RETHINKING THE MEASUREMENT OF POVERTY

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At the end of summer every year, U.S. citizens tell themselves a lie. Normally in the last week of August, the Census Bureau releases the official rates of poverty for the previous year. Following the Census report, pundits, politicians, the press and public and even the President engage in their annual rehearsal of empty remarks on why poverty is higher or lower than last year, and attribute this failure or success to things that really have nothing to do with poverty's true causes. These poverty figures define how we see the trends and extent of poverty in society, and in turn, shape public debate and policies regarding poverty. This entire episode is profoundly dishonest.

The reason that this ritual is so dishonest is because of the way that official U.S. poverty rates are measured. Though the official U.S. measure of poverty dominates our understanding of poverty, it simply lacks any justification as a measure of poverty. Thus, every year, we spend a great deal of time and energy reporting, debating and scrutinizing an official statistic that really is not defensible as a measure of poverty. The dishonesty of official poverty is not entirely the responsibility of politicians or government bureaucrats. Though guilty of an unwillingness to revise the official measure, it would be unusual for politicians to intentionally misrepresent poverty statistics. In some ways, the dishonesty is partly the fault of the American public and American social scientists. By participating in the commentary regarding the official measures and using the official measures, we give a credibility and legitimacy to a statistic that does not warrant our respect. Rather than perpetuating the dishonesty, social scientists must move beyond the official measure and rethink the measurement of poverty.

A wealth of scholarship has actually made tremendous advances in poverty measurement. Several social scientists have devised innovative and useful alternative techniques for the measurement of poverty. For example, Sen received a Nobel Prize in Economics in 1998 for work that included his revolutionary "Ordinal Approach" to measuring poverty. Though a few of these techniques are impractical and/or flawed, many significant theoretical and methodological advances have been made beyond the official measure. In the studies that have emerged around these advances, it has become clear that how we define poverty is truly consequential. As Hagenaars explained, "Both the population of poor and the extent of their poverty appear to depend to a large extent on the definition chosen." Many scholars have shown that the number, composition and trends in U.S. poverty are significantly different depending on the particular measure chosen. In fact, simply ascertaining whether poverty has increased in the last thirty years has dramatically different answers with contrasting measures of poverty.[1] Despite the very real consequences of poverty measurement, unfortunately these advances remain incompletely realized.

This chapter confronts the issue of poverty measurement. The chapter begins by reviewing the shortcomings of the official U.S. measure. Next, I discuss the paramount theoretical and methodological advances in poverty measurement, and advocate five criteria for the measurement of poverty: a) measure comparative historical variation effectively; b) be relative rather than absolute; c) conceptualize poverty as social exclusion and capability deprivation; d) incorporate taxes and transfers; and, e) integrate the depth of poverty. In Chapter 3, I empirically explore the patterns in poverty with alternative measures with data from the

Luxembourg Income Study (LIS). Overall, I aim to facilitate the integration of theoretical and methodological advances in the measurement of poverty.

Shortcomings of the Official U.S. Measure

The vast majority of U.S. research on poverty is based on the official U.S. measure.[2] Occasionally, scholars modestly augment the measure with slight alterations or supplement it with other indicators. However, most survey data sets supply researchers with dichotomous variables identifying respondents as below or above the official level. Typically, analysts simply use these simple dummy variables. Others analyze and present historical trends in official poverty and debate whether poverty has increased since the official measure was adopted in the early 1960s. This widespread use of the official measure stands in stark contrast to what social scientists know and have written about the limitations of the official measure.

In recent years, a consensus has emerged that is deeply critical of this measure.[3] Betson and Warlick emphasize that the U.S. measure, "Is commonly acknowledged to be inadequate for measuring poverty."[4] Wilson argues that the U.S. measure, "Does not capture the real dimensions of hardship and deprivation, it also does not reflect the changing depth or severity of poverty;" and that its income thresholds are "arbitrary."[5] In 1988, the Family Support Act called for a scientific review of the U.S. measure. In 1995, the National Research Council (NRC), and specifically the Panel on Poverty and Family Assistance, published the results of this review. The NRC panel, which included many of America's most influential poverty researchers, concluded, "The current poverty measure has weaknesses both in the implementation of the threshold concept and in the definition of family resources. Changing social and economic conditions over the last three decades have made these weaknesses more obvious and more consequential. As a result, the current measure does not accurately reflect differences in poverty across population groups and across time. We conclude that it would be inadvisable to retain the current measure for the future."[6]

The history of how the measure was constructed illustrates its deep flaws. Mollie Orshansky, a statistician in the Social Security Administration, constructed the measure in 1963. Orshansky used family consumption data from 1955 and what she called a "crude" calculus of family budgets.[7] Orshansky used the Department of Agriculture's (DOA) "low-cost food budget" and multiplied the dollar amount by three, speculating that food amounted to one-third of a family's expenses. She developed the line as a research tool, never intended it as a policy instrument, and quickly repudiated it. Contrary to her intentions, President Johnson's Office of Economic Opportunity adopted it as the official measure. But, they only did so after substituting the DOA's "economy food plan" which was about 25% below the "low-cost" plan. The food budgets have never been revisited since the 1955 data, and the measure was solely adjusted for inflation – which effectively severed the food-income link.

Historians, like O'Connor and Katz, have even shown that the threshold was intentionally set low in order to make the elimination of poverty an attainable political goal as part of Johnson's "War on Poverty."[8] Rather than representing a scientific absolute standard, the official threshold is politically motivated to classify a large number of people as not poor that should reasonably be considered poor. The dubious origins and significant elapsed time since the measure's inception, at a minimum, suggest routine review and updating. The NRC panel went one step further and argued, "Our major conclusion is that the current measure needs to be revised."[9] Ultimately, it is clear that the official measure was deeply flawed from the beginning.

Moreover, one can judge the official measure in terms of the two main ways that social scientists assess measurement: reliability and validity. By both of these standards, the official measure is deeply problematic.

The official measure is the same across the entire U.S., is the same for all population groups, and has been basically the same since its adoption in the mid-1960s. Hence, it may seem surprising to fault its reliability. However, due to its constant application across time, region and demographic groups, the measure became clumsily incompatible with the changing realities of family life in the U.S.[10] Because the measure remains unchanged after thirty years, significant demographic, economic, and policy changes are ignored. Most pressing, the official measure was constructed during a time when the average family had two parents and a male breadwinner, while the mother stayed home with the children. Now that many of the U.S. poor are single parent or dual-earning couples, the official measure is inadequate for appreciating the increased labor force participation of mothers, the relatedly escalating need and expenses for childcare and health insurance, and the inappropriateness of antiquated family size adjustments. Another development, the economic insecurity of the growing elderly population – and their growing average ages – is not captured well by the official measure. The official measure does not budget for chronic health conditions or health care necessities like medication.

Relatedly, the share of family budgets devoted to different goods and services has dramatically changed.[11] Food no longer amounts to one-third of a family's budget, and more accurately is about one-sixth. When the official measure presumes that food is one-third of a family's expenses, it significantly understates the economic needs of a household. Also, the inflationary adjustments to the official measure are based on the cost of a basket of goods for the entire U.S. population (or at least all urban consumers) – which may not represent price changes for poor families. Over time, the U.S. measure has actually depreciated from its value in 1963, and become unreflective of what a family really needs to avoid poverty. Because of rising consumption and living standards, the NRC concluded that updating the poverty threshold solely with inflation is increasingly inadequate. In short, the U.S. measure lacks reliability due in large part to the limited and weak means of adjusting the measure since its inception.

The official measure's lack of reliability is concerning, but its lack of validity may be even worse. Essentially, the official measure fails to capture the complex nature of poverty.[12] Many increasingly burdensome family expenses (e.g. health care and childcare) were not included in the household budgets underlying the official measure. A household is defined as poor or not poor based on their income before taxation. In tandem, in-kind public assistance and near-cash benefits are entirely ignored when defining a household's income. Of course, neglecting these results in an inaccurate estimate of a household's economic resources.[13] Even low-income workers pay payroll taxes, while the earned income tax credit, housing subsidies, and food stamps have clearly raised the economic resources of such households. Overall, however, failing to grasp the financial reality of households these ways probably results in an underestimation of poverty in the U.S.[14]

These validity problems have fluctuated over time and place and in turn, compromise reliability even further.[15] Some taxes vary across the U.S., and other taxes like payroll taxes have increased enormously since the measure's inception. Also, policy initiatives have not been integrated into the measure. When the Children's Health Insurance Plan and Food Stamps program were implemented or Medicaid was updated, the official measure was never revised. Finally, these validity problems prevent a reliable comparison across population groups. For example, social security pensions, a major resource for the elderly, count as income. But, major resources for young families like food stamps, housing subsidies and childcare vouchers do not. In the past fifteen years, the Earned Income Tax Credit (EITC) has grown into the largest assistance program for families with children – even larger than Temporary Assistance to Needy Families (TANF, what was previously called AFDC).[16] Unfortunately, since the official measure is based on pretax income, the EITC is entirely ignored.

As a result, the U.S. measure lacks both validity and reliability, and warrants revision. We should be cautious in reading any social science that solely relies on this problematic official U.S. measure. We should scrutinize any conclusions drawn from the official measure. While the government probably lacks the political will to implement a better measure of poverty, social scientists have no justification for continuing to rely on this fundamentally flawed measure.

Measuring Comparative Historical Variation in Poverty

For a poverty measure to be effective, it must be appropriate in different comparative and historical contexts. A truly useful poverty measure must consistently produce valid and reliable estimates across different countries and over recent history. At the same time, a poverty measure should be meaningful within each comparative historical context. As Smeeding and colleagues explain, "A poverty standard cannot be established independently of the economic and social context within which needs arise and are defined."[17]

Unfortunately, the official U.S. measure is woefully inadequate for conducting comparative historical analyses. The official measure's thresholds are even more problematic if applied in other affluent democracies. One cannot simply adjust the official measure for the exchange rates or purchasing power parities of other countries since the official measure is invalid and unreliable in the U.S. context to begin with. Even if the official measure was defensible in the U.S., it is unknown if the thresholds would reasonably differentiate the poor from non-poor in other countries. For example, even if the official threshold's line of roughly $17,000 for a family of four was appropriate in the U.S., what evidence would we have that this line makes sense in the U.K. or Germany? In short, converting the official measure to other countries' currencies will not produce a meaningful poverty standard. As a result, poverty measures should be used that are grounded in each specific comparative historical context.

Many analysts have shown that the paramount variations in poverty are cross-national.[18] There are bigger differences between rich Western democracies than there are within most individual rich Western democracies. Hence, explaining these significant cross-country differences is essential to understanding poverty in contemporary societies. In addition, a comparative perspective enables us to assess different theoretical explanations of poverty. If a theory of poverty is truly effective, it should explain poverty across different countries. At the same time, several methodological concerns emerge when comparing poverty across nations. Several analysts note that different measures of poverty produce small but noticeable differences in the rank ordering of nations.[19] Therefore, scholars have to be careful when drawing cross-national comparisons. One should probably replicate cross-national comparisons of poverty with different measures to provide further evidence that any differences are robust. Also, analysts have to be careful that measures appreciate cultural differences in the definitions of family units or households. Hence, a number of methodological and data concerns must be carefully addressed in order to conduct cross-national analyses.

Though cross-national differences are probably larger, historical trends and variation remain important to the study of poverty as well. For example, simply asking whether U.S. poverty has increased or decreased over the past forty years remains a highly controversial issue.[20] Understanding historical trends in poverty is important for assessing theories of poverty. Though some research finds that poverty levels remain relatively stable over time within OECD nations, significant historical variation does occur. To understand poverty better, scholars must explain both cross-national differences and over-time with-nation historical variation.

To maximize our understanding of comparative historical variation, two issues warrant careful consideration. First, given the diverse meanings and nature of poverty in various societies, scholars need to broaden the very definition of poverty. To assess what are essentially culturally specific and historically contextualized phenomena, scholars need a broad conceptualization of poverty. Second, given the difficulty in comparing poverty across countries and time, to make general inferences about causal processes, scholars need measures that grasp the same phenomena in each society. While seemingly contradictory, the next two sections argue that we need to embrace both concerns simultaneously.

Conceptualizing Poverty As Capability Deprivation and Social Exclusion

In order to construct valid and reliable measures of poverty, it is essential to first theoretically define the nature of poverty. In the past few decades, enormous advances have been made in the conceptualization of poverty. Two interconnected notions collectively yield the best definition of poverty.

First, European scholars have cultivated the notion of social exclusion as way of conceptualizing poverty and disadvantage.[21] Silver has argued that social exclusion is polysemic, having multiple meanings in different contexts and for different purposes.[22] At the same time, she explains that central common elements can be identified. Social exclusion is the antithesis of Durkheim’s concept of solidarity and connotes marginalization and irrelevance.

Theorists characterize social exclusion to entail "the multi-dimensional character of disadvantage and exclusion in modern market economies;"[23] multiple deprivation or "cumulative misery;"[24] those "who suffer from an accumulation of disadvantage which cannot be reached by macro-policies;"[25] and, those difficult to reach with social policy.[26] Ultimately, social exclusion means incomplete or unequal access to the status, benefits and experiences of typical citizens.[27]

Social exclusion unifies many of the definitions of poverty implicitly conveyed by theorists and analysts of poverty. The notion of social exclusion echoes Harrington's classic concern that "the poor are losing their links with the greater world."[28] In addition, social exclusion is consistent with Wilson's concept of social dislocation, which he describes as limited differential opportunities for economic resources, political privileges, organizational influence, and cultural experiences.[29] Galbraith draws a connection between poverty and what others have called social exclusion:

> People are poverty-stricken when their income, even if adequate for survival, falls radically behind that of the community. Then they cannot have what the larger community regards as the minimum necessary for decency; and they cannot wholly escape, therefore, the judgment of the larger community that they are indecent. They are degraded for, in the literal sense, they live outside the grades or categories which the community regards as acceptable.[30]

Last, social exclusion theorists have been influenced by Rawls' difference principle.[31] Atkinson explains that a Rawlsian notion of poverty is concerned with the "least fortunate group in society" and these are the socially excluded who can be defined as poor.[32]

Second, Sen has pioneered the concept of capability deprivation.[33] Capability refers to the ability to function effectively in society and have the freedoms to participate fully and equally with the mainstream of society. The concept of capability also emerges from Rawls' political philosophy.[34] Rawls contended that basic liberties should be prioritized in a society. A society that deprives people of basic liberties can be understood as depriving those people of capability. Sen has formulated his definition of poverty in terms of the poor's lack of substantive freedom of choice to achieve valuable functionings and well-being. A functioning member of society must have basic freedoms (or capabilities) to participate in society.[35] As Rainwater and Smeeding explain, "Without a requisite level of goods and services, individuals cannot act and participate as full members of their society."[36]

In many ways, capability deprivation and social exclusion share common ground. If one is socially excluded, that person has a limited capability to effectively participate in society. Atkinson links social exclusion and capability deprivation by explaining that poverty involves, "people being prevented from participation in the normal activities of the society in which they live or being incapable of functioning."[37] Similar to social exclusion, one can think of the poor as "capability deprived" since they lack the basic liberties to participate equally in society.[38] Thus, the concepts social exclusion and capability present an engaging, broadening direction for analysts of social inequality.

Because poverty is primarily an economic status and social exclusion and capability deprivation are multifaceted and complex, some readers might see them as incompatible. It might strike some as inappropriate to treat social exclusion and capability deprivation as market phenomena, rather than cultural, institutional or social concepts. However, the economic market is one of several main mechanisms triggering social exclusion and capability deprivation. In rich Western democracies, a low level of economic resources is a principal precursor to social exclusion and capability deprivation. Barry has argued that an interest in social exclusion demands an interest in economic inequality, and "A government professing itself concerned with social exclusion but indifferent to inequality is, to put it charitably, suffering from a certain amount of confusion."[39] Cantillion claims, "There is probably not a single characteristic that the 'socially excluded' have in common, except perhaps, not having a stable well-paying job."[40] Atkinson exemplifies social exclusion as lacking a telephone in the home: "A person unable to afford a telephone finds it difficult to participate in a society where the majority have telephones."[41] While owning a telephone or lacking a job clearly reflects a person's market standing, these simple conditions also suggest complex social processes of dislocation and marginalization. Even conceiving of poverty with the nuanced notions of capability deprivation and social exclusion, a minimal level of economic resources remains essential. In order to participate in society and take part in community life, it is essential to have a sufficient income.[42] Thus, social exclusion and capability deprivation involve marginalization in society's institutions and, especially the market.

Relative Versus Absolute Poverty Measures

For many years, a vigorous debate persisted over relative versus absolute definitions of poverty.[43] Each taps into contrasting notions of difference and deprivation.[44] Also, absolute and relative standards produce different policy implications and accounts of the experience of poverty, and somewhat differ in the estimation of the extent of poverty. Despite this historical debate, poverty scholars increasingly conclude that in *affluent democracies*, a relative definition is more appropriate.[45] Alternatively, absolute measures of "basic needs" are most useful in *less developed countries*. By reviewing the strengths and weaknesses of absolute and relative measures, I advocate for a relative measure.

Absolute Measures of Poverty

Absolute measures involve a cross-nationally and historically constant and fixed threshold, which distinguishes poor from non-poor. For example, except for inflationary adjustments, the U.S. measure intends to be absolute over time, regions, and family types. Absolute measures assume that a certain material level purchases an essential bundle of goods necessary for well-being. For example, the World Bank defines poverty absolutely as living on less than one dollar per day in developing countries and less than two dollars per day in former communist countries. Thus, absolute measures tend be tied to the concept of well-being, and indicators such as infant mortality, life expectancy, and caloric intake. Sen contends that when studying developing countries, absolute measures should be retained.[46] Nevertheless, absolute measures suffer from serious limitations when applied to developed countries.

Most international poverty analysts have become justifiably skeptical that absolute measures can be valid and reliable when studying industrialized democracies. Such scholars realize that a fixed bundle of goods or absolute threshold of well-being cannot capture the complexity of poverty. Most attempts to measure such absolute thresholds tend to be based on a series of questionable decisions. Thus, an absolute veneer is placed on top of a set of problematic indicators. Smeeding and his colleagues avoid an absolute measure because it "conveys an unwarranted objectivity."[47] Hagenaars contends, "The resulting estimates are not as absolute and objective as they are claimed to be."[48] Rainwater and Smeeding conclude: "The more experience countries have with absolute poverty definitions, the more obvious becomes the absurdity of the rationale for them."[49]

Nevertheless, proponents of absolute measures counter that such measures can capture concepts of well-being or basic needs. After all, if basic needs are unmet or well-being is low – in terms or physiological subsistence, and physical and mental health – poverty is truly present. For example, families that suffer from homelessness, hunger or disproportionate infant mortalities must certainly be poor. Other scholars provide evidence of a historical decline in

U.S. poverty based on measures of absolute consumption. While the argument is not new – Milton Friedman made the argument in the 1960s, and many made it before him – a number of economists contend that that U.S. poor presently are more affluent than the middle class in previous decades.[50] As recently popularized in Cox and Alm's book *Myths of Rich and Poor*, the U.S. poor consume like the middle class in previous generations with access to refrigerators, televisions, cars, indoor plumbing and housing.[51] As a result, many conclude that poverty is not a serious problem in the contemporary U.S.

On the surface, such absolute measures of consumption or well-being are intriguing. But, as one digs deeper, one again finds a number of shaky assumptions and questionable decisions.[52] The greatest concern is with how these measures conceptualize and measure poverty divorced from cultural and historical context. Absolute measures explicitly presume that being poor is the same thing in the U.S. in the 1960s or 1990s, the same thing in Spain as in Sweden, or even the same in Kenya as in Germany. This presumption neglects that the concept of "need" is actually culturally and historically defined – reflecting contextualized norms of what is a "need."[53] It is highly unlikely that if one interviewed social scientists in each of these temporal and cultural contexts there would be much agreement about what constitutes poverty or what differentiates poor from non-poor. Ruggles has shown that consumption patterns have changed so dramatically over the past 40-50 years that defining the basic needs of American families is quite elusive.[54] Ravallion notes that perceptions of "well-being" are contingent on the reference group's circumstances, and argues, "There is an inherent subjectivity and social specificity to any notion of 'basic needs.'"[55] Hagenaars stresses that even nutritionists cannot agree about levels of calories needed for various ages, sexes, occupations and living conditions.[56] Even U.S. policy makers have long conceded that as a society's standard of living rises, more expensive consumption is forced on the poor to remain integrated into society.[57] Townsend concludes that, "Any rigorous conceptualization of the social determination of need dissolves the idea of 'absolute' need."[58] Thus, attempts to construct a list of basic needs that differentiate poor from non-poor in every society or across time-periods have not been successful.

The concept of well-being, like the concept of need, has limitations as a way to define poverty. Sen has explained that one of the disadvantages of absolute measures is that they conflate "poverty" and well-being. Sen has persuasively argued that it is helpful to distinguish between these two since some people may have low well-being without being poor and some may be poor without low well-being. Poverty is better thought of as an economic status, whereas well-being is an outcome that is often undermined by poverty. As Sen emphasizes, "Poverty is not a matter of low well-being, but of the inability to pursue well-being precisely because of the lack of economic means."[59]

Most scholars agree that a desperate absolute level of deprivation does exist, under which families are definitely poor. The problem is that it is nearly impossible to define a valid and reliable absolute standard above the most basic level. We can all agree that people are poor if they are homeless or starving. But, such a minimal standard sets the line so low that only a tiny percentage of the population would be defined as poor in affluent countries. Certainly, there is more to escaping poverty than simply avoiding starvation or meeting "basic needs." When one tries to discern a poverty definition above such minimal levels, absolute measures become questionable. For example, since the official U.S. measure has so many flaws, it does not effectively distinguish poor from non-poor and is better considered an arbitrary rather than an absolute measure. For these reasons, international poverty researchers have moved away from absolute measures. While absolute measures may assess poverty in less developed countries, relative measures are more appropriate in advanced capitalist democracies.

Relative Measures of Poverty

Relative measures generate specific poverty thresholds for each society at each point in time from the distribution of economic resources. Relative measures cannot capture absolute deprivation, but embrace the notion of relative deprivation. For example, many define relative poverty as those households with less than 50 percent of the median income. People below this culturally and historically specific threshold are considered too far down on the queue of the scarce resource of income to be fully integrated into society. Hence, relative measures reflect the difference in living conditions between the poor and the majority of society or the conventional customary standards for normal households.[60] More specifically, relative measures have three major advantages.

First, relative measures are more compatible with the aforementioned concepts of social exclusion and capability deprivation. Indeed, debates about relative measures have been influenced by these concepts.[61] The notion of social exclusion has been deployed in the European debate about the community- and society-specific nature of poverty. In 1984, when the European Commission constructed measures of poverty, the Council of Ministers overtly linked their measures to social exclusion by defining poverty as “persons whose resources are so limited to exclude them from the minimum acceptable way of life in the Member State in which they live.”[62] The European Union’s statistical service, Eurostat, and the Luxembourg Income Study utilize relative measures of poverty due to a theoretical interest in concepts like social exclusion.[63] When Rawls referred to “the least fortunate group in society,” he suggested that this group could be defined as those with less than half of the median income and wealth – and he even noted that this could form a meaningful poverty standard.[64] Atkinson critiques absolute measures on the grounds that are not informed by concepts like social exclusion.[65]

Second, relative measures have the virtue of being entirely grounded in national and historical context.[66] Relative measures define poverty or deprivation according to a particular society's cultural norms and customary, prevailing standards of necessities. Michael Harrington often argued that poverty should be gauged according to the living standards of the mainstream of contemporary society. For example, he explained:

> What shall we tell the American poor, once we have seen them? Shall we say to them that they are better off than the Indian poor, the Italian poor, the Russian poor?. . .In the nineteenth century, conservatives in England used to argue against reform on the grounds that the British worker of the time had a longer life expectancy than a medieval nobleman. This is to say that a definition of poverty is, to a considerable extent, a historically conditioned matter. Indeed, if one wanted to play with figures, it would be possible to prove that there are no poor people in the United States, or at least only a few whose plight is as desperate as that of the masses in Hong Kong. There is starvation in American society, but it is not a pervasive social problem as it is in some the newly independent nations. There are still Americans who literally die in the streets, but their numbers are comparatively small. . .Those who suffer levels of life below those that are possible, even though they live better than the medieval knights or Asian peasants, are poor. . .The American poor are not poor in Hong Kong or in the sixteenth century; they are poor here and now, in the United States. They are dispossessed in terms of what the rest of the nation enjoys. . .To have one bowl of rice in a society where all other people have half a bowl may well be a sign of achievement and intelligence; it may spur a person to act and to fulfill his human potential. To have five bowls of rice in a society where the majority have a decent, balanced diet is a tragedy.[67]

Inherently, relative measures define poverty in relation to the other members of a society. In this sense, relative measures frame poverty as a social and, hence, sociological condition. Townsend elaborates:

> Poverty is a dynamic, not a static concept. Man is not a Robinson Crusoe living on a desert island. He is a social animal entangled in a web of relationships at work and in family and community which exert complex and changing pressures to which he must respond, as much in his consumption of goods and services as in any other aspect of this behavior. . .Our general theory, then, should be that

> individuals and families whose resources over time fall seriously short of the resources commanded by the average individual or family in the community in which they live,. . .are in poverty.[68]

If social scientists are interested in investigating deprivation in relation to other people within a social context, – really the heart of poverty – a relative measure is truly essential. Thus, relative measures are better suited to the criteria above that poverty measures should be sensitive to the comparative and historical context.

Third, relative measures enable social scientists to gain a better understanding of the consequences and dimensions of poverty. One of the conclusions of the aforementioned NRC review was that the U.S. measure should be explicitly refocused on the relative consumption of contemporary U.S. families. A number of studies have analyzed how the proposed NRC relative alternative would change our understanding of poverty. This work has shown that significantly different historical trends in U.S. poverty, much higher poverty rates overall, and smaller differences in poverty between demographic groups. Hill and Michael stress that the NRC alternative has much greater predictive validity than the official measure for a number of child outcomes: school grades, achievement test scores, expectations of completing college, avoiding pregnancy, and school suspensions.[69] Arguably the most important trends in children's poverty entail relative deprivation. As Lichter explains,

> Absolute increases in child poverty are arguably less important than several other dimensions of the current poverty problem. . .Today's poverty among children must be judged against the living conditions and consumption levels of society as a whole and other advantaged groups – current and past. It is with regard to this relative dimension that implies increasing social and cultural differentiation in the future as the current generation of poor children enters adulthood.[70]

Certainly, this work challenges many previous based on the official measure. Thus, relative measures have the potential to force us to reconsider what we have learned about poverty.

In sum, relative measures have several advantages and do not suffer from the problems of absolute measures when studying affluent democracies. First, relative measures are consistent with the concepts of social exclusion and capability deprivation. Second, relative measures are grounded in cultural and historical context, and thus emphasize the social relations among people. Third, relative measures facilitate the social science of poverty. Most international poverty researchers now agree on the use of a relative measure of poverty. As Smeeding and his colleagues explain, "For purposes of international comparisons, poverty is almost always a relative concept. . .All poverty measures are in some sense relative and must be chosen as appropriate for the context in which they are used."[71]

Taxes, Transfers and State Benefits

A lot of research has tried to untangle the effect of taxes, transfers and state benefits on households' incomes. One of the most persuasive critiques of the U.S. measure of poverty is that it is based on pretax income and inconsistently considers government transfers and in-kind benefits. Of course, taxes and transfers make a significant impact on a household's finances. In fact, the deteriorating value of transfers may be the main reason for the worsening of child poverty in recent decades in the U.S.[72] Further, taxes on U.S. poor families have steadily risen, and in turn, their financial standing is actually weaker than families with similar incomes in earlier decades. This neglect of taxes and transfers in configuring income violates Sen's Transfer axiom, "Given other things, a pure transfer of income from a person below the poverty line to anyone who is richer must increase the poverty measure."[73] To get an accurate estimate of a household's economic resources, it is essential to incorporate taxes and transfers. Thus, to accurately estimate poverty levels, taxes and transfers must be considered.

Certainly, calculating the impact of taxes and transfers on household income and poverty levels is a formidable task. Though taxes and transfers most often are financial, the contribution of in-kind and near-cash benefits like housing assistance and food-stamps is important as well. Ignoring these benefits biases our estimates of the distribution of economic resources between households, and yields misleading inferences about the relative standing of various types of households.[74] The Luxembourg Income Study (LIS) has lead the way in calculating the most comprehensive definitions of household income by making significant strides in incorporating taxes and transfers. Smeeding and colleagues have assessed the value of, and estimated the value to income of a variety of near-cash benefits. Importantly, benefits also accrue from the private sector. Though government benefits typically have larger consequences for the overall income distribution, private pensions, rental income, self-employment earnings and other forms of compensation are nontrivial. As much as possible, private benefits and state benefits should be considered a part of a household's income. National differences exist in the different kinds of benefits, but their importance to the income distribution is universal.

One of the ways that analysts have tried to untangle the consequences of taxes and transfers for household income has been to calculate the distribution of economic resources before taxes and transfers. The conventional strategy estimates the value of every household's income while excluding the money value of taxes and transfers. This simulates what the income distribution would look like before taxes and transfers. This simulated counterfactual is useful when analyzing individual adults. Since the vast majority of their income comes from labor market earnings, we can estimate what a working adult's income might be before taxes and transfers. Many analysts build from this logic and calculate pre-tax and pre-transfer poverty rates or income inequality levels for the entire population.

Nevertheless, I am skeptical of this convention of estimating pretax and pretransfer income distributions. On a micro-level, for children, non-working adults, and the elderly simulating pretax and pretransfer income is rather dubious. The elderly, for example, usually have almost no income before taxes and transfers in most countries since they often rely on public pensions. Even with working adults, an estimate of pretax and pretransfer earnings does not really simulate income before state involvement. In every advanced capitalist democracy, an adult has gained greatly from state investment. Those with higher education have benefited from government investment in universities – directly in the form of subsidized or free education and/or state subsidized loans and grants and indirectly in the vast amount of money collected by universities from government grants and contracts. Human capital, an essential factor behind any adult's labor market earnings, is tremendously shaped by state involvement in all societies. As well, vast numbers of working adults benefit from state involvement in the economy through public-sector jobs or government grants and contracts to private-sector employers. No household exists in a pretax and pretransfer world. Thus, it is disingenuous to simulate even a working adult's income before state involvement since the state permeates the labor market.

On a macro-level, it is unrealistic to reify these simulations of individual pretax and pretransfer income into national-level estimates of poverty or income inequality. One of the emerging themes of economic sociology is that states and markets inherently constitute each other, so we cannot calculate what the income distribution would be "before" the state.[75] As Wright explains:

> The state plays a pivotal role in establishing the very possibility of markets through the coercive enforcement of property rights that directly impact on the nature of market-generated distributions. . .In all sorts of ways the state is involved in regulating aspects of market exchanges and production – from health and safety rules, to credentialing requirements in many labor markets, to labor laws – that impact on the income distribution process. It is therefore misleading

> to talk about a clear distinction between pure 'distribution' of income and a process of politically shaped 'redistribution.[76]

Since the state is *always* involved in the market, there really is no such thing as income *before* the state (i.e. pretax and pretransfers). Pretty much all of the private sector has some state influence – even if just by governance, property rights and rules of exchange. Markets simply cannot exist prior to the state, as the process of market formation is intertwined with the process of state formation.[77] The distribution of economic resources is always shaped by taxes and transfers, so it is artificial to define taxes and transfers as "re"-distribution.

The poor, along with every family, lives with the benefits and constraints of state involvement. If we are trying to understand the economic resources of households, it best to incorporate taxes and transfers. Ultimately, social scientists should focus on poverty after taxes and transfers. Thus, estimates of poverty should be based on the most comprehensive definition of household income – the most valid and reliable, feasible measure of economic resources. Describing the U.S., Smeeding and his colleagues explain, "The best current definition is disposable cash and noncash income (that is, money income minus direct income and payroll taxes, and including all cash and near-cash transfers, such as food stamps and cash housing allowances, and refundable tax credits, such as the Earned Income Tax Credit)."[78]

Finally, I show below that empirically, poverty before taxes and transfers is less relevant than poverty after taxes and transfers. There is much more variation in poverty after taxes and transfers than before, and it is this crucial societal variation that needs explanation. Further, societal patterns in poverty before and after taxes and transfers are simply not empirically associated in a way that suggests the relevance of poverty before taxes and transfers.

The Depth of Poverty and Sen's Ordinalist Revolution

One of the pioneering innovations in poverty measurements was Amartya Sen's ordinal measure of poverty.[79] Indeed, Hagenaars referred to Sen's contribution as "The Ordinalist Revolution" and any serious discussion of poverty measurement must consider it.[80] Sen's contribution can best be explained by considering a series of measures that build on one another. Table 2.1 displays the definitions, advantages and disadvantages of each of these measures. All of these measures can be defined relatively.

Table 2.1. Alternative Poverty Measures Emerging from The Ordinalist Revolution.

	Symbol	Definition	Advantages	Disadvantages
Headcount	***H***	% of Population Below 50% of Median Income	Simple, dichotomous measure of the % of the population poor	Ignores the depth of poverty among the poor
Income Gap	***I***	Difference between population's median income and mean income of poor with ***H***, standardized by population's median income	Continuous variable of the average depth of poverty among the poor	Ignores the quantity of poor people
Interval	***HI***	Product of ***H*** * ***I***	Simple, parsimonious measure combining quantity and depth of poverty	Does not weight index with the distribution of income of the poor
Ordinal	***O***	***HI*** * (1+**CV**), where **CV** is coefficient of variation	Weights measure so the deeply poor have more impact than barely poor	May add unimportant information or unneeded complexity

First, poverty is measured commonly with a ***Headcount*** (denoted by ***H***), the percentage of the population that is below a certain threshold of income. ***H*** is a simple dichotomous measure of poverty, offering an either/or account of who is denied the basic minimum rights of citizenship, social inclusion or capability. ***H*** has a lot of useful simplicity as an easily interpretable rate of poverty. Nevertheless, ***H*** has received increasing criticism.[81]

Sen calls ***H*** "crude" because it ignores the income distribution of the poor and contains no information on the depth of poverty. Using ***H***, we treat all poor people below the threshold as equal regardless of differences in depth of poverty. Sen articulated this criticism of ***H*** as the "Monotonicity Axiom: Given other things, a reduction in income of a person below the line must increase the poverty measure."[82] This axiom can be explained best by way of example. Societies A and B, with equal rates of poverty with ***H***, would be considered equivalent. However, while the poor in A may cluster close to the threshold, the poor in B may cluster close to zero income. ***H*** would be unable to detect this difference in depth and income distribution. Further, if the income distributions in A and B were identical at one point in time, ***H*** would be unable to detect if the poor in A suffered severe income loss and fell to zero income, while the poor in B were unchanged. Blank has applied this criticism when arguing that the official U.S. measure – which is a H measure – probably underestimates the impact of welfare programs:

> Understanding that cash assistance programs may make families less poor without necessarily removing them from poverty highlights a problem with how we evaluate these programs. Expansions in cash assistance over time could make many poor families substantially better off, but as long as this does not actually move them above the poverty line, this improvement will not be reflected in reduced poverty rates. Similarly, reductions in cash assistance will have no effect on poverty if they make already-poor families even poorer. Thus, changes in poverty rates may seriously understate the impact of changes in cash transfers on the well-being of poor families.[83]

Though it still is useful for describing the proportion of the population that is socially excluded or capability-deprived, ***H*** is considered imperfect because it ignores the depth of poverty.

To address these concerns, one may estimate the depth of poverty of the poor. Conventionally, depth is measured as the poor's average difference from either the median of income or the threshold of poverty. This average deprivation, the ***Income Gap*** (denoted by ***I***), is normally standardized by the median income or threshold of poverty to render it comparable across populations. By considering ***I***, rather than simply ***H***, scholars more realistically capture the continuous quality of poverty. In reality, poverty is not a discrete condition that is immediately acquired or shed by crossing any particular line. Rather, poverty is an interval variable, as the desperately poor with zero income are worse off than the poor just below the poverty threshold. Sometimes poverty researchers address this concern by calculating the “income to needs ratio” as a household’s income divided by the poverty line.

Still though, ***I*** is imperfect as well. While ***H*** provides the percentage of the population that is poor, it is insensitive to the depth of poverty. While ***I*** details the depth of poverty of this sub-population, it is insensitive to the quantity of poor. As a result, many scholars have created poverty measures by simply taking the product of ***H*** and ***I***, that is ***HI***. Because it treats poverty as continuous, unlike the dichotomous ***H***, I have called ***HI*** the “Interval Measure.” However, the prevailing label is ***Poverty Intensity***, so I will proceed with that name.[84] Both ***H*** and ***I*** are important components as neither individually tells the whole story about poverty intensity.

In addition to addressing the limitations of ***H*** mentioned above, a relative ***HI*** is less sensitive to the business cycle. When the economy grows, the median income is likely to increase (though this is not always the case and has not really occurred in recent U.S. cycles) and if the poverty threshold is 50% of the median income, it will automatically increase. In turn, households with the same income will mechanically move from non-poor to poor. This has been one of the more common criticisms of relative measures. Fortunately, ***HI*** is far less sensitive to movements in the median income and threshold since newly and barely poor households would have a very small poverty gap. Such households would actually reduce ***I***, and so while ***H*** would increase, ***HI*** would only increase minutely.

At this stage, Sen offered his key contribution. He imposed Axiom R, that the poverty gap (***I***) should be weighted to correspond to the rank order in the interpersonal welfare ordering of the poor.[85] Basically, Sen argued that ***HI*** should be weighted such that the poorest of the poor had more influence on the measure. ***HI*** should add a weight for the income inequality among the poor. Doing so augments ***HI*** to form the ***Ordinal Measure*** of poverty (denoted by ***O***). ***O*** simply takes ***HI*** and multiplies it by a factor of the inequality among the poor.[86] While more mathematically complicated versions of the formula exist, several scholars have demonstrated that ***O*** can be reduced in this way.[87] Additionally, with this formula, ***O*** is easily decomposed into three parts – the headcount, the income gap, and inequality among the poor – that can be analyzed separately to understand their specific influence.[88]

Overall, Sen's work provoked a fundamental reorientation of poverty measurement. In addition to the Headcount (***H***), scholars began to use more sophisticated measures including the Income Gap (***I***), the Interval (***HI***), and Ordinal (***O***). Each is fruitful for poverty research. As Table 2.1 displays, each measure has advantages and disadvantages. If one wants a rate of poverty and is indifferent to the depth of poverty, ***H*** remains useful. By itself, ***I*** is normally less useful since it is insensitive to how many people are poor and only considers the average depth of poverty. If an analyst seeks a parsimonious measure that incorporates both the quantity and depth of poverty, ***HI*** is preferred. By contrast, if one decides that the deeply poor should disproportionately affect the index, ***O*** should be used. Even while appreciating Sen's contribution, many have been skeptical of ***O***. Unlike ***HI***, ***O*** reflects the judgment that the deeply poor are more important than those near the threshold. Of course, not everyone agrees with this judgment. Additionally, some evidence exists that the variation in ***O*** not captured by ***HI*** is empirically unimportant. Hence, **O** often adds unneeded complexity that may obscure international comparisons.[89] Therefore if one seeks a sufficient yet parsimonious measure and prefers to avoid the complexity and assumptions of ***O***, ***HI*** may be preferable. In the analyses that follow, I consider each of these measures of poverty. Prompted by the empirical patterns discussed below, I argue that it is normally sufficient to evaluate ***H*** and ***HI***. Thus, I would argue that at the very least, analysts of poverty should integrate the depth of poverty.

* * *

To summarize, this discussion has provided five criteria for measures of poverty. Each of these criteria emerges from an existing theoretical literature that has established their relevance to poverty measurement. Table 2.2 displays these criteria in summary form.

Table 2.2. Criteria for Measures of Poverty.

1.	Measure Comparative and Historical Variation
2.	Conceptualize Poverty as Social Exclusion and Capability Deprivation
3.	Be Relative Rather Than Absolute
4.	Assess the Impact of Taxes, Transfers, and State Benefits
5.	Integrate the Depth of Poverty (and the Inequality Among the Poor)

ENDNOTES

[1] Hagenaars (1991: 134); Betson and Warlick (1998); Jorgenson (1998); Triest (1998); Hill and Michael (2001); and Iceland et al. (2001).
[2] In another study (Brady 2003a), I showed that about two-thirds of sociological studies published between 1990 and 2000 used the official measure. Though a similar content analysis for economic and public policy journals has not been done, my sense is that the proportion would be comparable.
[3] Ruggles (1990).
[4] Betson and Warlick (1998: 351).
[5] Wilson (1991: 3, 2).
[6] The report was edited by Citro and Michael (1995: xvi).
[7] Orshansky (1965); Katz (1989: 115-117); O'Connor (2001); Wilson (1991).
[8] Katz (1989: 115-117); O'Connor (2001); see also Betson and Warlick (1998).
[9] Citro and Michael (1995: 1).
[10] Betson and Warlick (1998); Blank (1997); Citro and Michael (1995); Haveman (1987).
[11] Ruggles (1990); Foster (1998); Citro and Michael (1995).
[12] Slesnick (1993); Jorgenson (1998).
[13] Sen (1987) would call this a violation of the transfer axiom.
[14] Ruggles (1990); Smeeding et al. (2001).
[15] Lichter (1997); Betson and Warlick (1998); Citro and Michael (1995).
[16] Blank (1997).
[17] Smeeding et al (1993: 247).
[18] Atkinson (1998a); Cantillion (1997).
[19] Atkinson (1990, 1998a); Hagenaars (1991).
[20] Betson and Warlick (1998); Jorgenson (1998).
[21] Cantillion (1997); Ormerod (1998); Paugam (1998); Procacci (1998); Wacquant (1995).
[22] Silver (1994, 1995).
[23] Cantillion (1997: 130).
[24] Schuyt and Tan (1988: 14).
[25] Dahrendorf (1990: 151).
[26] Engbersen (1991).
[27] Gore (1995).
[28] Harrington (1981: 11).
[29] Wilson (1991); Rankin and Quane (2000).
[30] Galbraith (1998: 235).
[31] Rawls (1971).
[32] Atkinson (1987).
[33] Sen (1992, 1999).
[34] Rawls (1971); see also Atkinson (1987, 1998b).
[35] Barry (1973, 1998).
[36] Rainwater and Smeeding (2004: 10).
[37] Atkinson (1998a: 27).
[38] Despite his influence on poverty and inequality debates (see Sen 1992), Rawls (1971) made very few overt references to poverty. Atkinson (1987: 760) notes that the word "poverty" does not even appear in Rawls' extensive index.
[39] Barry (1998: 22).
[40] Cantillion (1997: 131).
[41] Atkinson (1998b: 20).
[42] Sen (1992); Gore (1995); Rodgers (1995).
[43] Sen (1979, 1983); Madden (2000).
[44] Shanahan and Tuma (1994).
[45] Atkinson (1998a); Hagenaars (1991); Madden (2000); Ravallion (1998); Sen (1992).
[46] Sen (1992, 1999).

[47] Smeeding (1993: 246).
[48] Hagenaars (1991: 141).
[49] Rainwater and Smeeding (2004: 9).
[50] Jorgenson (1998); Slesnick (1993).
[51] Cox and Alm (1999).
[52] For specific methodological critiques, see Hagenaars (1991), Kakwani (1993); Triest (1998); and Lichter (1997).
[53] Harrington (1981: 188).
[54] Ruggles (1990).
[55] Ravallion (1998: 21).
[56] Hagenaars (1991: 141).
[57] President's Commission on Income Maintenance Programs (1969).
[58] Townsend (1980: 300).
[59] Sen (1992: 110).
[60] Shanahan and Tuma (1994).
[61] Barry (1998); Gore (1995).
[62] Atkinson (1998a: 2).
[63] Silver (1994); Rainwater and Smeeding (2004).
[64] Rawls (1971).
[65] Atkinson (1998b).
[66] Townsend (1980); Sen (1979).
[67] Harrington (1981: 18, 187-188).
[68] Townsend (1962: 219, 225).
[69] Hill and Michael (2001); Triest (1998); Betson and Warlick (1998); (Uchitelle 1999).
[70] Lichter (1997: 130).
[71] Smeeding et al. (2001: 164, 166).
[72] Lichter (1997).
[73] Sen (1976: 219).
[74] Smeeding et al. (1993).
[75] Fligstein (2001); Esping-Andersen (1990; 2003: 65).
[76] Wright (2003: 3-4).
[77] Fligstein (2001).
[78] Smeeding et al. (2001: 165).
[79] Sen (1976).
[80] Hagenaars (1991).
[81] Atkinson (1987).
[82] Sen (1976; 219).
[83] Blank (1997:139).
[84] Osberg and Xu (2000).
[85] Sen (1976); Shorrocks (1995).
[86] In **O**, CV is conventionally measured with the Gini index. However, research on inequality demonstrates that the Gini index can be replaced with the simpler Coefficient of Variation (CV), which is substantively identical and easier to compute (Allison 1978; Firebaugh 2000).
[87] For more mathematically complicated accounts, see Kakwani (1993) and Sen (1986). For this simpler formula, see Myles and Picot (2000) and Osberg and Xu (2000).
[88] In Brady (2003a), I discussed the ***Sum of Ordinals Measure*** of poverty (**SO**). **SO** is simply the sum of headcounts for various descending thresholds, and thus builds on relational distribution measures of inequality (Handcock and Morris 1998). For example, I calculated the headcounts for 60, 50, 40, 30, 20, 10 and 5 percent of the median income, and summed the values. This **SO** measure mimics the properties of **HI**, and can be easily converted to something similar to **O** by weighting the lower thresholds (5, 10, and 20 percent) more greatly. While useful for graphically displaying the patterns in poverty, ***SO*** probably offers little beyond ***HI*** and ***O***. Thus, I do not discuss ***SO*** further in this book.
[89] Osberg and Xu (2000); Myles and Picot (2000) Atkinson (1987); Hagenaars (1991).

FULL REFERENCES AVAILABLE UPON REQUEST.