Toward Decisions on a

Pre-Transfer Poverty Measure

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12 October 2004

**Why a Measure of Pre-Transfer Poverty?**

Of the issues before the seminar, the desirability of a good measure of pre-transfer poverty is one of the least controversial. Assuming that pre-transfer poverty is not merely a mathematical function of post-transfer poverty (an assumption to which I shall return later) a pre-transfer measure serves two purposes. First, it is essential to any estimate of the effects of government transfers in reducing poverty. Second, it is essential to any analysis of trendlines in the underlying economic viability of America's family units, by providing a rough answer over time to the question, "How many people are able to make a decent living on their own?"[1]

**We Already Have Pre-Transfer Measures. What Needs Changing?**

The CPS is used to calculate poverty rates for fifteen main definitions, plus sub-variations, of pre-transfer and post-transfer poverty that in most cases extend back to 1980. (Tables RDP-5 and RDP-6, http://www.census.gov/hhes/poverty/histpov/povexper.html). What needs changing is the status of the pre-transfer measure. As matters stand, the national debate about poverty is conducted using Definition 1 in Census's list, the one based pre-tax income (not counting capital gains) plus cash transfers. None of the other 14 measures come into play. The proposal here is that the CPS treat one good pre-transfer measure and one good post-transfer measure equally, giving equal space to both measures in the annual press releases, and replicating the tables for both measures in the annual P-60 publication on poverty. The goal is that both measures are routinely taken into account during policy debates about poverty.

I will add parenthetically that it would help if the two measures of poverty had easy-to-remember and more euphonious labels than *pre-transfer poverty* and *post-transfer poverty*. In *Losing Ground*, I used *latent poverty* for the pre-transfer measure and *net poverty* for the post-transfer measure (referring to post in-kind transfers along with cash transfers). I still think they

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[1] A side benefit of a pre-transfer measure in wide use is that it provides a natural way to balance two political points of contention, the size of the poverty population and the effectiveness of income transfers in reducing poverty. As the definition of the poverty threshold goes up, the effect of transfers goes down (because the proportion of people shifted from "poor" to "not-poor" by transfers decreases). As the poverty threshold goes down, the effect of transfers in reducing poverty increases (because larger proportions of those classified as poor by the pre-transfer measure will have received enough government assistance to push them out of poverty). Having both a pre- and post-transfer measure provides appropriate ammunition for both sides, depending on the point of contention, and an incentive for both sides to make the poverty threshold reasonable.

were good labels, but they failed to catch on, so I will not lobby for them here. Ideas for better labels are solicited.

## Definitional Issues

The technical demands of defining pre-transfer poverty can be large or small. If we were to approach the pre-transfer measure independently of the way we decide to measure post-transfer poverty, then all the difficulties attendant on the post-transfer measure (e.g., dealing with taxes, unreported income, the value of equity in a home, etc.) would have to be decided separately for pre-transfer poverty. But I see no point in doing that. If whatever we decide to do regarding unreported income (for example) in the post-transfer measure is based on good conceptual and technical reasons, those same reasons apply with equal force to the definition of pre-transfer poverty. I therefore assume that the pre-transfer measure will piggy-back on whatever definitional decisions have been made for post-transfer poverty, so that the only difference is that one measure includes government transfers and the other one does not.

The question that must be decided specifically for the pre-transfer measure is whether to count Social Security and Medicare as transfers. The argument against including them is that they are not really transfers, but returns on contributions that the recipients made during their working years. The seminar may want to take up this question for discussion. My own view is that FICA contributions are like taxes. People with incomes well above the poverty line get back less than they put in (their Social Security payments are far lower than the annuity that their contributions would have yielded in the private insurance market). People near the poverty line usually get back more than they put in. Medicare is unequivocally a transfer, for everyone, from the working generation to the retired one—our Medicare contributions during our working years could not buy an insurance policy corresponding to Medicare's provisions. For practical purposes, I conclude that the epistemic error introduced by treating Social Security and Medicare as transfers is smaller than the error introduced by excluding them.
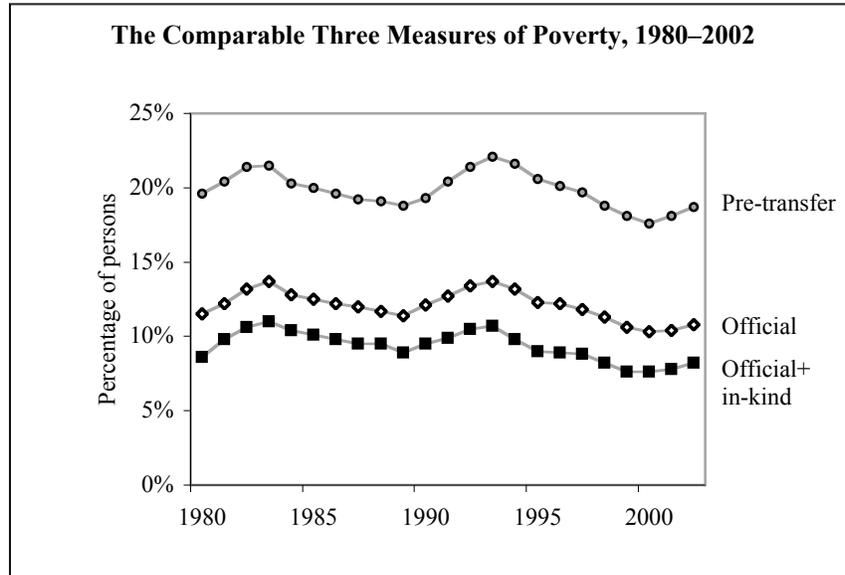
## Computational Issues

The most important technical issue associated with the pre-transfer measure—and, for that matter, with the post-transfer measure—is to satisfy ourselves that the computations reflect the definitions we decide upon. To see why this is an issue, consider first the work done by Sheldon Danziger and Robert Plotnick on pre-transfer poverty rates for selected years from 1965–82 (Danziger and Plotnick 1982), and Timothy Smeeding's work on post-transfer poverty that incorporated in-kind support for the same period (Smeeding 1982). The below shows the numbers they produced:

**Three Measures of Poverty, 1965–1982**
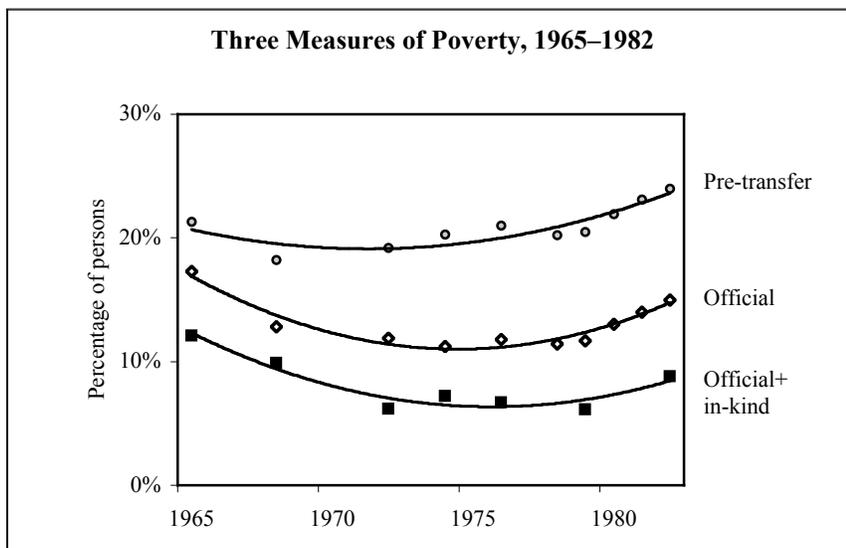


*Source:* The Danziger/Plotnick, Smeeding, and official calculations, supplemented with calculations for 1982, are taken from Table 1 of Sheldon Danziger's testimony before the House Ways and Means Subcommittees on Oversight and Public Assistance and Unemployment Compensation, Oct. 18, 1983. Thresholds are based on CPI-U.

The three trendlines are interesting in themselves, but the point for my purposes is that they show an intuitively appropriate degree of similarity and difference. The correlations cannot be taken too seriously with such small *n*'s, but they illustrate the point. The correlation of the official rate and adjusted-for-in-kind rate is a high .87, the correlation of the official rate and pre-transfer rate is a moderate .50, and the correlation of the pre-transfer rate and adjusted-for-in-kind post-transfer rate is a modest .14 The relative magnitudes of these correlations make sense, given the substantive similarities and differences among the three measures. The three measures should generally move up and down together, but not under all economic circumstances and after all major policy shifts, and not always by the same proportional amounts.

Now consider Census's figures for poverty based on alternative income measures. The definition corresponding to the Danziger/Plotnick measure of pre-transfer poverty is Definition 2; the one corresponding to Smeeding's definition of post-transfer poverty is Definition 14. The next figure shows the results for these two definitions plus official poverty (Definition 1) from the beginning of the series, 1980, to the most recent available figures, 2002.

**The Comparable Three Measures of Poverty, 1980–2002**

Percentage of persons

25%
20%
15%
10%
5%
0%

1980   1985   1990   1995   2000

Pre-transfer

Official

Official+
in-kind

*Source:* Table RDP-6 (http://www.census.gov/hhes/poverty/histpov/rdp06.html). Poverty thresholds are based on CPI-U-X1. Thresholds based on CPI-U are shown in Table RDP-5.


Ignore once again the substantive stories told by the separate trendlines and focus on their relationship to one another. It is visually obvious that all three measures track with one another extremely closely. In this instance, the three correlations are .96 for official and pre-transfer, .95 for official and official-adjusted-for-in-kind, and .86 for pre-transfer and official-adjusted-for-in-kind.[2] The pre-transfer measure of poverty is still useful for estimating the effects of transfers in reducing poverty, but it tells you nothing about trends that you don't already know from the official rate. Or to put it another way, once you know the mathematical relationship of official poverty to pre-transfer poverty—a one-time calculation, if you take the above figure at face value—there's no point in having a pre-transfer measure after all.

But one shouldn't take the figure above at face value. Perhaps the pre-transfer trendlines for the entire population are less informative than the ones for specific subgroups. To enable me to explore that possibility, Census's Poverty and Health Statistics Branch provided the unpublished rates for Definitions 1, 2, and 14 for two populations of special interest: (1) persons over 65, and (2) persons living in female-headed families, no husband present, with children under 18, for 1982–2004.[3] The first table shows the results for persons 65 and older, again using CPI-U-X1.
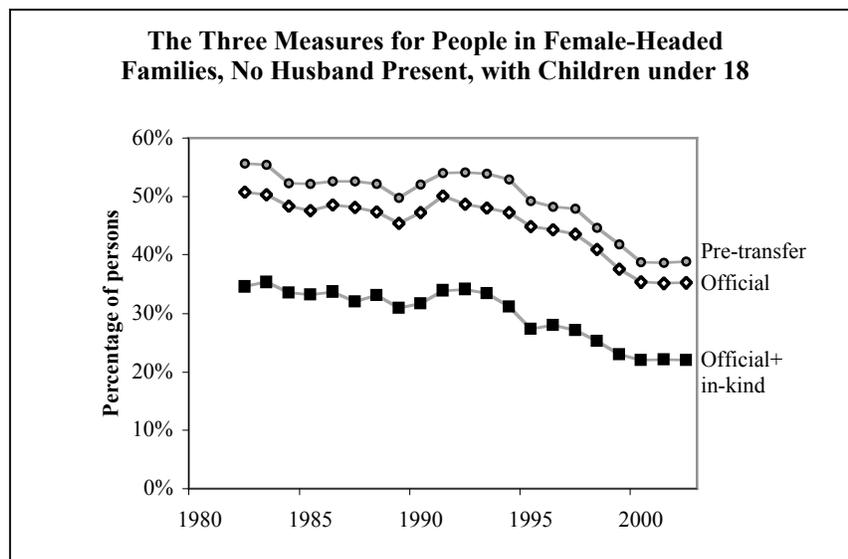
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[2] I use data based on CPI-U-X1, but the story for ones based on CPI-U is substantively indistinguishable. The corresponding correlations were .96, .94, and .84 respectively.

[3] My thanks to the Bureau of the Census's Poverty and Health Statistics Branch, and especially Sharon Stern, its Chief, and Bernadette Proctor, for providing these unpublished data. The published series goes back to 1980, but Sharon Stern recommends omitting the 1980 and 1981 data for the subgroups for technical reasons.

**The Three Measures for Persons Over 65**
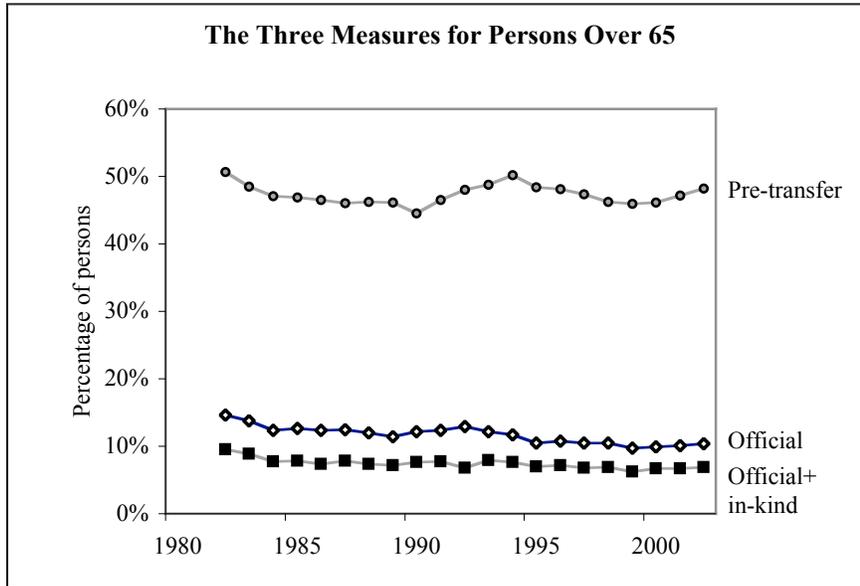


The trends for pre-transfer poverty and official poverty among the elderly visibly diverge at different times, and the correlation between the two is only .33. The figure illustrates the merits of having a high-visibility pre-transfer rate for analysts to think about.

But now I turn to the measure for households headed by single women, with the results shown in the next graph:

**The Three Measures for People in Female-Headed Families, No Husband Present, with Children under 18**



The pre-transfer and official measures for people in female-headed households track each other even more closely than for the population as a whole. I find this result especially mystify-ing because female heads of household experienced so many changes over the twenty years cov-

ered in the graph. The period 1982–2002 saw the Reagan years and the Clinton years; the beginning, apogee, and ebb of a crack epidemic; major swings in unemployment rates; major changes in the EITC in 1986 and 1991, and, most obviously, welfare reform in 1996. Given all that, how can the correlation between pre-transfer poverty and official poverty over these two decades, rounded to two decimal places, be 1.00? How can the correlation between pre-transfer poverty and official-adjusted-for-in-kind be .97, when they were barely correlated at all for the period 1965–82?

I take no position on whether the Danziger/Plotnick and Smeeding calculations or the Census calculations are more accurate operationalizations of their respective poverty definitions. But a comparison of the two datasets tells us that we need to figure out what's going on. Perhaps the answer will be revealed by comparing a step-by-step description of the calculations used by Census and by Danziger/Plotnick and Smeeding. Perhaps the differences are more subtle, and would be revealed if Census were to calculate Definitions 2 and 14 for a few selected years that are pre-1980 and Danziger/Plotnick and Smeeding were to calculate their definitions of pre-transfer and official-adjusted-for-in-kind for a few years that are post-1982. Distributing this paper to Census, Danziger, Plotnick, and Smeeding, and soliciting their reactions—which has been done in the week preceding this meeting of the seminar—is the first step in the process. Once we know the answer, we will be in a better position to decide what we want to do about the pre-transfer measure.

**References**

Danziger, S. and Robert Plotnick. 1982. "The war on income poverty: achievements and failures." in *Welfare Reform in America*, edited by P. M. Sommers. Boston: Kluwer-Nijhoff.

Smeeding, Timothy. 1982. "The antipoverty effects of in-kind transfers." *Policy Studies Journal* 10:499–521.