

FEDERAL SPENDING AND THE STABILITY OF THE POSTWAR ECONOMY

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Federal expenditures for newly produced goods and services have averaged 11 percent of the gross national product annually since the end of World War II, as compared with shares of 1 and 4 percent in 1921-29 and 1930-40. An increase of this magnitude in the relative importance of Federal spending must have ramifications touching practically every phase of the Nation's economic activity. It is commonly supposed that one major result of the growth in the size of government has been to increase the stability of the postwar economy. That is the proposition to be examined in the present paper. It is not my purpose, however, to discuss deliberate contracyclical fiscal actions, such as changes in government expenditures or tax rates designed to offset unwanted fluctuations in private demand. I will confine my attention to the structural effects of big government as a factor influencing the exposure of the economy to disturbing forces, on the one hand, and the manner in which it reacts to those forces, on the other.

Let us make a start on the problem by distinguishing two principal kinds of demand for final output: Expenditures which are closely linked to the level or rate of change of national income, and those which are importantly affected by other factors and may therefore vary independently of income. Fluctuations in the latter type of expenditure can initiate or prolong movements in aggregate economic activity, but the character of the movements is also influenced by the manner in which income-related or induced expenditures behave as income changes.

It is important to notice that expenditures which are independent or autonomous with respect to income are not necessarily unstable. Autonomy permits variation but does not require it. Conversely, expenditure streams which display a high degree of instability through time may do so either as a consequence of autonomous factors or because they respond strongly to variations in income or its rate of change. It is apparent, then, that if an increase in the relative importance of a given category of demand is to exert a stabilizing influence on the economy, it must either decrease the variability of autonomous expenditure, or reduce the magnitude of the response of induced expenditure to income changes, or result in some combination of these two influences which is favorable on balance. These are the possibilities which will be considered in reaching a judgment about the stabilizing influence of big government as a structural feature of the economy.

¹ The views expressed in this paper are those of the author. They do not necessarily reflect the views of other members of the Brookings staff or of the administrative officers of the institution.

It follows from what has been said that the effects of a given amount of government expenditure are likely to differ according to its mixture of autonomous and induced components and the specific characteristics of each. It must also be stressed that the effects will vary with the method of finance. However convenient and enlightening for analytical purposes it may be to separate the receipt and expenditure sides of the budget, this must not lead to the complete neglect of the one when attention is directed primarily to the other. Accordingly, taxes as well as expenditures will be discussed at the appropriate places in the subsequent pages.

AUTONOMY OF FEDERAL EXPENDITURE

The first question to be decided is the degree of independence or autonomy of Federal expenditure. A distinction must also be drawn between government expenditures which represent an outright demand for newly produced goods and services and those which do not. Since our interest lies in the role of government as it actually exists in the postwar economy, these matters may be discussed with reference to the prevailing pattern of Federal outlays.

Federal expenditures in 1956, as measured in the national income accounts, are shown in table 1. These figures differ somewhat from those contained in the conventional and cash budgets, in that they exclude certain capital and lending transactions, expenditures for goods and services are timed with delivery instead of payment, and CCC guaranteed nonrecourse loans are recorded as expenditures when the loans are made rather than when they are redeemed by CCC. Also, they include the transactions of the trust accounts, which are omitted from the conventional budget although counted in the cash statement. In addition to these conceptual differences, the expenditures are given on a calendar year basis rather than for the fiscal year. The figures may appear unfamiliar to persons accustomed to the cash or consolidated budgets, but they are conceptually the most desirable for present purposes.

It will be seen that about two-thirds of total Federal expenditure last year was devoted to the purchase of goods and services, while the remainder consisted of various items which transferred income from taxpayers to one or another sector of the economy. Such transfers may affect the demands of households, businesses and State and local governments and will be dealt with later. For the present, however, attention will be confined to direct Federal purchases of goods and services. These were comprised in 1956 of \$40 billion for national defense, \$2 billion for other national security, and \$5 billion for all other purposes.

TABLE 1.—*Federal expenditures as shown in the national income accounts, calendar year 1956*

[Billions of dollars]	
Total expenditures.....	72.0
Purchases of goods and services.....	47.2
Transfer payments.....	13.5
Grants-in-aid to State and local governments.....	3.3
Net interest paid.....	5.2
Subsidies less current surplus of government enterprises.....	2.8

Source: Survey of Current Business, July 1957.

How might these expenditures for goods and services be expected to change in response to movements of aggregate economic activity? The answer to this question will partly depend on the period of time allowed for the occurrence of induced responses. A certain amount of short-term built-in flexibility exists in the form of movements within previously defined and budgeted programs. According to recent careful estimates, however, such expenditure changes are likely to be comparatively unimportant, both absolutely and relative to the much larger induced movements of tax receipts and transfer payments.² Much of such flexibility as does exist is due to the price changes which accompany movements of national output. Price-induced expenditure fluctuations are cyclically perverse in monetary terms although neutral in real terms unless administration officials take discretionary steps to use the resulting monetary savings to accelerate real expenditures during contractions, or act to absorb price increases by curtailing real operations during expansions. Apart from the uncertain area of price effects which might or might not alter real expenditures, sizable automatic or quasi-automatic variations may occur in activities like the agricultural price support and stockpile programs. The potential contribution of such variations to changes in Federal spending is limited by the small size of the programs in the total budget, however, although on occasion they may account for a substantial fraction of the actual total change.

If sufficient time elapses so that programs can be altered by congressional action, induced responses of another sort become possible. The character of these responses would depend upon the fiscal attitudes of administration officials and legislators. Thus at given tax rates, tax receipts will rise and fall in conformity with national income. If actual or expected increases in revenue were viewed as favorable opportunities to augment expenditures, and decreases were regarded as signals that retrenchment was necessary, much of the potential stabilizing influence of Federal spending would be dissipated. While deliberate contracyclical changes in expenditures or receipts have been excluded from discussion in this paper, it is relevant and important to emphasize that one corollary to the view that large-scale Federal expenditures may be stabilizing per se, is that they are determined independently of induced fluctuations in revenue. This thought may be clarified by a simple example.

Let us compare three hypothetical situations. In the first, it is assumed that when national income declines, the entire brunt falls upon disposable personal income. Thus, a \$10 billion decline in gross national product produces an equal fall in disposable income, which in turn induces a reduction of, say, \$8 billion in personal consumption expenditure. In situation 2, we take account of induced changes in tax receipts. Now when gross national product falls by \$10 billion, personal and corporate income taxes decrease by \$4 billion, and disposable income falls by only \$6 billion, rather than the \$10 billion of the preceding example. If the relative response of consumption to disposable income remains the same as before, the induced reduction in consumption expenditure will be only \$4.8 billion, or 60

² See the papers by David W. Lusher and Samuel M. Cohn in *Policies to Combat Depression*, a Conference of the Universities National Bureau Committee for Economic Research, Princeton University Press, 1956, pp. 77-100.

percent as much as in the first situation. Automatically induced changes in tax receipts have cushioned the decline of income after taxes and therefore of consumption expenditure, adding to the stability of the economy. But this conclusion will not necessarily hold in situation 3, in which a behavioral response of government spending to changes in revenue is postulated. If a successful effort were made to keep the budget balanced at all times, for instance, the net effect of government fiscal operations would be destabilizing. Thus in situation 2, the \$4 billion fall in tax receipts prevented a decline of \$3.2 billion in consumption which otherwise would have occurred. If the fall in tax receipts induced an equal reduction in government expenditure, however, the latter would decline by \$4 billion, hence more than offsetting the \$3.2 billion cushion to consumption expenditure. The combined reduction in expenditures by consumers and the government per \$10 billion drop of gross national product would be \$8.8 billion, or more than the \$8 billion drop in consumption which would have resulted if there were no change in tax receipts at all.³

I do not mean to assert that this last is an especially likely result. For one thing, the adjustment of expenditures to receipts would not be exact even if a continuously balanced budget were the goal, or perhaps something less than an exact adjustment would be sought. In these circumstances, expenditures might not change as much as receipts. If the proportional response of government expenditure to tax receipts were the same as the response of consumption expenditure to disposable income, the government fiscal operations would leave national income unaffected; whereas if government spending changed less per dollar of tax change than consumption spending did per dollar of income change, the net effect would be stabilizing, although less so than if government spending did not change at all. Again, it may be that advocates of a balanced budget would behave differently; that they would react to increases or decreases in tax receipts by seeking decreases or increases in tax rates rather than changes in expenditure. The important thing to notice in this connection, however, is that such actions would also be destabilizing. Yet, again, possible effects on private investment have been neglected in the example. These could go either way, since the adverse effects of unstable government expenditures on business sales might be augmented or diminished by psychological reactions of the business community to the policy of continuously balanced Federal budgets; reactions which are uncertain in direction and strength and may change with the attending circumstances. Finally, Federal expenditures in the present economy may in fact be largely autonomous with respect to induced fluctuations in tax receipts, so that instability does not arise from that source. My concern has simply been to emphasize that any conclusion that a large volume of Federal spending is inherently stabilizing implies, among

³ The potential extent to which these situations differ may not be immediately apparent to the nontechnical reader. Taking the three cases in order, the total change in gross national product per \$1 initial change in, say, investment, would be \$5, \$2, and \$8. The comparatively small differences in the amount of induced expenditure per dollar of change in gross national product add up to sizable amounts when successive rounds of income and expenditure are considered, since each drop of income reduces expenditure in this period and therefore leads to a further decline of production, income, and expenditure in the next period. The reader should also note that the figures I have used are illustrative only and are not to be taken as estimates of actual relationships in the economy, and that no allowance was made in the example for changes in business saving.

other things, an expenditure policy which if not actively contracyclical, at least is not of the cocyclical, balanced-budget variety.

It will be assumed in the remainder of the discussion that income-induced changes in Federal purchases of goods and services are comparatively unimportant, and that postwar variations in government expenditure have been due primarily to autonomous factors. This is a reasonable supposition if for no other reason than the fact that expenditures for national security bulk large in the total and have fluctuated widely with changes in international tension.

THE INSTABILITY OF FEDERAL SPENDING

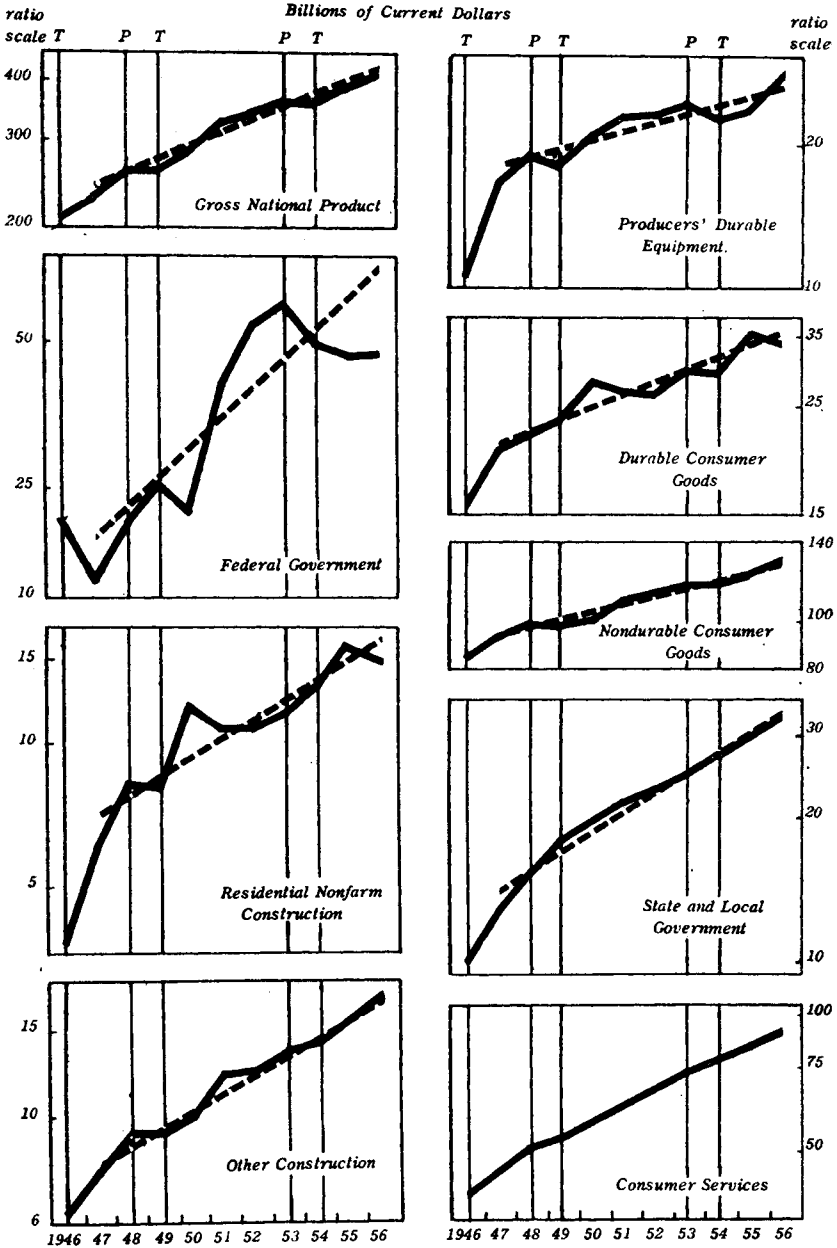
Granted that Federal expenditure is a largely autonomous source of demand for output, is it a stabilizing or destabilizing source? To ask this question is to raise several others. Is it subject to frequent or wide fluctuations? Do its fluctuations tend to counteract or to augment the ebb and flow of private expenditure? Have Federal purchases grown at the expense of the less or the more stable of other demands? Has a higher floor been placed under the economy by the enlarged share of Federal spending? Let us deal with each of these queries in turn and in the light of experience since World War II.

Chart 1 depicts the course of the major categories of domestic demand for final goods and services during 1946-56. The chart is drawn on a ratio scale, so that increases and decreases are pictured in relative terms. Similarly, the straight lines which have been drawn through each curve to indicate its upward drift are more or less steep according to the average percentage rates of increase during the period. Since 1946 was a disturbed year of postwar transition, it had been eliminated in establishing the drift lines, which may be regarded as defining the average rate of growth for the decade 1947-56.

Foremost among the interesting features revealed by the chart is that in most meanings of the term, Federal expenditure has shown the least short-term stability of all major components of final domestic demand during the postwar years. To mention the exception first, if stability be defined in terms of the number of reversals of direction during a given period, the Federal sector was more stable than producers' durable equipment and no less stable than consumer durable goods or residential construction. Frequency of change of direction is not the only criterion of stability, however. It is surely necessary to distinguish between what may be called instability in the small and in the large. The postwar history of durable goods—either producer or consumer—exemplifies instability in the small, in the combination of frequent but moderate oscillations. In contrast, the swings of Federal expenditure occurred nearly as often and were considerably larger.

Stability measures which reflect relative amplitudes are readily constructed. Two types are presented in table 2. In the first column, the average annual percentage change is shown for each of the series displayed on the chart. The increase or decrease from one year to the next is expressed as a percentage of the average level in the 2 years, and an average of the resulting annual percentage changes is struck without regard to sign for the entire interval from 1947 to 1956. The

Chart 1
Gross National Product and Selected Major Components, 1946-56



Note: The vertical lines represent business cycle peaks (P) and troughs (T) as dated by the National Bureau of Economic Research. The dashed growth lines are fitted to the data for 1947-56 by the method described in footnote (2) of Table 2. No growth line has been drawn for consumer services, since it would be scarcely distinguishable from the actual data. For source of data, see Table 1.

outcome is a measure of average year-to-year variability, in which account is taken of the size of the economy at the time of the change, but not of its growth throughout the period. In effect, the position of the economy in a given year is accepted, and we ask how much each category of expenditure expanded or contracted from that year to the next. A glance at the table will demonstrate that by this test, Federal spending outranked every other category in degree of instability, and that only residential construction ran a close second.

A drawback to the foregoing measure of variability is that it makes no allowance for smoothness or regularity of change. This disadvantage largely disappears when the measure is supplemented by a chart, but it may be preferable to handle the difficulty more directly. Suppose that the drift lines of chart 1 are taken to be representative of the prevailing growth tendency of each series during the decade. A movement along the line would then signify stable growth at a constant rate, and fluctuations about the line would be evidence of instability of growth, either in the sense of accelerations and retardations of the rate of increase, or in some instances, actual declines. An index of instability of growth has been computed for each of the charted series by averaging the annual percentage deviations of the actual data from the growth line (table 2, third column). By this criterion also, Federal spending was the least stable of all categories during the past decade; indeed, this is true by a wider margin than in the preceding set of measures.

TABLE 2.—*Measures of stability and growth of selected categories of expenditure, 1947-56*

[In percent]

Expenditure category	Average annual ¹ change	Average rate of growth ²	Index of stability of growth ³
Gross national product.....	6.6	6.7	3.4
Personal consumption expenditures.....	5.4	5.5	1.0
Durable goods.....	8.5	5.9	4.6
Nondurable goods.....	4.4	4.0	2.0
Services.....	7.4	7.6	.7
Gross private domestic investment.....	17.8	6.6	11.1
Residential nonfarm construction.....	15.4	9.8	9.5
Other construction.....	9.7	9.0	3.6
Producers' durable equipment.....	9.2	4.3	6.1
Government purchases of goods and services.....	14.3	13.3	13.3
Federal.....	20.3	15.2	20.5
State and local.....	10.5	10.1	3.2

¹ The arithmetic mean of annual percentage changes, signs disregarded.

Each annual percentage change is computed as the ratio of the absolute change from the previous year to the average level in the previous and current year.

² Computed from an exponential curve fitted to the data by the use of Glover's mean value table (J. W. Glover, *Tables of Applied Mathematics*, George Wahr, Ann Arbor, Mich., 1923, pp. 468 ff.). The average rate of growth is the slope of a straight line drawn on a ratio scale, as in chart 1.

³ An arithmetic mean of the percentage deviations of the annual observations from the fitted exponential curve.

NOTE.—For source of data, see table 1.

The reader may be tempted to enter a mental reservation at this point, to the effect that the post-World War II swings in Federal spending have been due to unusual conditions of warfare and its aftermath. It should be remembered, however, that my topic is the effect of big government on the inherent stability of the postwar economy. Throughout the past decade and at the present time, the great bulk of Federal expenditure has been for purposes of national security.

Under the circumstances, the sensitivity of security expenditures to changes in the international situation is a property which cannot be left out of account.

Instability of individual components of aggregate expenditure is not intrinsically undesirable, since the fluctuations may be offsetting rather than reinforcing. The retardations or declines of expenditures for privately purchased durable goods and residential construction during the Korean war, for example, provided stabilizing offsets to rising Federal expenditure. Counterbalancing fluctuations may at times result from essentially accidental causes, at others from the self-adjusting properties of the economic system, and at still others, from deliberate governmental actions. These reflections suggest two further questions about the postwar record of Federal spending: From the viewpoint of its contribution to economic stability, were its fluctuations accidental, deliberate, or induced; and did they augment or diminish overall stability?

A look back reveals that the postwar oscillations in Federal outlays were largely accidental in the sense used here, and that, as would be expected of accidental movements, they were sometimes stabilizing and sometimes not. The initial, huge post-World War II cutback in security expenditures was accomplished between mid-1945 and mid-1947. For the first 6 or 9 months of this period the cutback was a powerful deflationary force, to which, however, the economy adjusted rapidly and successfully. Thereafter until mid-1947, Federal expenditure fell slowly as private spending mounted, moderating the inflationary influence of the latter rise. The downward course of Federal expenditure was reversed during the summer of 1947 and it rose steadily until midyear 1949. Again security outlays led the movement, and again the movement first strengthened and later weakened the prevailing tendency of the economy, helping to prolong the expansion and inflation in 1948 and providing an important offset to deflationary declines in private demands during 1949. The economy also received an assist during the contraction of 1948-49 from a substantial induced increase in government outlays under the agricultural price-support program.

Federal expenditure did not lead on the upswing in late 1949, although the previously mentioned support during the preceding months had helped to foster conditions making for prompt recovery. In fact, government purchases of goods and services decreased somewhat during the latter part of 1949 and the first 8 or 9 months of 1950, owing to reductions under the security and price-support programs. This situation was altered radically by the outbreak of hostilities in Korea, of course, and for the next 3 years the economy was driven upward under the impetus of defense expenditures. That the subsequent decline of defense spending was a major cause of the contraction of 1953-54 is a matter of recent history. The decline abated about the middle of 1954, however, and for 2 or more years thereafter, Federal expenditure was quite stable as the private economy expanded. A sustained rise of the Federal sector set in during the latter half of last year and has contributed to the increase of gross national product since that time, although in common with other categories of expenditure, much of the rise reflects higher prices rather than greater volume.

The principal conclusions of this brief survey of the postwar behavior of Federal expenditure may be summarized as follows: It has been the least stable of the major components of domestic expenditure for final goods and services. This instability was primarily a reflection of changes in the climate of international relations, which several times exposed the economy to potent inflationary or deflationary shocks. In some instances these shocks acted to initiate or to quicken the prevailing tendencies toward expansion or contraction, and in others to mitigate them. Since 1954, however, Federal expenditure has remained comparatively stable, and until recently it was not an active factor in the expansion of aggregate activity which got underway in that year. It is evident from earlier experience, nonetheless, that Federal expenditures cannot be counted among the inherently stable components of aggregate demand for so long as they consist predominantly of outlays for national defense and security.

FEDERAL EXPENDITURE AND THE NEW COMPOSITION OF DEMAND

The stabilizing potential of Federal spending is affected by its own stability, but is not fully determined by it. Measured in current dollars, the share of Federal expenditure in the gross national product has risen nearly tenfold since 1929, yet this development will not have increased overall stability unless it has decreased the variability of total demand in at least 1 of 2 ways: By reducing the range of fluctuation of autonomous expenditures, or by moderating the response of induced expenditures to changes in income. Whether this has occurred depends in good part on the characteristics of the demands which have declined in relative importance as Federal expenditures have grown.

At first thought, the only relevant characteristic would appear to be the inherent stability of the displaced demands. If Federal expenditure is steadier than the demands which have diminished in importance, then stability has increased, and vice versa. Now this is substantially true, but it conceals two difficulties. The most important from the present point of view is that the very growth of the government share may have affected the stability of other demands, so that a simple before-and-after comparison does not suffice to settle the issue. The other difficulty has already been touched upon: suppose that Federal expenditure were highly variable but always moved against the tide. It could then be stabilizing even if less stable itself than any other component of expenditure. As we have seen, however, accidental fluctuations cannot be relied upon to be compensating. Deliberate changes could always be compensating if properly timed, but that subject falls outside the scope of this discussion of stability in the absence of discretionary fiscal actions.

For the moment, I will blink the first difficulty as well, and proceed as if the growth of the Central Government had not influenced the variability of any other category of demand. This would mean that other autonomous demands were as stable as before, and that induced demands responded to fluctuations of income in the same way and to the same degree as in former years. The latter assumption permits us to disregard induced expenditures entirely for the time being.

That is, induced expenditures can be disregarded if they can be identified. A complete specification is conceivable in principle but

probably impossible in practice. Theoretical and empirical considerations suggest, however, that investment demands may fluctuate rather widely with changes in technology, population, terms of finance, expectations, and the like, whereas consumption demands are more closely dependent on income. A provisional division may therefore be made by classifying all investment as autonomous and all consumption as induced. State and local expenditures may also be treated as autonomous demands. This is to overlook the cyclical perversity of State and local expenditure—the prewar tendency for it to vary co-cyclically with tax revenues and favorable psychological conditions for loan finance—but the response is a slow one and has not been pronounced in the postwar years. Net foreign investment is comparatively unimportant in our economy and will be ignored.

The shares of the various categories of expenditure in gross national product are shown for 1929 and 3 postwar years in table 3. All comparisons are for years of full employment. The nadir of postwar Federal expenditure came in 1947 and its maximum in 1953. The figures for 1956 are representative of the current position of the economy.

TABLE 3.—*Distribution of components of gross national product, selected years*
[In percent]

A. MAJOR COMPONENTS OF GROSS NATIONAL PRODUCT

Expenditure category	Gross national product in current dollars				Gross national product in 1947 dollars			
	1929	1947	1953	1956	1929	1947	1953	1956
Government purchases of goods and services.....	8.1	12.3	23.2	19.3	9.1	12.3	22.8	17.7
Gross private domestic investment.....	15.5	12.8	13.9	15.9	17.9	12.8	12.6	14.3
Personal consumption expenditures.....	75.6	71.0	63.5	64.4	71.9	71.0	64.7	67.0
Net foreign investment.....	.8	3.9	—6	.3	1.1	3.9	—1	.9

B. SUBCOMPONENTS OF GROSS NATIONAL PRODUCT

Government purchases of goods and services:								
Federal.....	1.2	6.8	16.4	11.4	1.5	6.8	16.7	10.9
National security.....	(1)	5.7	14.2	10.2	(1)	(1)	(1)	(1)
Other.....	(1)	1.6	2.3	1.3	(1)	(1)	(1)	(1)
State and local.....	6.9	5.5	6.9	8.0	7.5	5.5	6.1	6.8
Gross private domestic investment:								
Fixed investment.....	13.9	13.2	13.8	14.8	16.5	13.2	12.7	13.3
Residential nonfarm construction.....	3.5	2.7	3.3	3.7	4.6	2.7	3.1	3.5
Other construction.....	4.9	3.3	3.8	4.3	6.2	3.3	3.4	3.8
Producers' durable equipment.....	5.6	7.2	6.7	6.8	5.7	7.2	6.2	6.1
Change in business inventories.....	1.6	—4	.1	1.1	1.4	—4	—1	1.0
Personal consumption expenditures:								
Durable goods.....	8.8	8.9	8.2	8.2	8.7	8.9	8.7	9.2
Nondurable goods.....	36.1	40.1	32.8	32.2	38.9	40.1	34.5	35.2
Services.....	30.7	22.1	22.5	24.1	24.2	22.1	21.4	22.6

¹ Not available.

Source: See table 1.

The first thing to be noticed is that autonomous demands as defined above have increased as a percentage of postwar gross national product. When gross national product is measured in current dollars, the share of consumption is found to have decreased fully as much as the proportion of Federal expenditure increased between 1929 and 1956. There was no relative displacement of investment. The picture is altered somewhat when account is taken of price changes, but

consumption still remains a smaller proportion of gross national product than in 1929, though this is now also true of investment.

The enhanced importance of autonomous demands could work in either direction. If government expenditures—Federal as well as State and local—prove to be stable elements of demand in the future, the fact that real private investment is now relatively less important is favorable to stability, even though taken altogether autonomous expenditures are larger than before. Historically investment demand has been a highly variable factor, and its diminished share has restricted its maximum potential range of fluctuation. Lest this make us overly complacent, however, it is well to note that at its present 13 percent of real gross national product, fixed investment still bulks large enough to decline as far relative to full employment gross national product as it did between 1929 and 1933. In the latter year, fixed investment amounted to 4.3 percent of the 1929 gross national product, having fallen from an actual 1929 share of 16.5 percent, or by about 12 percentage points. Clearly, there is still room for a marked reduction of investment demand. It is not as if stable government expenditure had been completely substituted for unstable investment expenditure and had reduced the latter to insignificance. Incidentally, the same inferences hold if the autonomous demand category is broadened to include durable consumer goods, since expenditures of this type are a somewhat larger percentage of real gross national product than in 1929 and have a correspondingly larger maximum range.

It cannot be maintained, then, that the potential range of investment demand has been substantially diminished by the growth of Federal expenditure. A high floor may have been placed under the economy by that growth, but if so, it is due to effects less direct than a simple displacement of hitherto unstable demands. In particular, the inherent variability of investment demand may have been reduced through the expansion of governmental activities or for other reasons. It would take us far afield to discuss all the possibilities in this connection, especially since many are related tenuously at best to the amount of spending by the Central Government. A listing would have to include such financial reforms as the development of the amortized home mortgage, government programs to insure or guarantee mortgages and other loans, regulation of the security exchanges, and insurance of bank deposits and saving and loan shares. The enhanced importance of labor unions should also be mentioned among the major structural changes, along with such postwar developments as the increased use of long-run economic projections and of capital budgeting techniques by business firms. Finally, there is the significant fact that under the Employment Act of 1946, the Federal Government assumed responsibility for the promotion of maximum employment, production and purchasing power.

These and other structural changes—including the automatic tax and expenditure stabilizers to be discussed in a moment—affect stability by modifying the reactions of businessmen, workers, consumers, and other economic agents to changes in economic activity. They do not, however, act in the first instance to diminish fluctuations of demand caused by innovations, shifts in tastes, variations in population growth, resource discoveries, and war, to name some of the more

important autonomous forces. There is little in our experience since World War II to suggest that these sources of instability have been eliminated, and as long as that is so, it is not safe to conclude that wide fluctuations in investment demand are either impossible or improbable. On the other hand, most of the structural developments cited above tend clearly to moderate the secondary repercussions of cyclical contraction, including those on investment, so that a decline as severe as in the 1930's is not likely to recur.

THE FEDERAL GOVERNMENT AND THE AUTOMATIC STABILIZERS

The stabilizing properties of induced changes in tax revenues and transfer payments are among the most analyzed and best publicized features of the postwar economy. This is partly because there has been a notable expansion of Federal transfers along with purchases of goods and services by the Central Government, and tax revenues have kept pace with the total of both types of expenditures (table 4). From the standpoint of stabilization, however, the particular forms taken by the expansion of transfers and taxes are just as important as the expansion itself. This is because—deliberate alterations in payments or tax rates aside—the stabilization potential of these items depends upon their responsiveness to changes of income, rather than their size at a given income. No matter how large they were, if they were steady over time neither transfers nor receipts would tend automatically to mitigate fluctuations of income. On the other hand, it is difficult to conceive of a sizable response of receipts to changes of income unless they were also a large share of income, since there would be little purpose or popularity in a tax structure designed to collect a small percentage of a given gross national product and a large percentage of any departure from that level. What has actually occurred, of course, is that the total tax take has increased quite substantially and that most of it has been levied in the form of the cyclically sensitive corporate and personal income taxes. The situation differs somewhat with regard to transfer items. Unemployment insurance benefits account for a minor fraction of all transfer items but do most of the stabilization work in the category.

TABLE 4.—*Government expenditures and receipts as percentages of gross national product, selected years*

Item	1929	1947	1953	1956
Federal expenditures, total	2.5	13.4	21.3	17.4
Purchases of goods and services	1.3	6.8	16.4	11.4
Transfer items	1.3	6.6	5.0	6.0
Transfer payments	.7	3.8	2.7	3.3
Grants-in-aid to State and local governments	.1	.7	.8	.8
Net interest paid	.4	1.8	1.3	1.3
Subsidies less current surplus of Government enterprises	.1	.2	.2	.7
Federal receipts, total	3.6	18.7	19.4	18.9
Personal tax and nontax receipts	1.2	8.5	8.9	8.5
Corporate profits tax accruals	1.2	4.6	5.4	5.1
Indirect business tax and nontax accruals	1.1	3.4	3.1	2.8
Contributions for social insurance	.1	2.2	2.0	2.5
State and local expenditures, total	7.4	6.2	7.5	8.6
Purchases of goods and services	6.9	5.5	6.9	8.0
Transfer items	.5	.7	.6	.6
State and local receipts, total	7.2	6.7	7.5	8.2
Taxes	7.1	6.0	6.8	7.4
Federal grants-in-aid	.1	.7	.8	.8
Government expenditures, total	9.9	19.6	28.8	25.9
Purchases of goods and services	8.1	12.3	23.2	19.3
Transfer items	1.8	7.3	5.6	6.6
Government receipts, total ¹	10.8	24.6	26.2	26.3

¹ Excluding Federal grants-in-aid.

Source: See table 1.

Automatic stabilizers reduce the amplitude of cyclical fluctuations to the extent that they diminish the response of induced expenditures to prior changes of income and inhibit the spread of expansionary or contractionary impulses from one sector of the economy to another. This result is accomplished by affecting the relationship between changes of gross and net income. Again we assume that consumption is the major category of induced demand, and that it depends upon the amount of disposable personal income available to the public for spending or saving. This means that the smaller the change in disposable income for a given change of gross national product, the smaller is the secondary fluctuation of consumption and hence of gross national product in response to an initial disturbance. It is because induced movements of taxes and transfers do diminish the reaction of disposable income to changes of gross national product that they have come to be called automatic stabilizers. But there are other important leakages between gross national product and disposable income—depreciation charges and undistributed corporate profits—and part at least of the support currently given to the consumption of the unemployed by social insurance was formerly achieved in other ways. Thus not only the postwar economy but earlier experience should be consulted in an evaluation of the net effectiveness of taxes and transfers as automatic stabilizers.

The materials for an evaluation are presented in tables 5 and 6. Neither the data nor the techniques employed in these comparisons permit of more than a first approximation to the relevant relation-

ships, but it is an approximation which is not apt to mislead. The first of the tables refers to periods of cyclical expansion during the 1920's and the years following World War II, while the second deals with contractions during the same intervals. The figures for the 1920's are based upon incomplete source data and are probably less reliable than the estimates for recent years.

Examination of table 5 discloses that during each of three recent periods of business expansion—1946-48, 1949-53 and 1954-56—disposable income increased about 60 percent as much as gross national product. The reasons were rather different in the last two expansions than in the first, however. Approximately one-sixth of the increase of gross national product between 1946 and 1948 was absorbed by taxes, including those of State and local governments, whereas the proportion in 1949-53 and 1954-56 was more than one-third. This contrast primarily reflects the fact that Federal tax rates were substantially higher after 1950 than before, but it is also influenced by the fall in tax rates between 1946 and 1948 and the rise in rates between 1949 and 1953. The figures have not been corrected, in other words, for changes in tax rates between the initial and terminal years of the expansions, and therefore are not a measure of the increase in tax yields induced by income expansion alone. Let us ignore that fact for the moment, however, and inquire what other leakages declined in relative importance when taxes were boosted after Korea. We find that the major compensating change was in undistributed profits, which actually were smaller in 1953 than in 1949 despite an increase of \$10.8 billion or 41 percent in profits before taxes. Owing to the increase of tax liabilities due to higher profits and higher taxes on those profits, net corporate profits increased merely \$1 billion, and since dividends were up \$2 billion, undistributed profits declined.

TABLE 5.—*Relationship between changes of gross national product and disposable personal income during selected business cycle expansions*

[In millions]

Item	Change between initial and terminal year of expansion of—					
	1921-23	1924-26	1927-29	1946-48	1949-53	1954-56
Increase of GNP.....	\$13,089	\$11,054	\$8,500	\$48,079	\$105,917	\$53,519
Less: Increase of taxes.....	1,314	1,447	1,107	8,013	38,573	18,783
Indirect business taxes.....	1,049	758	460	3,041	8,579	4,867
Corporate profits taxes.....	233	385	86	3,399	9,893	4,530
Personal taxes.....	30	280	504	2,334	17,110	6,729
Social-security contributions.....	2	24	57	-761	2,991	2,657
Less: Decrease of transfer items.....	69	-68	-23	327	-1,673	-2,734
Government transfer payments.....	-32	-117	-73	312	-1,265	-2,189
Net Government interest.....	101	49	50	15	-408	-545
Less: Increase of business saving.....	5,946	1,623	1,720	10,183	7,151	8,369
Capital consumption allowances.....	788	869	755	4,828	8,055	5,343
Undistributed corporate profits.....	5,158	754	965	5,355	-904	3,026
Less: Increase of other items.....	-4,669	1,160	290	1,137	-212	-3,638
Corporate inventory valuation adjustment.....	-4,669	1,160	-125	3,113	-2,940	-2,241
Statistical discrepancy.....	(¹)	(¹)	268	-3,042	2,517	-63
Excess of wage accruals over disbursements.....	(¹)	(¹)	0	60	-31	0
Surplus minus subsidies of Government enterprises.....	(¹)	(¹)	147	1,006	242	-1,334
Equals: Increase of disposable personal income.....	10,429	6,892	5,406	28,419	62,078	32,739
Addendum: Increase of personal consumption expenditures.....	5,930	5,050	6,082	30,992	49,944	30,603

¹ Not available.

NOTE.—The dates of the business cycle troughs and peaks upon which this table is based are from the National Bureau of Economic Research, except for 1956, which is merely the most recent year for which data are available.

Sources: 1921-23, all items except personal consumption expenditures are from Raymond W. Goldsmith, *A Study of Saving in the United States*, vol. III, Princeton University Press, 1956, pt. V. The data shown in the source were adjusted by the present writer to the level of the most recent estimates of the Department of Commerce for the year 1929. The data on personal consumption expenditures are unpublished estimates prepared by Simon Kuznets for the National Bureau of Economic Research, with direct taxes deleted from the service component to conform to the concepts of the Department of Commerce. 1929 to date, see table 1.

This last behavior was rather unusual, since dividends ordinarily increase much less than net profits. Indeed, it is this fact—the tendency for dividends to be stable relative to net profits—that makes for the large swings in undistributed corporate profits that act as “automatic” stabilizers. What happened in the present case is not really an exception, however. Profits after taxes rose sharply from 1949 to 1950 and dividends increased one-fourth as much. Net profits then declined between 1950 and 1953, and when dividends were maintained at the 1950 level, undistributed profits fell in consequence. In short, the movements of undistributed profits during the expansion were consistent with the corresponding fluctuations on net profits, but because of the peculiarities of the period the net changes between the trough and peak years were not representative of the entire expansion.

It is in connection with the present expansion that the operation of the automatic stabilizers at the enhanced postwar levels is most easily observed, since no significant changes in tax rates have occurred during its course. About one-third of the increase of GNP between 1954 and 1956 was offset by the induced rise of tax receipts. Part of the

deterrent effect of this rise was nullified by an increase of transfer items, however, so that taxes net of transfers—a measure of the net governmental offset—increased only 30 percent as much as GNP. The rise of transfer payments occurred in the face of a decline of \$700 million in unemployment benefits, but the latter was more than outweighed by higher transfers for other purposes.⁴ The steady advance of depreciation charges associated with capital growth continued, of course, while undistributed profits accounted for \$3 billion of the \$5 billion increase in net corporate profits during the year. All told, gross business saving offset some 15 percent of the rise of GNP, or about half as much as net taxes. Finally, the correction for inventory profits plus a few minor adjustments acted as a negative offset of about 7 percent.

It will be instructive to compare this recent expansion with those of the 1920's, but a further point of interest about the contemporary economy may be mentioned first. Apart from the obvious fact that the automatic changes in tax receipts and unemployment benefits may be swamped by deliberate changes in tax rates or other transfers, it is important to remember that the relationship between increments of disposable income and consumption is also subject to disturbances. Consumer spending increased more than disposable income between 1946 and 1948, only 80 percent as much as income from 1949 to 1953, and about 93 percent as much from 1954 to 1956. As a percentage of disposable income, personal saving fell from 7.9 in 1946 to 5.3 in 1948; whereas it rose from 4.0 to 7.9 between 1949 and 1953 and was 7.0 in both 1954 and 1956. During the 1930's the saving ratio tended to rise during expansions and fall during contractions of disposable income. To the extent that such behavior is consistent, personal saving is itself a kind of automatic stabilizer, not only in a sense analogous to a proportional income tax, but also in one which makes allowance for the additional effectiveness provided by progressivity in the tax structure. The fluctuations in the saving ratio have been erratic at times during the past decade, however, sometimes reinforcing instead of mitigating the prevailing tendency of the economy.

Estimates of offsets to increases of gross national product during 3 expansions of the 1920's may now be compared with the relationships for recent years. Tax collections accounted for a considerably smaller share of the increments of gross national product in the earlier period, of course, ranging from 10 to 13 percent. Since transfers were unimportant, the offsets provided by net taxes were substantially the same as for gross taxes. Gross business saving contributed a larger deduction than taxes in each of the expansions. This was especially noticeable in 1921-23, because the 1921 trough had been deep with heavy inventory losses and negative undistributed profits. This meant that the swing from negative saving in 1921 to positive in 1923 was quite large. The offsets from gross corporate saving in 1924-26 and 1927-29 were, respectively, 15 and 20 percent of the increment of gross national product, however, and these values may fairly be

⁴ Only Government transfer payments, as defined in the national income account and net Government interest, are included under the heading of transfer items in tables 5 and 6. The entry for net subsidies of Government enterprises is included with "other items," and Federal grants-in-aid are not shown since they are a transfer to another governmental unit rather than to a private party. Grants-in-aid used to finance current State and local purchases of goods and services are reflected in earned incomes from production.

compared with the corresponding figures of 21 and 16 percent for 1946-48 and 1954-56. Apparently the drag exerted in expansion by corporate saving is on the same order of magnitude today as in the 1920's, so that the increased offset now provided by net taxes amounts to a net gain insofar as reduction of the response of disposable income to gross national product is concerned. This inference will be checked a bit further in a moment, after a look at the behavior of income offsets during contractions.

Four business contractions are covered by the data for the 1920's and the present decade (table 6). All were mild and, in the first, gross national product actually increased a little when measured in the crude unit of annual observations. During the contractions of 1923-24 and 1926-27, net taxes increased and so, of course, did depreciation allowances. Large reductions in undistributed corporate profits more than compensated for these increases, however, so that disposable income rose substantially relative to gross national product during both recessions.

TABLE 6.—*Relationship between changes of gross national product and disposable personal income during selected business cycle contractions*

[Millions of dollars]

Item	Change between initial and terminal year of contraction of—			
	1923-24	1926-27	1948-49	1953-54
Decrease of gross national product.....	-451	1,562	24	2,051
Less: Decrease of taxes.....	-185	-329	2,809	4,815
Indirect business taxes.....	-327	-324	-1,254	90
Corporate profits taxes.....	51	90	2,099	2,875
Personal taxes.....	102	-74	2,481	2,817
Social security contributions.....	11	-21	-517	-967
Less: Increase of transfer items.....	-133	21	1,235	2,263
Government transfer payments.....	-9	55	1,080	2,074
Net Government interest.....	-124	-34	155	189
Less: Decrease of business saving.....	892	1,137	2,745	-1,161
Capital consumption allowances.....	-224	-281	-1,937	-2,437
Undistributed corporate profits.....	1,116	1,418	4,682	1,276
Less: Decrease of other items.....	-230	679	-6,209	362
Corporate inventory valuation adjustment.....	-230	679	-4,093	-679
Statistical discrepancy.....	(¹)	(¹)	-2,181	926
Excess of wage accruals over disbursements.....	(¹)	(¹)	75	-76
Surplus minus subsidies of Government enterprises.....	(¹)	(¹)	-10	191
Equals: Decrease of disposable personal income.....	-795	54	-556	-4,228
Addendum: Decrease of personal consumption expenditures.....	-4,190	24	-2,989	-6,015

¹ Not available.

Notes and sources, see table 5.

An important role was again played by net corporate saving in 1948-49, owing partly to large inventory losses, but this time net taxes declined nearly as much. Corporation income tax rates were unchanged during the contraction, but the bulk of the decline in personal tax receipts between calendar years 1948 and 1949 reflects rate reductions which became effective after the early months of the former year.

Tax cuts were even more important in 1953-54, when on an annual basis all of the decline in personal taxpayments and roughly one-third of the fall in corporate income taxes was accounted for in this manner. In addition, reduced Federal excises more than compensated the rise of indirect State and local taxes. The decline of net corporate saving was comparatively small this time, since inventory losses were minor and a larger fraction than formerly of the decrease in gross profits was absorbed by the fall in corporate profit tax liabilities. Expanded depreciation allowances swamped the reduction in undistributed profits, so that on balance gross business saving was destabilizing. Depreciation charges are insensitive to mild contractions because net capital formation continues and the bulk of the allowance is based upon previous investments; hence, this source of business saving is automatically stabilizing during expansions but destabilizing in all but severe contractions. This tendency is partly counteracted, however, by the behavior of Government transfers. Unemployment benefits rise and fall with business activity, but the upward march of pension and retirement benefits augments expansionary and diminishes contractionary tendencies. Only one-half of the sizable increase in transfer payments in 1953-54, for example, was due to unemployment insurance.

What conclusions emerge from this brief review of four contractions? First, that net corporate saving acted as an automatic stabilizer before the Government stabilizers became important, and that it was sufficiently effective so that disposable income rose substantially relative to gross national product during two mild recessions in the 1920's. Second, that although taxes were a greater mitigating factor than gross business saving during the two most recent recessions, a good part of this increased importance stemmed from rate reductions instead of induced declines, and this was especially true of personal income taxes. Third, that a positive impulse to recovery was furnished in at least three of the contractions when consumption expenditure rose considerably more than disposable income. In these instances, the decline of the personal saving ratio from peak to trough was evidence of more than automatic mitigation of a contraction by a struggle to maintain previous standards of consumption as disposable income fell—the situation in 1929-33 and 1937-38—rather, it was a symptom of an autonomous increase of consumption demand which helped to reverse the cyclical tide.

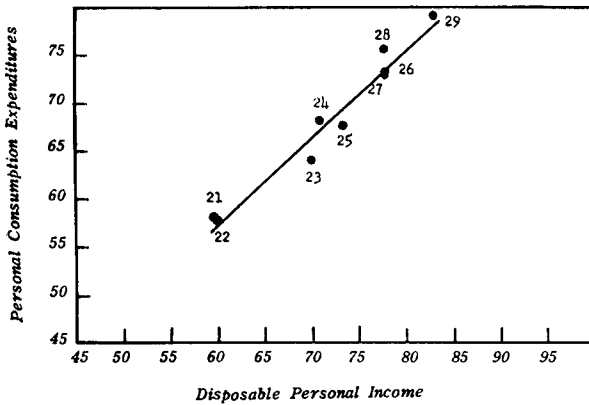
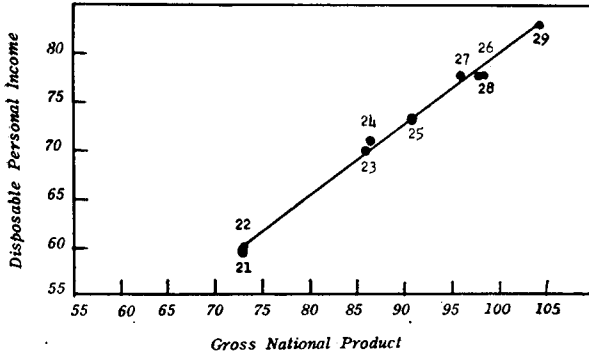
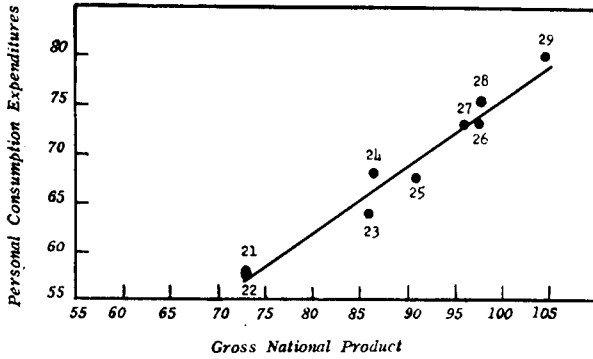
The problem that has engaged us in this comparison of business cycles in the 1920's with those of recent years—that of forming a judgment about the net contribution of the newly important Government stabilizers to overall stability—can be attacked in a different way with the assistance of chart 2. The chart makes use of the same estimates of gross national product, disposable personal income, and consumption expenditure which entered the previous discussion. Three relationships are diagramed side by side for the two postwar periods. The top panel shows the relationship of consumption to gross national product. This, in turn, is resolved into two components in the middle and lower panels: one relating disposable income and gross national product; the other, consumption and disposable income. Straight lines have been fitted to the data in all panels by the method of least squares. The reader is reminded that the estimates for the earlier years are less reliable because of gaps in the basic source data.

Comparison of the two lines relating consumption and gross national product shows immediately that the one for the 1920's is steeper than that for the recent period. The first line implies an increase of 67 cents in consumption expenditures for an increment of \$1 in gross national product, whereas the second places the increase at 54.5 cents. Apparently the induced response of consumption to gross income is smaller now than formerly, a factor making for greater stability.

Further inspection of the diagrams reveals that the diminished response of consumption is due primarily to the fact that disposable income increases less for a given change of income than in former years; that is, to the fact that the postwar growth of taxes and transfers has added to rather than replaced the stabilization potential of induced swings of business saving. The increment of disposable income per dollar increase of governmental product may be estimated from the fitted lines at 73.6 and 62.5 percent, respectively, in the earlier and later periods. The corresponding values for the ratio of changes of consumption and disposable income are 90.0 and 87.2 percent. It is easily calculated that with the earlier relationship between consumption and disposable income and the present one between the latter and gross national product, the ratio of increments of consumption and gross national product would now be equal to 57.1 (90.9 multiplied by 62.5) instead of the actual 54.5 percent. The same tax leakages and corporate saving as formerly in combination with the present behavior of personal saving, on the other hand, would yield a ratio of 64.9 percent, or not much lower than the actual 67.2 percent of the twenties.

Although the foregoing comparisons are probably of the correct order of magnitude, little weight should be given to the precise numerical results. Even if the statistics on incomes and consumption were completely accurate, the variables themselves are subject to autonomous disturbances and random variations, and the estimated relationships could not be more than approximations to the average strength of the induced responses. Inspection will quickly convince the reader that the changes from one year to the next do not always parallel the lines of average change, even during expansion, and that vertical movements of consumption relative to gross national product were the rule for the years of mild cyclical contraction covered by the charts. We know that several leakages operate in one direction during expansion and another in mild contractions—depreciation allowances, old-age and survivors insurance benefits, and indirect taxes come to mind—and that induced changes in at least one other leakage—net corporate savings—may vary considerably in magnitude from one cycle or phase of a cycle to another. It is also apparent that autonomous increases of consumption occurred during three of the contractions. All in all, it seems best to regard the estimates as approximations to the average induced responses of disposable income and consumption to increases of gross national product during expansions from comparatively high cyclical troughs. Even then, it is essential to remember that significant year-to-year variations in the strength of the responses can and will occur. The ratio of increments of disposable income and gross national product was 0.52 in 1954-55 and 0.74 in 1955-56, the one far below and the other

Chart 2
 Some Relationships Among Gross National Product,
 Disposable Personal Income, and Personal Con-
 sumption Expenditures: (Billions of Dollars)
 Part A. 1921- 29

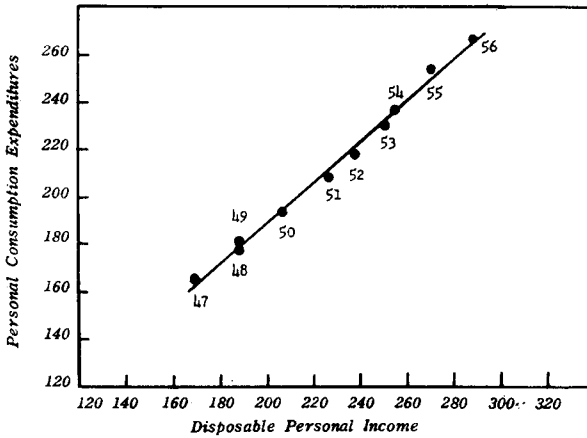
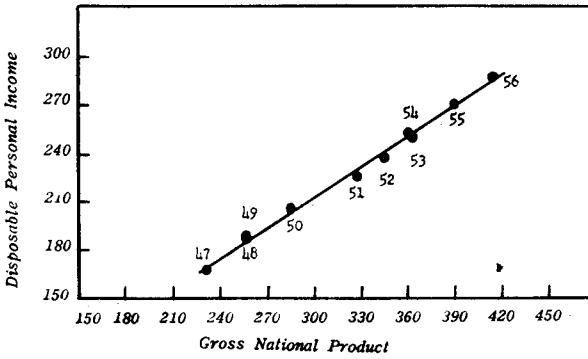
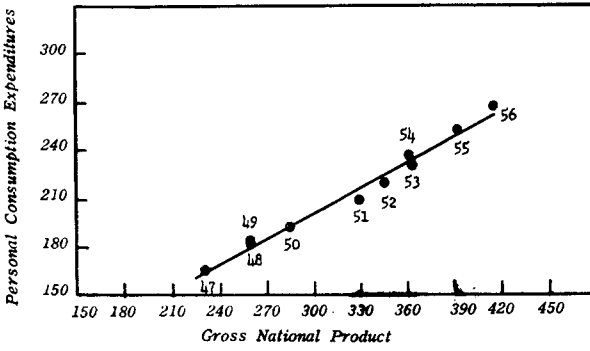


Note: The straight lines were fitted by the method of least squares.

For sources of data, see footnote to Table 5

Chart 2 (Cont.)

Part B. 1947-56



about equal to the average value estimated for the entire period 1921-29.

FEDERAL SPENDING AND STABILITY IN A GROWING ECONOMY

The discussion thus far has been limited to problems of short-term fluctuation. The implicit benchmark of perfect stability was a constant level of gross national product in money terms, and increases and decreases from that level were regarded as evidence of instability. What modifications of previous conclusions become appropriate when it is recognized that the goal is not merely stability for a year or two but stable growth over the long run, including the avoidance of chronic unemployment or inflation?

The first fact to be stressed is that the historical analysis has dealt with certain characteristics of the actual postwar economy; that is, of an economy unmarked by serious contraction and experiencing more than a decade of high-level activity. Federal expenditure was shown to be the least stable of the major components of final demand during that decade, and the conclusion was reached that on several occasions it contributed importantly to overall instability. The dominant impulse was toward expansion, however, so that Federal expenditure increased more rapidly on the average than other components and after each retrenchment remained a larger share of gross national product than before. Does this mean that the net effect of the autonomous demands of national security was to foster expansion and to prevent severe contraction, albeit at the cost of a moderate degree of short-run instability?

There are really two issues raised by this last question: What was the actual effect of large-scale Government spending, and what would have occurred in its absence? I will not speculate about the second issue, but I would like to comment on the first.

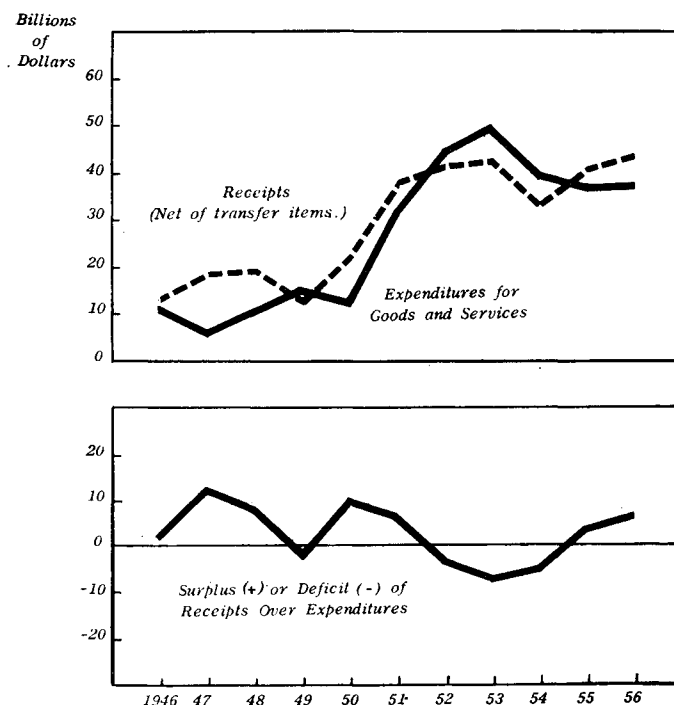
Suppose that an autonomous increase of Federal expenditure occurs at a time when unemployed resources are available to expand national output. Will an expansion actually develop, and, if so, how vigorous will it be? Clearly, more information is needed before an answer can be given. We need to know whether the additional expenditure raises autonomous demand, and, if it does so, by how much induced expenditures will rise in consequence.

If other demands remain unchanged at the time of the increase, autonomous expenditure will rise by the amount of the additional Federal outlay, and further gains will result from the subsequent rise of induced expenditure. The direction of the impulse is plainly evident in this simple case, and a tolerably good estimate of its strength is possible. But will other demands be initially unchanged? In general, no. In the first place, the private sector may respond directly to the same stimulus that spurs Federal spending. There were dramatic instances of this in the forward-buying waves during the early months of the war in Korea. Less startling than this sort of simultaneous reaction to an outside stimulus is the regular tendency for private investment to be made in inventory and plant in anticipation of subsequent Federal purchases for which orders have been placed. This is an important problem for short-term analysis of the impact of Federal spending, but it need not occupy us here. We also

leave aside the case in which the new expenditure is directly competitive with private investment and causes an offsetting reduction in the latter.

What we do need to consider is the method by which the new Government expenditure is financed. If tax rates are increased in order to raise the additional revenue, private demands will be diminished, and at least part of the stimulus of the added expenditure will be lost. Just how much will be lost depends upon the amount and type of the tax increase and the effect of the resultant reduction in private, disposable income upon private expenditure. The possibilities are manifold, but a simple example will suffice to illustrate the basic point.

Chart 3
Expenditures for Goods and Services, Net Receipts, and
Surplus or Deficit, Federal Government, 1946 - 56



For source of data, see Table 1

Assume that an increase of \$10 billion in expenditure is contemplated, and that personal income-tax rates are adjusted upward to raise an equal amount of additional revenue at the same level of national income as prevailed before the new expenditure is made. Since the initial effect of the tax increase is a \$10 billion reduction of disposable personal income, consumption expenditures will fall by, say, \$8 billion, offsetting that much of the increase of Government expenditure. A net gain of \$2 billion of autonomous expenditure still results, however,

and, when transformed into earned incomes, will induce further increases of aggregate demand. Notice that, although the initial effect of these fiscal operations was a balanced-budget increase of Federal expenditure, the induced rise of taxes due to the secondary expansion of incomes and demand will yield a surplus on Government account. The emergence of this surplus (or diminished deficit, if the initial position was one of deficit) is a sign of the restraining or deflationary influence of the automatic tax stabilizers, but it is a restraining influence that was called into being by the initial net expansionary increase of Federal spending. A before-and-after comparison would show an increase in the surplus, yet the end result of the entire fiscal operation would be expansionary. The expansion would be smaller than if the increase of expenditure were loan financed, but it is not necessary that a deficit be incurred in order to raise gross national product by raising Government expenditures.

What the foregoing example means when translated into practice is that an observed increase of Federal expenditure may have a net expansionary effect even if matched by an approximately equal rise of receipts. It is not enough to observe whether a deficit or surplus exists or is developing in order to gage the expansionary or contractionary influence of Government fiscal operations. A further complication results from the fact that the effect on private expenditure depends upon the type, as well as the amount, of the additional taxes. For instance, because part of the incidence of a given increase in corporate-income taxes will fall upon undistributed profits, dividends and hence disposable personal income will fall by less than if the same amount of tax revenue were raised by an increase in taxes on personal income. The smaller reduction of consumption per dollar of tax increase may or may not be compensated by a tax-inspired reduction of corporate-investment demand, but, in any event, a direct comparison of total tax revenue with total Government expenditure will not settle the question. With these strictures in mind, let us turn to a brief assessment of the impact of postwar changes in Federal expenditures and revenues on aggregate economic activity.

Federal purchases of goods and services, net tax receipts, and the excess of receipts over expenditures are shown annually for 1946 through 1956 in chart 3. There is no need to discuss the year-to-year changes in details. It is sufficient to note that the generalizations offered earlier about the expansionary or contractionary effects of the postwar swings in Federal expenditure remain valid when cognizance is taken of the concomitant changes in revenues. Thus, during 1948 and 1949, the expansionary stimulus of expenditure increases was strengthened by the tax cuts which stabilized receipts in the former year and by the induced decline of receipts in the latter. The rise in expenditure from 1950 to 1953 was less expansionary than if automatic and discretionary increases in revenues had not also occurred, but that it was, nonetheless, expansionary can scarcely be doubted in view of the history of the upswing. Again, the deliberate and induced reductions of receipts in 1953-54 helped to cushion the impact of the cutback in Federal expenditure, but did not prevent it from exerting a net deflationary pressure on the economy. I do not have the space here to support these assertions in detail, and it must be made plain that full assessment of the economic impact of fiscal operations

requires close analysis of the causes, timing, and magnitude of the changes in receipts and expenditures, and also of both the related and the independent fluctuations in private demand which are occurring at the same time. These qualifications do not alter the main point, however, that Federal expenditure was a substantial factor making for general expansion after 1947 and especially after 1950, and that the 18-percent drop in Federal spending from 1953 to 1954 left it on a high plateau and did not lead to a major contraction. These facts stand out despite the short-term shifts in the balance of receipts and expenditures and despite their general correspondence in level throughout the period. Viewing the postwar era as a whole, then, the longer run effect of the autonomous demands of national security has been to foster expansion, notwithstanding the instability of growth of Federal expenditure.

Modification of another previous conclusion is indicated when stability is considered in the context of growth. This was the conclusion that Federal spending would become a destabilizing factor if it were altered to keep pace with induced movements of tax receipts. This still holds unreservedly for declines. When it comes to stable growth, however, it may be desirable that Federal outlays rise along with revenues, lest the expansion of income be restrained unduly by an uncompensated increase in tax collections. Whether increased Federal expenditure (or tax cuts) would in fact be desirable from the standpoint of stability would depend upon the degree of prevailing inflationary pressure—upon whether the effect would be primarily to raise prices or real income—and also upon the probable expansion of private autonomous expenditure.