Tracking Uninsurance and Inflation in the U.S. Health Economy

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ABSTRACT: This paper provides original estimates of the percentage of the population without health insurance from 1940 to 1986 and combines those estimates with rates reported by the Census to produce a relatively consistent health uninsurance rate series from 1940 to 2003. In addition, the paper develops a health care economic misery index (HEMI) to track how consumer welfare has changed over time in the U.S. health economy. The index is constructed by adding the yearly percentage of the population without health insurance to the excess medical price inflation rate. Combining these two indices may provide a worthwhile measure because both of these indicators, when they increase, worsen consumer welfare and theoretically a trade-off may exist between the two. The analysis finds that the HEMI continuously declined from 1940 to the mid-1970s, suggesting that consumer welfare in the health economy generally improved over that period. After the mid-1970s, the HEMI indicates that consumer welfare in the health economy slightly worsened and also experienced much volatility. However, the volatility moderated to some degree since the late 1980s because of less fluctuation in both the uninsurance and excess medical price inflation rates.

I. **Introduction**

Access to medical care and rising health care costs are two of the most pressing problems facing the U.S. health economy today. While a number of factors contribute, researchers generally agree that the percentage of the population without health insurance coverage represents the most basic macro measure of access. Based on this measure a significant portion of the current U.S population has limited access to medical care as nearly 16 percent of the population was without health insurance for the entire year in 2003 (DeNavas-Walt, Proctor, and Mills, 2004). Without health care coverage, families are often unable to afford proper medical care in the event of an unexpected decline in the health status of a family member. Some implications of being uninsured are a decrease in the quality of life or even premature death. Indeed, a recent estimate by the Institute of Medicine (Miller, Vigdor, and Manning, 2004) places the annual cost of uninsurance, largely because of lost lives, at $65 to $130 billion.

The rising cost of health care represents the other major challenge faced by the U.S health economy. Increasing health care prices hurt the insured and uninsured alike because individuals, both as consumers or taxpayers, are faced with the greater financial burden associated with paying for health care bills, whether it is in terms of higher out-of-pocket payments, increases in insurance premiums, or taxes to finance the cost of public programs such as Medicare and Medicare. The rate of increase in medical prices beyond the overall rate of inflation can be used as a crude macro measure of rising medical costs.

Looking at these measures independently, however, fails to consider their interactive relationship. For example, any significant decrease in the percentage of the population without health insurance coverage is likely to cause the price of medical care

to increase because of the moral hazard problem. Moral hazard theory suggests that insurance creates a situation where individuals care less about how many medical goods and services they buy, and the prices they pay for them, because they are insulated from the full cost of the corresponding financial burden (e.g., Newhouse, 1993). The increased medical utilization rates and prices drive health insurance premiums upward and thereby reduce consumer well being by lowering real incomes. Looking at it from the opposite perspective, a significant jolt in health care prices could have a significant impact on the number of uninsured because individuals have a greater incentive to purchase health insurance while employers may be forced drop health insurance coverage for their workers.

In an attempt to measure the cumulative impact that access and cost have on consumer welfare over time, this paper develops a single index called the health care misery index. The advantage of the index is that it provides researchers with a single measure to historically track how changes in medical access and cost have impacted 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. Combining these two indices provides an important insight because both of these indicators, when they increase, worsen consumer welfare. In addition, a tradeoff may exist between these two indicators, as illustrated in the paper. Combining the two measures may neutralize the tradeoff.

The next section of this paper discusses how the health uninsurance rate series was generated. Section III provides an analysis of the health uninsurance rate and excess medical price inflation series over the period from 1940 to 2003 and illustrates the

tradeoff that exists between these two indicators. Section IV develops and tracks a health economic misery index for the U.S. health economy over that same time period. Concluding comments can be found in section V.

II. Creation of the Health Uninsurance Rate Series

Systematic estimates of the uninsurance rate from 1987 to 2003 can be easily obtained on-line from the Bureau of the Census. Even these estimates, however, 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 may include outpatient care, dental care, and drugs, among other items. Uninsurance rates, comparable to those of the Census Bureau, are unavailable prior to 1987. Consequently, uninsurance rate estimates had to be constructed by using and combining different enrollment series for private, Medicare, and Medicaid insurance from various sources for years prior to 1987.

More specifically, the Health Insurance Association of America (HIAA) independently gathered and reported estimates of enrollment in private health insurance plans beginning in 1940 up until around 1995. After that, HIAA apparently began using the Census Bureau'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. Double counting occurs when health insurance plans are not mutually exclusive and could result because of double

spousal coverage. Consequently, figures for enrollment in private health insurance plans from 1940 through 1986 were gathered from the HIAA (1999) and Reed (1967).

Likewise, the Actuarial Office at the Center for Medicare and Medicaid Services (CMS - formerly the Health Care Financing Administration) has estimated the number of people with private health insurance from 1966 to 1986 for its calculations involving the National Health Accounts using a procedure established by Carroll and Arnett (1981). Both HIAA and CMS private enrollment figures are shown in Exhibit 1. Except for a couple of years, notice that the HIAA tends to report higher private enrollment figures than the CMS for the years when the two series overlap. Based upon periodic estimates of health insurance coverage by the Public Health Service prior to 1966, Reed (1967) reports that the HIAA tends to overestimate the private insurance enrollment rate by about 6 percentage points. Thus, to err on the side of conservatism, the lower of the two private insurance enrollment series is used.

Estimates for Medicaid enrollment from 1966 through 1986, measured as person-year equivalents, were borrowed from Klemm (2000). Person-year equivalent enrollment considers how long each person received Medicaid coverage during the year. For example, someone enrolled in Medicaid for 6 months is treated as a half person-year. Estimates of Medicare enrollment for the same period were obtained from the CMS website. The three enrollment figures were adding together and expressed as a percentage of the civilian population to determine estimates of the percentage of individuals with health insurance from 1940 through 1986.

Unfortunately, double counting among policies resulted in estimates of health insurance coverage in excess of 100 percent for some years. Double counting can occur

because some Medicare recipients also have Medigap private health insurance coverage, for example. Comparison of total health insurance rates and health insurance rates by sources of coverage from 1987 to 2003, as reported by the Census Bureau, consistently shows that reported health insurance rates are about 11 to 12 percent lower than rates ignoring double counting. As an example take the year 2003, the most recent year for which health insurance data are reported by the Census Bureau. When double counting is considered, about 84.4 percent of the population was covered by at least some type of health insurance in that year. However, the reported rates by source of coverage are 68.6 and 26.6 percent for private and public health insurance, respectively (DeNavas-Walt, Proctor, and Mills, 2004). Notice that the two rates sum to 95.2 percent such that the rate corrected for double counting is about 11 percent lower. Similarly in 1987, the first year of Census Bureau insurance data, about 87.1 percent of the population was either covered by private (75.5 percent) and public (23.3 percent) health insurance. Again the rate corrected for double counting is close to being 11 percent lower. Thus, the initial health insurance rates were adjusted downward by 11 percent (multiplied by .89) to account for possible double counting beginning with 1966, the year when the Medicaid and Medicare programs began, until 1987 when Census Bureau figures are available.

Double counting also occurs when individuals are dually eligible for Medicare and Medicaid. Figures on the percentage of individuals with dual Medicare/Medicaid coverage for the period 1966 to 1986 are unavailable. In 1997, about nineteen percent of Medicaid beneficiaries were also eligible for Medicare (Clark and Hulbert, 1998). The failure to correct for this dual eligibility may not be problematic for a couple of reasons. First, many individuals may not have known that they were dually eligible during the

initial years of the public health insurance programs. In fact, spreading knowledge about dual eligibility still remains an issue today. Thus, many individuals, although eligible, may not have participated in both public insurance programs.

Second, because the Medicaid enrollment figures are specified in person-year equivalents and dual-eligibles tend to be over 85 years of age and disabled (Clark and Hulbert, 1998), they will likely comprise a small percentage of the person-year equivalent Medicaid enrollment given their relatively short longevity. The summed and adjusted health insurance coverage rates were subtracted from 100 percent to obtain the percentage of individuals without health insurance coverage prior to 1987 and combined with the Census series to produce a continuous time series for the health uninsurance rate from 1940 to 2003.

III. Health Insurance and Excess Medical Price Inflation Rates, 1940 to 2003

Exhibit 2 displays data on the uninsurance and the excess medical care price inflation rates for the period from 1940 to 2003. The excess medical care price inflation rate is defined as the difference between the medical price inflation rate and the general price inflation rate. The necessary figures come from the Bureau of Labor Statistics. Accordingly, this excess rate captures if medical prices have tended to rise more or less quickly than general prices at each point in time.

It should be pointed out that government reported price indices 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. Nevertheless, the medical and general price indices represent the best available time series indicator of relative price swings in the U.S. Moreover, since we are examining *differences* in the growth rate of medical and general consumer price indices over time, some of the quality bias in both indices may tend to cancel out.

According to the exhibit, the uninsured rate stood at about 90 percent in 1940. After 1940, the health uninsurance rate declined dramatically until the mid-1950s. The fall in the uninsurance rate over this period occurred for several reasons. First, during WWII when the federal government implemented wage and price controls, employers could only attract additional laborers by offering them fringe benefits such as health insurance. Second, employer-provided health insurance was treated as being income tax-exempt so the government implicitly subsidized the purchasing of health insurance. Third, upon seeing the continued success of Blue Cross plans, commercial insurers entered the market with a new innovation called experience rating. As Morrisey (2001, 209) notes "commercial insurers identified employer groups that had lower than average claims experience and offered them premiums lower than those charged by the then dominant carrier, Blue Cross". The lower premiums, in turn, increased the demand for employer-sponsored health insurance coverage.

The percentage of insured continued to increase after the mid-1950s but at a slightly slower rate than previously until 1966 when both Medicaid and Medicare were enacted. The exhibit shows that the uninsurance rate not only experienced a one time drop in 1966 as individuals began enrolling in the two public health insurance programs, but also continued to decline at an even greater rate than the previous period until the

uninsurance rate hit a trough of 12.6 percent in 1975. Cunningham and Cunningham (1997, 193) agree with this observed trend as they 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."

From the mid-1970s to 2003, the uninsurance rate mildly increased but with some fluctuation, ranging between 13 and 16 percent. These temporary fluctuations may have resulted from business cycle changes, changes in federal tax rates, particularly in the 1980s, various Medicaid expansions, and attempts at state health insurance reforms in individual and small group markets during the 1990s. In 2003 the uninsurance rate stood at 15.6 percent.

Exhibit 2 also shows variations in the excess medical price inflation rate over time. During only 14 of the 63 years did the medical price inflation rate grow slower than the overall price level. Interestingly one-half of these observations were prior to the mid-1950s when the percentage of population without health insurance stood at a relatively high level. The period from 1972 to 1987 was a particularly volatile time for fluctuations in the excess medical price inflation rate. The problem of moral hazard may have been particularly acute at this time because both a large proportion of the population possessed health insurance and healthcare providers were primarily reimbursed on a fee-for-service basis and not subject to extensive utilization review. It was also the case, however, that most of this period was characterized by inflationary expectations.

As mentioned in the introduction, moral hazard theory suggests that insured status may influence the growth of medical prices because individuals with insurance are no longer responsible for the full cost of medical care consumed. Moreover, rising medical

prices may create an incentive for individuals to attain insured status because medical losses become more severe, as suggested by insurance demand theory. As a result, an inverse relation should exist between the uninsurance and excess medical price inflation rates.

Exhibit 3 attempts to put this hypothesized inverse relationship into some perspective by plotting the simple pairwise combination of the uninsurance and excess medical price inflation rates for each of the years from 1940 to 2003. A logistic function has also been fitted to the data points to reflect the direction of any correlation. It should be kept in mind that both of these variables might have been adjusting over time as a result of changes in other external factors. Thus, we may be unable to discern the hypothesized relationship within this simple pairwise framework.

Despite this caveat, the fitted curve indicates an inverse relationship holds between the uninsurance and excess medical price inflation rates. Applying the unit root test, a spurious correlation between these two variables seems unlikely. In particular, the null hypothesis of a unit root can be rejected in both cases. Given the flatness of the curve, the relationship between the uninsurance and excess medical price inflation rates does not appear to be particularly sharp.

Exhibit 4 takes another look at the relationship between the uninsurance and excess medical price inflation rates by confining the analysis to the period from 1940 to 1966. Compared to more recent years involving meaningful institutional changes in the health care sector such as Medicaid, Medicare, and managed care, the period 1940 to 1966 serves as a controlled experiment. According to the fitted curve in exhibit 4, the observed relationship between the uninsurance rate and excess medical prices is stronger,

as reflected in the greater steepness of the curve. Thus, the simple pairwise correlations provide some support for the hypothesized inverse relation between the uninsured and excess medical price inflation rates.

What is unknown this point is the direction of the causation. That is, does the observed inverse relation provide evidence to support either the moral hazard or insurance demand theories or both theories jointly. Given this ambiguity, a Granger-Causality test is used to sort out the direction of the causation. In specifying the test, a two-year lag was assumed for both variables. The results of the Granger-Causality test are reported in Table 1 for four different time periods. Column 2 shows the results of the test for the entire period while the other three columns report results for shorter periods of time when the environment in the health economy may have differed. In support of the moral hazard but not the insurance demand theory, the results of the Granger-Causality indicate that the causation likely runs from the uninsurance rate to excess medical price inflation rather than the reverse. Based upon the results of the test reported in the other columns, the moral hazard impact appears to be more powerful in the 1940 to 1965 and 1983 to 2003 periods than during the 1966 to 1982 period (with the caveat that Granger-Causality tests for shorter periods are less powerful).

Given that the direction of the causation is less uncertain, Table 2 provides some multiple regression results to more closely identify the isolated pairwise relationship between the uninsured rate and the excess medical price inflation rate. Admittedly the model is ad hoc in nature, with just the uninsured rate and one and two year lags of the dependent variable serving as explanatory variables. For instance, no controls have been made for any exogenous supply side determinants of the medical inflation rate because it

is unclear what these determinants might be. However, the purpose of this exercise is not to explore the characteristics of a fully and properly specified model but to simply observe if the results of the simple pair wise relationship found in the scatter point diagrams in Exhibits 2 and 3 can be further supported in a slightly more rigorous statistical framework.

Regression results are shown for the entire period and also for the period before Medicare and Medicaid were enacted. The multiple regression findings agree with the earlier analysis on two accounts. First, the evidence supports the existence of an inverse relationship between the uninsurance and excess medical price inflation rates. Given the results of the Granger-Causality test, however, the causation is more likely to run from uninsured status to medical price inflation. Second, the results suggest that the inverse relationship between the uninsurance and excess medical price inflation rates was stronger in the 1940 to 1965 period compared to more recent years.

Summarizing, it appears that an inverse relation holds between the uninsurance rate and the excess medical price inflation rates. Consequently, by observing and evaluating the uninsurance rate in isolation, we may ignore any offsetting effects on the excess medical price inflation rate when the uninsurance rate changes. Greater uninsurance may make people worse-off but lower medical prices may make people better off. In the next section of this paper, the combination of these two factors produces a healthcare economic misery index for the U.S. The healthcare economic misery index is then tracked and analyzed over time.

IV. A National Healthcare Economic Misery Index

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.

The general idea was that Phillips Curve theory suggests an inverse relationship holds between general inflation and unemployment so observing either variable in isolation may be misleading. Given the high inflation and unemployment rates and thus the relatively severe macroeconomic 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 rates. Like unemployment and inflation, when both uninsurance and excess medical price inflation increase, they impose greater costs or disutility upon consumers. As noted previously, lack of insurance heightens exposure to financial insecurity and results in less access to medical care, while greater excess medical price inflation reduces purchasing power. Therefore it may be instructive to

examine estimates of the health care economic misery index (HEMI) to gain some insight into the depths of health care despair in the U.S. over time.

Following the construction of the macroeconomic misery index developed by Okun, each yearly uninsurance rate is added to the corresponding excess medical price inflation rate to produce a HEMI for each of the years from 1940 to 2003. It should be noted that the simple addition of these two figures supposes that both measures cause equal reductions in consumer well being. Yet, a one percentage point drop in the uninsurance rate may more than offset a one percentage point rise in medical inflation, leaving consumers better off. Furthermore, the weights themselves may have changed over time. For example, not having insurance for cancer in 1940 probably imposed less access costs than not possessing that same insurance today because effective treatment was unavailable. As another example, medical care may have been more or less accessible to the uninsured in 1940 than today. However, it is unclear how weights for the uninsurance and medical inflation rates might be constructed at a point in time, let alone over time. Okun's macroeconomic misery index also suffers from some of these same deficiencies. What is clear is that more meaning should be given to changes in rather than the level of the HEMI and that the changes can be more confidently assessed and compared within relatively short time periods.

The resulting figures for the HEMI are shown in Exhibit 5. It is not too surprising that the pattern of the HEMI closely resembles that of the uninsurance rate over time because the vast percentage of people uninsured in the earlier periods swamps the excess medical price inflation rate. In more recent years, however, the excess medical price inflation rate takes on greater meaning in the analysis because the corresponding

uninsurance rate is much lower. Several implications can be drawn from the trending of the HEMI over time.

First, the HEMI illustrates that the U.S. health economy experienced a considerable amount of volatility over the long term, first free falling from 1940 to the mid-1970s and then moderately and unevenly rising until 2003. Indeed, Jimmy Carter's reelection bid may have proved more successful if he pointed to changes in the health care misery index rather the macroeconomic misery index during his administration. The HEMI fell by nearly 41 percent during his time in office.

Second, the HEMI shows that misery in the health economy was lower in 2003 than 1960. This finding contradicts many critics who claim that consumers were better off in 1960 than 2003 because of lower health care spending relative to GDP (i.e., 5.3 versus 14.9 percent). Third, the figure for the most recent year indicates that health care economic misery still stands at an alarmingly high rate. That is, some of the 15.6 percent of individuals in the health economy remain miserable because access to health insurance lies outside their grasp. Others face the prospect of consuming less health care than is clinically necessary because medical prices continue to outpace general prices, or at the very least, are forced to allocate a greater portion of their income to medical care.

Finally, the HEMI implies that the misery of the health economy appears to have stabilized since the late 1980s as a result of the more stable health insurance and excess medical price inflation rates. Stability of outcomes may provide societal benefits as planning horizons become sharper in focus. It is unclear what specific factor accounts for the relative stability of the health economy's misery 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 HEMI. 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 HEMI 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 HEMI 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. In particular, people may be uninsured for a variety of reasons in a voluntary system. For one, some individuals may choose to be without health insurance.

Those in the age group 18-24 most likely fall within this category because the risk of becoming sick is so low.

Borrowing from labor economists, people may also be uninsured for frictional, structural, and cyclical reasons. Frictional uninsurance results from a mismatch of information concerning the availability of health insurance or because workers 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. A natural uninsurance rate might include the percentage of individuals who choose self-insurance 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 from expansions in 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. That is, the relative stability of the HEMI since the late 1980s may reflect the existence of a natural rate of uninsurance.

V. Conclusion

This paper provides original estimates of the health uninsurance rate prior to the late 1980s, which when combined with Census data, offers a relatively consistent uninsurance rate series from 1940 to 2003. The paper also uncovers an inverse relationship between the uninsurance rate and the excess medical price inflation rate, especially over the period 1940 to 1965 when public health insurance and managed care were virtually nonexistent so a purer relationship can be observed. In support of moral hazard theory, a Granger-Causality test suggests the causation most likely runs from the uninsurance rate to the excess medical prices rather than the reverse. Thus, any attempt by the government to reduce uninsurance through public programs or greater subsidies may spark higher medical prices, at least in the short-run.

Given the tradeoff between the uninsurance rate and medical price inflation, this paper also develops a healthcare economic misery index by combining the two measures. The resulting HEMI suggest that misery has improved in the health economy over the long term. The implication is that consumers in the health economy are much better off today than they were prior to the late 1960s. Not only are more people insured today but also those insured have more comprehensive coverage. Another positive sign from the HEMI is that wide fluctuations observed since the mid-1970s have moderated since the late 1980s.

At this point in time, it is difficult to identify if increased managed care penetration or the existence of a natural rate of uninsurance accounts for the relative stability of the HEMI after 1988. It is important to understand the specific reason behind

its relative stability. If increased managed care penetration produced the stability, then the recent backlash against restrictive supply-side plans and increased enrollment in “managed-care-lite” plans should eventually result in more volatility in the HEMI. A greater desire for stability may mean a return to restrictive managed care (Robinson, 2002). If a natural rate of uninsurance accounts for the stability, then a voluntary health insurance system may never produce universal or near universal health insurance coverage on its own. In this case, mandatory health insurance would be necessary if society desires health insurance coverage for all. Given these important implications, future research might inquire into the factors influencing the relative stability of the healthcare economic misery index.

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Exhibit 1: Private Enrollment Estimates

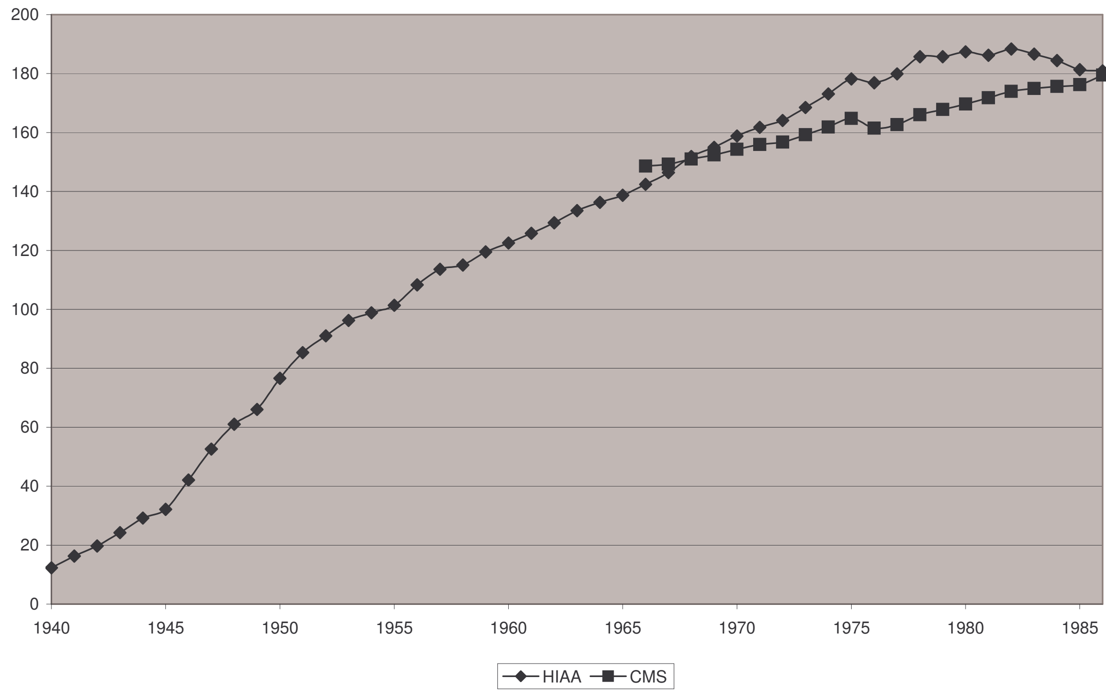


Exhibit 2

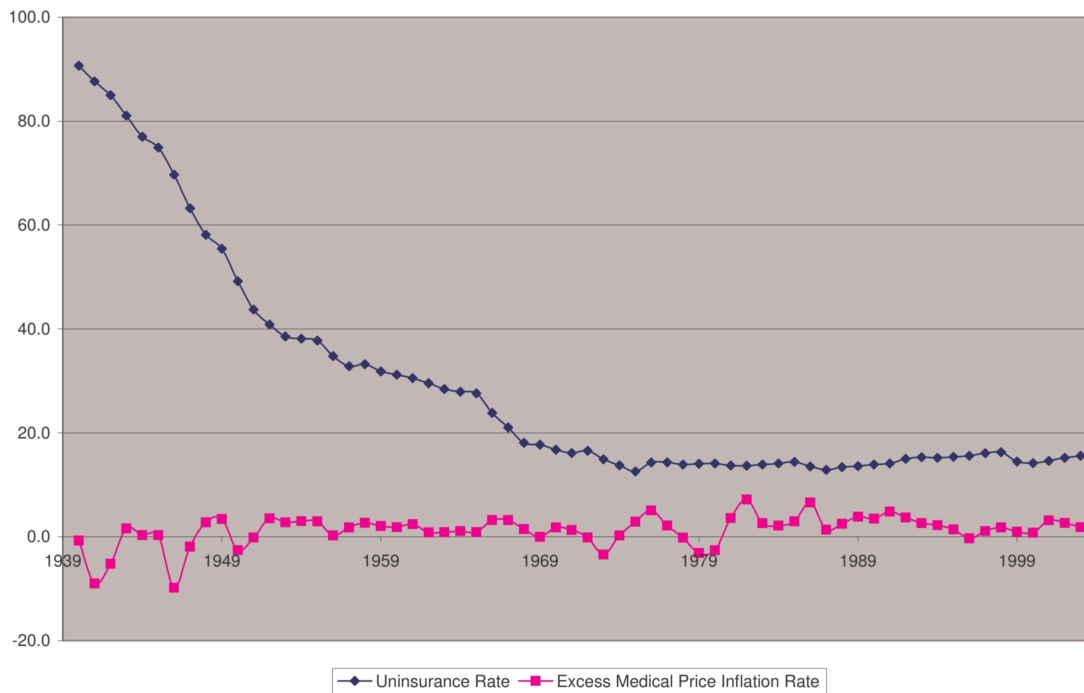
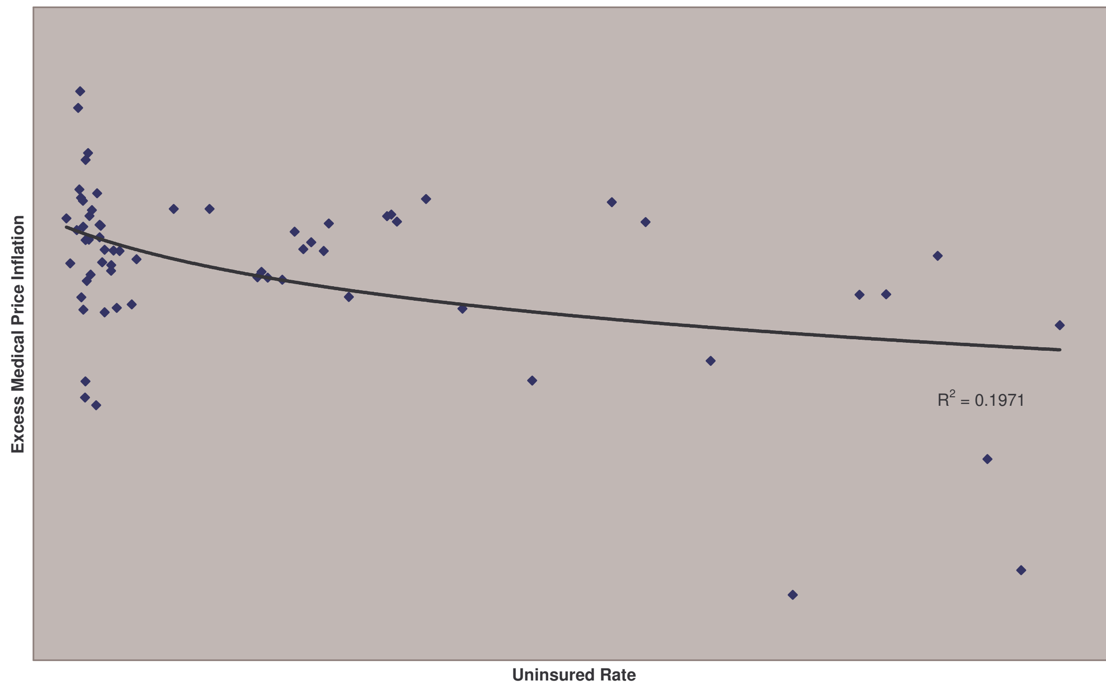
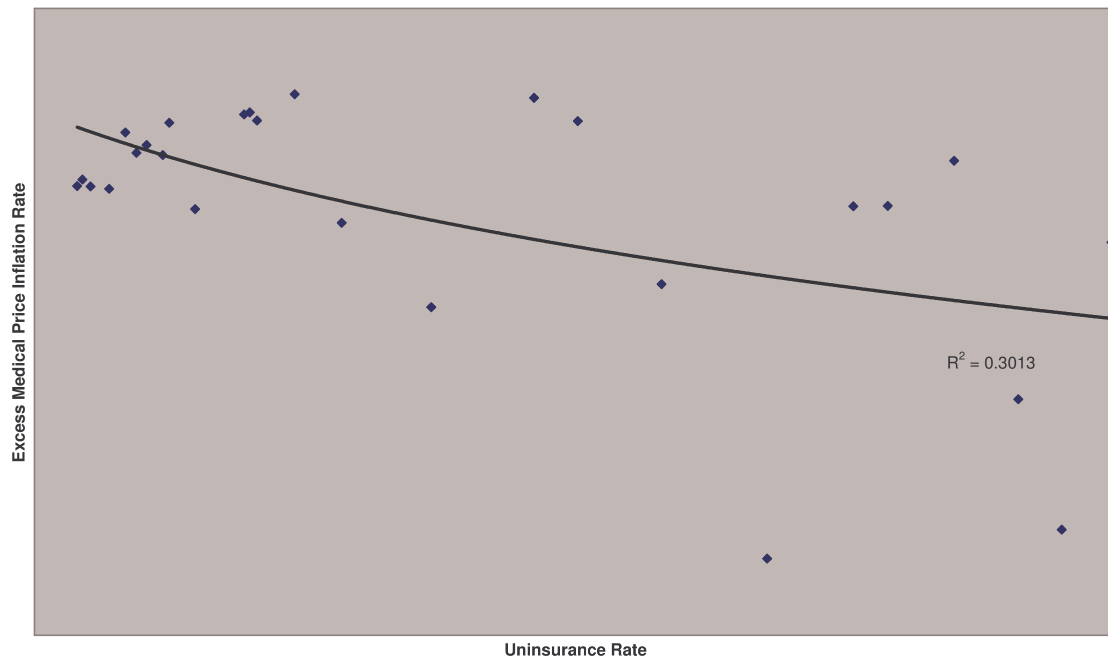


Exhibit 3



Relationship Between the Uninsurance Rate and Excess Medical Price Inflation Rates, 1940 to 1965



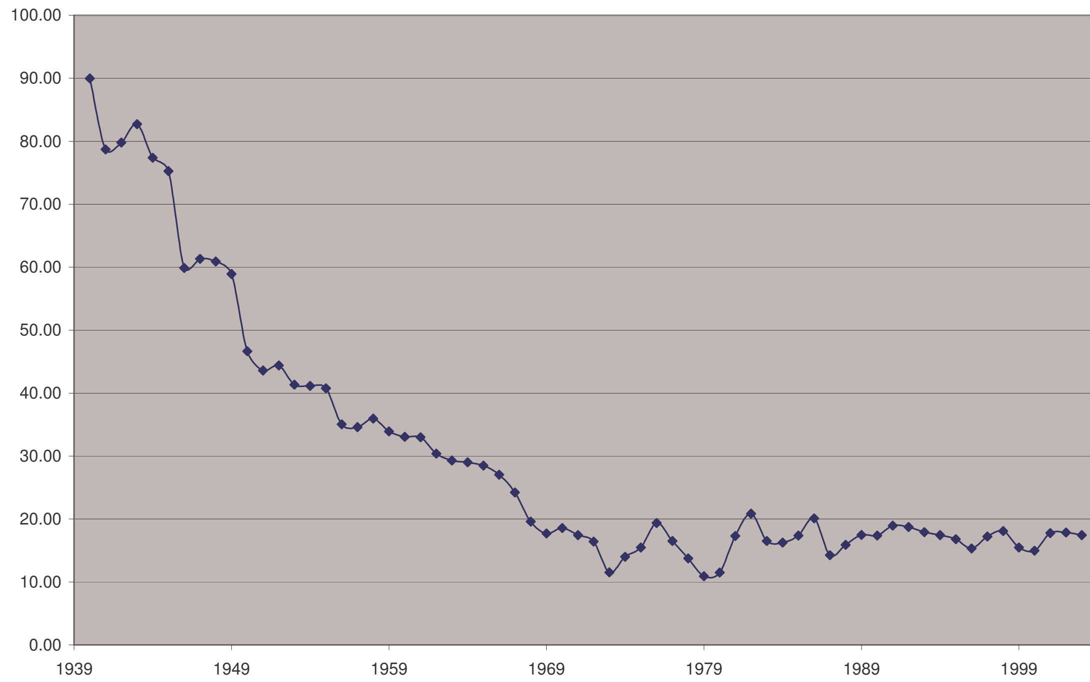

Healthcare Economic Misery Index in the U.S.
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
1939
1949
1959
1969
1979
1989
1999

Table 1: Granger Causality Tests[a]

Null Hypothesis	1940 - 2003	1940-1965	1966-1982	1983-2003
Percent Without Health Insurance does not Granger Cause Excess Medical Price Inflation	6.58 (0.0027)	7.68 (0.0036)	0.517 (0.609)	6.51 (0.009)
Excess Medical Price Inflation does not Granger Cause Percent Without Health Insurance	0.213 (0.808)	0.307 (0.739)	0.808 (0.468)	0.66290 (0.529)

[a] F-statistic with probability values in parentheses.

Table 2: Multiple Regression Results

Dependent variable: Excess Medical Price Inflation

Variable	1940-2003	1940-1965
Constant	2.861 (4.39)	6.17 (3.39)
Percent Without Health Insurance	-0.053 (3.04)	-0.117 (3.17)
Excess Medical Price Inflation Rate Lagged One Year	0.392 (3.52)	0.130 (0.77)
Excess Medical Price Inflation Rate Lagged Two Years	-0.366 (3.31)	-0.478 (2.89)
Adjusted R^2	0.335	0.398
DW Statistic	2.08	2.53
Observations	64	26