

June 12, 1981

## High-Employment Budget

A government working group has recently revised and updated a major tool for fiscal analysis—the high-employment budget concept. This important fiscal tool may be due for a revival in popularity. In 1962, the President's Economic Report used the full-employment budget concept in support of the Kennedy tax-cut proposal as a means of stimulating the economy. In 1973, again, the President's Economic Report noted that the balance in the Federal budget at full employment "was the best single guide to budget policy," since it represented the desired rate of growth of the national economy.

The high-employment budget provides a benchmark for inter-year comparisons of the impact of the Federal budget upon the economy—specifically, the impact when the economy is operating at a level of high (or full) employment. Casual observers might believe that fiscal policy becomes more stimulative when one year has a larger budget deficit than another year. This is not necessarily true, however, because the economy could be operating at different levels of capacity utilization in the two years. More often than not, the economy operates below estimated capacity—except in such years as 1955, 1966-68, and early 1973. Valid comparisons can be made, however, when two years are compared with the use of a single yardstick—i.e., the high-employment budget.

Economists accomplish this by estimating the level of Gross National Product at which the economy would be operating with reasonably full utilization of resources. This measure, potential GNP, is the maximum level of output which can be sustained with presently available resources. With potential GNP estimates in hand, analysts can then complete the exercise by estimating the levels of Federal budget receipts and expenditures at high employment.

### Estimating potential GNP

Potential GNP, in constant-dollar terms, may be calculated as the product of four quantities: (1) working-age population; (2) ratio of labor force to population; (3) ratio of employment to labor force; and (4) ratio of constant-dollar GNP to employment.

While the working-age population is more or less fixed in the short run, each of the three ratios varies over the business cycle. Analysts thus can obtain high-employment values of each by estimating the gap between the actual unemployment rate and the rate consistent with high employment. So, in effect, there are two gaps involved in the estimation of the high-employment budget: the GNP gap (the shortfall of actual output from potential output) and the unemployment gap (the difference between actual and "high-employment" unemployment).

Economists calculate the GNP gap from the unemployment gap via the three ratios. Budget receipts and expenditures move with these gaps; receipts tend to increase, and expenditures tend to decline, as the unemployment gap closes. But there is an added complication—the unemployment rate corresponding to full employment has not been constant over time. For example, this rate was estimated at 4.0 percent of the labor force in 1955, but at 5.1 percent in 1979. This increase over time reflects the sharp increase in the number of younger persons in the labor force—persons who exhibit higher-than-average unemployment rates.

### Estimating high-employment receipts

To obtain high-employment budget receipts, analysts apply tax elasticities for different types of income to the tax base (that is, income), thus calculating the tax receipts that would be generated at high employment. (Elasticity represents the ratio of changes in tax receipts to changes in the tax base.)

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Elasticities differ by different types of income, and also differ over time with changes in the business cycle.

The individual income tax shows the highest and most stable elasticity, with a value ranging from 1.30 to 1.47 during the 1955-79 period as a whole. For the 1975-79 segment of that period, the elasticity figure averaged 1.42. Actually, this represents a weighted elasticity, since the calculation involves personal income from a variety of sources.

The tax elasticity is smaller and less stable for corporate income than for individual income, because profits are more sensitive than personal income to the business cycle, and because the law allows for offset of corporate losses. For the entire 1955-79 period, the elasticity of corporate income taxes averaged 0.80. The elasticity of social-security taxes has increased over time to a figure of 0.90 in 1979, reflecting a rise in both the tax rate and the covered wage base. Meanwhile, the elasticity of unemployment-insurance taxes has remained almost constant since 1972, at a figure of 0.68, reflecting an earnings base much lower than the social-security wage base.

Various sources of Treasury receipts thus show wide variations in response to changes in the level of economic activity. The average response in 1979 varied from 1.46 for the personal-income tax to 0.68 for the unemployment-insurance tax, with most other taxes showing elasticities of about 0.80. The greater elasticity of the personal-income tax reflects, of course, the progressive nature of the rate structure compounded by inflation.

#### **Estimating high-employment expenditures**

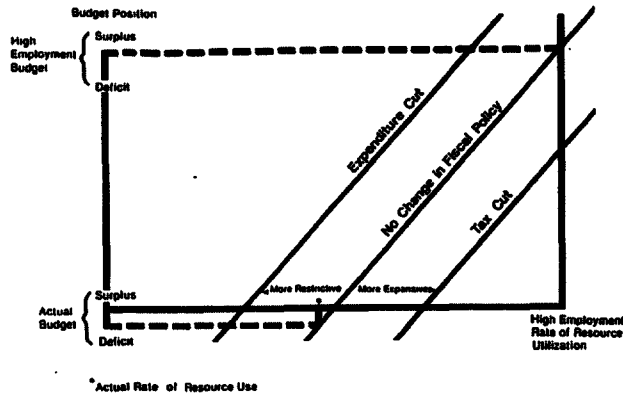
To obtain high-employment expenditures, analysts make adjustments to show what Federal spending would be at a high level of employment. The procedure is essentially the same as that used in obtaining high-employment receipts, but the estimated adjustments are limited to seven expenditure categories which account for about

one-fourth of total Federal spending. Most other expenditure categories are insensitive to cyclical fluctuations, which means that their actual expenditures are equivalent to their high-employment expenditures.

Unemployment benefits represent the most important of the seven cyclically-responsive categories. The other categories include a variety of transfer payments, such as social-security benefits and food stamps. On the basis of 1979 data, analysts estimate that a decrease of one percentage point in the unemployment rate would result in a decrease of \$2.4 billion in regular unemployment benefits, and a decline of about \$0.9 billion for the other six expenditure categories. The sensitivity of response varies substantially among this group; a decline of one-percentage point in the unemployment rate induces a 7.7-percent decline in food-stamp spending, but a 25.8-percent decline in regular unemployment benefits.

#### **Use of high-employment budget**

Economists use the high-employment budget to measure shifts in fiscal policy from one year to another, thus removing the effect of changes in the level of economic activity on the budget. For example, in 1978 the budget showed an actual deficit of \$27.7 billion but a high-employment deficit of \$13.4 billion; in 1979 the budget showed an actual deficit of \$11.4 billion but a high-employment *surplus* of \$5.4 billion. The high-employment budget thus moved from -0.6 percent of potential GNP in 1978 to +0.2 percent of potential GNP in 1979 — from expansionary to slightly restrictive. This shift took place because of the automatic response of receipts — which would have risen — and expenditures — which would have fallen — if the economy had been operating at high employment. It took place because of automatic changes responding to changes in growth in output and employment, as the utilization rate in the economy slipped from 98.4 percent in 1978 to 98.0 percent of potential GNP in 1979, rather than as a result of discretionary policy changes.



Consider the case of a tax cut unaccompanied by other changes in the Federal budget — i.e., a discretionary policy change rather than an automatic change. At the existing rate of GNP utilization, this would result in a (stimulative) increase in the high-employment budget deficit, shifting the budget line as noted in the chart. The actual budget deficit would also increase, implying greater Treasury demands upon credit markets. Or, consider a decrease in Federal spending concentrated in highly cyclical expenditure categories. Besides being restrictive in their impact on the economy, these cuts may also force changes in the estimation of high-employment expenditure adjustments. As they become less sensitive, such adjustments will probably become smaller. As a result, the high-employment budget might show a smaller deficit as automatic adjustments become less responsive to cyclical changes.

A simultaneous cut in taxes and expenditures would tend to reduce the automaticity of the Federal budget in responding to cyclical changes. Lower tax rates would tend to reduce the decline in revenues as general business activity falls off. At the same time, cuts in cyclically-sensitive expenditures would tend to limit their further increase. Thus, income would tend to fall more quickly in a recession, necessitating greater fiscal discretionary actions.

**Limitations of estimates**

In recent years, economists have shown less interest in the high-employment budget approach because of its failure to take adequate account of inflation. High-employment budget estimates assume that there is no "price gap" corresponding to the GNP gap and the unemployment gap — an unrealistic assumption in the 1970's and 1980's. The expression of high-employment budget levels as a percentage of potential GNP improves the usefulness of the high-employment surplus as a tool, but does not completely solve the problem introduced by inflation. With a progressive income tax, inflation increases budget receipts automa-

tically as income rises with prices — the so called "bracket drift" — whereas budget expenditures tend to lag with respect to rising prices.

By itself, this would tend to suggest that the high-employment budget has an inherent bias towards restrictiveness. However, that conclusion ignores inflation indexation, which affects certain cyclically-sensitive expenditure categories in a major way. Since these categories are indexed on the basis of the consumer price index, which tends to overstate the actual rate of inflation, inflation's impact on receipts can be offset somewhat. Moreover, receipts are more responsive than expenditures in periods of real growth, so that the high-employment budget may be pushed towards a surplus without an actual discretionary shift towards restrictiveness.

Even with these limitations, however, the high-employment budget is a useful measure for indicating the basic stance of fiscal policy. It gives analysts the ability to separate changes in budget conditions that are due to shifts in economic activity from those changes that are due to policy shifts. And in addition, it gives them the ability to measure the effects of automatic-stabilization measures on the economy.

Herbert Runyon

**Elasticities of Various Taxes  
With Respect to Income  
1979**

Individual income tax	1.46
Corporate profits tax	0.78
Indirect business taxes	0.80
Social security tax	0.90
Unemployment insurance tax	0.68

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**BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT**

(Dollar amounts in millions)

Selected Assets and Liabilities	Amount Outstanding 5/27/81	Change from 5/20/81	Change from year ago	
			Dollar	Percent
<b>Large Commercial Banks</b>				
Loans (gross, adjusted) and investments*	149,245	838	11,838	8.6
Loans (gross, adjusted) — total#	127,211	780	11,354	9.8
Commercial and industrial	37,532	279	3,734	11.0
Real estate	52,271	40	5,510	11.8
Loans to individuals	22,913	31	- 1,113	- 4.6
Securities loans	1,617	104	826	104.4
U.S. Treasury securities*	6,448	54	217	3.5
Other securities*	15,586	4	271	1.8
Demand deposits — total#	40,693	882	- 1,558	- 3.7
Demand deposits — adjusted	27,437	41	- 2,129	- 7.2
Savings deposits — total	29,981	- 152	3,219	12.0
Time deposits — total#	80,418	389	15,514	23.9
Individuals, part. & corp.	70,870	364	15,445	27.9
(Large negotiable CD's)	31,727	144	8,897	39.0
<b>Weekly Averages of Daily Figures</b>	<b>Week ended 5/27/81</b>	<b>Week ended 5/20/81</b>	<b>Comparable year-ago period</b>	
<b>Member Bank Reserve Position</b>				
Excess Reserves (+)/Deficiency (-)	n.a.	n.a.		51
Borrowings	148	132		44
Net free reserves (+)/Net borrowed(-)	n.a.	n.a.		7

\* Excludes trading account securities.

# Includes items not shown separately.

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