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STAFF PAPER 12

THE MEASUREMENT AND ECONOMIC IMPLICATIONS OF THE INCLUSION OF INDIRECT TAXES IN THE CON- SUMERS' PRICE INDEX

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Real wages, measured by deflating money wages with consumer prices, is the most frequently employed criterion of the rate of exchange of labor services for consumer goods and services.¹ As a result, real wage changes are used to measure changes in the terms of trade of labor inputs for final products. It is the thesis of this paper that this measure is (1) conceptually incorrect and its use has led to (2) biased estimates of real wage changes in the United States.

Real wages, measured by deflating money wage rates with consumer prices, measures wage rates gross of direct taxes and net of indirect taxes. Consequently how governmental expenditures are financed necessarily affects real wage measurements. Biased real wage measurements have been produced by this disparity in the treatment of indirect and direct taxes. The effects of this disparity have been magnified by (1) the growth in the fraction of national output not subject to indirect taxes, and (2) the exclusion of governmental services from the Consumers' Price Index.

FACTOR COST TO FINAL PRODUCT PRICE RELATIONSHIPS AND THE CHOICE BETWEEN DIRECT AND INDIRECT TAXES

How governmental expenditures are financed, in particular the choice between direct and indirect taxes, ought not per se to affect real wage measurements. Yet if the relationship of wages to prices is used to measure real wages, with wages defined by wage rates inclusive of wage supplements and prices by an index number of consumer prices, then changes in tax policy can produce measurement errors. It can be shown that measured real wages will change as a result of a change in the volume of governmental expenditures financed through indirect taxation.

Economic theory implies that the producers of products subject to indirect taxes will, when hiring agents of production, base their calculations upon the market prices of their products net of taxes. Therefore if indirect taxes exist, then there must also exist a gap between the market value of final products and their factor cost. This is the same as saying that the sum of the payments to the cooperating agents of production must be less than the value of the final product.

¹ For example, see Albert Rees, "Patterns of Wages, Prices, and Productivity," in *Wages, Prices, Profits, and Productivity*, The American Assembly, Columbia University, 1959.

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Since direct taxes do not, whereas indirect taxes do, create a gap between the market value of final products and their factor costs, the direct-indirect tax choice must affect the relationship between rates of return to productive agents and final product prices. Indirect taxes imply a lower level of measured real factor returns than direct taxes. Therefore the choice of indirect taxes implies lower measured real wages. This must occur if the price index used to deflate money wages reflects prices to consumers, i.e., is a consumers' price index of the type computed by the Bureau of Labor Statistics.

The direct-indirect tax choice implies either reducing (a) disposable after-tax income, or (b) the size of pretax income through a reduction in the rate of return to factors. In either case, after-tax real income and hence by hypothesis real wages properly measured are unchanged. However real wages measured by deflating money wages with consumer prices is changed. The reduction in pretax factor incomes lowers measured real wages; the reduction in after-tax disposable income does not. Therefore a measurement error results.

The implications of the direct-indirect tax choice can be put more technically. When real wages are defined as money wage rates deflated with consumer prices, then the choice of indirect taxes implies (1) a market demand for labor that is smaller, and (2) a market supply that is larger than the corresponding demand and supply functions associated with direct taxes. The demand function is lower because the marginal productivity of agents, for all levels of output and for all combinations of inputs, decreases for the firm. Alternatively, the imposition of indirect taxes can be viewed as an increase in business costs and therefore lowers what employers are willing to pay, measured by the ratio of wages to prices, for productive agents.

Similarly the choice of direct taxes implies the existence of a gap between what employers pay for labor and what employees receive. The wage costs of employers exceed the wage receipts of employees, and this difference is accounted for by direct taxes. Only for indirect taxes are the wage costs of employers the after-tax wage receipts of employees. As a consequence, if labor supply functions are to properly reflect the opportunity costs of leisure, then the supply functions associated with indirect taxes must be greater than those associated with direct taxes. To summarize, the choice of indirect taxes implies a lower demand and a greater supply of factors. Changes in both demand and supply conditions operate to decrease the measured real returns of agents. Yet this result is consistent with identical after-tax real incomes to factors with no change in the quantity of labor hired.²

Clearly, to obtain real wage measurements that are unaffected by the direct-indirect tax choice, either real wages ought to be measured before or after all taxes. If wage rates are to be measured before taxes, then indirect taxes must be excluded from the consumers' price index used as a deflator. This implies measuring consumers' prices net of taxes, i.e., using the same final product prices used by producers

² Compare a proportional income tax with a completely general sales tax upon the final products of the economy and savings and assume both taxes yield the same receipts and have the same collection costs.

The effects of this direct-indirect tax choice upon the relationship of factor costs to final product prices has none of the usual Pigovian implications because it is an artifact of the limitations inherent in the conventional measurements of real wages rather than a result of actual economic differences between direct and indirect taxes.

to determine the number of agents they will hire. Alternatively, if wage rates are to be measured after taxes, then factor returns must be measured net of direct taxes. This implies using the same wage rates used by suppliers of labor in determining how to allocate their resources between leisure and work.

Given the fact that government services are usually if not invariably excluded from indexes of consumer prices, only one of these criteria constitutes a feasible alternative. This is measuring real wages before all taxes. Measuring real wages net of taxes implies that changes in the volume of governmental expenditures and taxes will change measured real wages. Increases in taxes and expenditures will lower measured real wages; decreases in taxes and expenditures will raise them. If real wage measurements are to be unaffected by changes in the volume of governmental expenditures and taxes, then they must be measured before all taxes.

One may object to the conclusion of this analysis—that there is a net differential effect on the market prices of productive agents attributable to indirect taxes—on the grounds that the choice between direct and indirect taxes usually involves differences in both collection and welfare costs. However, to alter this conclusion it is necessary to argue that indirect taxes are more efficient and/or cheaper to collect than direct taxes and that this difference is so large that it decreases the total returns to agents by an amount greater than the indirect tax proceeds. If that were true, and the usual argument runs the other way, then the inefficiencies and/or collection costs associated with direct taxes could produce a reduction in the market prices of factors on a par with that produced by indirect taxes.

The foregoing analysis has shown that real wage changes, as they are conventionally measured, need not coincide with changes in the economic welfare of wage receivers. Through the use of indirect taxes, these can be either positive or negative; it is possible to change sharply measured real wages with no change in actual after-tax real wage rates. Yet it is possible to show that this identification of actual or correctly measured real wages with the usual real wage measurements has influenced the behavior of trade unions and governments. In the early post-World War II years, some governments employed business subsidies to change wage-price relationships in order to increase measured real wages. This same identification of real wage rates with the relationship of wages to prices explains the widespread use of consumer price indexes for wage escalation. This occurs despite the possibility of producing labor shortages or surpluses through the use of indirect taxes when money wages, adjusted to reflect the productivity gains of labor, are escalated with an index of consumer prices.

This naturally raises the question: How important is this argument quantitatively? To what extent have changes in the use of indirect taxes distorted the usual measurements of real wage changes? If they are to be of value, then one must show that they are correlated with the measurements correct in principle. This implies that the value of the conventional measurements of real wages as a proxy variable for what is in principle correct is a function of how stable the indirect tax component of the final product of the economy has been.

Net national product represents a measure of what in principle the cooperating agents would be paid in the absence of indirect taxes. Therefore the ratio of indirect taxes to net national product measures the gap between factor costs and the market value of the final product of the economy. Alternatively, this ratio can be viewed as a measure of the fraction of the final price of goods and services that is paid to the agents of production. The ratio of indirect taxes to net national product has risen from about 9 percent in 1929 to 15 percent in 1957. In particular, this percentage rose sharply between 1929 through 1933; its rise during these four years equals that over the entire twenty-eight. The rise from 9 to 15 percent implies that the returns to the cooperating agents of production must have declined from 91 to 85 percent of net national product. Therefore (6/91) or 6½ percent represents an estimate of the bias in the conventional measurements of real wages attributable to the growth in indirect taxation.

This estimate represents an incomplete accounting of the bias in the conventional measurements of real wages attributable to the growth of indirect taxation. The part of the bias unaccounted for is produced by (1) excluding from the Consumers' Price Index those goods and services provided by governments that are not explicitly sold, and (2) the concentration of indirect taxes upon the output of the nongovernmental sector of the economy. As a result, the gap between the value at factor cost and at market of the output of the nongovernmental sector of the economy is greater than it is for governmental output. For estimating the bias in the conventional measurements of real wage changes, it is the change in the gap between the value at factor cost and at market of the goods and services included in the Consumers' Price Index that is relevant.

Growth in indirect tax receipts relative to output implies a rise in the prices of goods and services included in the Consumer's Price Index vis-a-vis those excluded if the output of the governmental sector of the economy is neither subject to excise taxation nor included in the index of consumer prices. Consequently, some of the increase in the Consumers' Price Index since 1929 is a relative price effect on a par with the change in the butter-margarine price ratio caused by an excise tax on margarine. This relative price effect would not have occurred if there had been no growth in indirect taxes, i.e., if the marginal governmental expenditures were financed through direct taxation.

Quantitative estimates may be made of the magnitude of this bias in the Consumers' Price Index. For this purpose, two measures of the private output of the economy are employed. One is net national product less expenditures of governments for employees. The other is net national product less all governmental expenditures. In 1929, a little over 9 percent of the total output of the private sector of the economy, as measured by net national product less the costs of government employees, was acquired through indirect taxation. This implies that, on the average, governments received 9 cents for every dollar of sales of private output in the economy.

In 1957, slightly more than 16 percent of the total output of the private sector of the economy, as measured by net national product less the costs of employees of governments, was acquired through indirect taxation. As a result, governments received on the average

over 16 cents for every dollar of sales of private final output in the economy.

This change from 1929 to 1957 in the indirect tax component of the output of the private sector implies that there has been a decline from about 91 percent of the output of the private sector going directly to agents of production to about 84 percent. Consequently, a bias of about $7\frac{1}{2}$ percent is implied for measuring actual real wage changes between 1929 and 1957. If one uses a broader definition of untaxed output, if one uses the purchases of goods and services by governments as a measure of untaxed output, then the gap between the prices of private goods at market and at factor cost is even greater. This broader measure of government output implies a bias in measuring real wage changes of about $9\frac{1}{2}$ percent.

This analysis indicates that the spread between output at market and at factor cost increased on the average from 9 to 15 percent. For the goods and services priced by the Consumers' Price Index, the increase was from about 9 to 16 to 18 percent. Therefore, an error of $1\frac{1}{2}$ to 3 percent is attributable to relative price effects.³ It also suggests an overall bias in measuring real wage changes of $7\frac{1}{2}$ to $9\frac{1}{2}$ percent when 1929 is compared with 1957.

This estimate of the bias in the conventional measurements of real wages eliminates the influence of how governmental expenditures are financed upon measurements of relative changes in real wage rates. It was obtained by holding constant, at the 1929 level, the ratio of indirect taxes to consumer prices. Thereby, the effects of the growth in the fraction of final product prices represented by indirect taxes was isolated and its implications for conventional measurements of changes in real wages estimated.

This procedure does not eliminate the bias in the conventional real wage calculations for measuring absolute changes in real wages over time. In a progressive economy with rising individual productivity, constancy in the ratio of indirect taxes to prices implies that some of the productivity gains of labor are being captured by governments through indirect taxation. Therefore, absolute changes in measured wage rates will represent less than actual changes, although relative changes in real wages will be correct. The larger the ratio of indirect taxes to output or the higher the rate of progress in an economy, the greater is the error in measuring absolute changes in factor returns.

To properly measure absolute changes in real wages, it is not enough to hold constant the effects of indirect taxes upon real wage measurements. Their influence must be completely eliminated. This implies asking what real wage measurements would have been if all wage receipts were gross of taxes. In 1929, the indirect tax receipts of all governments show that measurements of the absolute level of real wages were 91 percent of what they would have been in the absence of indirect taxes. By 1957, these measurements represented just 84 percent of worker output. This decline associated with rising worker

³ The output of the economy going through the public sector is not immune from taxation. For example, when the Defense Establishment buys military equipment, the producer of this equipment is subject to the corporate income tax and local property taxes. Consequently, it appears the higher estimate overstates the effects of the growth in the public sector upon the indirect tax rate for consumer goods.

An error in the other direction may be caused by implicitly assuming that the tax rate upon investment goods is the same as it is on consumer goods. If in fact it is lower on investment goods, then the withdrawal of resources from private to public consumption implies sharper increases in the tax rate on consumption goods than suggested here.

productivity implies large errors in estimating absolute changes in real wages. This actual increase in real wages between 1929 and 1957 was 24 percent greater than the increase measured by conventional techniques.⁴

The evidence presented here indicates that the usual real wage measurement procedures lead to low estimates of increases in real wages between 1929 and 1957. The error in measuring absolute changes in real wages is roughly three times as great as the error in measuring relative changes. Given the existing methods of computing real wages, the reluctance of economists to employ the conventional measurements of absolute changes in real wages appears to have some justification. For measuring relative changes in real wages, this evidence is consistent with the belief that measured and actual real wage changes are correlated. However, the absence of perfect correlation also suggests that the acceptance of the conventional measurements of real wages can be a source of frictions and misunderstandings in the labor market. If tax policy leads to an unstable relationship between indirect taxes and net national product, then conflicts are likely to occur in the labor market that could have been avoided through the use of direct taxes such as personal income taxes.

EMPLOYMENT EFFECTS OF INDIRECT TAXES

This analysis suggests that the sharp increase in the ratio of indirect taxes to output in the early thirties should have created frictions in the labor market. Income tax receipts, with no change in tax rates, fell sharply as a result of the decline in money income. Because of the desire of governments to balance budgets and maintain expenditures, there was a sharp rise in the fraction of all output acquired through indirect taxes. Consequently there was pressure downwards on money wages from two sources, the fall in prices and the shift from direct to indirect taxation. This substitution of indirect for direct taxes intensified the adjustment problems in the labor market associated with the decline in prices. Therefore it must have contributed to the severity and duration of the depression.⁵

For an economy in which money wages are rigid downwards, stable prices and indirect tax increases can be incompatible with full employment. If the depressing effects of indirect tax increases upon money wages are not offset by the productivity gains of labor, then rigid money wages and full employment are inconsistent with stable prices. If the quantity of labor supplied is perfectly elastic with respect to the prevailing money wage, then output and employment can be changed in the absence of changes in either governmental expenditures or consumer prices. The substitution of direct for indirect taxes will increase output and employment, and conversely. This suggests if wages (either money or real wages, as they are usually defined) are rigid downwards, then direct taxes ought to be favored over indirect taxes.

⁴ This calculation is based on the data contained in Table I, p. 15, in Rees, op. cit.

⁵ During the Civil War, indirect taxes were sharply increased and consequently measured real wages declined. However, this decline was associated with a marked rise in money wages attributable to the issuance of greenbacks. As a result, there was on balance no pressure downwards on money wages at this time. See Reuben A. Kessel, and Armen A. Alchian, "Real Wages in the North During the Civil War: Mitchell's Data Reinterpreted," *Journal of Law and Economics*, vol. II, October 1959, p. 05.

OTHER ECONOMIC AND MEASUREMENT EFFECTS OF THE INCLUSION OF INDIRECT TAXES IN CONSUMER PRICES

The choice of indirect in preference to direct taxes usually produces not only a rise in the prices of public vis-a-vis private goods, but also relative price changes among private goods. Cigarettes, liquor, gasoline, travel, furs, cosmetics, etc., tend to be relatively heavily taxed and indirect tax increases typically produce a rise in the prices of these goods relative to all private goods. Because the weights of the various components of the Consumers' Price Index are relatively stable over time, heavily taxed goods tend to be overweighted and lightly taxed goods underweighted relative to true post-tax consumer expenditures. Stability of weights implies that the goods whose relative prices increase are overweighted. The substitution effect, the replacement of taxed with untaxed goods in consumer expenditures, is accounted for inadequately. Clearly, insofar as relative price changes are attributable to indirect taxes, their inclusion in consumer prices implies an upward bias in prices. This bias would not exist if either indirect taxes were excluded from the Consumers' Price Index or if direct taxes were used.

Because of the relative price changes that usually confront consumers as a consequence of the imposition of indirect but not direct taxes, the use of indirect taxes implies that output and employment opportunities will fall in taxed industries. If the resources relinquished by the industries taxed become unemployed, then a decrease in output and a rise in prices is implied. An increase in unemployment attributable to the imposition of indirect taxes implies that the prices of untaxed components of the index remain unchanged. Therefore if the prices of taxed goods rise, then the overall index of consumer prices gross of taxes must also rise. The restoration of full employment, i.e., the subsequent absorption of resources relinquished by the industries taxed, implies a fall in prices.⁶ This rise and fall in prices would not be recorded if excises were not included in consumer prices, or if direct taxes were used as an alternative to indirect taxes.

CONCLUSIONS

The choice between 1929 and 1957 of indirect taxes as an alternative to direct taxes has produced two classes of measurement errors in the usual calculations of real wages. Both have operated to produce low estimates of real wage changes. The rise in the fraction of all output acquired through indirect taxes has decreased the ratio of wages to prices, particularly the ratio of wages to the prices of goods and services measured by the Consumers' Price Index. This decrease was caused by factors independent of the forces that affect the economic productivity of workers. It was largely a consequence of financing decisions, i.e., the choice between direct and indirect taxes by governments. As a result, estimates of changes in real wages have

⁶ What happens to the general level of prices as a result of the direct-indirect tax choice is related to the welfare costs of the method of taxation chosen. Insofar as the real balances held are a function of real income, the tax with the greater welfare costs will be associated with higher after-tax prices. The relationship between the pre- and post-tax price level is more complex. In addition to the welfare effects, one must consider what value the community places on the public goods that supplant private goods. The balanced budget multiplier theorem produces its inflationary effects by implicitly assuming the public regards such a substitution as equivalent to a fall in real income.

been too low. This bias has been estimated to be between $7\frac{1}{2}$ and $9\frac{1}{2}$ percent for measuring relative changes in real wages. For measuring absolute changes, the error was roughly three times as large. The concentration of indirect taxes upon particular classes of consumer goods has led to increases in measured consumer prices in excess of actual increases. Stability in the weights of the components of the Consumers' Price Index when indirect taxes have been unevenly applied has led to an overweighting of goods whose relative prices gross of indirect taxes have risen.

If one is willing to accept the proposition that money wages are rigid downwards, then the choice of indirect as an alternative to direct taxes when prices are stable or falling implies pressure to reduce money wage rates and hence risks of unemployment. Stable prices, money wages rigid downwards, and an increase in indirect taxes large enough to produce a decrease in the marginal private product of labor are inconsistent with full employment in the labor market. A marked increase in the use of indirect taxes was associated with a severe rise in unemployment and a sharp fall in prices during the early thirties. Insofar as money wages are rigid downwards, fiscal policy must have intensified the severity and magnitude of the great depression.

Although an index of consumer prices exclusive of indirect taxes represents a step in the direction towards more correct real wage measurements, it leaves unsolved the problems associated with the exclusion of government services from the Consumers' Price Index. This omission remains an important source of possible error. The volume of government services produced has grown secularly as measured by the growth of expenditures for government services relative to all expenditures. Consequently the restriction of the Consumers' Price Index to measuring the prices of the output of the private sector of the economy while the public sector has been growing relative to the private sector suggests a decrease in the relevance of this index over time. In turn, a decrease in the relevance of real wage calculations is implied.

COMPUTATIONAL NOTES

For analyzing the effects of the inclusion of indirect taxes in consumer price indexes, all taxes can be usefully divided into two categories. These are (1) taxes that affect wage rates and other factor rates of return relative to final product prices, and (2) taxes that do not affect this relationship. Final product prices, for this purpose, are prices paid by consumers.

In the first category are excises, property taxes, sales taxes, custom duties, licenses, corporate income and other business taxes. The surplus of governmental enterprises is equivalent to a business tax, and business subsidies are equivalent to a negative business tax. These taxes are all in some sense "included" in final product prices. In the second category are personal income, gift, death, and poll taxes. These taxes are not "included" in final product prices and therefore do not affect the relationship between factor costs and final product prices in the same way, if at all, as taxes of the first kind.

Only for payroll taxes does the usefulness of this dichotomy breakdown. Governmental receipts derived from payroll taxes are often

regarded as part of worker compensation for the purpose of computing real wages. Sometimes only payroll taxes "paid" by employees are treated as worker compensation, and employer contributions are ignored. When all payroll taxes are regarded as employee compensation, then changes in the volume of payroll taxes do not affect measured real wages. For the purpose of computing the biases in the usual real wage measurements, it was assumed that all payroll taxes are part of the compensation of wage receivers.⁷

The data used are from *National Income*, 1954, Tables 4, 8, and 9, appearing on pages 164, 170, 171 and 172 and from *U.S. Income and Output*, 1958, Tables I-17, III-1, III-2, appearing on pages 138, 164, and 165. Indirect business taxes, corporate income taxes and surplus of governmental enterprises were regarded as taxes and business subsidies as negative business taxes. These were all classified as indirect taxes.

TABLE 1
[In millions of dollars]

	1929	1957
NNP.....	\$95,819	\$402,585
Total compensation of governmental employees.....	5,093	42,869
Output of private sector at market.....	90,726	359,716
Indirect taxes.....	\$8,519	\$57,963
Indirect taxes/output of private sector at market (percent).....	9.39	16.11
Total governmental expenditures.....	\$8,482	\$85,687
Indirect taxes/output of private sector at market (percent).....	9.75	18.29

⁷ Rees, op. cit., treats all payroll taxes as employee compensation. This is not typical. If payroll taxes are not considered employee compensation, then the biases in the customary calculations of real wages exceed the estimates presented here.

TABLE 2
[In millions of dollars]

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944
Net national product.....	95,819	82,564	68,105	50,951	48,803	57,803	65,287	75,247	83,034	77,444	83,257	92,470	116,781	148,978	181,647	199,386
Indirect business taxes, Federal.....	1,193	1,045	804	604	1,610	2,181	2,251	2,251	2,406	2,322	2,322	2,627	3,567	4,049	4,944	6,171
Corporate profits, Federal.....	1,224	6,144	423	325	1,462	644	1,232	1,337	1,337	1,895	1,285	2,656	7,333	11,065	13,616	12,484
Indirect business taxes, State and local.....	5,810	6,110	5,925	5,344	5,436	5,634	6,009	6,412	6,751	6,938	7,043	7,284	7,720	7,781	7,958	7,958
Corporate profits, State and local.....	146	98	75	57	89	100	131	157	165	134	156	199	277	350	458	465
Subsidies less current surplus of Government enterprises.....	-85	-116	-173	-164	-251	-580	-730	-413	-465	-578	-927	-915	-666	-769	-861	-1,371
Current surplus of Government enterprises, State and local.....	+222	+239	+222	+209	+233	+287	+327	+374	+405	+402	+442	+495	+564	+610	+678	+719
Total taxes.....	8,919	8,120	7,406	7,198	7,588	8,276	8,738	10,033	10,599	10,007	10,321	12,434	18,804	23,025	26,626	26,424
Taxes/NNP (percent).....	8.89	9.83	10.87	14.16	14.49	14.32	13.39	13.33	12.76	12.92	12.40	13.45	16.10	15.46	14.66	13.25
Government purchase of goods and services.....	8,482	9,791	9,218	9,033	8,031	9,764	990	11,816	11,712	12,816	13,320	14,073	24,751	59,717	88,617	96,529
Government expenditures/NNP (percent).....	8.85	11.86	13.53	17.76	16.46	16.89	15.31	15.70	14.11	16.55	16.00	15.22	21.19	40.08	48.79	48.41
		1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
Net national product.....	201,009	197,580	218,110	240,831	238,870	268,870	304,551	304,783	320,791	337,631	334,303	365,453	384,533	402,585	425,585	445,585
Indirect business taxes, Federal.....	7,128	7,896	7,874	8,090	8,158	9,032	9,032	9,530	10,525	11,194	10,063	11,040	11,811	12,512	13,212	14,012
Corporate profits, Federal.....	10,234	8,649	10,679	11,813	9,723	17,098	21,569	21,569	18,639	19,419	16,466	20,869	21,391	20,555	20,555	20,555
Indirect business taxes, State and local.....	8,394	9,417	10,767	12,316	13,479	14,715	16,112	16,112	17,015	19,009	20,096	21,825	24,030	25,432	26,834	28,236
Corporate profits, State and local.....	455	462	604	670	662	767	767	878	820	803	758	828	828	828	828	828
Subsidies less current surplus of Government enterprises.....	-1,516	-1,619	-571	-645	-738	-738	-1,156	-1,280	-1,011	-842	-1,166	-1,635	-2,789	-3,135	-3,481	-3,827
Current surplus of Government enterprises, State and local.....	+766	+784	+798	4,816	+620	+952	+1,088	+1,088	+1,165	+1,273	+1,408	+1,602	+1,744	+1,885	+2,026	+2,167
Total taxes.....	26,461	25,589	30,151	33,059	32,194	41,408	47,907	47,907	47,783	50,866	47,014	54,669	57,068	57,963	58,858	59,753
Taxes/NNP (percent).....	12.66	12.95	13.83	13.73	13.48	15.73	15.65	15.73	14.89	16.06	14.24	14.86	14.83	14.63	14.53	14.33
Government purchase of goods and services.....	82,867	90,498	28,382	34,586	40,169	39,027	60,460	60,460	76,044	82,860	76,254	76,092	78,838	86,081	93,324	100,570
Government expenditures/NNP (percent).....	41.22	45.44	13.01	14.34	16.81	14.75	19.84	19.84	23.71	24.53	22.51	20.08	20.50	21.26	22.16	23.01