation grew by 11% to 0.619. In 1979 the Gini coefficient of family income was 0.294 (table 1, row 2). Between 1979 and 1989 the Gini index increased

\(^9\) This approach has also been used in other studies of the contribution of an income source to income inequality, including Lerman and Yitzhaki (1985), Stark et al. (1986, 1988), Lerman and Lerman (1986), Yitzhaki (1990), Taylor (1992), and Garner (1993).

\(^10\) Even a 2% decrease in wives’ earnings changes the ranking of total income. As an alternative, we evaluate the Gini of the reference distribution by multiplying each wife’s earnings by 0.98 in the micro data. The direction of change in the Gini is the same as implied by equation (5).

\(^11\) We use only cash income and do not attempt to account for noncash compensations. Because noncash compensation is likely to be a major benefit for Armed Forces families, we exclude these families from our sample. We also exclude households on farms due to the high variability of income across years. We account for changes in top coding between 1979 and 1989 by adjusting the top codes so that in each year the same percentage of families is affected. We do not explore the variation in results for different definitions of the sample (age range, inclusion of Armed Forces and farms, exclusion of self-employed, inclusion of all individuals as opposed to married couples only), for subsamples (by race or education group), or for different definitions of income (adjusting for family size, earnings only, full-employment potential earnings). A number of these issues are addressed by previous analyses (see, for example, Karoly and Burless (1995), Ryscavage (1992), and Cancian et al. (1993a)).
by about 11% to 0.325. The observed coefficient of variation and Gini coefficient of total income in each year can also be computed using the terms of the decomposition equations (1) and (2), as shown in Table 1.

Our first measure of the impact of wives’ earnings compares the observed level of inequality with the level of inequality that would occur if wives had no earnings. We find that wives’ earnings reduced inequality in the sense that inequality would have been greater in their absence. In 1989, if wives’ earnings were equal to zero, the coefficient of variation of family income would have been 0.700, as opposed to the observed value of 0.619. (In Table 2 compare the first and second rows.) Including wives’ earnings reduces the coefficient of variation of family income by 12% relative to that of family income less wives’ earnings. Similarly, including wives’ earnings reduces the Gini coefficient by 9% in 1989. Results for 1979 are similar.

In the third panel of Table 2 we show the direction of the impact on the inequality of total income of a marginal decrease in wives’ earnings. Using our second measure, we find that wives’ earnings reduced inequality in 1989 in the sense that a small percentage decrease in wives’ earnings would have increased both measures of inequality. For 1979, if wives’ earnings fell by a small percentage, the coefficient of variation would increase but the Gini would decrease.

Using our third measure, and comparing observed inequality with the level of inequality if wives’ earnings were equally distributed, we find that the inequality of wives’ earnings increased total income inequality. If wives’ earnings were distributed equally across all wives with each wife receiving the observed mean value, income inequality would have been lower than observed (see Table 2, panel 4).

Note that the Gini decomposition results suggest that wives’ earnings “contributed” to inequality $(S_w R_w G_w > 0)$, see the last row of Table 1. We have argued, however, that this decomposition does not correspond to any economically intuitive definition of “contribute.” In fact, wives’ earnings actually reduced inequality using our first and second counterfactual-based measures of the impact.

The direction of the impact of the inequality of wives’ earnings on family income inequality (our third measure) will often agree with the Gini contribution. However, the magnitude of the Gini contribution has no interpretation. For example, the Gini decomposition suggests that wives’ earnings “explained” 17% and 23% of family income inequality in 1979 and 1989, respectively (Table 1, SWRWGW/Gf). Using our third measure, the observed Gini of family income was only 10% higher in 1979 and 15% higher in 1989 than it would have been if wives’ earnings had been distributed equally.

To summarize, we find that wives’ earnings reduced income inequality in 1979 and 1989 in the sense that the family income distribution would have been less equal in their absence. In 1989, wives’ earnings also reduced inequality in that a small percentage decrease in wives’ earnings would have increased family income inequality. The impact of a small percentage decrease in wives’ earnings on the 1979 distribution of family income depends on the index of inequality used. In both years, the inequality of wives’ earnings increased income inequality in the sense that family income would have been more equally distributed if wives’ earnings had been equally distributed with each wife earning the observed mean.

### IV. Impact of the Change in Wives’ Earnings on the Change in Inequality

Over the decade 1979–1989 income inequality among married couples increased substantially. The coefficient of variation and the Gini coefficient each increased by about 11%. In the previous section we considered the impact of wives’ earnings in 1979 and 1989. In this section we consider methods to assess whether changes over time in

<table>
<thead>
<tr>
<th>Table 1.—Decomposition Components</th>
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<tbody>
<tr>
<td>1979</td>
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<tr>
<td>$CV$</td>
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<tr>
<td>$Gini$</td>
</tr>
<tr>
<td>Mean $\mu_k$</td>
</tr>
<tr>
<td>Correlation $\rho_{hk}$</td>
</tr>
<tr>
<td>Gini correlation $R_k$</td>
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<tr>
<td>$S_k R_k G_k$</td>
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<tr>
<th>Table 2.—Indexes of Inequality, Observed and Counterfactual</th>
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<tr>
<td>CV Gini</td>
</tr>
<tr>
<td>1979 1989 1979 1989</td>
</tr>
<tr>
<td>Observed inequality</td>
</tr>
<tr>
<td>Ref.—wives’ earnings = 0</td>
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<tr>
<td>Impact of wives’ earnings</td>
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<tr>
<td>Ref.—marginal decrease</td>
</tr>
<tr>
<td>Ref.—$CV_w = G_w = 0$</td>
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<tr>
<td>Impact of wives’ earnings</td>
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Note: Authors’ calculations from March Current Population Survey.
Source: Income sources include husbands’ earnings (h), wives’ earnings (w), and other income (r).

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12 The Gini contribution is positive when $R_w > 0$. The inequality of wives’ earnings contributes to total income inequality whenever $p_{ww} > 0$ (see equation (6)).
wives’ earnings contributed to changes over time in family income inequality. We present two counterfactual-based measures of the impact of a change in wives’ earnings and illustrate their use for evaluating the changes in inequality between 1979 and 1989.

Our first measure compares the observed inequality in the latter year to the level of inequality if the distribution of wives’ earnings had not changed. If the actual distribution of family income in the latter year is more equal than the counterfactual distribution, then the changes in wives’ earnings reduced inequality. We evaluate the coefficient of variation for the reference distribution by substituting the 1979 mean and coefficient of variation of wives’ earnings into equation (1) with all other variables at 1989 levels. It is unclear whether changes in the correlation of wives’ earnings with other sources of income should be attributed to changes in wives’ earnings. We also evaluate the coefficient of variation in the reference distribution substituting the 1979 mean, CV, and correlations (ρh,m, ρv,m) into equation (1). As discussed above, we are unable to use equation (2) to evaluate changes in the Gini coefficient due to undetermined changes in RH. However, in this case we are also unable to use the cross-sectional micro data to simulate changes in the Gini. Therefore, in this section we use only the coefficient of variation.

Our second measure compares the inequality of the distribution observed in the earlier year to the inequality of the distribution that would occur if wives’ earnings had changed but all other income sources had remained the same. If the 1979 distribution of income would have been more equal with wives’ earnings distributed as in 1989, then the changes in wives’ earnings reduced income inequality. We evaluate the coefficient of variation in the reference distribution in the same manner as described for the previous measure with base year values at 1979 (rather than 1989) levels. The results will differ using these two alternative counterfactuals because the impact of a change in wives’ earnings depends on whether the change is evaluated at 1989 or 1979 levels of other sources of family income.

In 1989 the coefficient of variation of family income was 0.619. If the mean and the coefficient of variation of wives’ earnings had not changed between 1979 and 1989, the coefficient of variation of family income in 1989 would have been 0.636 (see table 3, row 2). In this sense, the changes in wives’ earnings reduced inequality. However, the correlation between wives’ earnings and the other sources of income increased over the decade (see table 1). If the mean, the coefficient of variation, and the correlations of wives’ earnings had not changed from 1979, the coefficient of variation of family income would have been slightly smaller than observed in 1989 (see table 3, row 3). That is, when we attribute the changes in correlations to changes in wives’ earnings, the changes in wives’ earnings increased income inequality slightly.

In our second counterfactual we assess the changes in wives’ earnings using 1979 as the base year. The results are qualitatively similar to the results with 1989 as the base year. Based on the 1979 distributions of husbands’ earnings and other income, if only the mean and the coefficient of variation of wives’ earnings changed to 1989 levels, the coefficient of variation of total income would have fallen from 0.558 to 0.546. If, however, the changes in the correlation between wives’ earnings and the other sources are attributed to wives’ earnings, then changes in wives’ earnings would have caused the coefficient of variation to increase to 0.566 (see table 3).

Although we cannot properly attribute the changes in correlations to changes in husbands’ earnings, wives’ earnings, or residual income unless we model income determination for these sources, we can use the results in table 3 to gain perspective on the relative importance of various changes. Even when we attribute correlation changes to wives’ earnings, the change in wives’ earnings explains less than 1% of the observed increase in family income inequality (or 13% when 1979 is the base year). When we do not attribute any correlation changes to husbands, a parallel calculation for husbands’ earnings explains 60% of the change in family income inequality (68% when 1979 is the base year). Therefore even if correlation changes are attributed to wives’ earnings, the impact of the change in wives’ earnings was small relative to the impact of increased inequality of husbands’ earnings. Furthermore, if correlation changes are attributed to changes in husbands’ earnings, then changes in husbands’ earnings account for more than 100% of the change in inequality.

TABLE 3.—CHANGE IN COEFFICIENT OF VARIATION, OBSERVED AND COUNTERFACTUAL

<table>
<thead>
<tr>
<th></th>
<th>Simulated Value</th>
<th>% Actual Change</th>
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<tr>
<td>1989 as Base Year</td>
<td></td>
<td></td>
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<tr>
<td>Observed CV</td>
<td>0.619</td>
<td></td>
</tr>
<tr>
<td>CV if (υw, CVh) at 1979 levels</td>
<td>0.636</td>
<td>-28%</td>
</tr>
<tr>
<td>CV if (υw, CVh, Pm, ρv) at 1979 levels</td>
<td>0.619</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>CV if (υw, CVh) at 1979 levels</td>
<td>0.582</td>
<td>60%</td>
</tr>
<tr>
<td>CV if (υw, CVh, Pm, ρv) at 1979 levels</td>
<td>0.552</td>
<td>110%</td>
</tr>
<tr>
<td>1979 as Base Year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observed CV</td>
<td>0.558</td>
<td></td>
</tr>
<tr>
<td>CV if (υw, CVh) at 1989 levels</td>
<td>0.546</td>
<td>-20%</td>
</tr>
<tr>
<td>CV if (υw, CVh, Pm, ρv) at 1989 levels</td>
<td>0.566</td>
<td>13%</td>
</tr>
<tr>
<td>CV if (υw, CVh) at 1989 levels</td>
<td>0.600</td>
<td>68%</td>
</tr>
<tr>
<td>CV if (υw, CVh, Pm, ρv) at 1989 levels</td>
<td>0.630</td>
<td>118%</td>
</tr>
</tbody>
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13 Cancian et al. (1993b) use this counterfactual. See Blackburn and Bloom (1994) for a related analysis.

14 For a related analysis that uses panel data to consider lifetime income inequality see Shaw (1989). Using panel data and restricting the sample to wives who are married to the same husbands in 1979 and 1989 does not incorporate changes in wives’ earnings that occur through marriage and divorce.

15 For the same reasons, the sum over all sources of the changes due to each source will generally not equal the total change. See Cancian et al. (1993b, app. B).
Both of our counterfactual-based measures show that changes in wives’ earnings either reduced inequality or caused a relatively small increase in inequality (if correlation changes are attributed to wives’ earnings). The Gini decomposition erroneously suggests the opposite. We can write the decomposition of the change in the Gini coefficient as

\[ \Delta G_f = \Delta(SRG)_h + \Delta(SRG)_w + \Delta(SRG)_r = (0.007) + (0.025) + (-0.001). \] (7)

Over the decade the Gini index increased by 0.031, and the contribution of wives’ earnings to inequality increased by 0.025. This result suggests that changes in wives’ earnings explain 81% (0.025/0.031) of the increase in family income inequality. However, the terms \( S_w \) and \( R_w \) reflect changes in husbands’ earnings and residual income as well as changes in wives’ earnings. Therefore, the change in the contribution of wives’ earnings \( (S_w R_w G_w) \) should not be interpreted as the measure of an impact on income inequality of the change in wives’ earnings.

V. Summary and Conclusions

We have demonstrated that the answer to the question: “Do wives’ earnings increase income inequality?” is sensitive to the way in which the effect of wives’ earnings is assessed. Using a Gini decomposition approach leads to the conclusion that wives’ earnings contribute to family income inequality. However, the result does not correspond to the usual meaning of the word contribute because the decomposition has no reference distribution.

We described three alternative approaches to assessing the impact of wives’ earnings based on explicitly defined counterfactual reference distributions: family income less wives’ earnings, a small percentage decrease in wives’ earnings. We also propose measures of the impact of changes in wives’ earnings between two years on changes in inequality, based on two counterfactual distributions: family income in the later year if wives’ earnings had not changed and family income in the earlier year if wives’ earnings were the only change.

We do not argue that a particular counterfactual-based measure dominates the others. The choice of reference distribution will often depend on the specific research question. However, research in this field would benefit from an explicit statement of the reference distribution and the consideration of measures based on alternative reference distributions.

REFERENCES


Mincer, Jacob, *Schooling, Experience and Earnings* (New York: NBER, 1974).


