Tracking Health Care Economic Misery in the U.S.

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ABSTRACT: This paper develops a health care misery index to track how the health economy in the U.S. has affected consumer welfare over time. The index is constructed by adding the percentage of the population without health insurance to the excess medical price inflation rate. The health care misery index indicates that the health economy experienced much volatility between 1960 and 2001. One vital sign from the index suggests that health care misery has deepened since 1979. However, other vital signs show that the health economy is less depressed today than during the 1960s and that the health economy has exhibited less of an emotional roller coaster ride during the last dozen years compared to earlier periods.

Introduction

The U.S. health care system is often criticized for its high and growing fraction of health care spending relative to gross domestic product (GDP). Specifically, critics point out that health care spending as a percent of GDP stood at only 5 percent in 1960 but rose to over 14 percent more recently. The implication is that people are much worse off today than in the 1960s because having a larger slice of the economic pie devoted to health care means that less of the pie is available for other consumption purposes.

This "lost slice of the pie" argument merits little consideration for a couple of reasons, however. First, greater health care spending may produce benefits that exceed opportunity costs, especially if the medical spending leads to new technologies that save, extend, or improve lives (Cutler and McClellan, 2001).[1] Second, as long as the non-medical sector of the economy continues to grow over time because of increasing productivity, resources can be freed up for medical purposes without the sacrificing of non-medical goods and services (Baumol, 1992).

While the argument of the critics is most likely invalid for these two reasons, the critics do raise an interesting question: Is the health economy in worse shape today than it was in the 1960s? Or even more fundamentally, an important aspect of human nature has always involved the comparison of one epoch to another. With critics and human nature in mind, this study historically compares the status of the health economy in the U.S. by developing and utilizing a national health care misery index. By construction, the health care misery index captures the degree to which consumers are made worse-off by the state of the health economy.

The idea of a misery index is not new and began with the late Arthur Okun, who as economic advisor to Jimmy Carter during the presidential election campaign of 1976, developed a macroeconomic misery index for the US economy by adding together the domestic price inflation rate and the unemployment rate. Anyone who has taken an introductory macroeconomics course most likely remembers the twin evils of inflation and unemployment. Hence its name: a misery index. Given the high inflation and unemployment rates and thus the relatively severe misery experienced during the Ford administration, Jimmy Carter was able to win the 1976 presidential race. Unfortunately, Jimmy Carter's own weapon was turned against him as stagflation reared its head once again in the late 1970s and he lost the presidency to Ronald Reagan.

In a similar fashion, a misery index for a health economy can be constructed by adding together the percentage of individuals without health insurance coverage and excess medical price inflation, defined as the medical price inflation rate less the general price inflation rate. Both of these measures, when they increase in magnitude, reflect greater costs or disutility imposed upon consumers because of either heightened exposure to financial insecurity and less access to medical care or because of declining purchasing power. Therefore it may be instructive to examine estimates of the misery index to gain some insight into the depths of health care despair in the U.S. To accomplish this objective, this paper constructs original estimates of the percentage of individuals without health insurance for years prior to the late 1980s and develops a nationwide health care misery index for the period from 1960 to 2001.

Data and Methods

Annual figures for the percentage of the population without health insurance (hereafter uninsurance rate) are necessary to construct time series estimates of a health care misery index. Estimates of the uninsurance rate after 1987 can be easily obtained on-line from the Bureau of the Census, however estimates of the uninsurance rate are unavailable prior to 1987.[2] Consequently, uninsurance rate estimates had to be constructed using various enrollment series for private, Medicare, and Medicaid insurance from various sources.

More specifically, the Health Insurance Association of America (HIAA) independently gathered and reported estimates of enrollment in private health insurance plans since the 1940s until around 1995. After 1995, HIAA apparently began using the Census's private health insurance enrollment estimates. HIAA's estimates of private health insurance enrollment represent net policy estimates and thereby attempt to eliminate any double counting among private policies that might happen because of situations like double spousal coverage. Consequently, figures for enrollment in private health insurance plans from 1960 through 1986 were gathered from the HIAA (1999).

Estimates for Medicaid enrollment from 1966 through 1986, measured as person-year equivalents, were borrowed from Klemm (2000). Estimates of Medicare enrollment for the same period were obtained from the CMS website.[3] The three enrollment figures were adding together and expressed as a percentage of the population to determine estimates of the percentage of individuals with health insurance from 1960 through 1986.[4]

Unfortunately, double counting of policies resulted in generated estimates of health insurance coverage in excess of 100 percent for some years. Double counting occurs when health insurance plans are not mutually exclusive. For example, some Medicare recipients also have private health insurance coverage through Medigap policies and some Medicare beneficiaries also receive Medicaid coverage. Comparison of similarly generated health insurance rates for 1987 to 1999 to rates reported by the Census for that same period showed that the "reported rates" were about 11 percent lower on average than the "generated rates", presumably because the latter rates involve double coverage. Double counting of this magnitude is not uncommon. As an example take the year 2001, the most recent year for which health insurance data are available. In 2001, about 85.4 percent of the population was covered by health insurance with coverage rates of 70.9 percent for private health insurance and 25.3 percent for public health insurance (Mills, 2002). Notice that the two rates sum to 96.2 percent, which amounts to an 11 percent discrepancy because of double counting. Thus, the generated insurance rates were adjusted downward by 11 percent to account for possible double counting beginning with 1966, the year when the Medicaid and Medicare programs began.

The generated insurance rates were subtracted from 100 percent to obtain the percentage of individuals without health insurance prior to 1987 and combined with the reported series to produce a continuous time series for the uninsurance rate from 1960 to 2001. The reader should bear in mind that the generated series will be less reliable if the double counting rate actually varies over time rather than fixed, as assumed.

Following in spirit the macroeconomic misery index developed by Okun, each yearly uninsurance rate was added to the corresponding excess medical price inflation

rate to produce a health care misery index for each year. The excess medical price inflation rate was determined by subtracting the general price inflation rate from the medical care price inflation rate for each of the years from 1960 to 2001.[5]

Study Results

Exhibit 1 displays data on the uninsurance rate, the excess medical care price inflation rate, and the resulting health care misery index for the period from 1960 to 2001. According to the exhibit, the health care misery index varied considerably over the 42-year period. More precisely, the health care misery index stood at 36.05 percent in 1960 largely because of the high uninsurance rate at that time. Uninsurance was so high because only 65.8 percent of the population was enrolled in private health insurance plans and the Medicaid and Medicare programs had not yet been enacted.

Throughout most of the 60s and 70s, the health care misery index continued to plummet primarily because of increasing enrollment in private health insurance plans and the creation and expansion of both the Medicare and Medicaid programs. Private enrollment expanded as commercial insurers entered health insurance markets with a relatively new innovation called experience rating and offered lower premiums than the then dominant carrier, Blue Cross (Morrisey, 2001). Thus, during the 60s it can be said that the health economy was shaking its blues.

The health care misery index bottomed out in 1979 at 5.62 percent. A relatively low uninsurance rate coupled with declining real prices for medical care helped to produce the low health care misery index observed in that year. Indeed, Jimmy Carter's reelection bid may have proved more successful if he pointed to changes in the health

care misery index rather than to the macroeconomic misery index during his presidential administration.

Throughout the Reagan presidency from 1980 to 1988 the health care misery index worsened because of both growing uninsurance and increasing real medical care prices. By 1986 the misery index stood at its highest level since 1969. Since 1988 the health care misery index has become less volatile ranging between 15 and 19 percent, because of relative stability in both the uninsurance and excess medical care price inflation rates. While many might consider health care misery to be unacceptably high, we need to keep in mind that it is substantially lower than its value during the 1960s. For example, in 2001, the misery index stood at 17.77 percent, more than 50 percent lower than its level in 1960.

One problem with the data presented in Exhibit 1 is the unusually low uninsurance rates generated for the period 1973 to 1983. It's hard to believe, at least by today's standards, that the uninsurance rate could dip below 12 percent.[6] Perhaps some other statistical problem plagues the three health insurance enrollment series prior to 1987. As a result, an alternative approach was taken to determine the health care misery index for the earlier years. Exhibit 2 display figures for the misery index using the alternative method.

Notice in the exhibit that there are two consecutive series. The series on the left represent the misery index for the period before the Medicare and Medicaid programs began so double counting does not present a problem for the generated uninsurance series. The series on the left reflect the misery index using the reported uninsurance rates by the Census Bureau. The dots in the middle represent the misery index for the

intermediate four adjacent half-decades and were determined by interpolating the uninsurance rates between the endpoints of the two series and then adding the excess medical care price inflation rates. Notice that the alternative values for the misery index in Exhibit 2 point to the same general conclusion as the original index. That is, the misery index declined from 1960 to the late 1970s and then rose during the 1980s.

Discussion and Implications

When critics point to the low level of health care spending as a percentage of GDP in 1960 compared to more recent times, it is sometimes implied that people were somehow better off in that earlier period with respect to the welfare they derive from the health economy. Missing from that criticism, however, are the benefits provided by health care spending and the fact that a growing economy can pay its health care bills. With the critics in mind, this paper offers a health care misery index as another way of gauging the performance of a health economy. The health care misery index can be constructed by adding the uninsurance rate to the excess medical care price inflation rate. The lack of health insurance and rising real medical prices both potentially impose costs upon consumers.

A number of implications can be drawn from the analysis of the health care misery index. First, the misery index illustrates that U.S. health economy experienced a considerable amount of volatility over the long term, first falling from 1960 to the late 1970s and then rising again until more recent years. Second, the lower index in 2001 compared to 1960 shows that misery in the health economy has tended to decline over the long run, albeit with much fluctuation. This finding contradicts the claims of critics who

argue the health economy is worse off today than in the 1960s because of rising health care spending relative to GDP.

Third, the health care misery index for the most recent year still stands at an embarrassingly high percent. That is, some of the 14.6 percent of individuals in the health economy remain miserable because access to health insurance continues to be outside their grasp. Others face the prospect of consuming less health care than is clinically necessary because the real price of medical care has increased by over 3 percent. Finally, the misery of the health economy appears to have stabilized since the late 1980s. Stability of outcomes may provide societal benefits as planning horizons become sharper in focus.

It is unclear what dominant factor accounts for the relative stability of the health economy's misery index since the late 1980s. One possibility is that the relative stability may have resulted from the increased penetration of managed care organizations over that same period. Studies such as Feldman and Wholey (2001) and Miller and Luft (1994) have tended to confirm that managed care organizations, especially health maintenance organizations, have created incentives for lower medical costs and prices, at least at points in time.

However, not much is known theoretically or empirically about the impact of managed care organizations on the uninsurance rate, the other component in the misery index. On the one hand, restrictive managed care plans may engage in cream-skimming behavior by cherry picking among relatively risky and unrisky applicants; thereby increasing the uninsurance rate and worsening the misery index. On the other hand, more individuals should have the wherewithal to purchase health insurance if increased competition among managed care organizations results in lower health insurance

premiums, as evidence by Wickizer and Feldstein (1995) and Baker, Cantor, Long, and Marquis (2000) tends to indicate. Whether the increased penetration of managed care plans improves or worsens the misery index depends on the net effect of these opposing tendencies on the uninsurance rate in relation to any medical price dampening effects that managed care plans might produce.

The existence of a "natural rate of uninsurance" may provide a second explanation for the relative stability of the health care misery index since the late 1980s. Just like labor economists argue that a natural rate of employment exists in a macroeconomy, a natural rate of uninsurance may also exist in a predominately voluntary health insurance system such as in the U.S. That is, when health insurance is voluntary, some people may choose to be uninsured. For example, a number of people between 16 and 24 years of age may elect to self-insure because they are in good health.

Others may be frictionally uninsured because of a mismatch of information concerning the availability of health insurance or because they are temporarily in-between jobs. Still others, in the absence of public health insurance, may be structurally uninsured because of conditions such as chronic illnesses or insufficient incomes. Lastly, another group of individuals may lack health insurance for cyclical reasons as the macroeconomy passes through the normal booms and busts of the business cycle and jobs with employer-sponsored health insurance are gained and lost. The natural uninsurance rate includes the percentage of individuals who remain self-insured and the frictional and structural classifications, as well.

If a natural rate of uninsurance exists, then the uninsurance rate may converge in the long run on a particular level such as 15 percent, for example, given a set of

demographic conditions and public policies aimed at health insurance. Any attempt by the government to reduce the uninsurance rate may have some impact in the short run on cyclical uninsurance but eventually the rate will return to its natural rate so long as health insurance coverage remains voluntary. The crowding-out of private insurance with the expansion of the Medicaid program represents an example of this adjustment process (Cutler and Gruber, 1996). If the theory holds, the latter part of the 1980s may reflect the convergence of the uninsurance rate to its natural rate somewhere in the 14 to 16 percent range.

At this point in time, it is difficult to tell if increased managed care penetration or the existence of a natural rate of uninsurance accounts for the relative stability of the misery index after 1988. But if the health care misery index continues to be tracked in years to come, the specific reason behind the relative stability of the health care misery index may become more apparent. It will be interesting to watch changes in the misery index as various demographic changes take place, managed care plans become more or less restrictive, and public health insurance programs retrench or expand in years to come.

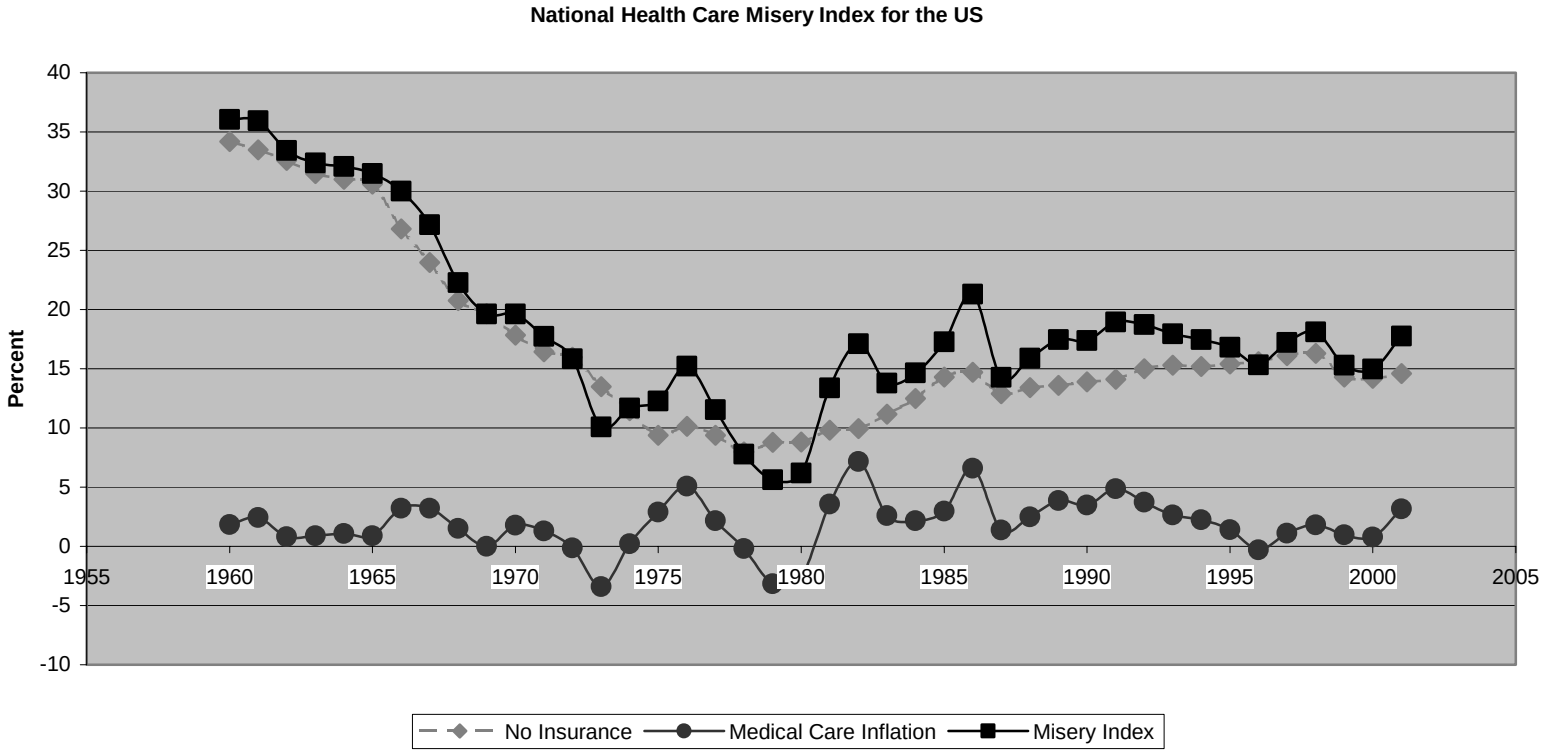
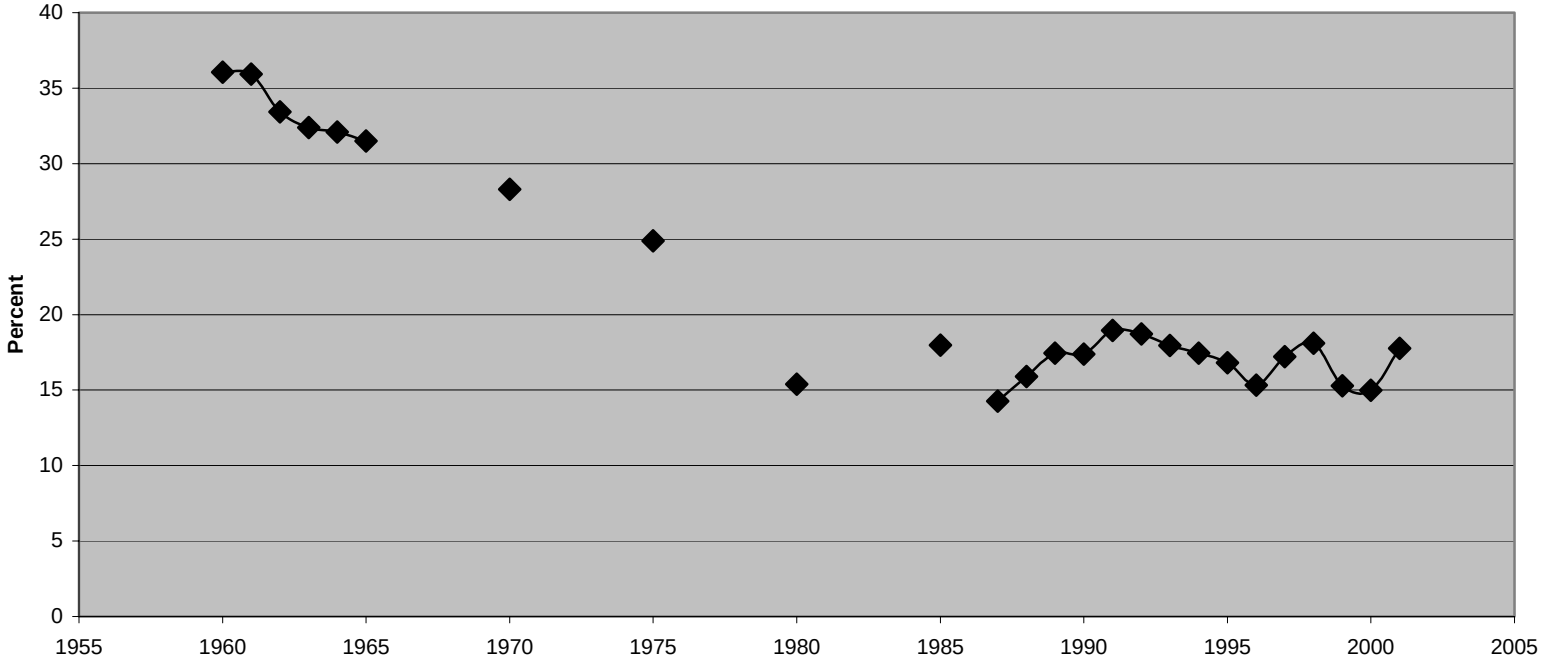

National Health Care Misery Index for the US
Percent
40
35
30
25
20
15
10
5
0
-5
-10
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
No Insurance
Medical Care Inflation
Misery Index

Exhibit 2: Alternative Estimates of the National Health Care Misery Index



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ENDNOTES

[1] International comparisons of health care spending often point to the excessiveness of health care spending in the U.S.

[2] These estimates are not necessarily consistent over time as they continue to be revised. It is also important to remember that the composition of the health insurance product has changed over time. For example, initially households only purchased hospital expense insurance. Today the health insurance product is more comprehensive.

[3] http://www.cms.hhs.gov/statistics/enrollment/natltrends/hi_smi.asp

[4] Population figures come from http://eire.census.gov/popest/archives/pre1980/popclockest.txt

[5] http://www.bls.gov. Government reported inflation rates are not without their own measurement problems. For instance, it remains very difficult to incorporate quality improvements when establishing price indices for services. The difficulty is probably even more pronounced for medical services because the quality of a life defies measurement for the most part.

[6] These relatively low uninsurance rates may be correct. Although not citing their source, Cunningham and Cunningham (1997, 193) write: "enrollment continued to grow until the nation's economic expansion groaned to a halt in the mid-1970s. By this time, the market for health insurance was largely saturated, and little virgin territory remained. In all, 90 percent of the population was insured."