# Statistical Malfeasance and Interpreting Economic Phenomena

Richard Vedder

It took seven decades, but most people now accept what Ludwig von Mises explained three quarters of a century ago, namely, that centrally directed socialistic economies cannot succeed in coordinating vast numbers of interrelated decisions, in large part because of the information problem arising from non-market forms of resource allocation (Mises 1920). No amount of input-output models generated on vast computers can overcome the problems of directing resources under changing conditions of wants and scarcity.

The information problem that plagued socialist states, like the old Soviet Union, persists in another form today in so-called "mixed" economies like the United States. While the price data generated by markets, as consumers and producers interact in a productive, if seemingly chaotic, discovery process, allow decentralized economic agents to make complex and ever-changing economic decisions without any central direction; governments try to generate data which aggregate economic activity over entire economies to assist the softer forms of economic planning that persists in most of the industrialized democracies—fiscal and monetary policy,

Richard Vedder is professor of economics at Ohio University. This paper was presented at the 1997 Austrian Scholars Conference, Auburn, Alabama, April 5, 1997. I am indebted to Lowell Gallaway for valuable insights utilized in this paper and for making the oral presentation at Auburn.

*Review of Austrian Economics* 10, no. 2 (1997): 77–89
ISSN:0889-3047

environmental rules, governmentally mandated distortions in the use of energy resources, and so on.

On methodological grounds, Austrian economists reject the logical-positivism of most contemporary economics. Even if one were raised in a neoclassical tradition that places a high utility on evaluating economic phenomena in terms of some analogue of the scientific method present in the physical sciences, however, one should be wary of many modern research findings, owing to the inherent and probably insurmountable difficulties of aggregating economic data. Bad data lead to bad conclusions, even if one accepts an activist economic philosophy that centralized decision making can improve on the spontaneous decisions made in the market economy. This paper presents five examples of how data problems can lead to a misinterpretation of economic phenomena, or at least promote great uncertainty in evaluating the direction and scope of economic change.

## Example One: Are Wages Rising or Falling, or, Are Workers Being Exploited?

Public figures as politically diverse as former Labor Secretary Robert Reich, Pat Buchanan, and Ross Perot have argued that the standard of living of American workers has stagnated in recent decades. Reich blames it on greedy businessmen, while Buchanan and Perot claim that as a consequence of ill-considered free-trade policies, low-paid foreign workers are robbing Americans of their affluence. Is this unholy trinity right?

Using the method of mainstream economics, let us turn to the purported evidence to evaluate the scenarios of three economists whose names began with "M": Malthus, Marx, and Mises. Which economist do you like? Using contemporary data, I can give you evidence to support the views of any of them.

Go to the allegedly trusty source of current economic information, the *Economic Report of the President* (U.S. Council of Economic Advisers, various years). Turning to page 352 in the 1997 edition, the

hourly average wage of private sector American workers in 1973, expressed in dollars of 1982 purchasing power, is stated to be $8.55. For 1996, it was only $7.43. Workers were making 13.1 percent less in 1996 than a generation earlier. On a weekly basis, the wage decline was even greater. This is evidence that Malthus was right. With population growth and the law of diminishing returns, wages are moving toward subsistence.

Or maybe Marx was right. Turning the page, we learn (page 354) that the output per hour in the same period has risen more than 30 percent.[1] Productivity was rising significantly even while wages were falling—we have a total refutation of the Austrian claim (Mises 1963, p. 597) that workers are paid according to their marginal productivity. We have progressively greater exploitation of the proletariat by greedy capitalists. If this scenario is true, Bill Gates and Sam Walton make capitalists like the Vanderbilts and the Rockefellers look like Mother Teresa. Why did Marxism largely wither away (except in universities) when we needed it to explain the growing absolute and relative misery of the American worker?

Alas, there is another side to the story. Michael Boskin and some other distinguished number crunchers have concluded that the consumer price index used to calculate real-wage change overstates inflation by about 1.1 percentage points a year, and has done so for a long time.[2] Earlier, the price gurus at the Bureau of Labor Statistics as much as admitted that their CPI-U index suffered significantly by overstating housing prices after 1967, and concocted a CPI-U-X1 index. It was generally believed around 1980 that adopting the X1

[1] Output per hour in the "business sector" shows an increase of 30.2 percent from 1973 to 1996. The 1996 figure was assumed to be the average of the second and third quarters of the year. Using data for the "nonfarm business sector," the increase is only 25.8 percent. Implicit in the difference between these two estimates is farm-sector productivity growth of a huge magnitude (perhaps 100 percent), given the relatively small size of that sector.

[2] For a discussion by mainstream economists of problems with the consumer price index, see the *1997 Economic Report of the President*, pp. 67–72.

procedures would improve factual accuracy, but our government did not do so because, among other things, it would have reduced Social Security cost-of-living benefit increases. Hence, for political reasons, the U.S. government continued to use an index that everyone says was wrong. Using the X1 index and reducing annual inflation rates by 1.1 percentage points annually, I calculated a new and presumably improved measure of changing rates of inflation (see appendix).

"Boskinizing" the data, real wages in fact rose 9.4 percent an hour from 1973 to 1996, rather than fell as officially reported. Using the method of contemporary mainstream economics, we can say that, empirically, the Malthusian–Marxian scenario described above has now taken a hit, but, alas, the wage growth is still well below the reported productivity growth of 30.2 percent. In other words, Marx is closer to the truth than Mises, or, for that matter, than Alfred Marshall.

Don't despair yet. Marx is about to take a big hit. Page 354 of the *Economic Report* covers "real compensation per hour" in the "business sector." This table incorporates into employee compensation the fringe benefits excluded from the wages measure, and thus is a more comprehensive measure of the remuneration that workers receive from their employers. Even using the flawed BLS data on inflation, it is revealed that real compensation per hour rose 9.1 percent from 1973 to 1996. So much for Malthus. Applying the X1 and Boskin adjustments to the CPI (see sppendix), I calculate that real compensation per hour in fact rose 42.8 percent from 1973 to 1996. Workers are doing much better than their parents did a generation ago.

Has Mises been vindicated by the very quantitative approach that he disdained? Not exactly. Wages, broadly defined, are now recorded as having risen faster than productivity. If correct, this implies that corporations are being financially squeezed by labor, either by accident or design. We have reverse Marxism—the proletariat is squashing the capitalists—the withering away of capitalism, if you will. Alternatively, a benevolent, "kinder and gentler" breed of entrepreneur is voluntarily turning over income to workers.

This latter conclusion, however, is murky, since it compares rising real compensation to productivity change. Productivity is defined in terms of real output per hour of work. Thus, the calculation of productivity involves using a price index, and if that index has been understated, then the recorded productivity growth has similarly been below reality. A large number of students of productivity data believe there is an understatement of modern productivity growth. Correcting for that misstatement, it is plausible and indeed likely that the real-wage data and the productivity data would show very similar upward trends, consistent with both Austrian and neoclassical traditions in economics. Mises is thus vindicated.

All of this reinforces Austrian concerns about attempting to verify or falsify economic propositions based on aggregative economic data. At the same time, as Professor McCloskey (1985) tells us, the rhetoric of modern economics includes heavy use of numbers and econometric manipulation of them. Only partly tongue in cheek, I think it is legitimate to use Austrian praxeological principles to clarify some of the existing statistical mayhem. To illustrate, accept the Austrian proposition that wages are determined by the marginal productivity of labor. The rate of growth in aggregate prices over time, then, would equal that growth necessary to be consistent with this Austrian proposition. If Boskin's 1.1 point adjustment to the CPI leads to wage growth exceeding productivity change, while no adjustment leads to productivity changes exceeding wage growth, the correct adjustment is one that equates these two measures, perhaps 0.5 or 0.7 percentage points. Since, given the rhetorical passion of economists for quantitative measures, we are going to use price indices; why not use Austrian insights to calculate them, even if Austrians themselves are disdainful of their use? I say this with some trepidation, ever mindful of Mises's magisterial injunction: "In the field of praxeology and economics no sense can be given to the notion of measurement"[3] (Mises 1966, p. 222).

[3]Mises's views were anticipated by the English economist J.E. Cairnes (1888). See also Rothbard (1993), chap. 5.

## Example Two: The Worsening Post-World-War-II Depression[4]

Problems with price indices can lead to grotesque and changing interpretations of historical phenomena. According to the official national-income-account data, the nation had a huge downturn in 1946. Moreover, unique among downturns in American history, it continues to get worse—even after the downturn is over. In 1960, the U.S. Department of Commerce reported that the national output decline for 1946 had reached an extraordinary 14 percent. With the historical revisions reported in 1995 (U.S. Council of Economic Advisers), the calculated output decline for the year 1946 was 20.6 percent. This is greater than the accumulated reported decline for 1931 and 1932 during the darkest part of the Great Depression.

Yet, all of this happened while consumer spending was rising sharply, the unemployment rate was under 4 percent, and the stock market was registering double-digit gains, with the Standard and Poor industrial index reaching the highest level since 1929. The statistical fiction that official national-income indicators show reflects the switch from largely command, non-market-based output in 1945 to a much more market-determined output with a dramatically downsized public sector. The end of the wage-and-price controls meant that inflation moved from being disguised to being explicit. Perversities in the way the aggregate GDP price deflator is calculated meant that the shift from public to private activity substantially increased the recorded GDP price deflator for the economy. Over time, the difference in the reported increase in prices in the public and private sectors meant that the post-war shift back to private enterprise increased the aggregate price index *independent of price movements*.

Thus, revisions in statistics years after they are originally compiled do not always lead to greater accuracy. Given the fundamental

[4]See Vedder and Gallaway (1991, 1997) for a more detailed analysis of this example.

problem of evaluating government activity that is not sold in markets, any aggregate output statistic is subject to considerable debate. As Robert Higgs (1992) has shown, under one very reasonable method of accounting, the Great Depression actually persisted until the mid-1940s, rather than decisively ending with America's entry into World War II.

## Example Three: Are We Undergoing Deindustrialization?

The contradictory data are present within a single edition of the *Economic Report of the President*. For example, some people have spoken about the "deindustrialization" of America, presumably referring to a sharp decline in the relative importance of manufacturing in the American economy. Using nominal data from page 312 of this year's report (U.S. Council of Economic Advisers 1997), this observation is confirmed, with manufacturing's share of gross domestic product falling by nearly one-fourth in just 17 years from 1977 to 1994 (from 22.81 to 17.27 percent). Looking at the next page (p. 313), where the data are expressed in real terms, one observes manufacturing's share of output falling only very modestly, from 18.61 to 17.68 percent of GDP. Hardly major deindustrialization.

## Example Four: Is Government Growing or Declining in Relative Size?

With respect to government, the conclusions are just the opposite. With the data expressed in real terms, the government by 1994 was about a 20 percent smaller proportion of the economy than in 1977; with nominal data, the decline was only one-third as great. Adding to the confusion, the measured change of relative size in government varies depending on whether one looks at tables B-1 and B-2, B-8 and B-9, or B-10 and B-11. Turning to data on total current expenditures of government on page 394, we learn that government as a

percent of GDP, grew from about 30 to 32 percent from 1977 to 1994, reflecting the impact of income transfers not included in the basic GDP classifications. Moreover, none of these measures picks up the impact of coercive governmental regulation or mandates on the private sector, which almost certainly have grown in relative importance over time.

As with earlier examples, the hazards of price indexation contribute importantly to the contradictory findings. For example, the statistics supposedly correcting for inflation use an index for governmental services to deflate, which is, at best, a highly speculative exercise, given the non-market nature of governmental activity. In general, governmental services are valued in the GDP accounts by adding up compensation paid to employees, which is to say on payments to inputs rather than a valuation of output. Given the very high levels of economic rent present in much government employment, this is a doubly dubious procedure. After all, one group of employees is not paid according to its marginal contribution to society, it is government employees (Cox and Brunelli 1994).

## Example Five: Is the Economy Doing Well or Poorly?

Even most mainstream economists acknowledge significant difficulties with the measurement of aggregate economic performance. The official GDP statistics suggest that the worst post-war year in terms of total output change was 1946, while the best was 1951. The former year saw the nation convert from a wartime to a peacetime economy, and from a price-controlled economy to one in which prices were more or less free to fluctuate with market forces.

The exact reverse happened in 1951. The 1951 boom came in part by forcing human resources into employment at below-equilibrium wages—the military draft. The allegedly good performance came from coercive tactics, and by valuing an important part of output not by the subjective evaluations of consumers and producers, but by the non-market prices paid to governmentally directed inputs.

Even if one accepts the concept of GDP as a reasonable way of evaluating the performance of an economy, however, there are significant practical difficulties. I randomly selected the year 1993 for evaluation. In the *1994 Economic Report of the President*, it is reported that the 1993 GDP rose 2.9 percent—close to the long-term growth rate of somewhat over 3 percent. By 1995, the 1993 growth rate had been revised upward to a healthy 3.1 percent. The consensus was that 1993 was a pretty good year. The next year, the government changed its mind, deciding that GDP in 1993 rose but 2.2 percent, one of the lowest non-recessionary year growth rates in modern American economic history, and about 30 percent less growth than reported merely a year earlier. In 1997, the estimates were revised upward again slightly, to 2.3 percent. We not only had second thoughts about 1993, but third and fourth thoughts as well ended on December 31, 1993, and any change in its GDP after that date is an admission of prior statistical reporting error. The admitted errors are substantial.

All of this, of course, ignores the question of whether GDP, or any measure for that matter, is appropriate to evaluate aggregate economic performance. Consider the question: is the American economy doing well today? Those answering that question affirmatively cite statistics showing low unemployment, high employment-population ratios, rising exports and industrial production, significant immigration of human and capital resources to the U.S., and a booming stock market. Yet, the standard national-income framework, I think, is more consistent with a "no" answer to that question. The latest in the ever-changing GDP statistics shows that annual real GDP change has varied from -1.0 to 3.5 percent in this decade, with the median being about 2.5 percent. The median growth in the 1960s was 4.5 percent, in the 1970s was 4.1 percent, and in the 1980s was 3.2 percent. If these numbers are to be believed, then the 1990s is easily the worst performing of recent decades. Moreover, the long-run secular trend seems to be ever-lower rates of economic growth. Will the real American economy please stand up?

## You Don't Have to be an Austrian to be Austrian on Statistics

Even accepting the dominant method of modern economics, and believing that the use of empirical means to verify or falsify economic hypotheses is valid, the reality of data aggregation problems makes empirical exercises a hazardous and often dubious enterprise.

This comes as no surprise to Austrian economists. On basic theoretical grounds, the problems of generalizing with any precision about the magnitude of price changes are substantial. In Rothbard's (1993) "evenly rotating economy" with freely operating market forces, the issue of aggregate economic performance is one that is either irrelevant or of a second order of importance. If economic agents are freely expressing their economic will in their decision making, the existing level of economic performance *is* optimal, and whether it is larger or smaller than in other time periods is not very important.

The discussion above merely samples the problems of using aggregate economic statistics. Other examples abound; four will suffice. First, hundreds of billions of dollars of underground and non-market activity distort aggregate statistics on national income and domestic product. Second, the problem of estimating poverty rates is so entangled that the government itself in some years issues not only *the* poverty rate but some 29 other variations, with the top estimate being at least three times the lowest one (U.S. Department of Commerce, 1992). Third, the national savings rate is radically different if one uses Federal Reserve data as opposed to Department of Commerce data.[5] Fourth, U.S. exports to Canada are reported as being significantly different from Canadian

[5]To illustrate this, it is best to go to the *Statistical Abstract of the United States* (U.S. Department of Commerce, Washington, D.C.: U.S. Government Printing Office, 1997). Compare the data on changing financial assets in Table 771 with those in Table 697. Household net financial assets in, say, 1993, rose by $752 billion in Table 771, but "personal savings" in Table 697 was only $216.4 billion—a difference of a factor of more than three.

numbers on imports from the U.S. More generally, the "errors and omissions" component of balance-of-payments statistics is often huge in magnitude.[6]

Some aggregate statistics are no doubt reasonably reliable. For example, I trust the numbers on total steel production. Changes in the factor shares in aggregate national-income data probably give better insight into whether labor is earning its marginal product than the wage-productivity data discussed above. Basic data on individual interest rates or individual commodity prices are probably pretty good. Moreover, the private economy in its planning wants, and is willing to pay, to get some aggregate economic data, even mediocre data. That explains why otherwise sensible businessmen pay economists to do forecasts. If GDP didn't exist, someone would invent it.

The statistical mayhem described above suggests that one can find data to support almost any economic theory. The notion that mainstream economists practice science while Austrian economists are more like theologians is, at the very least, an exaggeration. Many mainstream economists selectively use data to defend preconceived positions. They try to add legitimacy to often bankrupt intellectual positions by invoking the mantle of science. On average, I think, Austrians are more straightforward and intellectually honest. The moral of my little story, then, is: beware, government statistics may be injurious to your economic health. Treat them gingerly and with suspicion, as Austrian economists have long done. Indeed, when it comes to government statistics, ignorance often may well be bliss.

[6]In the *1997 Economic Report of the President* (p. 415), the median statistical discrepancy (ignoring the direction of the discrepancy) in the years 1989 through 1995 was $31.5 billion, nearly as much as the nation's purported "unilateral transfers."

## Appendix

Below is the official CPI-U (1982–84=100) and the author's reconstruction of it incorporating the X1 and Boskin price adjustments.

| Date | CPI-U | CPI-U-X1-BOSKINIZED |
|---|---|---|
| 1973 | 44.4 | 50.3 |
| 1974 | 49.3 | 55.4 |
| 1975 | 53.8 | 59.7 |
| 1976 | 56.9 | 62.0 |
| 1977 | 60.6 | 65.3 |
| 1978 | 65.2 | 69.5 |
| 1979 | 72.6 | 75.8 |
| 1980 | 82.4 | 85.2 |
| 1981 | 90.9 | 93.1 |
| 1982 | 96.5 | 97.8 |
| 1983 | 99.6 | 99.8 |
| 1984 | 103.9 | 102.4 |
| 1985 | 107.6 | 104.9 |
| 1986 | 109.6 | 105.8 |
| 1987 | 113.6 | 108.5 |
| 1988 | 118.3 | 111.7 |
| 1989 | 124.0 | 115.8 |
| 1990 | 130.7 | 120.8 |
| 1991 | 136.2 | 124.6 |
| 1992 | 140.3 | 127.6 |
| 1993 | 144.5 | 129.4 |
| 1994 | 148.2 | 131.3 |
| 1995 | 152.4 | 133.3 |
| 1996 | 156.9 | 136.1 |

## References

Cairnes, J.E. 1888. *The Character and Logical Method of Political Economy*. 2nd ed. London: Macmillan.

Cox, Wendell, and Samuel A. Brunelli. 1994. *America's Protected Class III*. Washington, D.C.: American Legislative Exchange Council.

Higgs, Robert. 1992. "Wartime Prosperity: A Reassessment of the U.S. Economy in the 1940s." *Journal of Economic History* 52:42–60.

McCloskey, Donald N. 1985. *The Rhetoric of Economics*. Madison: University of Wisconsin Press.

Mises, Ludwig von. [1920] 1990. *Economic Calculation in the Socialist Commonwealth*. Auburn, Ala.: Ludwig von Mises Institute.

——. 1966. *Human Action: A Treatise on Economics*. 3rd rev. ed. Chicago: Regnery.

Rothbard, Murray N. 1993. *Man, Economy, and State: A Treatise on Economic Principles*. Rev. ed. Auburn, Ala.: Ludwig von Mises Institute.

U.S. Council of Economic Advisers. Various Years. *Economic Report of the President*. Washington, D.C.: U.S. Government Printing Office.

U.S. Department of Commerce, Bureau of the Census. 1992. Current Population Reports, Series P-60, No. 182. *Measuring the Effect of Benefits and Taxes on Income and Poverty: 1979 to 1991*. Washington, D.C.: U.S. Government Printing Office.

——. 1960. *Historical Statistics of the United States, Colonial Times to 1957*. Washington, D.C.: U.S. Government Printing Office.

——. 1975. *Historical Statistics of the United States, Colonial Times to 1970*. Washington, D.C.: U.S. Government Printing Office.

——. 1997. *Statistical Abstract of the United States*. Washington, D.C.: U.S. Government Printing Office.

Vedder, Richard, and Lowell Gallaway. 1991. "The Great Depression of 1946." *Review of Austrian Economics* 5 (2): 3–32.

——. 1997. *Out of Work: Government and Unemployment in Twentieth-Century America*. Rev. ed. New York: New York University Press.