

European Measures of Poverty and “Social Exclusion”: Material Deprivation, Consumption, and Life Satisfaction

Neil Gilbert

The conventional view of poverty in the European Union countries is based on a relative measure, which defines all those with incomes below 60 percent of the median as poor. In the U.S., poverty is defined according to an absolute measure—the federal poverty line computed by the Census Bureau—which was \$21,200 for a family of four in 2008 (somewhat higher in Alaska and Hawaii). In tallying up national rates of poverty, both the absolute and relative measures are adjusted for family size. Although these income-based measures generate social indicators that are concrete, plausible, and convenient to use, they fail to convey the experiential quality of poverty as a condition of life—living hungry, cold, unable to meet normal social expectations, and in dread of what the future holds. They also overlook the possession of other resources and sources of support that can alleviate the conditions of poverty. Several of the papers presented at the Joint OECD/University of Maryland International Conference on Measuring Poverty, Income Inequality, and Social Exclusion: Lessons from Europe aim to overcome these omissions by assessing levels of material deprivation and including measures of consumption and wealth in addition to income.

MATERIAL DEPRIVATION AND INCOME-BASED POVERTY

Expressing the Europeans’ concerns about the inadequacies of the conventional approach to estimating poverty, Marlier et al. (2009) explore the multidimensional nature of poverty by casting it within the framework of a broader concept of social inclusion. The authors review and analyze what is identified as a “commonly agreed upon portfolio” of indicators of social inclusion, which contends with some of the limitations of a narrower income-based measure of poverty.²¹ The portfolio consists of a number of primary and secondary indicators, including the conventional European measure of 60 percent of median income along with several other measures involving unemployment, employment gap of immigrants, education, health care, and material deprivation.

The strength of these indicators is that they indeed convey a broader, more detailed account of the experiential circumstances associated with poverty—unemployment, lack of education, unmet medical needs, deficient shelter, and material deprivation, along with relatively low income. According to the authors, one of the main objectives of the indicators is to “facilitate comparison of actual performance achieved by EU countries” through their social policies. My assessment of these indicators is framed by four questions:

1. How much does the index of material deprivation add to our understanding of poverty beyond the knowledge gained from an income-based measure?
2. How reliable is the material deprivation index as a comparative measure of poverty/exclusion?
3. How applicable are multidimensional measures of poverty for comparative analysis and policy decision making?
4. To what extent do the alternative nonmonetary measures facilitate comparisons of performance that produce greater transparency than an incomebased poverty measure?

Let me start with the issue of the knowledge added by the material deprivation index. This indicator examines nine aspects of material living conditions by asking respondents whether they can afford the following: (1) a washing machine; (2) a personal car; (3) a color TV; (4) a telephone; (5) a one week annual holiday away from home; (6) to face unexpected expenses; (7) to pay for arrears (rent, utilities, etc.); (8) a meal with meat, chicken, or fish every second day; and (9) to keep a home adequately warm. Because the items in this index begin with the question “can you afford?” they must have a cash value in the respondents’ minds. To what extent does the material deprivation index provide a deeper understanding of poverty than that gleaned from a standard monetary indicator?

The paper reports a weak positive correlation ($r = 0.30$) between the risks of poverty (defined as the percent of people living below 60 percent of the national equivalized median income) and levels of material deprivation (defined as the percent of people deprived of at least 3 items) in the EU countries. This indicates that although the relationship is in the expected positive direction, the monetary indicator

of the risk of poverty or relatively low-income explains only 9 percent of the variance in material deprivation. Without looking too closely, one conclusion that might be drawn from this finding is that the nonmonetary indicator of deprivation captures a significant, perhaps alternative, dimension of poverty/exclusion beyond that represented by a monetary indicator.

However, a very different conclusion emerges when one examines the relationship between material deprivation (defined as above) and the income thresholds used to define poverty in the EU countries. The results here show a strong negative relationship of $r = -0.831$ ($p < 0.001$). The poverty thresholds explain about 70 percent of the variance in the levels of material deprivation among countries. Simply put, the lower a country's median income, the higher the percent of people living there that are materially deprived. This is hardly surprising. These findings highlight an essential problem in using the relative definition of poverty in comparative analysis—it fails to deliver an accurate representation of the differences in the material wellbeing of citizens in countries with a wide range of median incomes.

A question still remains as to what extent the 30 percent of variance in levels of material deprivation among the EU countries that is not explained by the different poverty thresholds represents a meaningful nonmonetary dimension of poverty/exclusion, which is captured by the index, and how much is due just to measurement error in response to the index. This brings us to the second issue concerning the reliability of the deprivation index. Because the potential costs of most of the items in this index vary dramatically, it is difficult to interpret exactly what individual responses mean. For example, the question whether one can “afford an unexpected expense” might include everything from the cost of replacing a broken window pane to a new roof. (The answer might reflect the respondents' optimism contemplating costs of the unexpected more than anything else.) One week's annual holiday away from home can involve everything from camping in the forest to a luxury cruise in the Mediterranean. A color TV can range in price from less than \$100 to more than \$5,000. There are no stable values associated with each item and, although a car tends to be more expensive than a telephone, there is no ordinal ranking of affordability among all of the items. The open-endedness of the definitions of these items raises questions about the face validity and reliability of this composite indicator. When two respondents can imagine that the same question means different things, what exactly does the index measure? If the questions were posed as, for example, “Can you afford a TV that costs \$100,” how much might the 30 percent of unexplained variance decline?

The questionable reliability of these items for use in cross-sectional analysis is compounded by the fact the material deprivation index does not lend itself well to longitudinal analysis. Over time the costs of items will vary. Several of the items in this index are likely to become more affordable as costs are driven down by innovations and new methods of production—which changes the meaning of lack of affordability. In 1971, for example, only 43 percent of all households in the U.S. had color televisions, whereas 30 years later over 97 percent of *poor* household owned color televisions (Cox & Alm, 1995). Research indicates that over time many products shift in the public's perception from luxuries to necessities (Pew Research Center, 2006).

The third issue concerns how multidimensional measures inform comparative analysis and policymaking, particularly when discrepancies arise between the commonly agreed upon indicators, such as risk of poverty and deprivation. For example, the risk of poverty in Hungary, Slovakia, the Czech Republic, and Slovenia is lower than in most other EU countries that have much higher median incomes (such as Finland, France, Germany, Ireland, Luxembourg, and the U.K.). While having lower risks of poverty than many of the Western European countries, however, these four Eastern European countries have higher levels of material deprivation, measured as the percentage of the population that could not afford at least three of the nine items in the material deprivation index. Findings showing that a fair proportion of the EU countries have lower levels (or risks) of poverty, yet higher levels of material deprivation than many other countries, present policymakers with a confusing discourse on the relation between poverty and material deprivation—as these terms are commonly understood.

The implications for policymaking remain puzzling, despite efforts to elaborate and refine the material deprivation index. Drawing on the EU Statistics on Income and Living Conditions data, for example, Nolan and Whelan (2009) analyze an expanded version of the nine-item index discussed above, which includes a selection of 17 items of material deprivation, as shown in Table 1. These items are incorporated into two composite measures for each country: a mean household deprivation index score and a measure of the percentage of three-item deprivation among those below 60 percent of the median income.

The mean household deprivation score is developed by assigning each item the value of 1, adding the number of items identified by each household, and calculating the mean. Composite scores of this sort, of course, always involve value judgments. Giving each item an equal weight is not so much an expression of neutrality as a judgment of value, which implies that the inability to afford a PC is an equivalent degree of deprivation to the lack of an indoor toilet, and each of these is equivalent to having noisy neighbors (which is unlikely to occur in Geneva, where there is an ordinance against making excessive noise, particularly between 21:00 and 7:00).

The second composite scores show the percentage of households that have both incomes below 60 percent of the median and are deprived for at least three of the six consumption deprivation items (see Table 1). Here again there arises an apparent discrepancy between where different countries rank on this indicator and the customary understanding of the association between low-income and deprivation. Slovakia, Slovenia, and the Czech Republic, for example, have a lower percentage of households that both are below 60 percent of their median incomes and are deprived for at least three of the six items in the consumption deprivation index than Luxembourg, Finland, and Belgium. At almost 37,000 Purchasing Power Standard (PPS) units, the poverty threshold in Luxembourg represents a level of income three to four times higher than in the Eastern European countries.²² According to this finding, a higher percentage of households with incomes up to 37,000 PPS in one country experience three or more consumption deprivations (such as inability to afford food, heat, and a holiday) than households with incomes up to 8,400 PPS in another country. From a policy perspective, if a financial transfer is to be made to reduce poverty/social exclusion, should it go to Luxembourg before Slovakia? But really, how can it be that those below 60 percent of Luxembourg's median income have a higher percent of material deprivation than the poor in Slovakia? The authors offer several possible explanations, which essentially boil down to measurement error in both income and deprivation.

Table 1. Selection of items included in EU-SILC used as indicators of material deprivation.

Afford to pay unexpected required expenses*
Week's holiday away from home* ++
Meals with meat, chicken, fish (or vegetarian)* ++
Can afford a PC++
Arrears relating to mortgage payments, rent, utility bills, hire purchase* ++
Inability to keep home adequately warm* ++
Household can afford to have a car* ++
Bath or shower in dwelling
Indoor toilet
Can afford a telephone*
Can afford a color TV*
Can afford a washing machine*
Pollution, grime, or other environmental problems in the area
Noise from neighbors or noise from the street
Crime, violence or vandalism in the area
Rooms too dark, light problems
Leaking roof, damp walls/ceilings/floors/foundations, rot in doors, window frames

Source: Nolan and Whelan (2009).

* Items in the Marlier et al. (2009) nine-item deprivation index.

++ Items in the "consumption deprivation" index.

Beyond problems of measurement and interpretation, the non-income-based multidimensional indicators of poverty/exclusion suffer from a lack of transparency. The issue here is not so much that the different measures yield different, sometime curious, results, but who decides which items are commonly agreed upon and on what basis? In operationalizing indicators of social exclusion, are there systematic criteria that might help policymakers and the public understand why certain indicators are included and others excluded? For example, the broad portfolio of commonly agreed upon indicators includes a measure of the employment gap of immigrants but excludes a gender employment gap or a sexual orientation employment gap. The portfolio includes a measure of unemployment, but not one of employment security or security about one's life situation in retirement. Measures of access to health care do not address the issue of quality of care. One could easily imagine adding a considerable number of

items to the 17-item material deprivation index, including ability to afford microwaves, CD players, and children's access to a garden, outdoor playing fields, and public transportation. At the same time one might ask how material deprivation of respondents in Scandinavian and Mediterranean countries can be compared by the question about their ability to afford "keeping a home adequately warm."

To the extent that multidimensional measures convey a detailed account of different experiential circumstances associated with poverty, they are useful in helping to expand the purview of social research and to highlight areas of social life that may be suitable for improvement. Efforts to formulate these measures stimulate thinking about the phenomena of poverty and social exclusion, generating new insights and different ways of counting social needs—helping to build new knowledge about different aspects of poverty. Indeed, this approach is a valuable academic/intellectual pursuit in seeking to enumerate the empirical essence of social inclusion or even the good life.

However, I have serious questions about the extent to which they provide guidance to inform social policy by offering a more valid, reliable, and transparent depiction of poverty than a direct measure of income. Most citizens and policymakers can envision what it means when they hear a statement to the effect that 20 percent of households are poor or excluded from participation in normal social life because they have only X dollars to live on after taxes. Although they may agree or disagree as to whether X dollars is the right amount, it is more difficult to formulate any judgment on a statement to the effect that 20 percent of households are socially excluded because they have an average deprivation score of 3 or more on 17 items ranging from being able to afford a phone to living in a noisy environment.

CONSUMPTION, WEALTH, AND LIFE SATISFACTION

Nonmonetary indicators seek to address the inadequacies of conventional income based measures by defining poverty as a multidimensional problem. This approach enlarges the analytic frame on poverty and social exclusion beyond low income to encompass material deprivation, lack of education, unemployment, and other problems, which transmits an expansive progressive agenda for social policy. In contrast, an alternative line of analysis confronts the limits of monetary measures by expanding the financial account to include more than income and then examining nonmonetary considerations in terms of the psychological consequences of poverty under the broader financial definition. Concentrating on this financial approach, Heady, Krause, and Wagner (2009) measure poverty in Australia and Germany according to household income, wealth, and consumption (including imputed rent calculated at 4 percent of the estimated market value of the house). The rates of financial poverty are estimated for three groups: those who are poor in terms of income (having income below 50 percent of the national equivalized median); in terms of consumption (below 50 percent of the median equivalized consumption); and the "asset poor" (lacking wealth to survive for three months in an emergency with an income above 50 percent of the national median). In light of these measures, the analysis illustrates the extent to which the rates of financial poverty decline when the definition shifts from only those who are income-poor to those who remain poor after taking into account income, consumption, and assets. The authors then examine the psychological consequences of being poor according to this definition.

The findings reveal that when consumption and wealth measures are included, the level of financial poverty sharply declines. In Australia, where the poverty line is usually set at 50 percent of the median income, the poverty rate in 2007 decreased from 13.7 percent to 2.5 percent (at 60 percent of median income the rate decreases from 19.9 percent to 4.9 percent) under the expanded financial definition. The rate of persistent poverty, defined as those under 60 percent of the median income for three years, declines from 10.6 percent using the conventional measure of income to 2.2 percent when consumption and wealth are included. The data show a similar decline in Germany (from 17.2 percent to 7.9 percent in 2005), though the 60 percent of median income poverty rate does not fall as low as in Australia, in part because the German measures included income and wealth, but not consumption. Based on these findings, Heady, Krause, and Wagner (2009) argue that the existing income-based measures are seriously in error, yielding poverty results that are much too high. If the definition of poverty as being simultaneously income poor, consumption poor, and asset poor were commonly accepted, it would surely have profound implications, at least in Australia; with only 2.5 percent of the population falling beneath the established poverty line, the problem is virtually solved. In an effort to probe the experiential quality of poverty, the psychological consequences of being poor according to the broad financial definition are analyzed, using self-assessed ratings of satisfaction with one's life, financial situation, relationship with a partner, general health, and mental health. The most striking finding here is

that the impact of poverty on life satisfaction, while statistically significant, is substantively inconsequential. The difference in life satisfaction between the people in the middle income category and the poor is 4 points on a scale of 0–100. When other factors that might impact life satisfaction, such as being partnered, number of children, unemployment, disability, neuroticism, and age, are controlled for, the impact of poverty is only a 2-point difference on the 0–100 point scale of life satisfaction. The entire model including money, health, family, youth, work, and mental health accounted for only 11.7 percent of the variance in life satisfaction. In Germany, the data showed that after controlling for a wide range of demographic, health, personality, and interpersonal characteristics, being poor increased the proportion of explained variance in life satisfaction by only 1.2 percent.

Other findings revealed that being poor had a strong association with several specific measures of well-being, such as living without a partner, health, mental health, and financial satisfaction. It is well known, however, that correlation is not the same as causality. Where poverty and the indicators of well-being are concerned, cause and effect are difficult to untangle, except for the finding that poor people are 11.6 percent less satisfied with their financial situation than the non-poor, which does not generate a great deal of insight. Regarding the other measures of well-being, having a low income may affect one's chances of finding a partner, particularly if the reason for being poor is related to factors such as mental illness and disability; although being poor may lead to the deterioration of one's health and mental health, it is equally the case that being physically disabled or mentally ill may have a strong influence on becoming poor.

One might read the main results of this study and their implications as somewhat different from those of studies based on multidimensional non-income measures of poverty. That is, the data here show that the rates of income-related poverty as defined by many public agencies fall to very low levels when measured by empirical indicators of financial resources that are more comprehensive than the conventional measure of income. Among the relatively low percentage of households that are poor by this measure, an even lower percentage stay that way for three years. And although, as might be expected, people who are financially poor are less satisfied with their financial situation than the non-poor, there is almost no substantive difference between the poor and non-poor regarding their general satisfaction with life. If one agrees with this interpretation, then in the cases studied empirically there is not a great deal of traction to advance poverty as a pressing social issue on the public agenda. Those seeking to advance progressive policies designed to improve social life need to reframe the issue, which perhaps lends strategic justification to the lack of transparency associated with the multidimensional non-income measures of poverty and social inclusion.

LESSONS FOR THE U.S.

If poverty research is to focus on developing multidimensional measures such as material deprivation indices that go beyond monetary calculations, there are tradeoffs worth considering. The multidimensional approach offers the benefit of greater detail about a range of poverty-related problems, along with a wider frame of investigation that might generate new insights and lend impetus to a progressive policy agenda. These benefits must be weighed against the issues raised concerning reliability, face validity, and transparency for building knowledge and policymaking. In the current stage of development, multidimensional measures of poverty face serious analytical challenges, which cast doubt on their utility as rigorous scientific indicators for comparative analysis.

When standard income-based calculations of poverty are refined to include consumption and assets, the rates of poverty are much lower than those reported in the official measures. Analyses of consumption and assets are fertile areas for research that can sharpen the focus of monetary-based measures, which are easily grasped by policymakers and the public. If consumption and assets are included among financial resources in official calculations of poverty, however, one would anticipate an outpouring of recommendations to recalibrate official poverty lines in Europe and the U.S. according to the total package of household financial resources.

NEIL GILBERT is a Milton and Gertrude Chernin Professor of Social Welfare and Social Services, Center for Comparative Family Welfare and Poverty Research, UC Berkeley.

²¹ These indicators were developed and agreed upon by the EU Social Protection Committee Indicators Sub-Group.

²² PPS units are euros adjusted for Purchasing Power Parity.

REFERENCES

Cox, M. W., & Alm, R. (1995). By our own bootstraps: Economic opportunity and the dynamics of income distribution. Federal Reserve Bank of Dallas Annual Report, 22.

Gilbert, N. (2002). Transformation of the welfare state: The silent surrender of public responsibility. New York: Oxford University Press.

Heady, B., Krause, P., & Wagner, G. (2009). Poverty redefined as low consumption and low wealth, not just low income: Its psychological consequences in Australia and Germany. Manuscript, Paris Conference.

Marlier, E., Cantillon, B., Nolan, B., & Van den Bosch, K. (2009). Developing and learning from measures of social inclusion in the European Union. Manuscript, Paris Conference.

Nolan, B., & Whelan, C. (2009). Using non-monetary deprivation indicators to analyse poverty and social exclusion in rich countries: Lessons from Europe? Manuscript, Paris Conference.

Pew Research Center, (2006). Luxury or necessity? Things we can't live without: The list has grown in the past decade. Available at <http://pewresearch.org>.