Unintended Consequences

The Miserly Index

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When he was economic adviser to Lyndon Johnson in the 1960s, Arthur Okun developed what today is known as the Misery Index. The concept is simple. Unemployment is bad for people, and inflation is also bad for people. If we add the two percentages together we get an index for how bad things are. In short, the higher the index the worse life must be for the average person, either because he doesn't have a job, or because inflation is shrinking his purchasing power.

In figure 1 we can see the ebbs and flows of Americans' good fortune according to this measure since 1948. Anecdotally we can see that there is a grain of truth in the index.

Some of the story the figure alludes to is consistent with how one might judge a period of time to be. The late 1970s and early 1980s were indeed a period of high unemployment and stifling inflation. The turmoil of 1974 is clearly visible. The more recent episodes of the housing crash and recession of December 2007 to June 2009 are also clearly visible.

Yet some anomalies also show up in the data. Excluding the mid-1990s, today's Misery Index shows what must be the best economic situation in the United States since the 1960s. This could

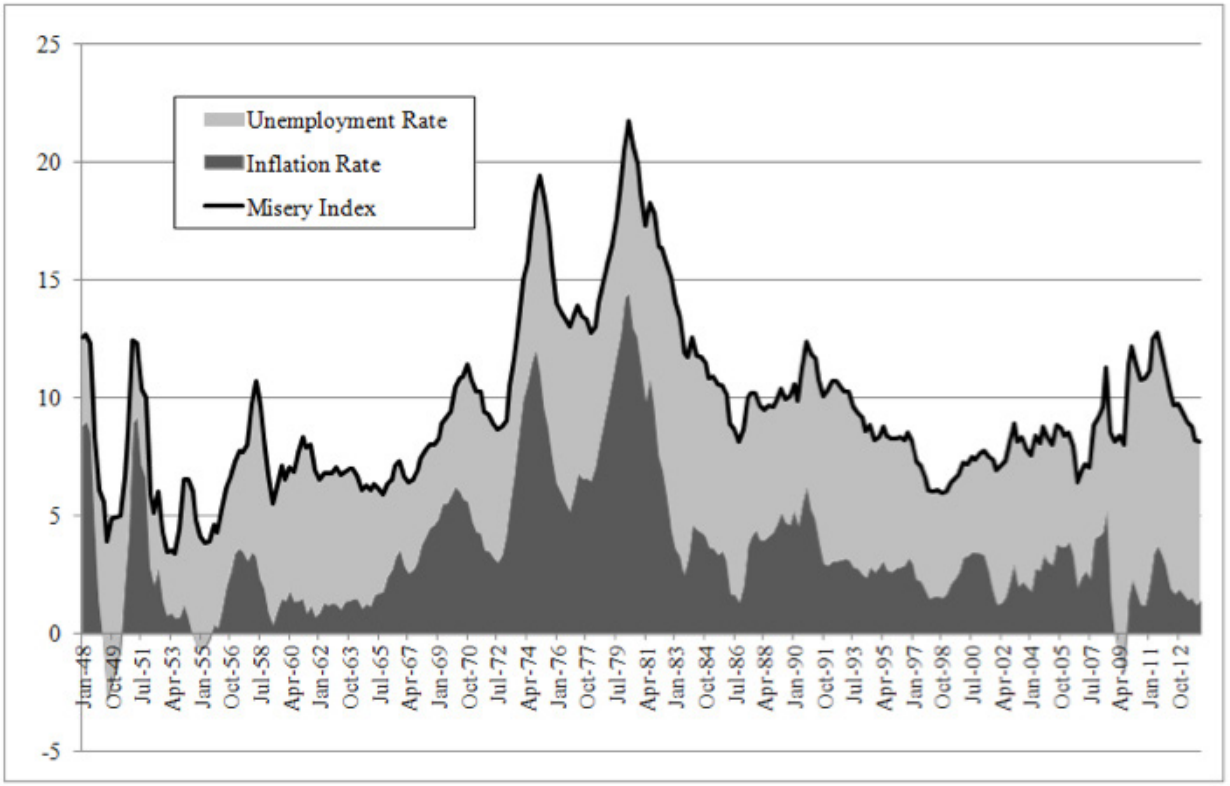

Figure 1: United States' Misery Index
Source: Federal Reserve Economic Data

well be, though I doubt Main Street USA would agree that everything is as peachy keen as the index illustrates. Indeed, according to the University of Michigan's consumer confidence survey, the American consumer is the least optimistic about the present state of affairs since the early 1980s.

One of the difficulties with such an aggregation is that the numbers being added don't have much to do with one another. It's an appealing figure, but at the end of the day it doesn't make much sense. Despite being expressed as percentages, the rate of price change in the economy is almost unrelated to the rate of employment. (I say "almost" because one could think that there is a negative relationship between people earning income and generating price pressures.) Not only are the two variables unrelated, but they are also given equal weighting in the index. Recent work charges that such an equal weighting under-weights the misery caused by unemployment relative to inflation (Di Tella *et al* 2001). The more important question is why the two variables should be associated together with any weighting?

Consider the problem created by answering "who" is affected by the Misery Index. Surely it can't be built with employed people in mind for why would such a person be harmed by a high rate of unemployment? Likewise an employed person will have the opportunity for his salary to adjust with inflation, and as such won't necessarily be worse off because of it (in fact, if his salary increases faster than inflation he could become better off).

Unemployed people will be affected by both unemployment (as it is their relevant category) and inflation, as their savings will be negatively affected by association also

their well being until they can find new employment. One could say that the Misery Index is supposed to gauge the general health of the economy, but if this was the case it should be weighted according to how many unemployed people there are, or the rate of income growth for those who have jobs relative to general price inflation.[1]

has the advantage that volatility is increased. The bad times seem a little worse than otherwise because of the high unemployment that accompanies them. The corollary also holds true – the good times look a little better because they have very low rates of unemployment associated with them. Still, even the unemployment-weighted Misery Index fails to grapple with the problem

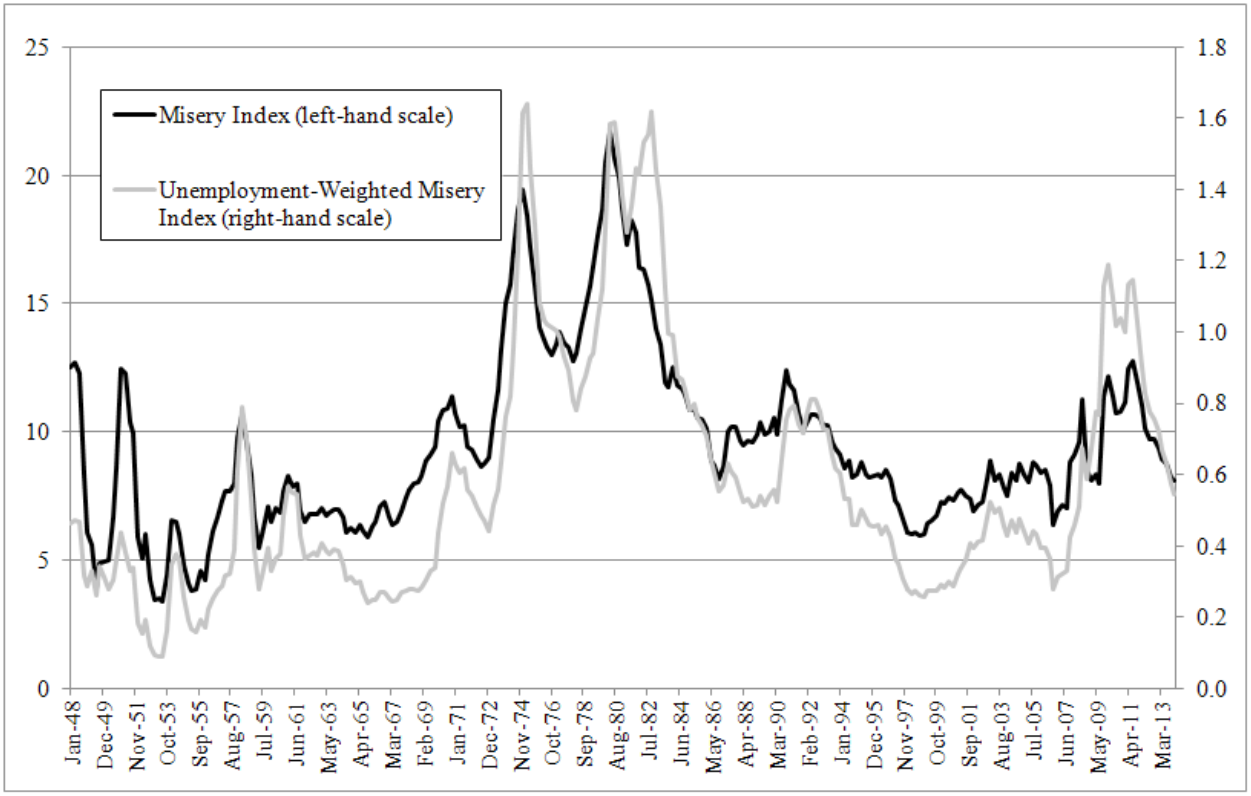

Figure 2: Misery and Unemployment-weighted Misery Index
Source: Federal Reserve Economic Data

Figure 2 tries to rectify the difficulties created by the Misery Index only being relevant to the unemployed class by weighting the standard index according to the unemployment rate. This weighted figure

that there is just no reason why the rates of unemployment and inflation should be summed in the first place.

There is an enduring appeal to the Misery Index, despite its obvious and insurmountable shortcomings. There is a desire for some general way that we can look at the well-being of the economy. Common income-related measures, such as gross income per capita, do a reasonably good job to the extent that they summarize via the average person's purchasing power what his consumption possibilities are.

1 It can also be a gauge of the general health of a country's citizens. Yang and Lester (1992) find a link between declines in the Misery Index and increases in the suicide rate from 1938-1986.

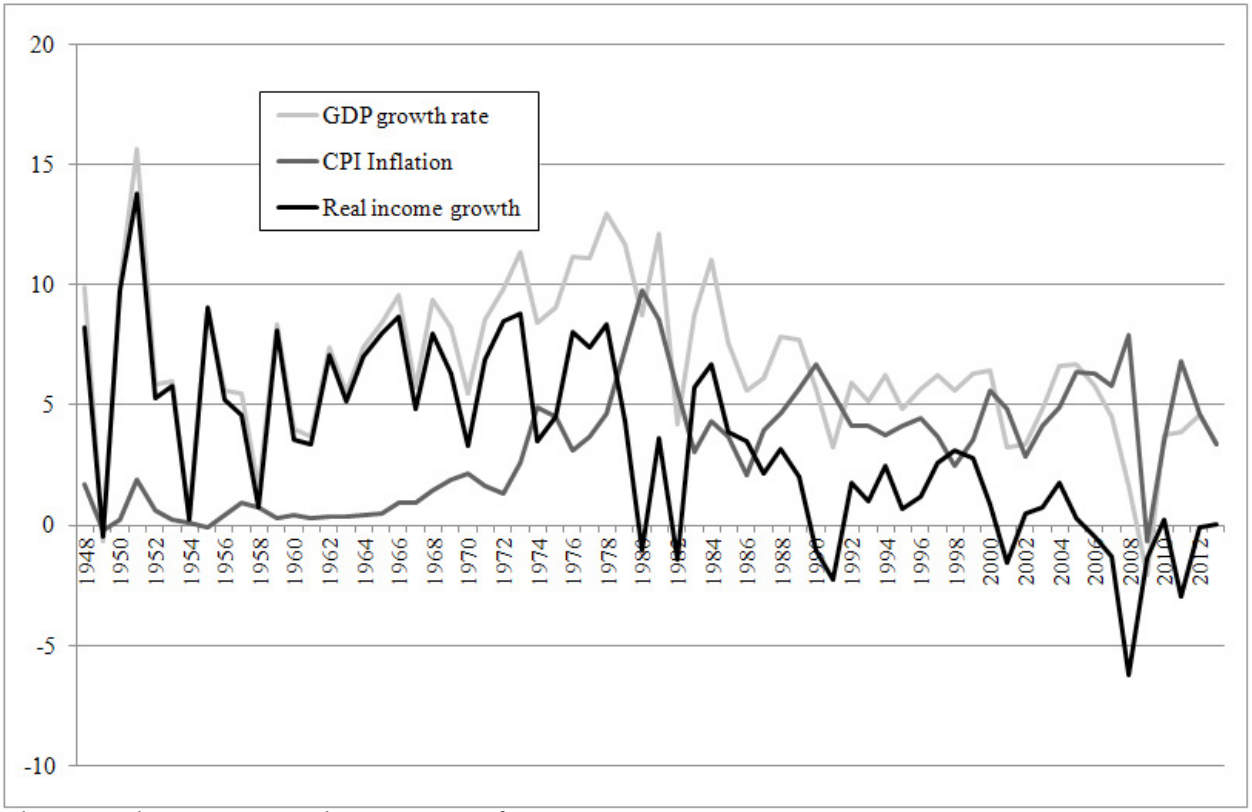

Figure 3: Real Income Growth
Source: Federal Reserve Economic Data

There are, however, two shortcomings from such measures. On the one hand, we must make certain payments, such as taxes, that reduce our purchasing power. (To the extent that wage growth doesn't adequately track the rate of inflation we may also see losses to our purchasing power, though we can use real figures to adjust for this.) The other shortcoming is that we are not only concerned with the present. To the extent that we are future-oriented, any reckoning of the present state of affairs must account for what we think the situation will be like in the future.

To account for these omissions from the Misery Index I propose the "Miserly" Index (Howden 2014). The Miserly Index shows what percentage of one's future income will remain after the effects of inflation; taxes and government debt repayment are factored for.

Inflation is harmful to the extent that wages do not keep pace with it. In other words, it is the rate of price inflation relative to the rate of income growth which is important. If income growth is stronger than inflation, purchasing power for the average person will be increased. Periods when inflation is higher than income growth are detrimental to the extent that they reduce one's purchasing power. For our purposes we will use nominal GDP growth as the proxy for income growth, and CPI inflation to express losses in purchasing power.[2]

In figure 3 we can see the real change in income since 1948. Negative figures result from rates of CPI inflation greater than nominal GDP growth, meaning a decline in purchasing power. For the most part these episodes are short-lived.

When asked what the single largest

2 Barro (1999) and Hanke (2011) have similarly modified the traditional Misery Index to account for the effects of real economic growth.

deduction from a person's pay cheque is, almost all would point to taxes. This intuition would be correct. In the United States a combination of local, state and federal taxes are deducted from one's income and act to reduce the worker's purchasing power. In figure 4 we can see the effects of the total of these taxes, as well as their evolution over time.

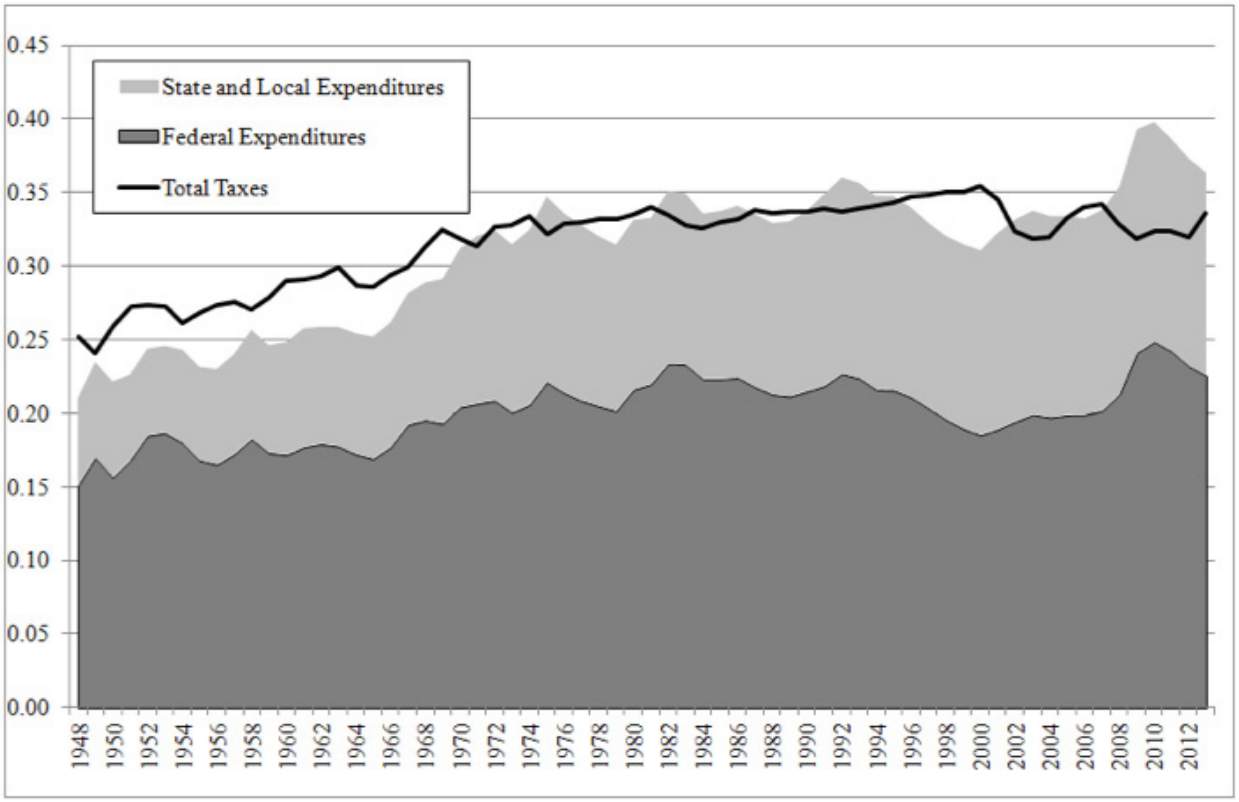

Figure 4: Government expenditures and revenues
Source: Federal Reserve Economic Data

The total tax charge for the average American has remained relatively constant over the past 30 years, meandering between 30 to 35% of his income. I have mapped the evolution of these tax charges against government revenue because this difference is what determines the total indebtedness of the government. When the total tax haul is greater than government expenditures, the aggregate government balance sheet deleverages. By this we can see that the local, state and federal governments of the United States reduced their total level of indebtedness until roughly 1970, when a period of near continual deficit spending began. The mid-1990s were the last time the combined governments of the United States ran a collective surplus, and today the deficit is around 3% of GDP.

These collective deficits and debts are significant because they contribute to the final factor that affects the Miserly Index. Today's debts will be paid at some point in the future. Outright defaults on sovereign debt, especially by developed countries like the United States, are quite rare. The debts of today will be paid in the future, either through higher taxes or through inflation. To the extent that these two factors are already covered in the Miserly Index, we can add to them by estimating what they can be reasonably expected to be in the

future to pay for deficit spending of the past.

One way to estimate the future cost of the present debt is to treat it as a perpetuity that will be paid off infinitely far into the future. In effect, one can treat such debts as a perpetuity with a net present value of zero (Howden and Saona Hoffman 2014). Under such a pricing formula, the present value of the debt is given, and we can simplify the problem by assuming that it will grow at a constant rate equal to the deficit, that hat the economy will continue growing along its current growth path. The net present value of this perpetuity will be zero if the yearly payment is equal to the present value of the growing perpetuity of debts and deficits.

The payment (PMT) necessary to set the net present value of today's debt and the future stream of deficits is equal to:

$$PMT = \frac{i - g}{1 + g} (PV_0) + d,$$

where:

i = average interest rate on outstanding debt
g = growth rate of the economy,
PV_0 = the present stock of outstanding debt, and
d = yearly deficit.

All variables are expressed as a percentage of GDP. For the average interest rate on outstanding government debt I have used the average current yield on the government's long-dated (i.e., 10-year or more) securities. The growth rate of the economy is the rate of nominal GDP growth. To avoid short-term volatilities, both of these variables have been smoothed as a five-year lagging moving average.[3] The present outstanding stock of government debt is the combination of local, state and federal levels. This figure excludes off-balance sheet items, such as pension obligations since they to not yet represent a *debt* the government is obliged to pay (and since strong economic growth could eliminate the need to finance such obligations through issuances of new debt in any case). The yearly deficit is also the sum of deficits at all three levels of government.

The resultant payment necessary to make the net present value of current and expected future debt obligations equal to zero is illustrated in figure 5, and is expressed as a percentage of current year GDP.

Years when real economic growth was strong, interest rates low, and the debt and deficit minimal resulted in a lower percentage of income necessary to pay off the then-existing debt load. At the extreme, when economic growth is higher than the interest rate on existing debt and the size of the deficit, the existing debt will pay itself off. It is in this fact that we can illustrate Mises' (1919) claim that the highly-indebted post-War European economies should focus more on generating economic growth rather than on debt reduction, per se.

More recently, the deficit spending that became prolific during the mid-1980s resulted in large growth in the stock of government debt. Coupled with still relatively high interest rates the result was that a growing percentage of income was needed to pay off these debts and deficits in the future. A similar situation is true at the moment, and it doesn't look to turn around any time soon. In fact, to the extent that interest rates are at historically low levels (constrained in many cases by the zero lower bound), there can only be room for interest rates to worsen this figure in the future.

I make no reference to Ricardian Equivalence in discussions surrounding

3 To the extent that people base their expectations on the recent past, this is not an unreasonable way to deal with these growth rates.

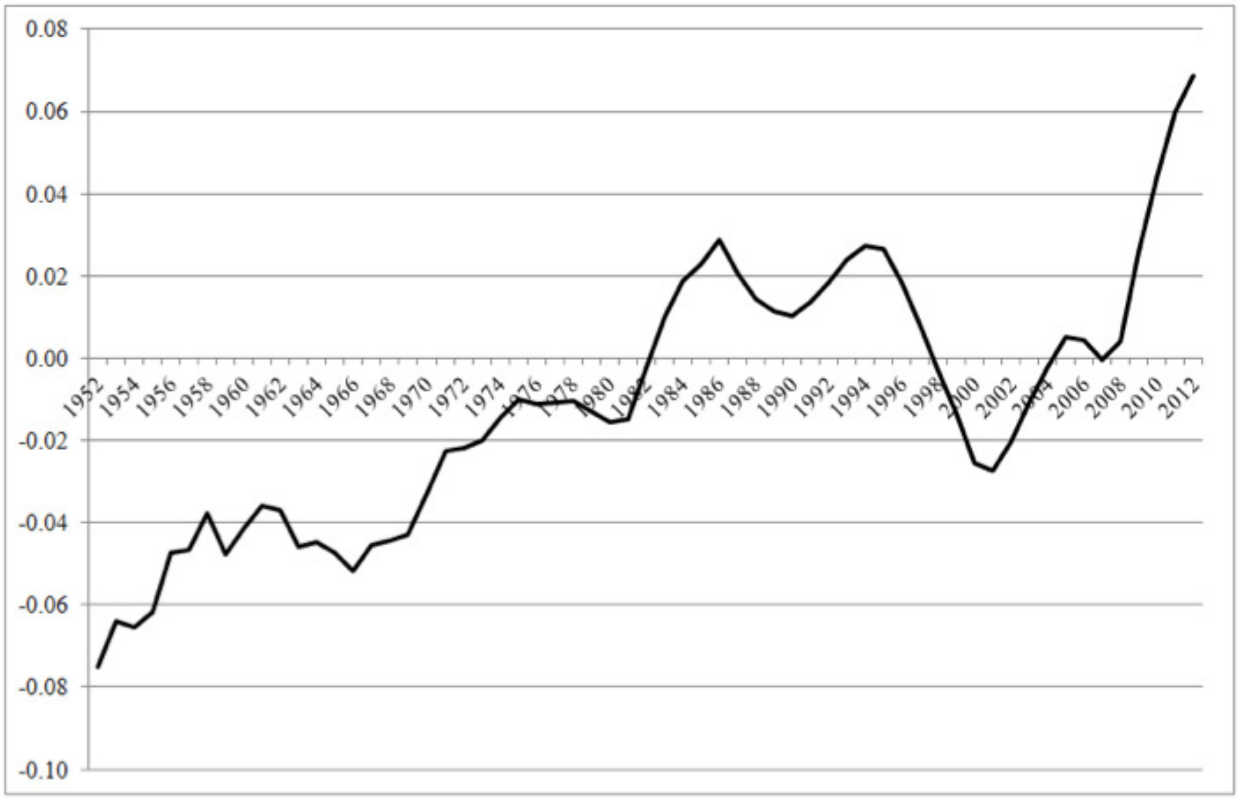

Figure 5: Income needed to repay existing debt and deficits (% GDP)
Source: Federal Reserve Economic Data, author's calculations.

figure 5. The only assumption that need be true is that the debt must not be explicitly defaulted on, and as such must be "repaid" by a combination of either higher taxes in the future or through monetization. Indeed, as a simple truism "it is fundamentally a matter of indifference whether [the government] … imposes a one-time tax on [a citizen] of half his wealth or takes from him every year as a tax the amount that corresponds to interest payments on half his wealth" (Mises 1919: 168, as quoted in Garrison 2001: 89). One way or another, the debts of today get paid.

The Miserly Index is the sum of these three components: the percent of income needed to pay taxes, payments to retire the existing debt, and adjusted for any changes to the real value of an individual's income. Figure 6 summarizes these components, and shows the evolution of the Miserly Index of the United States since 1953.

I will start by discussing the individual components affecting the Miserly Index. The total percentage of a person's income devoted to taxes has climbed somewhat over the past 60 years, though not by as much as one might think. The total figure has ebbed and flowed between 26 -35% of GDP, although there is a noticeable but gradually increasing trend. Since there has been relatively strong growth in expenditures at the state, local and federal levels, the result has been strong growth in the size of government funding deficits, as well as their frequency. This has not boded well for the amount of income expected to be needed to repay the existing stock of debt, and this figure increased from a low of -7.5% of GDP in 1953 to its current level of nearly 7%. While government debt was once overpowered by

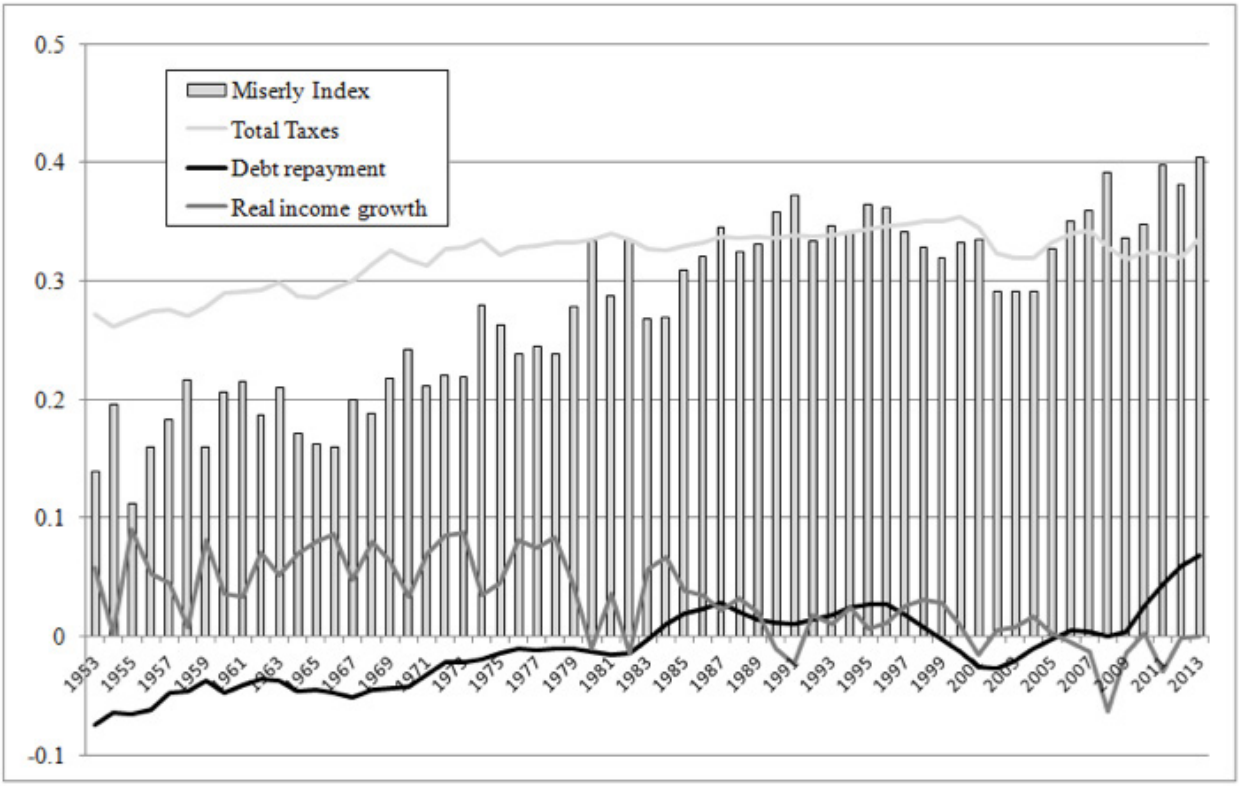

Figure 6: Miserly Index and its components

strong economic growth and low yearly deficits adding to the stock, the situation has reversed noticeably in recent decades. Debt is no longer the boon it once was, and a not insignificant amount of income is necessary to keep the country out of outright default.

These two figures have reinforced one another to make individuals today a little more "miserly" than in the past. This miserliness is in the sense that an ever-growing portion of their income must be devoted to paying taxes and retiring debt than at any time in recent history.

There is a silver lining to all this, though it has diminished gradually over the past 60 years and today is negligible. The growth rate in real income long mitigated the negative effects of a rising tax burden and the expected costs of debt repayment. However, while average real income growth was a healthy 6% from 1953 – 1978, since 2000 it has been a disappointing -1% per year. Shrinking real incomes have harmed Americans and further increased the percentage of their income which will be necessary to repay current debts in the future.

The Miserly Index reflects all three of these effects. Since 1953 it has gone through four broad phases. The period of 1953 to the early 1970s saw this measure relatively constant and low. The reason is easy to understand as the 1950s and '60s were a prosperous period of low taxes, government budget surpluses and strong real-wage growth.

The two-decade period from the early 1970s to the early 1990s saw the average American's expected future financial situation deteriorate rapidly. High deficits in the 1980s, record inflation in the late 1970s and a ballooning stock of debt all coupled to increase the amount of his future income he would need to sacrifice in the future to pay his taxes

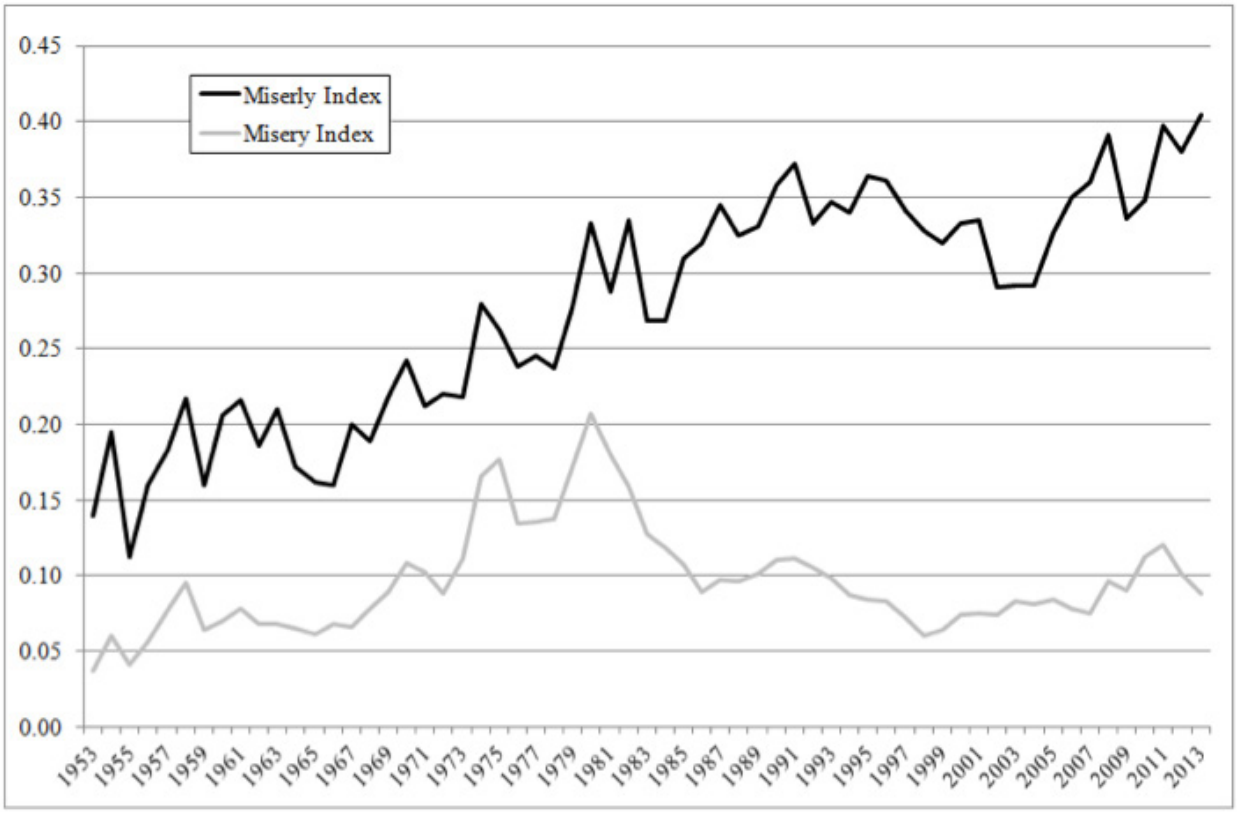

Figure 7: Misery vs. Miserly Indexes

and pare down the existing debt. The situation improved going into the early 2000s as deficits were curtailed, the debt somewhat repaid, tax growth was relatively slow and the boom of the 1990s saw decent real wage growth.

This all brings us to today. At 40%, the Miserly Index is higher than at any other moment under examination. This figure means that the average American can reasonably expect to pay 40% of his future income to a combination of taxes, debt repayment and lost purchasing power. This is in contrast to the economic situation of today, which might look reasonable with its low price inflation and unemployment back under control. The unfortunate flipside to this is that the debts and deficits that were accumulated to "foster" the current recovery will need to be repaid eventually.

I will end with a brief comparison of the Miserly and the Misery Indexes, and a final word as to why the Miserly calculation is superior. The two indexes track each other reasonably well, with the exception of the periods from 1983 – 1991 and the past five years. This former period was a generally prosperous one for the American economy. The source of this prosperity has been attributed at times to the economic policies put in place by the Reagan and Bush administrations which fell under the guise of "Reaganonomics".

Taxes were generally constant over this period, but in their place high levels of deficit spending were foisted onto the American public. The result was that there was an immediate economic improvement, which was real and can be proxyed in at least some way through the falling Misery Index during the period. The boom of the 1980s was, however, false in the sense that the increase in deficits imposed a cost onto future Americans. The

Miserly Index reflects the forward-looking element of the economic feeling of the 1980s, and shows that noticeable boom in the "here-and-now" of the 1980s was partly illusory. In this we can find much agreement with Murray Rothbard's (1987: 362) succinct comments on the myth of Reagonomics and the boom of the 1980s, "Things are not always what they seem; skim milk masquerades as cream."[4]

The same is true of the American economy today. The divergences between the two indexes after the dot-com bust and the more recent housing collapse point to the use of deficit spending to evade a more pronounced recession. While the economic situation looks promising given the mild price inflation and taming of the unemployment malaise, the Miserly Index points to the fact that the average American can expect to pay 40% of his future salary to settle today's debts.

4 With apologies to Gilbert and Sullivan.

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