Penelope Caragonne, Thomas R. Ireland, and Keith Sofka

Comment: An Examination of Historical Net Discount Rates Relative to Medical Care Costs

Johnson and Gelles provide quite interesting data in their examination of historical net discount rates based on various elements in the MCPI. However, they make an assertion that is fundamentally flawed about the way the data they have compiled can be used to predict the future. The data they have developed indicates that net discount rates based on different components of the MCPA have varied widely in the past. On that basis, they argue that it would be in error not to base a calculation of future loss on the specific components of the MCPI that are required for "individual care."[1] This presumes that past trends in prices are reliable indicators of future trends in prices. Implicitly, Johnson and Gelles assume that what was true in the past will be true in the future. However, it does not follow that because rates of increase were different in the past, they will be reliable predictors of the future. Normal economic patterns would

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suggest that past rates are reliable as predictors than a more general average.

Medical care costs allow for a very useful discussion of factors that drive various components of price indexes. There are unique problems with the MCPI because of its relatively recent origin (the late 1970's) and its emphasis on measuring inputs rather than outputs,[2] but many of the problems discussed in this note apply to the CPI in general. Hospital rooms are much more expensive today than in the past because of technological advances. One could provide an old time hospital room at a cost that increased in approximate consistency with rental rates in housing, but that is not what is provided today. What makes hospital rooms much more expensive today is the addition of technological development that could not have been anticipated in the past. With rapid changes in technology, it is almost impossible to separate the impacts of changing technology on quality from changes in price. What is also misleading about hospital rooms is that stays are now much shorter so, even though the cost per time unit is much higher, the number of time units involved is much smaller.

Further, even within the specific subcategories considered by Johnson and Gelles, there are great variations in cost changes for included elements. In other words, the problems Johnson and Gelles raise as an issue with respect to subcategories within the MCPI exist within the CPI generally and exist within the subcategories themselves. Johnson and Gelles do not address specific characteristics of the MCPI that make the MCPI different from other parts of the CPI, and they do not address the fact that the subcategories of the MCPI themselves are subject to the same problems they see for the MCPI. In those senses, there is nothing unique about the MCPI that would warrant the special treatment they have given to the MCPI in their paper.

This special emphasis on the MCPI also does not take into account the primary purpose for which a forensic economist would be using the MCPI, which is to value a life care plan put forth by a life care planning expert. In a typical life care plan, it is typically basic services whose technological requirements are fixed by the assumptions made by a life care planning (LCP) expert that are needed. An LCP cannot take into account technology that has not yet been developed in projecting life care needs of an injured person.[3] The relevance is that prices of life care services that are based on constant technology will not increase as fast as medical goods and services that are on the cutting edge of technology. Thus, even if

specific recommended goods or services fell within subcategories of the MCPI that have seen rapid increases in prices because of technological improvements in the past, it is not likely that those goods and services would have price increases similar to the subcategories at large. This fact probably argues for using the CPI generally and omitting the MCPI entirely in making future projections.

Specific Application to Life Care Plans

Forensic economists are seldom confronted with the overall issue of medical costs in general but with types of both medical and non medical costs that are associated with long-term treatments needed by persons disabled by injury or medical malpractice. Those costs are based on goods and services that have somewhat unique characteristics. Durable medical equipment and assistive technology goods and services, like any goods subject to frequent innovation and requiring constant research and development on the part of manufacturers, are particularly resistant to predictions of cost based on history. In addition, most life care plans include more elements that fall within other categories of the CPI than elements specific to the MCPI. It is often the case that life care plans require goods and services, both from the CPI generally and from the MCPI, that have been on the cutting edge of technology in the recent past but may or may not be so in the future. The results can be highly varied.

For example, one type of widely-used voice controlled computer and software system cost approximately $9000.00 in 1991. The current cost, for a similar but much improved voice control system, is approximately $1800.00. By contrast, one type of augmentative communication device cost approximately $3500.00 in 1991, while this same model with the latest innovations now costs $10,000.00. A physical therapy service hour that cost $100.00 per hour in 1991 now costs $185.00 in 2001. A personal aide directly hired by a consumer cost $4.95 per service hour in 1991, while a consumer-hired personal aide in 2001 costs between $5.50 to $5.95 per hour. Going through a third party payer to obtain the same aide through an agency, the personal aide cost was between $9.00 to $10.00 per hour 10 years ago. The same aide, purchased through an agency today, costs $13.00 to $14.00 per hour.[4]

Life care plans can be very idiosyncratic to the individual for whom the plan is prepared. It may be that the prices of some specific goods and services that are needed will increase very rapidly relative

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to the CPI or the MCPI and the prices of others that are needed will be likely to remain constant or decrease, as with voice activated computer software. To the extent that changes can be reasonably anticipated, they should be taken into account. However, every subcategory of prices in the MCPA considered by Johnson and Gelles contains the same problems they are addressing with respect to the MCPI. They do not carry their analysis this far, but this finally reaches the level of nonsense when the breakdown becomes specific as to individual items recommended in the life care plan.

When an economist develops such calculations, it is based on the economist's sense of arbitrary fit of the recommended item to some finely divided subcategory the economist has considered. Does this increase accuracy? Of course it does not. Johnson and Gelles do not go that far, but others have done so in actual reports that take on a veneer of "delusive exactness." That term is taken from *Jones & Laughlin Steel Co. v. Pfeifer* (1983), an important case cited by Johnson and Gelles. It refers to a search for exactness that is so precise that it gives a false ("delusive") impression of accuracy.

Past trends do not provide any simple basis for projecting future changes. This is particularly true of the goods and services required in life care plans. It is reasonable to assume that this market will obey the natural order, described as entropy in science and like all other markets will also tend to "regress to the mean." For these reasons it would be much more accurate to use a general index for projecting these prices and to avoid specific indices which may be subject to rapid reversals of trends. The future may be like the past, but the odds are no better than even that rates of price changes from the past will be maintained in the future. Markets tend to "regress to the mean" of economy wide changes if underlying factors that have been driving differences from the mean are not sustained in the future. Where prices have grown fastest, "regression to the mean" implies that they will grow more slowly than the average in the future. That tendency can be overridden by changes in technology, but those changes cannot be predicted in the present. For that reason, it is probably much more accurate to use a more general index for projecting future prices. We say "probably" because the future is unknowable in the present, even by the most sophisticated forecasting techniques yet developed.

Endnotes

1. Most forensic economists confront future medical care needs in the context of life care plans. In such plans, many of the elements should not be considered part of the MCPI, but in terms of other components of the CPI generally. In itself, this is not a fatal flaw because the conclusions of Johnson and Gelles could easily be generalized to life care elements that are part of the CPI, but not the MCPI. This would require only a minor adjustment in the text.

2. Comments from Anthony H. Riccardi in a telephone conversation on 6/9/01. Riccardi was the representative of the American Hospital Association on President Carter's Task Force to develop the current framework for the MCPI. Riccardi points out that unlike other components of the CPI, the MCPI measures inputs rather than outputs and frequently relies on scalar estimates. The special problems posed by the mental health portion of the MCPI are explored in Berndt et al. (2000/2001).

3. It may be that technological developments in the future would radically alter the type of life care plan deemed appropriate in the present. However, projecting any such changes would be speculative, and such projections are not included in life care plans.

4. These figures are taken from life care plans prepared by Dr. Penelope Caragonne based on specific interviews with providers at the times those plans were being prepared.

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