Response to Bavier's Critique of the NRC Panel's Recommendations

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In a series of three papers made public on the Census Web site[2], Richard Bavier of OMB has questioned the wisdom of the NRC Panel's treatment of medical needs for measuring poverty. To date, Bavier's challenges and proposals have not received a response. It is the purpose of this note to respond to Bavier and enjoin a debate about the proper treatment of medical care in poverty measurement.

Marilyn Moon (1993) in a paper prepared for the Panel summarized the alternative options for incorporating medical spending and needs into a statistical measure of poverty. Based upon this survey, the Panel concluded that no perfect solution existed. In general, solutions that were conceptually more appealing required large amounts of data not contained in the surveys used for poverty analysis. Solutions that were easy to implement would have forced the Panel to consider poverty measures that would have greatly deviated from their conception of poverty. In particular, the Panel considered a proposal that would have added to the poverty thresholds an amount equal to the expected out-of-pocket medical expenditures of the family. While this proposal would have greatly simplified the poverty measure, it would have erroneously classified as poor many healthy families who had sufficient resources to meet their needs. At the same time, this proposal would have classified other families with large medical needs as not poor even though they may have struggled to meet their families needs with their available resources. Given the highly skewed distribution of medical spending and the desire to have the poverty measure reflect the actual as opposed to expected experiences of families, the Panel rejected this approach.

In summary, the Panel was guided in their recommendation by the following considerations:

- Wanting a poverty measure based upon the family's actual experience (an *ex post* concept);
- Realizing that the medical needs of a family are quite heterogeneous within groups classified by the size of the family and the age of family members especially compared to other family needs such as food, clothing, and shelter.

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[1] The author would like to thank Connie Citro, Kathy Short and David Johnson for their comments on an earlier draft of this paper. All remaining errors remain the responsibility of the author.

[2] The three papers are "Updating the poverty thresholds with expenditure data" (1997), "Medical needs and the poverty thresholds" (1998), and "Medical out-of-pocket spending in poverty thresholds" (2000).

These two points represent a reoccurring theme throughout the remainder of this response.

The NRC Panel's Recommendations:

Let us begin by restating the Panel's relevant recommendations. First, the Panel recommended that poverty thresholds should reflect what families spend on food, clothing, shelter and utilities plus an additional amount for other necessities (personal care, household supplies, and non-work-related transportation). Second, the Panel recommended that family resources be defined in a manner consistent with this threshold concept by including the sum of the family's cash and near cash resources that could be used to purchase the goods included in the threshold concept minus the amount of taxes paid by the family; child support payments; work related expenses (transportation to work, uniforms, and child care); and their out-of-pocket medical care costs including health insurance premiums.

Controversy and Cogan:

Bavier observes that "the most controversial (recommendation) has been the proposal that medical needs not be included in the 'basic bundle' of food, clothing and shelter." While this observation may be true, one may wonder why this proposal in particular seems to have created such a fuss when other aspects of the Panel's recommendations could be equally controversial. Given the importance of child care for working parents, one has to wonder why the Panel's recommendation that child care should not be included in the basic bundle of needs but subtracted from family resources is not equally controversial?

In my opinion, the reason why the treatment of medical needs has received more scrutiny than other recommendations is the central role that this recommendation played in John Cogan's dissent from the Panel's report. Here are three excerpts from Cogan's published dissent:

> "The choice (of commodities included in the threshold) may appear to be quite reasonable, and the panel may be correct when it argues that these commodities 'represent basic living needs with which no one would quarrel.' But what scientific basis exists for concluding that food, clothing, and shelter are the basic needs and health care or personal care are not?"
>
> "For measuring family resources, the report recommends that out-of-pocket expenditures for medical care be subtracted from a family's income. This recommendation is troubling. It assumes that all medical care expenditures are nondiscretionary. Within the field of economic science, the assumption of that all medical care expenses are nondiscretionary runs counter to the three decades of economic research. From the early work of Pauly (1968) and Grossman (1972) to the

latter work of Newhouse (1993) and other, economics have viewed health as an economic good, responsive to both income and price changes."

"…the panel could have obtained the same range for the poverty threshold by including medical care as a fourth basic commodity."

The views expressed in these excerpts can also be seen running throughout Bavier's three papers.

A Red Herring:

Determining whether or not a family is poor is based upon a rather simple and straightforward methodology. A family is determined to be poor if their measured resources are less than their needs. Of course, the devil is in the details. What will be counted as the family's resources and how the family's needs are defined will be crucial to which families are determined to be poor. But we should be clear on one fact – whether an expenditure is declared as a need and put in the threshold or subtracted from the family's resources will have only symbolic importance. Substantially, the choice to add a given amount to the threshold or subtract the same amount from the family's resources is a red herring. Either approach will produce the same determination of the family's poverty status.

The Panel's recommendation not to include medical needs in the threshold but to subtract the medical out-of-pocket expenditures from the family's available resources is equivalent to the approach that includes the family's actual medical spending in the poverty threshold but does not subtract the medical expenditures from their resources. Viewed from this perspective, the question is not whether the Panel 'valued' medical expenditures (they did) but whether the actual medical spending of the family is the most appropriate measure of their medical needs? In the general, the choices are clear. One could treat medical expenses just as another 'need' such as food, clothing, and shelter. This is the Cogan proposal as well as Bavier's MOOPITT approach[3]. Alternatively, you could treat medical needs as something quite distinct and hence add them to other family needs. This is Bavier's approach dubbed MOOPOTT as well as the Panel's approach. The only difference between these latter two proposals is that Bavier suggests using the median expenditure as the measure of the family's medical needs while the Panel has proposed using the actual spending of the family.

[3] The MOOPITT (MOOP In The Threshold) and MOOPOTT (MOOP On The Threshold) are described in Bavier's paper, "Medical out-of-pocket spending in poverty thresholds" (2000).

Determination of the Poverty Threshold:

Before proceeding to question whether medical needs should be considered as being 'in' or 'on' the poverty threshold, I feel it is important to contrast the Panel's approach to determining needs of a family to the current method. The current poverty thresholds were constructed by multiplying what was deemed by 'experts' to be a necessary food budget by a factor of three to account for other non-food needs. However, which commodities were to be considered a part of the other two thirds of the threshold was never detailed. Apart from food, what is considered a need in the current poverty thresholds is in fact an open question.

Bavier in his paper, 'Three False Steps', suggests that medical needs are a part of the current thresholds. In one of my own papers, I too made the same observation based upon the construction of the multiplier used in the current thresholds as well as the use of the overall CPI to adjust the thresholds for annual inflation. However, Gordon Fisher has provided the following three pieces of evidence leading to the conclusion that no amount of medical needs was ever included in the original thresholds[4]

- A proposal at an April 26, 1967 government committee meeting to adjust the non food portion of the threshold by the total CPI index minus medical care suggesting that medical care was not contained in the threshold;
- A personal conversation between Fisher and Orshansky confirming that medical care was not included in the threshold because medical care was assumed to be either provided through charity, the Hill-Burton Uncompensated Services Program, or the new programs such as Medicaid or Medicare; and
- A 1987 letter to the Editor of *The Economist* from Wilber Cohen indicating that medical care needs were not included in the official poverty thresholds.

Based upon this evidence, I am now convinced that medical care was never conceived to be part of the original official thresholds.

The Panel wished to be very specific on which commodities were to be considered as part of the family's needs. Specifically the Panel considered the following commodities either explicitly or implicitly to be in the needs bundle:

[4] Fisher (1997) "The Development of the Orshansky Poverty Thresholds and their Subsequent History as the Official Poverty Thresholds" and Fisher (1998) " The Poverty Line as an Existing Socioeconomic Indicator."

Commodities in the Panel's Needs Bundle

Explicitly in the threshold:

- Food;
- Clothing; and
- Shelter and Utilities (hereafter referred to as Shelter expenses)

Implicitly in the threshold through the use of the multiplier to account for other needs:

- Personal care[5];
- Housekeeping supplies; and
- Non-work transportation

Included by adjusting family resources:

- For families with workers – Work related transportation and other work related expenses;
- For families with children and all parents are working – paid child care expenses;
- Medical out-of-pocket expenses.

While this list of commodities is broader than what is normally associated with the Panel's recommendations, the Cogan question remains. Why these commodities and not others? What science leads to this list and not even a broader one that included other expenditures such as education?[6]

The notion that science could ever rule on what is in or out of the basic needs bundle is patently absurd. As the Panel tries to carefully note in their report, the concept of economic poverty can not be based upon the assumption that there is a singular objective truth defining what a family needs. Consumption needs can only be defined in the context of the society the family lives. However, the Panel also held that any determination of family needs 'should be broadly acceptable' within that society.[7] This mandate for poverty measurement can be interpreted to require that broad consumption activities that provide the 'spice' of life may be not be considered as needed consumption if society broadly views that poverty by its nature is devoid of 'fun'. While the Panel did not have any 'scientific' evidence for which

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[5] Contrary to Cogan's dissent, the Panel did consider both personal care and health care as part of the basic bundle.

[6] The original Cogan list of other commodities contained not only education but also transportation and laundry services. But as the above list shows, these latter two commodities are included.

[7] This could discussion could be interpreted as a justification for the use of subjective thresholds based upon surveys of members of society. But the Panel rejected this approach for numerous reasons. In particular, the Panel was concerned about the statistical reliability of this approach.

commodities to exclude, it is safe to say that any bare bones list would not include tobacco, alcohol, playing the lotto, most forms of entertainment, and vacations. On the other hand to suggest that certain commodity groups should have been included but were not is tantamount to saying that the Panel's list was a little too bare bones.

Having determined which commodities to include in the basic bundle is only the first step toward constructing a poverty threshold. The exact amount to include in the threshold is even more of a subjective exercise. For example, consider the housing needs of a family of four. At what level of housing does the family's spending turn from reflecting their needs to something more than what is needed. In the language of Cogan and Bavier, how can we determine what is non-discretionary spending apart from discretionary levels of spending?

But to implement a poverty measure, one does have to arrive at some determination of need. The Panel concluded that we should not look to the 'experts' to define the specific level of family needs but that determination should reflect the experience of families in the society at a point in time. The line between non-discretionary and discretionary levels of spending should be placed with reference to how all families of a given composition (based upon the number of family members and number of children) allocate their resources to a given bundle of goods that are viewed as 'necessities'. The Panel recommended that the line should be expressed as a given percentage of the median level of spending on these goods but consistent with an amount that would be somewhere between the 25^{th} to 35^{th} percentile in the distribution of spending on these necessities. The exact position of the threshold was recognized to be a political problem but the Panel felt strongly that this political decision should not be made without reference to what families did indeed spend on these necessities.

The next question is which goods should go into this bundle of necessities? All of the goods on the above list? Or a subset? The Panel concluded that a significant difference existed between the needs of families whose income was derived from work as opposed to those who did not. To include the costs of working into a single bundle of goods would have blurred these important differences in needs across of the families of the same composition but with different work patterns. For these reasons, work related expenses and child care expenses were considered separately from other necessities.

The same rationale can be applied to medical out-of-pocket expenses (MOOP). Families of the same composition have widely different amounts of medical needs resulting from different levels of health. These differences are compounded by differences in insurance coverage. While age can account for a significant amount of variation in medical needs, the Panel concluded that medical needs were sufficiently

more heterogeneous than other necessities that they too should be considered separately. More on this issue will be provided later.

Non-work related transportation expenses were problematic from the perspective of the difficulty of disentangling non-work transportation from work-related transportation expenses. For that reason, this commodity was represented in a small multiplier that would be applied to the basic needs bundle. Necessities such as personal care and housekeeping supplies could have conceptually and empirically been included in the bundle of necessities but were instead also relegated to the multiplier.

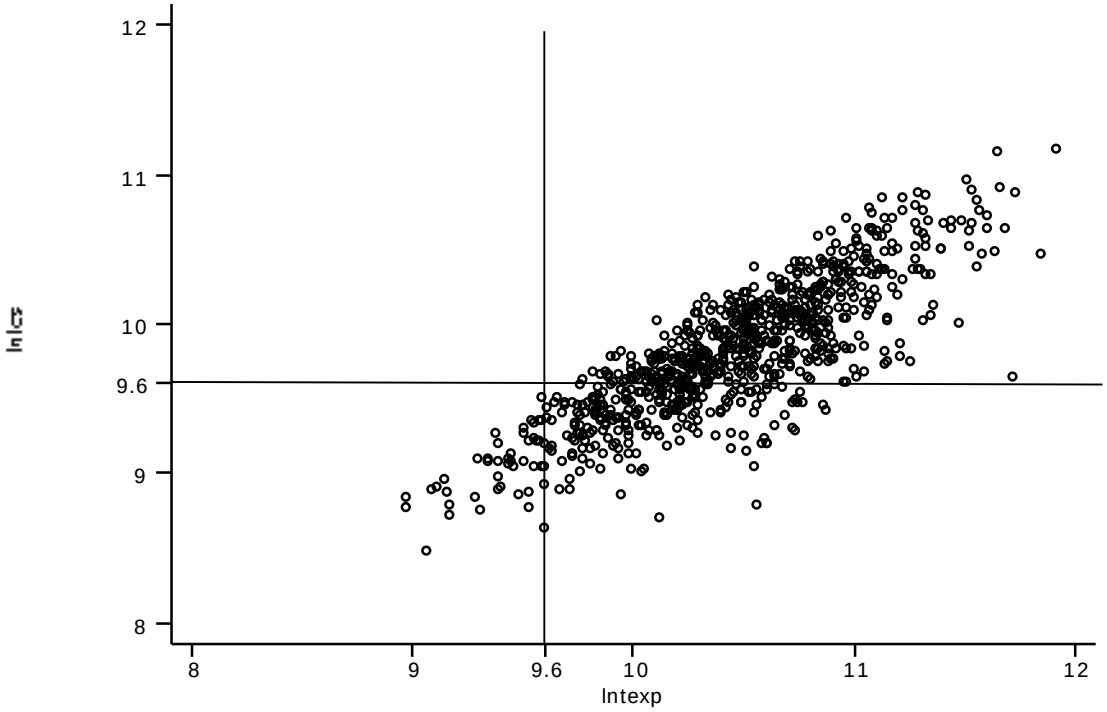
The remaining three commodities, food, clothing and shelter, constituted the basic bundle of necessities that would determine the core portion of the poverty threshold

An Illustrative Example of the Consequences of the Panel's Method of Threshold Selection

To provide a concrete example of the Panel's method for determining the level at which spending becomes discretionary, I will utilize a sample of 851 consumption units that contained four members and where the oldest adult was less than 60 years old.[8] The sample was drawn from the interview surveys of the BLS Consumer Expenditure Surveys (CEX) conducted in 1996 and 1997. To be in this sample, each unit had to have completed at least three of the four possible interviews during this period. All expenditures were annualized and expressed in 1997 dollars.

The figure below shows the scatterplot of the log of unit's spending on food, clothing and shelter (lnfcs) as a function of the log of the unit's total level of spending (lntexp).

[8] This sample was constructed for a research project on the cost of raising children.



The horizontal line in the graph reflects the 30th percentile of the distribution of food, clothing and shelter ($13,579) for these consumer units of size four. If we had adopted this level of spending as the poverty threshold (the vertical line in the graph), 3.4% of the units would have had total expenditures less than this amount and hence could not have purchased this bundle of necessities. The point of this example is to remind the reader that even though the poverty threshold is chosen so that 30% of units have spent less than the threshold amount on the bundle of necessities, one can not conclude that 30% of the units could not afford to purchase at least this amount. Many units have resources that allow them to spend more than the threshold amount on necessities but choose to spend their money differently. Even if we had adopted the median level of spending ($18,016) as the poverty threshold, only 10% of the units could not afford to purchase this level of necessities.

Is MOOP different from Food, Clothing and Shelter Needs?

The Panel chose not to include medical out-of-pocket spending in the bundle of necessities because in their opinion, MOOP was sufficiently different from other consumption necessities that it warranted separate treatment. In this section, I want to restate the rationale that the Panel had for its treatment of medical needs. I also will present new empirical evidence that supports the Panel's recommendation.

The provision of health care insurance by employers and the government has broken the direct financial relationship between patients and health care providers. Cogan is clearly correct that empirical research has shown that the utilization of health care is influenced by the prices patients pay for utilization as well as their income. These factors complicate our ability to judge when a family's utilization of health care reflects a need (non-discretionary spending) or when it reflects a discretionary expenditure.

But why is this situation more complicated than for other goods such as food, shelter or clothing? Health economists have found that health care utilization rises with income just as the consumption of other necessities. If one has developed a procedure to draw a line between what is considered necessary and discretionary spending for these other goods why can't it be applied to equally to medical care spending? The Panel's rationale for differential treatment of medical care was in part based upon the following argument.

> "…(medical) needs are highly variable across the population, much more variable than other needs for items such as food and housing. Everyone has to eat and be sheltered throughout the year, but some people may need no medical care at all while others may need very expensive treatment."

Stately slightly differently, there is substantial variation in what families spend on all goods, however, income explains more of the variation in food, clothing and shelter spending than it does for health care utilization. An alternative claim that could be made is the following. Holding income as well as the family's composition constant, the residual variation is more likely to reflect differences in need in the case of health care than it is in other goods such as food, clothing and shelter.

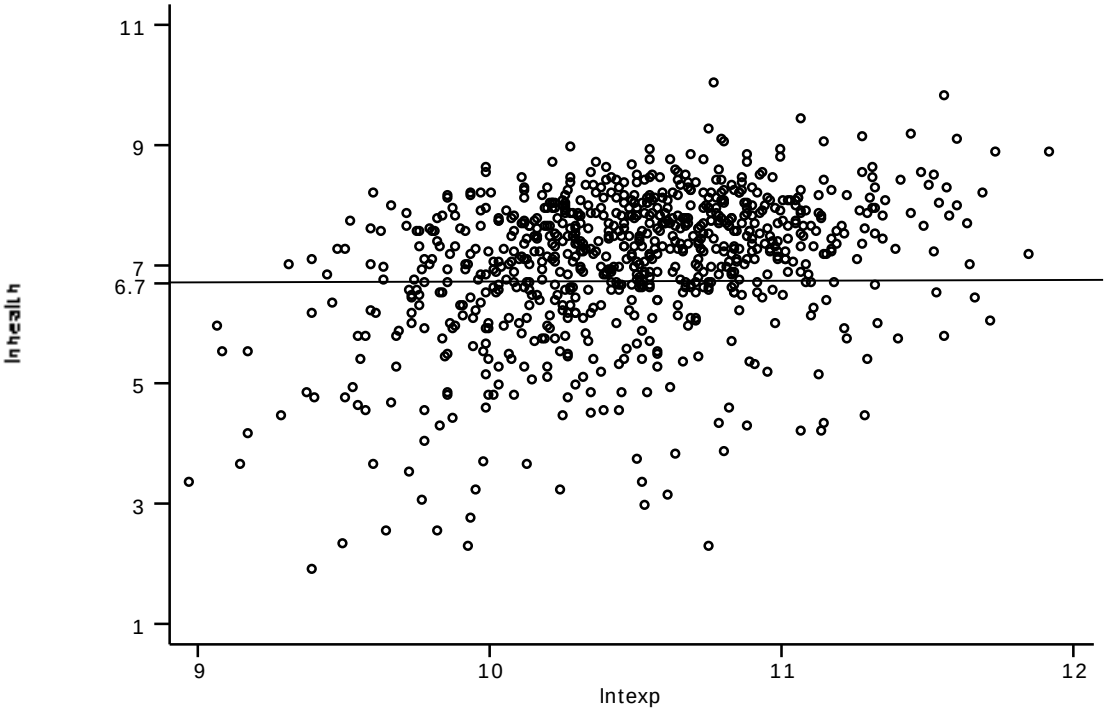
To illustrate the Panel's contention that medical spending is more variable than other necessities, I regressed separately the log of the family's medical out-of-pocket (lnhealth), food (lnfood), shelter (lnshelut), and clothing (lncloth) expenditures on the log of total family spending (lntexp) utilizing the CEX sample already described. The coefficient on the log of total expenditures, the root mean squared error and R^2 are reported below.

Regression Results

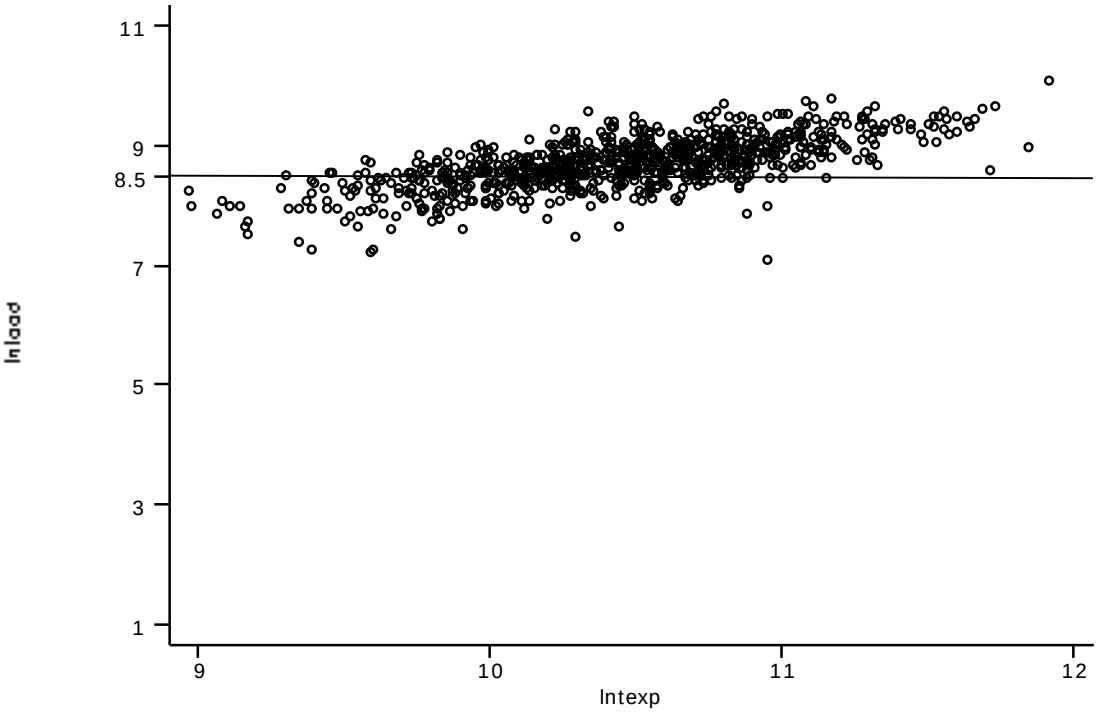
	Coefficient on lntexp	RMSE	R^2
lnhealth	.880	1.122	.12
lnfood	.558	.307	.46
lnshelut	.779	.399	.49
lncloth	1.092	.705	.38

These regression results confirm that food, shelter and MOOP conform to the standard definition of a necessity – an income elasticity less than one – but cast some doubt on clothing as a necessity. The regression results support the Panel's contention that MOOP is much more variable than other necessities. Holding total expenditures constant, MOOP displays substantially more variation (RMSE) than does either of the other three goods. This is also reflected in the measure of the amount of total variation explained by total expenditures (the only variable in the regression but recall the sample contains only units with four members where the reference person is less than 60 years old). For those who prefer to see the data directly, I have included scatterplots for each of the four commodities as a function of total expenditures. The horizontal line in each graph represents the 30^{th} percentile of each respective distribution of spending.

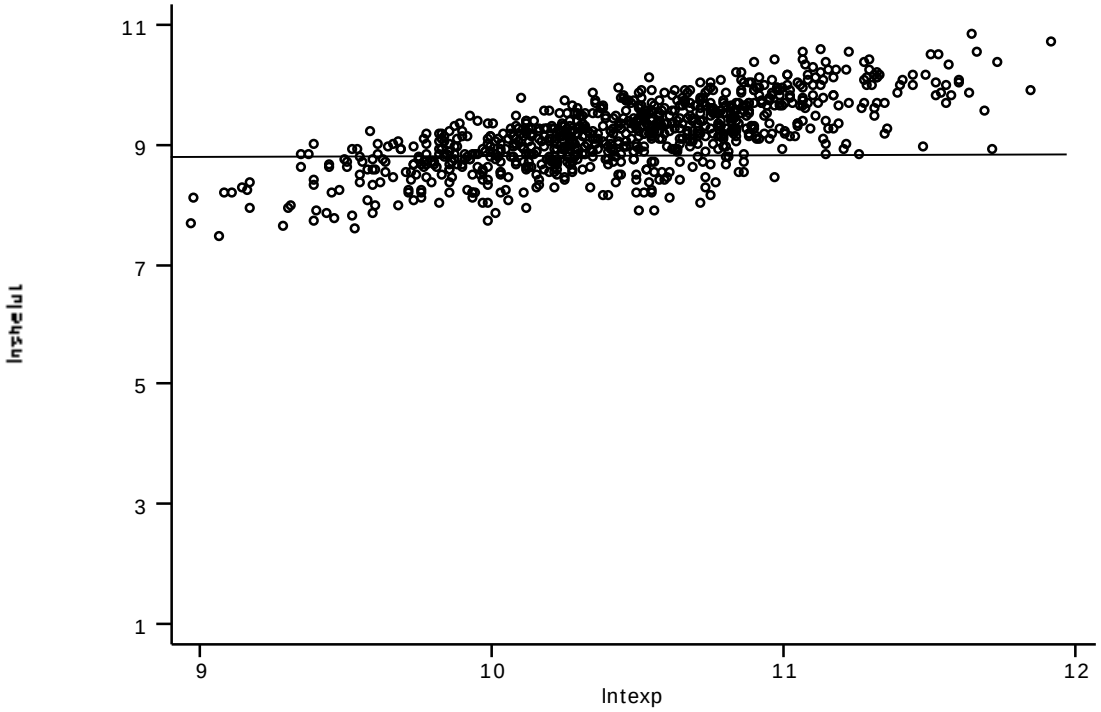
This evidence is consistent with the Panel's contention that MOOP does display more variation than other 'necessities'. I find this evidence sufficient to justify the separate treatment of medical needs in the determination of poverty and hence also argues against Bavier's MOOPITT approach. Bavier disputes this contention. However, I find his evidence flawed. To control for income or total spending, he examines consumer units whose incomes are less than twice their respective poverty lines. While this sample restriction partially controls for income, it introduces a substantial amount of demographic variation into his analysis sample. This will increase the amount of variation in both MOOP and shelter expenses but will most likely have a larger impact upon the variation of shelter expenses.



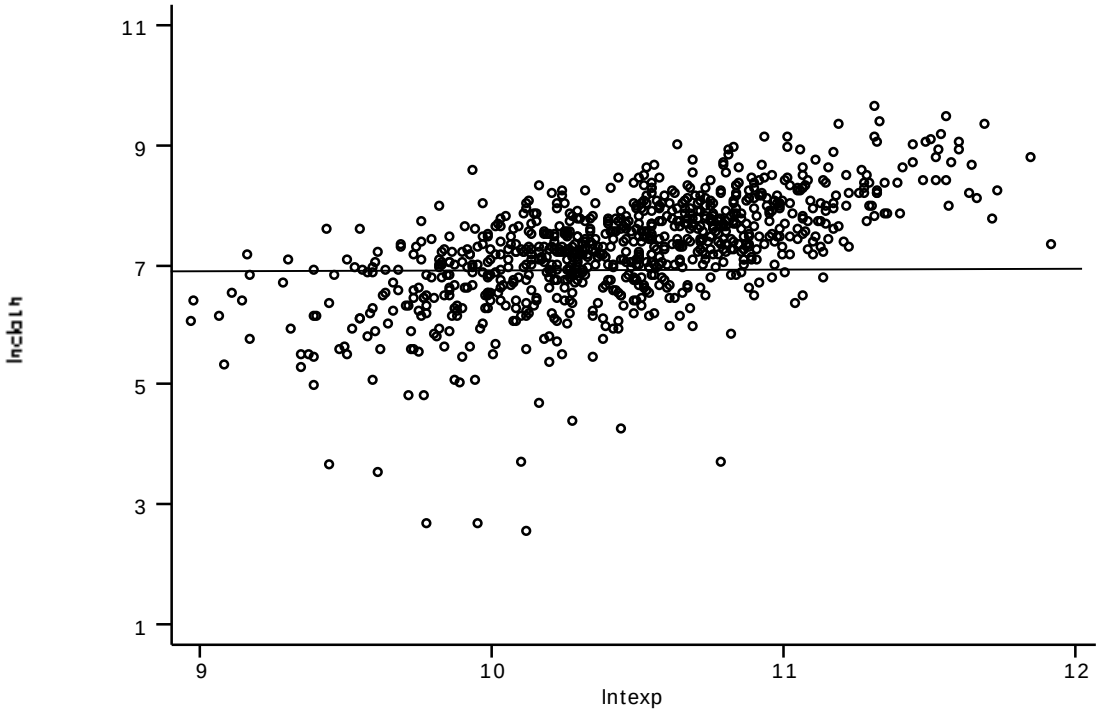
MOOP Expenditures



Food Expenditures



Expenditures on Shelter and Utilities



Expenditures on Clothing

Separate Treatment of MOOP – The Panel's Approach

The separate treatment of MOOP does not imply that the Panel's recommendation that the use of the actual amount of MOOP is appropriate. The extent that variation in MOOP (holding income and family composition constant) reflects the variation in health needs (non-discretionary spending) will determine whether the use of MOOP is appropriate.

A family's medical out-of-pocket spending is composed of two parts: the family's share of the cost of their utilization of medical care and their share of the health insurance premiums. The first component can be expressed as

$$s_M \times M$$

where M is the dollar value of the medical care utilized by the family and s_M is the average proportion of medical costs borne by the family or the coinsurance rate. In general, the utilization of medical care is determined by several factors that include the coinsurance rate, the family's income, the family's health status, and their preferences for health relative to other goods.[9]

The second component of MOOP is the family's share of health care insurance premiums

$$s_P \times P$$

where P is the health insurance premium and s_P is the family's proportionate share. The premium will reflect the family's expected utilization of medical care in the case of single policies or the group's experience in the case of group policies and the loading factors charged by the insurance companies. The vast majority of Americans receive health insurance coverage through their employers. While the workers have the option to refuse coverage, they have little choice over the terms of coverage. Thus it is realistic to treat the coinsurance rate, s_M and their share of the premiums, s_P, as outside the discretion of the family.

The decision whether to insure their family, is done prior to knowing what illnesses the family will experience during the year. The decision whether to insure or not will be influenced not only by the

[9] Note the family's income should be adjusted for the amount of premiums paid by the family.

family's anticipated medical bills, but also by their income, the cost to the family of the insurance, and their attitudes toward risk. While discretion clearly plays a role in the decision whether to insure or not, it is not the only factor causing differences in out-of-pocket premium payments by the family. Differences in anticipated health and the needed medical bills would also play a crucial role in determining whether to purchase insurance. But more importantly, this is an *ex ante* decision and if we are constructing an *ex post* concept of poverty then I believe it is appropriate that this decision be taken as given. Thus even though discretion may play a significant role, it is still appropriate to take the consequences of their decision into account. For example, one can not deny that the decisions of how many children to have or the amount of education are devoid of discretion. Yet we treat these decisions as given and take the consequences into account when determining the family's poverty status.

It is appropriate to be concerned about the extent to which the decision of how much to utilize medical care is influenced by discretion. For example a 20% coinsurance rate plan will reduce the price of medical care by 80% compared to the price of medical care to someone who is uninsured. This reduction in price should encourage the family to purchase more medical care. The increase in utilization of medical care could be considered to be 'discretionary', as does Cogan. However as most studies have shown, the demand for medical care is price inelastic. Compared to an uninsured family, the family who was insured would utilize more medical care but the out-of-pocket medical expenses would be less. This example illustrates that 'discretion' in medical care is not always associated with larger out-of-pocket spending as in the case of other goods.

Differences in income as well as differences in preferences can create differences in utilization apart from differences in health status or needs. What is missing from the argument is an estimate of relative contributions of these various factors in explaining the variation in utilization of medical care across the population. In the absence of such evidence, the Panel judged that differences in health needs were the most significant factor that explained the variation in the family's share of their utilization costs. If this judgement is correct then the Panel's recommendation for the use of actual MOOP is justified.

Separate Treatment of MOOP – Bavier's Approach

Bavier has proposed that the median level of MOOP of similar families be utilized as a measure of the family's need for self financed medical care. The justification for this specific alternative is never presented in his papers other than to note that such a treatment would greatly simplify the determination of poverty status.

The median is an interesting choice. One way to justify the use of a constant adjustment for medical need would be to argue that an *ex ante* perspective is appropriate. But if an *ex ante* perspective is appropriate, would not the expected MOOP be more appropriate than the median to describe the health risks that a family faces?

Another factor that calls into question the use of the median level of spending is how it would affect analysis of the anti-poverty effects of health policy. Consider instituting a stop-loss provision in Medicare that would limit the maximum amount an individual would have to pay out-of-pocket for medical care. If the maximum spending limit is above the median then the anti-poverty effect of this program would be zero (the median would be unaffected by the provision).

A third and more important concern over the use of the median is how it masks the differential risk or variability in medical spending between classes of individuals and families. Consider two groups who have the same median level of spending but the variability of one group's spending is considerably larger. While the medians of the two groups would be identical, the expected (mean) levels of expenditures would greatly differ. The 'MOOP equivalence scales' Bavier computes by the comparing relative median levels of spending understate the differential risks faced by different groups in society. In my opinion, that is the reason why the impact on elderly poverty from Bavier's proposals are lower than what is found from the NRC Panel's treatment of MOOP.

The use of an *ex ante* perspective for the treatment of MOOP is perplexing. For other risky events such as employment, we don't say this is what we expect you could have earned if you were employed. If we employ the family's expected income as a measure of their resources, many families with unemployed or underemployed adults would no longer be poor.

Balanced against these weaknesses there is one clear advantage to the Bavier proposals – they would be easier to implement than the Panel's recommendation. The question in my opinion is does ease of implementation trump relevancy?

Too Much MOOP? Too Many Poor?

An undercurrent in most of the opposition to the Panel's recommended treatment of MOOP is the concern that too many families will be determined to be poor. Conceptually, the use of actual MOOP could lead to an overstatement of the level of needed medical spending by the household. Some of the actual spending is discretionary. But how much is discretionary? Are large amounts of MOOP spending

really indicating discretionary spending? In the Panel's view, the largest proportion of MOOP, especially for families close to the poverty line reflects the medical needs of the family. While not conclusive support for this view, it should be noted that the tax code allows for the deduction of MOOP that is in excess of seven percent of the family's AGI. If the Congress believed this expenditures to be discretionary, a natural question is why are they allowed to be deducted?

The point was made earlier but it bears repeating. There is no perfect solution. Errors will be made. Some truly non-poor families who spend large amounts on health in excess of their needs will be labeled as poor. However, the Panel felt that fewer errors would be made by their recommendation than would be by other approaches. Consider Bavier's method of using the median MOOP as a measure of median needs. This approach will make two types of errors. Some healthy families who have sufficient resources to meet their non-medical needs will be labeled as poor. On the hand, some families who have sufficient resources to meet their non-medical needs but experience serious health setbacks will be labeled as non-poor. The question which set of errors are more acceptable? The Panel expressed its judgement on this issue with its recommendation.

A Simple Simulation:

If one is concerned that too many families will be labeled as poor – or more correctly non-poor families being labeled as poor – is the 'cure' worse the 'illness'? To provide another example, I examined what would be the poverty count in my CEX sample if I employed the Bavier/Cogan MOOPITT, Bavier MOOPOTT, and Panel poverty thresholds and compared the family's total spending to these respective three thresholds?

To construct the various thresholds, I computed the 25^{th}, 30^{th}, and 35^{th} percentiles of the food, clothing, and shelter (FCS) spending distributions and the food, clothing, shelter, and MOOP (FCSM) distributions. For my sample, the following percentiles were found[10]:

[10] Note that the difference between FCS and FCSM at these percentiles is almost constant and greater than the median MOOP in the sample ($1,411). The reason for this is a mystery to me but gives me pause in considering any proposal like MOOPIT.

Percentile:	FCS	FCSM	Difference
25th	$13,579	$15,153	$1,574
30th	14,599	16,158	1,559
35th	15,521	17,097	1,576

Since all of the units in my sample are similar, I did not compute any equivalence scales nor did I add 'a little bit more'. Using the 30th percentile as my social norm, the thresholds for the three variants are:

Panel	$14,599 + Actual MOOP
MOOPITT	$16,158
MOOPOTT = $14,599 + $1,411 (median MOOP)	$16,010

where MOOP is the actual medical out-of-pocket spending of the family. In each case, the family's total spending on all goods was compared to these three thresholds.

Given the relative small size of the sample, I employed sample replication methods (bootstrap with 500 replications) to conduct a paired means test of the difference between the poverty rates based upon the three alternative thresholds. The mean rate for the Panel's threshold was 6.0%, the MOOPITT was 6.8% and for the MOOPOTT it was 6.7%. Even after considering the effect of sampling errors – the Panel's recommendation yielded significantly lower poverty rates than did either of the two other methods. I think this underscores the point that the use of actual MOOP does not directly create an upward 'bias' in the poverty counts as some have feared.

Now why do these results differ from Bavier's results? In these simulations, I did not include the small multiplier of 1.20 to account for non-FCSU and non-MOOP needs. While this does not affect the comparison between the Panel's approach and Bavier's MOOPOTT approach, it does affect the construction of the MOOPITT threshold. Bavier employed an assumption that 7% of the food, clothing, shelter, utilities, and MOOP (FCSUM) expenditures represented the family's spending on MOOP. Employing a factor of .805 to account for what I presume was the ratio of the 30th percentile to the median FCSUM, Bavier computed the MOOPITT threshold as

FCSU Needs + MOOP Needs
$18,519 (.805)(.93)(.7)(1.2) + $18,519 (.805)(.07)
$16,637 + $1,044 = $17,681

Note that this approach to computing the MOOPITT thresholds yields an amount for FCSU needs that is different from either the Panel's approach or the Bavier's MOOPOTT approach. An alternative approach

would be to attribute to MOOP the difference between the median FCSUM ($18,519) and FCSU ($16,561 = $15,998/((.805)(1.20))). If we use this approach then the MOOPITT threshold for the reference family would be

FCSU Needs + MOOP Needs
$16,561(.805)(1.2) + ($18,519-$16,561) (.805)
$15,998 + $1,576 = $17,574

This method would allow for direct comparability between three alternative MOOP treatments. In all approaches, $15,998 would be used as the threshold for FCSU needs of the reference families. This discussion also points to the rather arbitrary distinction between 'in' the threshold and 'on' the threshold. In both approaches, distinct values for MOOP must be determined and then added back to non-MOOP needs. It also points the arbitrariness of the calculation of needed MOOP in the MOOPITT approach.

What concerns me even more is Bavier's MOOP equivalence scales. These scales are constructed from the ratio of median MOOP spending of a given group defined by the family size, age of reference person, and insurance coverage to the median MOOP spending of the reference group (family of four). The use of the ratio of medians as opposed to expected value does not adequately measure the relative risk or variability in MOOP between the two groups. This is most serious in the case of the elderly. Meyer and Moon (1988) provide the following illustration of my concern. The ratio of the median elderly spending to the median spending of children is 3.1 while the ratio of the means is 5.6.[11] I feel that a significant reason why Bavier's simulations indicate a lower overall poverty rate and in particular a lower rate for the elderly is a result of the construction of the equivalence scales for MOOP.

The amount of variability in MOOP in the CEX appears to be substantially less than is present in the MOOP imputations to the CPS. I arrived at this conclusion by comparing the ratio of the mean to median across the two samples. In the CEX, the ratio is roughly 1.3 while many of the groups presented in Bavier's appendix the ratio is closer to 2.0. One can not conclude on the basis of this evidence that there is too much variation in the CPS imputations. However, this difference could be responsible for the differences I find in my CEX simulations and Bavier's on the CPS. I feel that some further exploration of the MEPS data would be helpful to examine the relative accuracy of the current imputations.

[11] Meyer, Jack and Marilyn Moon (1988) "Health Care Spending on Children and the Elderly." In *The Vulnerable*, edited by Palmer, Smeeding, and Torrey. Urban Institute Press.

Conclusions

Earlier in this paper I noted the similarity between the 'problems' associated with the treatment of medical care and that given child care. In both cases, the Panel chose to adjust the family's resources by the amount that family spent on these commodities. However, in the case of child care the amount was expressly limited in an effort to differentiate non-discretionary child care from the more expensive early childhood education provided in some child care settings. Why didn't the Panel attempt to an equivalent limitation on MOOP spending? The simple answer is that no simple distinction between discretionary and non-discretionary spending in medical spending can be easily made. In the case of child care, the Panel believed in principle that distinctions could be made between basic child care and the more expensive early childhood education.

The proposals made by Cogan and Bavier distort the impact that unanticipated medical needs can have a family's budget and their ability to meet their non-medical needs which is at the core of the Panel's concept of economic poverty. Merely setting an amount for medical needs in the poverty threshold (budget) does not adequately portray the impact that an acute or chronic medical condition can have on a family. I agree with Bavier that any treatment of medical needs will be controversial. The primary reason is that there is no perfect solution.

I will conclude with one final observation. In his most recent paper, Bavier invites the reader to judge the various alternatives based upon the poverty picture they create. The problem with this evaluation method should be clear – we lack a clear 'gold standard' of how that picture should look.