

GNP, PPR, and the Standard of Living

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Over the past two decades, economists have observed and become professionally concerned with falling rates of economic growth. To many young people today trying to establish homes and raise families, that concern is not merely professional. Despite their greater investment in education than any previous generation and despite the extent to which two-earner households have become the norm, this generation, by all indications, is likely to be the first in U.S. history not even to maintain, let alone improve upon, the standard of living enjoyed by their parents.¹

Standard measurements of economic activity conceal much of this development. Gross national product since 1960 has exhibited seldom-interrupted growth even in real per capita terms.² Either the perception described in the first paragraph is amiss or standard measurements are faulty. My aim in this article is to examine alternative measurements which accord with these perceptions to a greater extent than do the standard ones. Such an alternative has been developed by Murray Rothbard.³ In the second section of this article, I describe that measurement and explain the analytical insights from which it was derived. In the third section, I calculate its values from 1947 to 1983, and compare its growth rates over that period. The fourth section examines the assumptions underlying that measure and indicates the consequences of making them less restrictive. Concluding comments constitute the fifth section.

Austrian economics places great emphasis on the subjective nature of value. In his "Toward a Reconstruction of Utility and Welfare Economics," Murray Rothbard draws the implication that the valuations individuals place on economic goods are revealed only by their actions.⁴ Thus, the only way economists can place a monetary value on some commodity is by observing an individual voluntarily exchanging a certain amount of his own money for that commodity. A person who pays \$20 for a shirt reveals that he values the shirt more than he values the \$20.

While this concept is by no means unique to the Austrian school,⁵ hardly any non-Austrian economist has cared to push it to its logical conclusion as far as national income accounting is concerned.⁶ This is just what Rothbard does, however. Because government output is, with few exceptions, not sold on the market, one cannot accurately measure its value. Furthermore, the fact that such output must be financed coercively (through taxation) creates at least a presumption that those unwilling to pay for such output do not place *any* value on it.

Rothbard treats government output as if this were precisely the case in defining his measurements “gross private product” (GPP) and “private product remaining with producers” (PPR). Gross private product is defined as gross national product less income originating in government and government enterprises.⁷ To the extent that government enterprises charge fees for their output, it seems that deducting only the subsidized part of their income would be more consistent with the considerations just discussed than deducting all of them, as Rothbard does. Private product remaining with producers is computed by deducting the higher of government expenditures and tax revenues plus interest received from gross private product.⁸ Transfer payments as well as exhaustive expenditures are deducted since they too wind up in the hands of nonproducers. Rothbard characterizes these expenditures as depredations upon private output.⁹

Rothbard anticipates the criticism that first subtracting income originating in government and then subtracting government expenditures is a form of “double counting.”¹⁰ An example may clarify this issue. Suppose there were a very simple economy, in which farmers produced 1,000 bushels of wheat and the government collected 200 bushels in taxes to support workers whose output was not sold to the farmers on the market. GNP would be 1,200 bushels (private output plus costs of producing government output), GPP would be 1,000 bushels, and PPR would be 800 bushels. Indeed, 800 bushels of wheat is all that remains in the hands of the farmers who produced it, which would be the definition of PPR in this case.

Table 1 shows the calculation of GPP and PPR. I first calculate nominal GPP and PPR, and then use the GNP deflator to calculate real PPR.

The figures in table 1 corroborate to some extent the impressions described in the introductory paragraphs of this article. This can be more clearly seen when the figures are expressed in terms of growth rates. While real GNP grew at an annual rate of 3.5 percent between 1947 and 1983, real PPR grew by only 2.4 percent annually. This gap widens when one looks at more recent periods. Between 1965 and 1983, real GNP grew at a 3.2 percent rate compared to 1.6 percent for real PPR. Between 1973 and 1983, the figures are 2.8 percent and 1.0 percent for real GNP and real PPR respectively. Finally, from 1978 to 1983, real PPR fell by 0.4 percent per year while real GNP growth rose by 2.7 percent.

Table 1

Measures of Output

(measured in billions of current dollars except for real PPR, which is measured in billions of 1972 dollars)

	GNP	Income Produced by Government and Government Enterprises	GPP	Government Depreciations ^a	PPR	Real PPR
1947	233.1	19.3	213.8	56.9	156.9	316.6
1948	259.5	20.2	239.3	58.9	180.4	340.5
1949	258.3	22.5	235.8	59.3	176.5	336.2
1950	286.5	23.8	262.7	70.2	192.5	359.4
1951	330.8	30.8	300.0	85.6	214.4	375.5
1952	348.0	35.3	312.7	93.9	218.8	377.8
1953	366.8	36.4	330.4	101.7	228.7	388.8
1954	366.8	36.9	329.9	97.0	232.9	391.1
1955	400.0	38.5	361.5	102.4	259.1	425.9
1956	421.7	40.7	381.0	110.6	270.4	430.6
1957	444.0	44.0	400.0	117.6	282.4	434.9
1958	449.7	47.1	402.6	127.6	275.0	416.4
1959	487.9	50.0	437.9	131.0	306.9	454.0
1960	506.5	53.4	453.1	142.8	310.3	451.7
1961	524.6	56.7	467.9	149.1	318.8	459.8
1962	565.0	61.1	503.9	161.0	342.9	485.6
1963	596.7	65.9	530.8	172.8	358.0	499.5
1964	637.7	71.2	566.5	181.9	384.6	528.5
1965	691.1	76.7	614.4	193.4	421.0	566.2
1966	756.0	86.4	669.6	220.1	449.5	585.6
1967	799.6	96.3	703.3	242.4	460.9	583.0
1968	873.4	108.1	765.3	273.8	488.5	591.8
1969	944.0	118.2	825.8	305.0	520.8	600.1
1970	992.7	130.5	862.2	315.3	546.9	598.0
1971	1077.6	141.8	935.8	344.6	591.2	615.8
1972	1185.9	155.4	1030.5	396.8	633.7	633.7
1973	1326.4	167.8	1158.6	433.1	725.5	686.0
1974	1434.2	182.7	1251.5	483.8	767.7	667.1
1975	1549.2	202.0	1347.2	539.8	807.4	641.9
1976	1718.0	220.4	1497.6	591.5	906.1	684.7
1977	1918.3	237.2	1681.1	675.3	1005.8	718.2
1978	2163.9	259.1	1904.8	740.8	1164.0	773.8
1979	2417.8	279.6	2138.2	821.5	1316.7	805.7
1980	2631.7	308.1	2323.6	949.9	1373.7	769.9
1981	2957.8	338.1	2619.7	1082.4	1537.3	785.9
1982	3069.3	364.7	2704.6	1193.0	1511.6	728.9
1983	3304.8	392.1	2912.7	1291.1	1621.6	753.0

Source: *The Economic Report of the President*, 1985, pp. 236, 244, 275, 320, and 312.

^aThe higher of government expenditures or tax receipts plus interest received at federal level plus the same variables at state and local level.

Of perhaps more relevance to the question of what has been happening to the U.S. standard of living is the PPR per person. Rather than taking a simple per capita PPR, I divide PPR by the number of producers responsible for it. This means that I subtract government employees from total employment

to obtain nongovernment employment. PPR per person employed not by the government is given in table 2.

These figures make it clear that steady growth of real PPR per producer ceased after 1966. Since that time the trend has, with some interruption, been downward. The 1983 figure is approximately the same as that for 1964. This tells a far different story than does the 2.3 percent annual rate of increase in the standard measure, per capita GNP, during that same period.

Table 2
Real PPR per Person Employed by the Private Sector

	<i>Real PPR</i> <i>(billions of</i> <i>1972 dollars)</i>	<i>Employment</i> <i>(Nongovernment)</i> <i>(millions)</i>	<i>Real PPR/Employment</i> <i>(Nongovernment)</i> <i>(1972 dollars)</i>
1947	316.6	51.3	6,172
1948	340.5	52.7	6,461
1949	336.2	51.8	6,490
1950	359.4	52.9	6,794
1951	375.5	53.6	7,006
1952	377.8	53.6	7,048
1953	388.8	54.5	7,134
1954	391.1	53.4	7,324
1955	425.9	55.3	7,702
1956	430.6	56.5	7,621
1957	434.9	56.4	7,711
1958	416.4	55.2	7,543
1959	454.0	56.6	8,021
1960	451.7	57.4	7,869
1961	459.8	57.2	8,038
1962	485.6	57.8	8,401
1963	499.5	58.5	8,538
1964	528.5	59.7	8,852
1965	566.2	61.0	9,282
1966	585.6	62.1	9,430
1967	583.0	63.0	9,254
1968	591.8	64.1	9,232
1969	600.1	65.7	9,134
1970	598.0	66.1	9,047
1971	615.8	66.5	9,260
1972	633.7	68.8	9,211
1973	686.0	71.3	9,621
1974	667.1	72.6	9,189
1975	641.9	71.2	9,015
1976	684.7	73.9	9,265
1977	718.2	76.9	9,339
1978	773.8	80.4	9,624
1979	805.7	82.9	9,719
1980	769.9	83.0	9,276
1981	785.9	84.4	9,312
1982	728.9	83.7	8,708
1983	753.0	85.0	8,859

Rothbard's definitions of GPP and PPR are both consistent and clear enough to not be misleading. To give a reliable description of economic reality, however, it is necessary that the assumptions on which their relevance is based be grounded in reality. Anyone not sharing Rothbard's anarchocapitalist leanings, however, would recoil from the assumption that the government produces nothing of value. Indeed, even anarchists are aware that the undesirability of government provision of some service does not in and of itself make the provision of that service undesirable. The fact that the government provides armed forces, a court system, and police makes it extremely difficult to measure the value of those services but does not deprive them of their value. The nonexclusivity of such services (their being public goods) means that people will not demonstrate their true preferences because they are never faced with the alternative of forgoing such services if their value fails to exceed the costs. This is what economists call the free rider problem.

Even allowing for the public goods nature of certain items produced by government, their exclusion from PPR is made less difficult by a fact that would lead us to question their inclusion in GNP: government output that is truly valuable very seldom provides direct utility to ultimate consumers. Rather, much of it is actually an intermediate good. National defense can be thought of in this way.¹¹ The definition of GNP deliberately excludes intermediate goods. Thus, it is possible without denying the value of some of the services produced by government to exclude them from GNP and thus *a fortiori* from GPP and PPR.

On the other hand, there is no doubt that many people find much government activity useless if not downright objectionable even if they disagree on which activities fall into these categories. Lipset and Schneider cite the median response of people asked what percentage of their tax money is wasted by the federal government to be 48 percent.¹² David Boaz estimates that at least 35 percent of 1982 federal expenditures are of no value to anyone except the special interests which got them enacted in the first place.¹³ The Grace Commission, which directed most of its scrutiny to the efficiency with which the federal government provides services rather than to the desirability of the services themselves, was able to find one-third of taxes to be "consumed by waste and inefficiency."¹⁴

What I have shown is that to the extent that government spending consists either of waste or of intermediate goods, measurement of the standard of living of those working in the private sector is rendered much more accurately by Rothbard's measurement of PPR per private sector worker than by the Department of Commerce's per capita GNP. The former indicates that the standard of living for workers in the private sector has been at a standstill since 1964, while the latter exhibits growth in the 2 percent per annum range. Nevertheless, there are two possible interpretations of these facts. The one presented

in the introduction to this article is simply that the U.S. standard of living has stopped rising. The other possibility is that economic activity has quickened its shift into the underground economy. While such unreported production is counted in neither GNP nor PPR, it does contribute to the standard of living of those responsible for it. The underground economy renders any measurement of aggregate economic activity suspect.

Notes

1. Phillip Longman, "The Downwardly Mobile Baby Boomers," *Wall Street Journal*, April 12, 1985, p. 28.
2. Per capita real GNP rose from \$4,080 in 1960 to \$6,544 in 1983 (a 2.1 percent annual rate). Derived from *Economic Report of the President, 1985* (Washington, D.C.: U.S. Government Printing Office, 1985), pp. 234, 265.
3. Murray Rothbard, *America's Great Depression* (Kansas City: Sheed and Ward, 1963), pp. 224–26, and 296–304.
4. Rothbard in Mary Sennholz, ed., *On Freedom and Free Enterprise* (Princeton: D. Van Nostrand, 1956), pp. 224–62. He calls this principle "demonstrated preference."
5. Oscar Morgenstein applies it in his classic discussion of the treatment of government spending in *On the Accuracy of Economic Observations*, 2d ed., completely revised (Princeton: Princeton University Press, 1963), pp. 247–48.
6. Tom Bettell is one exception. See his "Taxes and GNP," *National Review*, September 17, 1982, p. 1134.
7. Rothbard, *America's Great Depression*, p. 296.
8. *Ibid.*, p. 297. I have disaggregated into federal, and state and local and taken the higher for each.
9. *Ibid.*, p. 296.
10. *Ibid.*, p. 335.
11. Morgenstein, p. 247.
12. Lipset and Schneider, *The Confidence Gap* (New York: Free Press, 1983).
13. David Boaz, "How to Really Cut the Budget," *Inquiry*, April 12, 1982.
14. J. Peter Grace, *War on Waste: President's Private Sector Survey on Cost Control* (New York: Macmillan, 1984), p. vii.