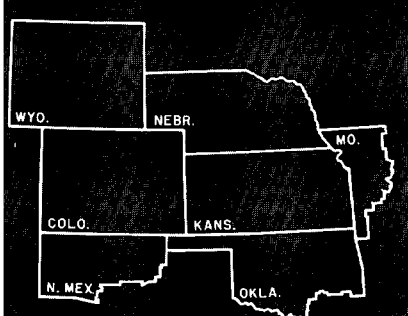

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FEDERAL RESERVE BANK OF KANSAS CITY

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Federal Government Purchases of Goods and Services

By Dan M. Bechter

Federal government spending has grown enormously over the years. Total expenditures for the current fiscal year will likely exceed $370 billion, more than twice the amount spent during the peak Vietnam war year of 1968, and more than 10 times the average annual amount spent a generation ago during the peacetime years, 1947-49. The rapid growth and huge size of these outlays have attracted much attention, and with good reason: Federal government spending profoundly affects the economy.

The economic effects of spending by the Federal government are not fully understood. It is clear, however, that while it might be all right for certain purposes to treat one dollar of Federal expenditure like any other, the kind of economic impact depends importantly on the type of expenditure. In particular, the economic effects of increases in Federal government transfer payments, such as social security benefits, will differ in some ways from the effects of increases in Federal government purchases of goods and services. Thus, a preoccupation with total spending by the Federal government can lead to conclusions which may differ from those reached when it is noted that the composition of that total has shifted dramatically toward transfers and away from purchases.

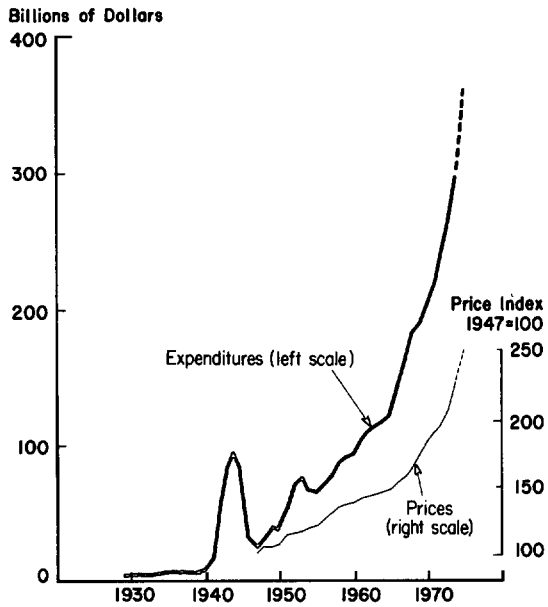
This article reviews trends in total Federal government spending, takes up the question of how economic effects differ according to the type of expenditure, and then focuses on Federal government purchases of goods and services. A subsequent article will deal in some detail with Federal government transfer payments.

FEDERAL GOVERNMENT SPENDING SINCE 1929

Total spending by the Federal government is commonly used as a measure of the "size of the Federal government." This is unfortunate. None of the usually implied concepts of the Federal government's magnitude—employment, influence on the lives of Americans (and others), or resources required—is measured by its total expenditures. This is not to deny that the total on the outlays side of the Federal budget is an important figure, for it is the amount that must be financed by taxation or borrowing. And this amount has increased dramatically since World War II, significantly faster than the rate of inflation (Chart 1).

As already noted, the first step toward a better understanding of Federal government spending is to distinguish between the two principal types of expenditures, transfer payments and purchases of goods and services. The second step is to make allowance in the historical series for the declining value of the dollar. Chart 2 shows the two major expenditure components adjusted for inflation. In the past, most Federal expenditures were for national defense. Now, the Department of Health, Education, and Welfare (HEW) distributes more in transfer payments than the Department of Defense

Chart 1
FEDERAL GOVERNMENT EXPENDITURES AND INFLATION

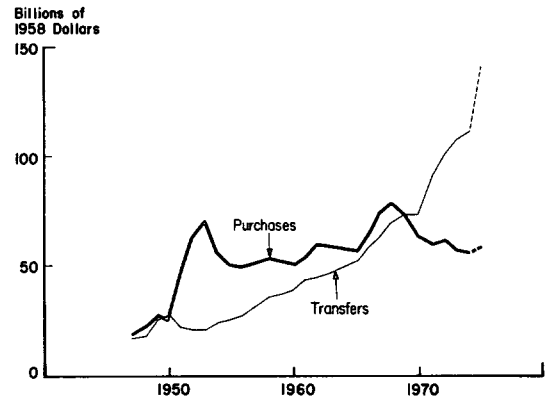


spends for goods and services.

An individual taxpayer concerned about the size of his own tax liability may not particularly care how his tax dollar is split between the financing of Federal government purchases and transfer payments. However, the distinction is important in terms of effects on the economy. Federal government expenditures on goods and services deny other sectors some of the country's total output, or, more meaningfully, the use of part of the country's resources. Not so with Federal transfer payments, which leave resource claims within non-Federal sectors. For example, resources used to build a jet fighter for the Air Force are not available for the production of goods and services for the rest of the economy. In contrast, an increase in social security benefits and taxes redistributes purchasing power among non-Federal sectors and does not translate into an increase in the Federal government's claim on resources.[1]

The declining absolute amount of real Federal government purchases of goods and services since

Chart 2
FEDERAL PURCHASES AND TRANSFERS IN REAL TERMS



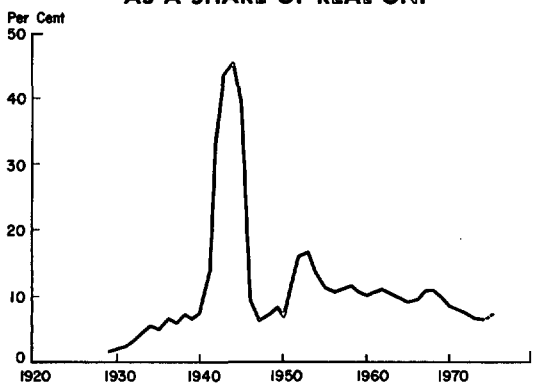
1968 (Chart 2) together with the rising productive capacity of this nation has meant a declining share of the central government's claim to resources in recent years (Chart 3). The relative size of the public sector (all government), however, is still about the same as it was in 1952. As Table 1 shows, the declining Federal share of output since 1952 has been offset by a rising share of goods and services purchased by state and local governments, a trend helped along by revenue sharing and other Federal grants in aid to state and local governments. Consumer and business shares have remained relatively stable. By this one measure, then, since the Korean war period, "big" government has declined in size relative to other sectors, and especially relative to "small" government. Chart 4 tells a similar story with employment data.

DEFENSE PURCHASES

Most Federal government purchases of goods and services are for national defense. This proportion has trended downward, however, as has the ratio of defense expenditures to gross national product (Chart 5). Purchases of goods and services

1/Another important implication of the compositional shift in Federal spending is a declining fiscal stimulus for a deficit of a given size. This is because a dollar's worth of transfers has less of a stimulating effect on the economy than a dollar's worth of purchases. See "Federal Fiscal Policy, 1965-72," *Federal Reserve Bulletin*, Vol. 59, No. 6 (June 1973).

Chart 3
REAL FEDERAL PURCHASES AS A SHARE OF REAL GNP



for national defense amounted to $83.1 billion during the fiscal year that ended June 30, 1975.

The Federal payroll for national defense accounts for a big chunk of defense expenditures. During fiscal year 1975, the Department of Defense bought 95 per cent of defense goods and services, spending an estimated $21.2 billion on salaries and benefits for 2.1 million active military personnel. An additional $1.6 billion went for pay and benefits to reserve forces. The Department of Defense also employs, in military functions, close to 1 million civilians, or about one-half of all Federal civilian employees excluding postal workers. Their salaries and benefits came to an estimated $14.5 billion in fiscal year 1975.[2] Thus, the Federal payroll for national defense totaled $38 billion in fiscal year 1975, or 46 per cent of national defense purchases, and two-thirds of total compensation in Federal employment exclusive of postal workers.

National defense purchases of goods and services are directly responsible for many jobs in the private sector, too. In full-time equivalents, perhaps 3 million non-Federal employees are involved at some stage with the production of goods and services for national defense although only an estimate

2/Military personnel in the Coast Guard (Department of Transportation), numbering 36,000, received $380 million in compensation. Another 6,250 Federal civilian employees earned $94 million working for the Coast Guard, and 8,200 more earned an estimated $180 million working defense-related jobs for the Energy Research and Development Administration or the Nuclear Regulatory Commission.

Table 1
SHARES OF GROSS NATIONAL PRODUCT BY FINAL DEMAND CATEGORY
Selected Years, 1929-75

	Share of Actual Gross National Product				Fed. Gov't.
	Private		Government		Share of
Year	Consumption	Investment	State and Local	Federal	Potential GNP*
1929	.75	.16	.07	.01	.01
1940	.71	.13	.08	.06	.05
1943	.52	.03	.04	.42	.42
1947	.69	.15	.05	.05	.04
1952	.63	.15	.07	.15	.16
1955	.64	.17	.08	.11	.11
1958	.65	.14	.09	.12	.12
1964	.63	.15	.10	.10	.10
1967	.62	.15	.11	.11	.11
1974	.63	.15	.14	.08	.08
1975 est.	.65	.11	.15	.09	.08

*This ratio better measures the Federal government's share of the nation's capacity. Shares of actual GNP are affected by the business cycle.
SOURCE: U. S. Department of Commerce.

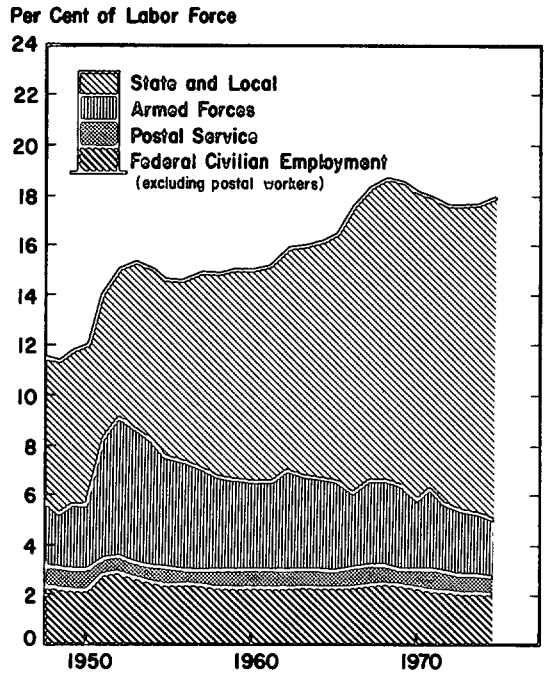
is possible. Over 1 million workers are currently employed by "defense product industries," but some industries in this classification also produce nondefense goods. Thus, their total employment tends to overstate the number of workers at the final stage of defense production. On the other hand, data on defense product industries exclude significant amounts of defense work carried on by companies and establishments in industries classified otherwise.[3] And, of course, the initial and intermediate levels in the production of defense goods are not included in these tabulations. Nonetheless, employment in defense product industries does serve as a useful index of defense activity.

NONDEFENSE PURCHASES

Nondefense purchases of goods and services by Federal civilian agencies totaled $41.1 billion, or half the amount of defense purchases, during fiscal year 1975. Nondefense expenditures include such programs as operating national forest, park, and recreation areas; space exploration; promotion of commerce; acquisition and disposal of agricultural

3/*Defense Indicators*, U. S. Department of Commerce, July 1975, p.2.

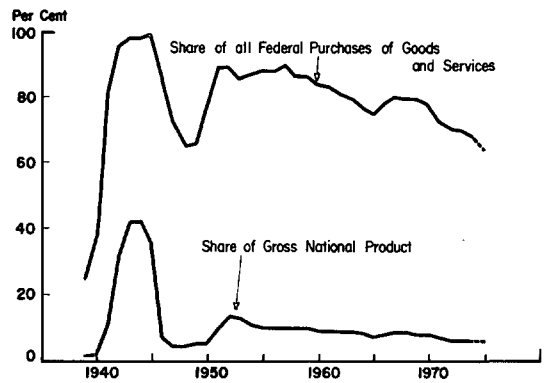
Chart 4
GOVERNMENT EMPLOYMENT



commodities; construction of flood control and navigation projects; operation of the Federal airway system; a wide variety of medical and other scientific research; the capital outlay of Government-sponsored enterprises; Federal law enforcement; and operation of veterans hospitals.[4] Excluded are operating expenditures of government enterprises. Roughly one-half of nondefense spending on goods and services compensates about 1 million Federal government employees, most of whom work in the executive branch. Not included in the 1 million are 557,000 permanent and 140,000 part-time Postal Service employees whose $11 billion in pay and benefits in 1975 required more than all of the $10.3 billion in nonsubsidy revenues of this government enterprise. Fewer than 50,000 people work for the legislative and judicial branches of the Federal government.

4/*Special Analysis Budget of the United States Government, Fiscal Year 1976* (Washington: U. S. Government Printing Office, 1975), p.13.

Chart 5
NATIONAL DEFENSE PURCHASES



As noted earlier, transfer payments are not part of purchases of goods and services by the Federal government. But the cost of administering these transfers is. Thus, 5 per cent of the $112 billion spent during fiscal 1975 by HEW went for goods and services; the rest was transfer payments. In contrast, 92.5 per cent of the Department of Defense expenditures went for goods and services, the other 7.5 per cent going for military retirement pay, a transfer.

INDUSTRY EFFECTS

To what extent do various industries benefit from Federal government purchases of goods and services? This question has been answered for 1963 with input-output analysis, which shows the interdependencies of industries in the economy.[5] The input-output technique permits the determination of indirect, as well as direct, effects of Federal purchases on industries. An example of a direct effect is the impact on the aircraft industry of the purchase of a jet fighter. Indirect effects on other industries arising from this final sale would occur in the preproduction phase as the aircraft company bought controls, fabricated aluminum, and other intermediate goods and services necessary to build the

5/Irvin Stern, "Industry Effects of Government Expenditures: An Input-Output Analysis," U. S. Department of Commerce, *Survey of Current Business*, May 1975, pp. 9-23. More recent data are not available.

Table 2
INDUSTRIAL DEPENDENCE ON FEDERAL GOVERNMENT PURCHASES OF GOODS AND SERVICES, SELECTED INDUSTRIES, 1963

	Where Each Dollar of Fed. Purchases Went	Per Cent of Output Attributable to Fed. Gov. Purchases	
		Total	Direct
The 7 industries most dependent on Federal purchases:			
Ordnance and accessories	.0827	90.1	84.1
Aircraft and parts	.1175	77.9	52.6
Radio, television, & communication equipment	.0731	48.7	37.7
Electronic components & accessories	.0062	38.8	8.8
Nonferrous metal ores mining	.0038	31.7	15.8
Machine shop products	.0008	31.3	2.2
Transportation equipment other than for motor vehicles & aircraft	.0175	26.8	23.0
The top 10 industries in dollar sales to the Federal government:			
Aircraft, ordnance, radio & television (see above)			
New construction	.0625	6.1	6.1
Gross imports	.0413	14.7	9.8
Business services	.0309	10.9	5.5
Medical educational services & nonprofit organizations	.0221	4.6	4.3
Construction maintenance & repair	.0221	10.4	7.1
Transportation & warehousing services	.0206	9.5	5.0
Chemicals & selected products	.0162	12.8	6.1
Total of above 14 industry categories	.5173		
Federal government industry*	.3813	100.0	100.0
All other industry	.1014		
All industry total	1.0000		5.5†

*Compensation of Federal government employees.
†Federal purchases/GNP.

jet. The producers of these intermediate inputs require inputs of their own from other industries, which means more indirect effects, and so on down the production chain to the primary materials industries.

Table 2 shows the effects of Federal purchases on certain industries in 1963. The defense industries exhibit the strongest ties to these purchases. In 1963, 8.27 per cent of Federal purchases (or 8.27 cents of a representative purchase dollar) went directly for the output of the ordnance industry, accounting for 84.1 per cent of its sales. Another 6 per cent of ordnance revenues were due to indirect effects from Federal purchases from other industries. It is readily seen from the table that some industries selling very little directly to the Federal government are heavily dependent on the indirect effects of Federal purchases (e.g., machine shop products). The sales of most industries, of course, depend in at least a small way on the Federal government's final demand.

REGIONAL EFFECTS

The ladder of production that supplies the Federal government with goods and services gives rise to income at every rung. From a regional point of view, this income is an outside source of dollars that supports the area economy.

The most easily identifiable source of income from Federal government purchases is the Federal payroll. Most Federal employees, like the rest of the population, live in or near cities. In 1972, 84 per cent of the total Federal civilian payroll went to U.S. government workers living in Standard Metropolitan Statistical Areas. Of total military pay, 75 per cent was for officers and enlisted men stationed in these urban locations. The military and civilian payrolls of the Federal government are by no means evenly distributed over cities. Thus, metropolitan areas of roughly the same size exhibit wide variations in the degree to which they depend on Federal pay as a source of income from the outside. For example, compare Lawton, Okla., with St. Joseph, Mo., in Table 3.

A community's total income depends indirectly as well as directly on its sales to outsiders. Income earned from such "exports" is spent partly on local goods and services, giving rise to other income, which itself is respent, and so on. Not all of an area's income attributable to Federal purchases of goods and services can be considered export income, since some of these expenditures go for local needs. For example, the salaries of regional Social Security personnel are not for exported services to the extent that the work done by these Federal employees is for residents of that region. In

Table 3

FEDERAL PAYROLL AS A SOURCE OF PERSONAL INCOME IN SELECTED STANDARD METROPOLITAN STATISTICAL AREAS (SMSA's), 1972

Millions of Dollars

Area	Federal Payroll Total	Federal Payroll Civilian	Federal Payroll Military	Total Personal Income	Federal Payroll as Per Cent of Area Income
United States	51,475	32,930	18,545	935,350	5.5
All SMSA's	41,777	27,787	13,990	734,865	5.7
Four SMSA's with big Federal payrolls:					
Washington, D.C.	5,526	4,690	836	17,578	31.4
New York	1,398	1,234	164	60,674	2.3
Philadelphia	1,369	950	419	24,103	5.7
San Diego	1,340	379	961	6,822	19.6
Tenth District SMSA's*	2,668	1,625	1,043	28,657	12.5
Colorado:					
Colorado Springs	391	92	299	1,110	35.2
Denver-Boulder	496	359	137	6,797	7.3
Pueblo	43	40	3	486	8.8
Kansas:					
Topeka	80	40	40	837	9.5
Wichita	102	44	58	1,705	5.9
Missouri:					
Kansas City†	346	282	64	6,396	5.4
St. Joseph	9	7	2	426	2.1
Nebraska:					
Lincoln	36	31	5	796	4.5
Omaha*	227	98	129	2,548	8.9
New Mexico:					
Albuquerque	184	131	53	1,458	12.6
Oklahoma:					
Lawton	201	50	151	371	54.1
Oklahoma City	440	386	54	3,105	14.2
Tulsa	52	41	11	2,339	2.2
Wyoming:					
Cheyenne	61	24	37	283	21.5

*Includes Pottawattamie county in Iowa, part of the Omaha SMSA, but the Tenth District total excludes Nebraska's Dakota county, which is in the Sioux City, Iowa SMSA.
†Includes Johnson and Wyandotte counties in Kansas.
SOURCE: U. S. Department of Commerce, **Survey of Current Business,** May 1974, Part II.

areas where the ratio of Federal purchases to total purchases is significantly higher than average, there is a strong presumption that Federal demand is a major determinant of that area's economic activity.[6] Needless to say, that is the case in the Washington, D.C. metropolitan area, where 31 per cent of all personal income is Federal payroll, and where

6/Federal transfer payments can also be a major source of outside income. This will be covered in a subsequent article.

Table 4

NET VALUE OF MILITARY PROCUREMENT ACTIONS, SELECTED STATES, FISCAL YEAR 1975

	Amounts in Thousands	Per Cent
Total U. S. Prime Defense Procurement Awarded	43,355,471	
Distributed by State	37,319,429	100.0
The 4 biggest recipients	16,024,232	42.9
California	7,907,977	21.2
Connecticut	2,348,567	6.3
New York	3,743,942	10.0
Texas	2,023,746	5.4
Tenth District States	2,547,747	6.8
Colorado	293,803	0.8
Kansas	504,566	1.4
Missouri (state total)	1,361,409	3.7
Nebraska	49,860	0.1
New Mexico (state total)	93,812	0.3
Oklahoma (state total)	215,329	0.6
Wyoming	28,968	0.1

SOURCE: **Prime Contract Awards,** Department of Defense, Fiscal Year 1975.

other Federal purchases of goods and services and spending by Federal employees is responsible for most of the remainder. (Empirical studies have shown that one to two dollars of additional local income is associated with each dollar of export income. The larger and more self-sufficient the region, the higher is this multiplier.)

The regional impacts of Federal purchases other than payroll are more difficult to determine. To the extent that certain industries are regionally concentrated, input-output analysis gives some idea of this impact. For example, a regional impact is indicated by those sales of the motor vehicle industry due to Federal government purchases. For one category of nonpayroll purchases, defense procurement, regional data are available. Expenditures on procurement by defense agencies account for one-fourth of all Federal purchases other than payroll. Final sales do not equal income, of course, nor do they show indirect industry effects. But it is probably true that those states which sell most of the defense goods to the Federal government are also those that would show the highest income benefits from defense procurement activity (Table 4).

INFLATIONARY EFFECTS?

Does an increase in Federal government purchases of goods and services cause more inflation? The answer is not an unequivocal yes; it depends on factors such as how the increase is financed, how close the economy is to its capacity level of output, and to what extent the pricing system is permitted to guide and direct.

If resources are fully employed and the Federal government creates new money to finance its additional spending, the result is more inflation. If, however, the increased demand of the Federal government is financed in a way that decreases demand in other sectors by the same amount, inflation can be kept at bay. Taxation reduces demand in the private sector. So does Federal borrowing from the available flow of saving. Deficit spending at full employment need not be inflationary, so long as it is not accompanied by an increase in the money supply or its velocity (rate of circulation) that is greater than the increase in output.

If the economy is operating substantially below capacity, an increase in Federal government purchases of goods and services stimulates production and puts unemployed resources to work (if markets are not immobilized by controls or monopoly elements). In such a circumstance, a case can be made for financing additional government purchases with new money, since the result of more money can be more output rather than higher prices (growth considerations aside, this cannot be true at capacity, where output is, by definition, a maximum). With underemployment, the Federal government will not need to reduce the demand of other sectors in order to provide for its increased purchases. To some degree, therefore, taxation and borrowing of old money can be avoided at least temporarily without disastrous inflationary consequences.

So much for theory; what is the record? A comparison of annual rates of change of the price level with same-year (or previous-year) percentage changes in real Federal purchases shows no consistent relationship between the two. In the past quarter century, the rate of inflation has just as often as not gone in a direction opposite to that of real Federal spending on goods and services.[7] Clearly, the behavior of this one category of aggregate demand cannot provide much of a foundation for explaining the rate of change of the price level. One must look further to such factors as changes in the money supply and its velocity, and how Federal expenditures were financed.

STABILIZING ROLE

Federal government purchases of goods and services could be increased or decreased to help iron out business cycles. But Federal purchases usually are justified by criteria other than their stabilizing effect. According to one principle, the government should use resources (buy goods and services) only to provide desired quantities of public needs, such as national defense, that would not be provided by an aggregation of individual market decisions. This rule does not leave room for using Federal purchases as a means to stimulate or cool off the economy. Also, because of production lead-time, start-up costs, and penalty costs associated with project termination, it is technically very difficult to use purchases of goods and services as a flexible policy tool. Fiscal policy, therefore, frequently has been limited to the tax and transfer functions in the Federal budget. In the past 25 years, the two largest increases in real Federal expenditures for goods and services accompanied war, in the two 3-year periods 1951-53 and 1966-68. During these two periods, the economy reached capacity-straining levels of production not experienced since 1948, a peacetime year of economic boom supported by all major sectors of final demand, including Federal purchases, which rose 24 per cent from their postwar low.[8] After the Korean war and the peak of the Vietnam conflict, in 1954-55 and 1969-70, Fed-

7/In the national income accounts, defense goods are recorded as purchases when they are delivered rather than when ordered or produced. Before delivery, these goods are included in the inventory component of GNP and are not counted as government expenditures. Thus, the inflationary impact of defense spending could be realized well before purchases are recorded in the accounts. It turns out, however, that the correlation between defense purchases and prior-year rates of inflation is also poor.

8/The increases in Federal purchases in 1948 were primarily in the non-defense category, including added emphases on natural resource development and on transportation and communication.

eral expenditures on goods and services declined dramatically. Federal purchases also declined in successive years in 1959-60 and 1973-74. Each of these four 2-year periods included, by no coincidence, a recession. If changes in Federal demand did not cause these booms and busts, it certainly did not smooth the swings.

Federal purchases more often than not have changed in ways that aggravate the business cycle. In the past 28 years, 1948-75, the unemployment rate has averaged above 5 per cent half of the time. Real Federal purchases decreased in 7 of those years, and increased by more than 3 per cent in only 4, the two pairs of years 1957-58 and 1961-62, two truly contra-cyclical episodes for Federal demand. Of the 14 years in which the unemployment rate averaged less than 5 per cent, Federal expenditures on goods and services fell, in contra-cyclical fashion, in only 5, perhaps by too much, as recessions usually followed.

To summarize, Federal purchases have often changed in the wrong direction in terms of stabilization. When the direction has been right, the magnitude of change sometimes has not fit the situation. As noted above, however, Federal purchases of goods and services are only a small part of the fiscal stabilization package. And, conversely, stabilization is not the major goal of Federal purchases. Changes in taxes and transfers can be used to offset adverse effects on the economy that might result from changes in demand for output by the Federal government or, for that matter, any other sector in the economy. The fact that Federal purchases appear to have added amplitude to the business cycle suggests that fiscal stabilization policy has been an inadequate tool. Specifically, if more Federal purchases are required when the economy's capacity is already strained, the stabilization goal argues for bigger tax increases (or transfer decreases) than have been observed under these circumstances in the past. By the same token, if Federal purchases are being cut back at the same time that the economy is slumping, bigger-than-observed tax cuts or transfer increases are indicated.

SUMMARY

Total spending by the Federal government has risen rapidly in recent years. Huge increases in Federal transfer payments are the reason, because Federal purchases of goods and services have declined substantially in real terms. Transfers to persons have displaced expenditures for national defense as the largest expenditure category in the Federal budget. Only purchases use up resources; transfers do not increase the Federal government's resource requirements. Consequently, the share of the nation's productive capacity that is required to directly supply Federal demand is the lowest it has been in 25 years. Meanwhile, the share of output purchased by state and local governments has increased.

Two-thirds of Federal expenditures on goods and services go for national defense. In both defense and nondefense categories, the Federal payroll accounts for about half of all purchases. A big proportion of nonpayroll purchases are for defense and aerospace activities. Several industries depend heavily on such expenditures. Regional economies, too, show varying degrees of dependence on Federal purchases.

Inflation cannot be explained solely by changes in Federal purchases of goods and services. But changes in these expenditures apparently have aggravated the business cycle over the years, contributing to recessions, and to overstimulation in boom periods. Apparently, considerations other than stabilization have made the Federal government unwilling to choose adequate revenue and expenditure policies to offset the sometimes destabilizing effect of changes in Federal purchases.

Bank Lending to Agriculture: An Overview

By Mary Hamblin

The credit needs of U. S. agriculture have increased rapidly in recent years. Spurring these credit needs have been the shift to large scale capital intensive farms and the marked increase in foreign and domestic demand for U. S. agricultural products. As credit needs of farmers have grown, however, questions have been raised about the extent to which commercial banks—faced with liquidity problems of their own—have been able to act in their traditional capacity as a major supplier of funds to the agricultural community.

This article examines the role that commercial banks have played in meeting the credit needs of agriculture during the past decade. Also examined is the relative importance of agricultural lending to the commercial banking industry. Particular attention is devoted to identifying those banks that specialize in farm lending, both in the nation and in the Tenth Federal Reserve District.[1]

THE IMPORTANCE OF BANKS AS A SOURCE OF FUNDS

Total Debt

During the 10-year period ending in 1974, the total debt outstanding of the U. S. farming sector rose from $35 billion to $82 billion (Chart 1), an overall advance of 131 per cent or an average yearly increase of 8.7 per cent.[2] In recent years, farm debt has grown at an even more rapid pace, rising at an annual rate of 12.8 per cent in the 3-year period 1972-74. Throughout the past decade, the largest component of total farm debt consistently has been real estate, or long-term, debt. At the end of 1974, for example, real estate debt totaled $46 billion while nonreal estate debt amounted to $35 billion.

Types of Lenders

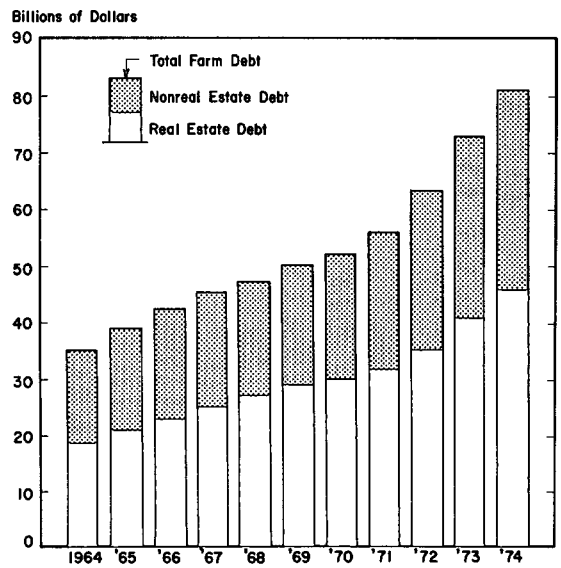
There are essentially five major types of lenders to agriculture. They are commercial banks, the Farmers Home Administration, life insurance companies, the Farm Credit Administration, and all others—including merchants, dealers, and individuals. The Farm Credit Administration supervises and coordinates certain agencies that provide credit to farmers. These agencies include: the Federal Land Banks, which make long-term loans secured by farm and rural real estate through local Federal Land Bank Associations; and the Federal Intermediate Credit Banks (FICB's), which provide loanable funds to local Production Credit Associations (PCA's), and which also discount notes of eligible borrowers given to other financing institutions.[3] Production Credit Associations, in turn, make short- and intermediate-term loans to farmers for a variety of purposes related to the production of agricultural products. The Farmers Home Administration is an agency of the Department of Agriculture and provides a supplemental source of short- and long-term credit to farmers unable to find fi-

1/Colorado, Kansas, Nebraska, Wyoming, northern New Mexico, most of Oklahoma, and 43 counties in western Missouri.

2/In September 1975, the U. S. Department of Agriculture released a revised nonreal estate debt series which reflected reductions in the individuals and others component of this item. Changes in the series were particularly large for the last half of the period examined by this article. For example, the yearend 1974 estimate of nonreal estate debt held by noninstitutional lenders was reduced $10.6 billion to $6.1 billion. This in turn reduced estimated total farm debt from $92.2 billion to $81.5 billion.

3/Banks for Cooperatives, which provide credit to farm-type cooperatives, are also included in the Farm Credit System. However, since the loans they make to cooperatives are essentially business loans, the U.S. Department of Agriculture excludes their lending in calculating total farm debt.

Chart 1
AGRICULTURAL DEBT OUTSTANDING
Yearend 1964-74



SOURCE: U.S. Department of Agriculture.

nancing through conventional lenders.

The relative importance of these major lenders to agriculture is shown in Table 1. Commercial banks as a group ranked as the leading institutional lender of total farm credit at the end of 1974, accounting for 29.7 per cent of total farm debt outstanding in 1974. The Farm Credit Administration ranked a close second, providing 28.6 per cent of agricultural lending. Most of the credit extended by the Farm Credit Administration was made through Federal Land Banks and PCA's. Life insurance companies and the Farmers Home Administration each provided a relatively small proportion of the total in 1974, while all noninstitutional sources held 28.8 per cent of the debt outstanding.

In terms of farm real estate debt, commercial banks ranked as the third largest institutional lender in 1974, accounting for 12.9 per cent of the total extended. The Federal Land Banks and life insurance companies each held a larger proportion of the total outstanding. In terms of nonreal estate debt, however, commercial banks were by far the largest institutional lender—supplying 51.8 per cent in 1974. Commercial banks' share of nonreal estate debt was almost twice as large as that of PCA's, which was the next largest nonreal estate lender. Ranking below banks and PCA's in providing nonreal estate farm debt in 1974 were individuals and others, the Farmers Home Administration, and the FICB's lending to other financing institutions.

The relative share of commercial bank lending to agriculture has increased almost steadily over the past decade despite intermittent liquidity problems experienced by the banking industry.[4] At the end of 1964, banks held 26.7 per cent of the total farm debt outstanding, while at the end of 1974 their share had risen to 29.7 per cent. The rise in the banking sector's overall share of farm debt reflects in large part the sharp increase in the relative share of nonreal estate debt held by commercial banks. The relative shares of some other major lenders also have changed considerably between 1964 and 1974. The Farm Credit Administration, for example, raised its overall share from 17.3 per cent to 28.6 per cent, owing mainly to a rapid growth in lending by PCA's and Federal Land Banks following enactment of the Farm Credit Act of 1971.[5] These gains compensated for the declining role of life insurance companies and other private lenders. The ability of the banking industry to increase its relative share of farm lending in the past 10 years—in the face of declines experienced by other private lenders—suggests that banks have actively sought to meet the growing credit needs of agriculture.

THE IMPORTANCE OF AGRICULTURAL LENDING TO BANKS

Total Agricultural Loans

In the process of increasing their market share of agricultural lending, commercial banks have

4/Commercial banks' share of total agricultural lending also rose between 1964 and 1974 using the old U. S. Department of Agriculture total farm debt series. However, the share fell from 26.1 per cent in 1964 to 24.7 per cent in 1969, before advancing to 26.3 per cent in 1974.

5/The lending services of the Farm Credit System were expanded and modernized by the Farm Credit Act of 1971. The law extended the lending authority of Federal Land Banks to include certain nonfarm rural housing loans, increased the percentage they could loan on farm real estate from 65 to 85 per cent, and allowed them to finance businesses providing on-the-farm services. Production Credit Associations were enabled to make certain rural housing and modernization loans, to make loans to farm-related businesses, to provide loans to aquatic producers and harvesters, and to participate in loans with commercial banks.

Table 1
SOURCES OF FARM CREDIT
Yearend Totals

	1964		1974	
	Dollar Volume (In millions)	Per Cent of Total	Dollar Volume (In millions)	Per Cent of Total
Total Farm Debt Outstanding	35,260	100.0	81,531	100.0
Commercial Banks*	9,407	26.7	24,204	29.7
Farmers Home Administration	1,929	5.5	4,256	5.2
Life Insurance Companies	4,287	12.2	6,317	7.7
Farm Credit Administration	6,089	17.3	23,295	28.6
Federal Land Bank	3,687	10.5	13,402	16.4
PCA's	2,277	6.5	9,519	11.7
OFI's† debt to FICB's	125	0.4	374	0.5
Individuals and Others	13,548	38.4	23,458	28.8
Real Estate Debt Outstanding	18,894	100.0	46,305	100.0
Commercial Banks*	2,417	12.8	5,966	12.9
Farmers Home Administration	1,285	6.8	3,212	6.9
Federal Land Bank	3,687	19.5	13,402	28.9
Life Insurance Companies	4,288	22.7	6,317	13.6
Individuals and Others	7,218	38.2	17,408	37.6
Nonreal Estate Debt Outstanding	16,366	100.0	35,226	100.0
Commercial Banks*	6,990	42.7	18,238	51.8
Farmers Home Administration	644	3.9	1,044	3.0
PCA's	2,277	13.9	9,519	27.0
OFI's† debt to FICB's	125	0.8	374	1.1
Individuals and Others	6,330	38.7	6,050	17.2

*Includes all commercial banks, nondeposit trust companies, and mutual savings banks.

†Other financing institutions.

NOTE: Total Farm Debt Outstanding excludes Commodity Credit Corp. loans. Individual items may not add to totals due to rounding.

SOURCE: U. S. Department of Agriculture.

steadily expanded their loans to agriculture during the past decade. The nation's banks increased their agricultural loans from $9.6 billion at yearend 1964 to $24.2 billion at the close of 1974. (See Chart 2.) Agricultural loans rose at an annual rate of 9.7 per cent in the 10-year period. The growth was even more rapid in the 1972-74 period, as agricultural loans increased at an annual rate of 13.3 per cent.

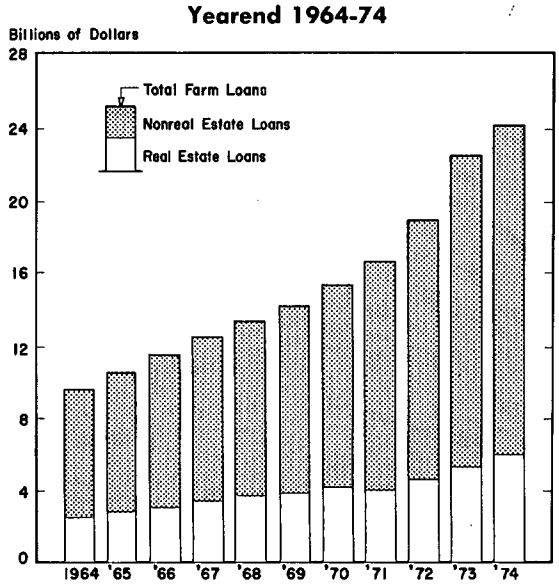
In the Tenth District, agricultural loans held by banks also rose at a rapid pace. (See Table 2.) The decade's annual growth rate for District banks was 10.7 per cent and in the 1972-74 period the growth rate was 12.5 per cent. In states within the District, banks in Oklahoma increased their agricultural lending at a 13.2 per cent annual rate between 1964 and 1974—the highest of any state in the District.

The mix between real estate and nonreal estate loans was considerably different in the nation and in the Tenth District. At all banks in the nation, farm real estate loans made up 24.8 per cent of total farm loans at the end of 1974, while in the Tenth District they amounted to only 10.1 per cent of the total. The smaller proportion of farm real estate loans in the Tenth District reflects the much larger than average farm size in the District combined with the generally small size of banks active in farm lending.

Agricultural-Total Loan Ratios

The importance of agricultural lending relative to total lending by the nation's banks remained steady during the 1964-74 period. In 1974, the ratio of agricultural loans to total loans was 4.8 per cent,

Chart 2
COMMERCIAL BANK FARM LOANS
Yearend 1964-74



about the same as in 1964. (See Table 3.) The low ratio indicates that agricultural lending accounts for a relatively small part of the total lending activity of the nation's banks. This reflects not only the relative importance of agriculture in the nation's economy but also the fact that banks are diversified lenders which help supply the credit needs of all segments of the economy.

Although agricultural loans are a small portion of the loan portfolio at all banks in the nation, there are some geographic areas in the United States where agricultural lending is of considerable significance. In the Tenth District, for example, where agriculture is of great importance, the agricultural loan-total loan ratio at District banks (20.5 per cent in 1974) is considerably higher than at the nation's banks. Agricultural lending is more important in the Tenth District than any other Federal Reserve District in terms of the agricultural loan-total loan ratio. The Minneapolis and St. Louis Districts ranked second and third in 1974, respectively, while the Boston and New York Districts had the lowest ratios. Among Tenth District states, agricultural lending is most important at Nebraska banks where agricultural loans accounted for 37.0 per cent of total loans in 1974. Kansas and Wyoming banks ranked second and third, respectively, while banks in Colorado, Missouri, and New Mexico registered the lowest agricultural loan-total loan ratio.

The importance to banks of agricultural lending also is related to bank size. Lending to agriculture is much more important to smaller banks than to larger banks as indicated by relatively higher agricultural loan-total loan ratios at smaller banks. (See Table 4.) At the nation's smallest banks—those having deposits of less than $10 million—agricultural loans accounted for nearly one-third of total loans in 1974. At banks with deposits between $10 and $25 million, the ratio was 18.7 per cent; and at banks with deposits between $25 and $50 million the ratio was 8.8 per cent. The largest banks—those having deposits of $50 million or more—had the lowest ratio, 1.8 per cent.

The tendency for agricultural lending to be more important to smaller banks reflects the prevalence of the unit banking system in many agricultural states. A unit bank's size is limited by deposits that are generated in the geographic area where the bank is located. In agricultural regions, even a relatively large geographic area typically generates a relatively small volume of deposits. As a result, unit banks that are located in and serve agricultural areas generally tend to be relatively small.

Table 2
BANK LENDING TO AGRICULTURE

	Dollar Volume*		Annual Growth Rate
	1964	1974	1964-74
	(In millions)		
United States	9,571	24,242	9.7
Tenth District	1,668	4,615	10.7
Colorado	225	485	8.0
Kansas	459	1,244	10.5
Missouri†	369	1,031	10.8
Nebraska	463	1,293	10.8
New Mexico†	56	181	12.4
Oklahoma†	256	888	13.2
Wyoming	74	197	10.3

*December 31.
†Includes the portion of the state outside the Tenth District.

Since agriculture is very important in the Tenth District, and unit banking prevails in most District states, the tendency for agricultural lending to be more important to smaller banks is quite pronounced for this District. In 1974, agricultural loans accounted for 46.6 per cent of the total loan portfolio at the District's smallest banks, compared with 29.9 per cent at the nation's smallest banks. Similarly, in each higher deposit size category the agricultural loan-total loan ratio at all District banks was larger than at the nation's banks. Among Tenth District states, the agricultural loan-total loan ratio at the smallest banks was very high in the agricultural states of Nebraska and Kansas. In Nebraska the ratio was 64.8 per cent and in Kansas it was 50.9 per cent. In New Mexico, the only District state that allows branch banking, the agricultural loan-total loan ratio at the smallest banks was 12.6 per cent, the lowest of any state in the District.

Smaller banks in the nation not only hold a large portion of their loan portfolios in farm loans, but they also supply a major share of total bank lending to agriculture. In 1974, for example, banks across the nation that had less than $25 million in deposits held 55.0 per cent of the agricultural loans held by all banks. (See Table 5.) This is a remarkably high percentage in view of the fact that total deposits at these smaller banks amounted to less than one-tenth of the deposits at all banks in the nation.

Table 3
RATIO OF AGRICULTURAL LOANS TO TOTAL LOANS ALL INSURED COMMERCIAL BANKS
December 31

Federal Reserve Districts	1964	1974	Tenth District	1964	1974
Boston	1.2	0.5	Colorado	13.9	10.5
New York	0.6	0.5	Kansas	29.7	28.6
Philadelphia	2.7	1.8	Missouri*	8.9	10.9
Cleveland	3.3	3.0	Nebraska	40.1	37.0
Richmond	4.3	2.6	New Mexico*	10.6	10.8
Atlanta	5.5	4.4	Oklahoma*	14.0	17.5
Chicago	6.8	5.9	Wyoming	25.6	23.4
St. Louis	11.3	11.6			
Minneapolis	20.1	17.6			
Kansas City	20.4	20.5	United States	5.4	4.8
Dallas	7.7	8.0			
San Francisco	5.1	3.9			

*Includes the portion of the state outside the Tenth District.

Table 4
RATIO OF AGRICULTURAL LOANS TO TOTAL LOANS ALL INSURED COMMERCIAL BANKS, BY BANK SIZE
December 31, 1974

	Deposit Size (In millions of dollars)			
	Under $10	$10 to $25	$25 to $50	Over $50
United States	29.9	18.7	8.8	1.8
Tenth District	46.6	30.8	18.0	7.0
Colorado	23.9	17.7	11.7	6.0
Kansas	50.9	33.9	21.1	8.8
Missouri*	36.7	22.9	9.4	2.0
Nebraska	64.8	48.2	28.9	16.2
New Mexico*	12.6	16.6	21.3	4.6
Oklahoma*	41.1	32.0	14.1	4.7
Wyoming	27.5	28.6	25.7	13.8

*Includes the portion of the state outside the Tenth District.

In the Tenth District, the smaller banks' contribution to financing agriculture is even more significant than nationwide. District banks having less than $25 million in deposits in 1974 accounted for 69.3 per cent of the agricultural loans held by all District banks. The smallest District banks—those having deposits of less than $10 million—accounted for about one-third of District agricultural loans outstanding. In contrast, the District's largest banks, with deposits of $50 million or more, held only 14.7 per cent of total agricultural loans.

A large number of banks in the nation are dominantly agricultural banks that hold 50 per cent or more of their total loans in farm loans. At the close of 1974, there were 2,303 banks nationwide fitting this criterion out of a total of 14,278 banks. In the Tenth District, there were 912 of these banks, or 42.1 per cent, of the total 2,166 banks in the District. Almost all agricultural-type banks are smaller banks with deposits of less than $25 million. Moreover, these dominantly agricultural banks hold a significant proportion of the outstanding farm loans extended by banks. In the nation, agricultural-type banks accounted for one-fourth of the total farm loans held by all banks at the end of 1974, while

Table 5
PERCENTAGE OF AGRICULTURAL LOANS OUTSTANDING HELD BY TYPE AND SIZE OF BANK ALL INSURED COMMERCIAL BANKS
December 31, 1974

Banks with Agricultural Loan-Total Loan Ratios of:	Banks with Deposits of: (In millions of dollars)					No. of Banks
	Under $10	$10 to $25	$25 to $50	Over $50	Total	
			(In per cent)			
United States						
0 to 10	0.6	2.3	2.4	21.1	26.4	6,753
10 to 25	2.4	6.7	4.9	7.0	21.0	2,434
25 to 50	6.8	12.7	6.0	1.8	27.3	2,788
Over 50	11.9	11.5	1.6	0.2	25.3	2,303
Total	21.7	33.3	14.9	30.1	100.0	14,278
Tenth District						
0 to 10	0.3	1.0	1.0	6.5	8.7	497
10 to 25	1.5	3.4	3.4	5.6	13.8	268
25 to 50	6.2	9.8	8.1	2.7	26.8	489
Over 50	24.8	22.5	3.4	0.0	50.8	912
Total	32.7	36.6	15.9	14.7	100.0	2,166

Tenth District agricultural banks held about one-half of the total farm loans outstanding at all District banks.

SUMMARY

Contrary to a prevalent concern that commercial banks may be slipping in their role as a supplier of funds to agriculture, banks have increased their market share of lending to agriculture over the past decade. With total farm debt outstanding advancing at a rapid annual rate of 8.7 per cent between 1964 and 1974, bank lending to farmers—for both real estate and nonreal estate purposes—increased at a slightly faster rate. As a result, commercial banks provided 29.7 per cent of total agricultural lending in 1974, up somewhat from the 26.7 per cent share recorded in 1964. Relative to other major lenders, commercial banks ranked as the leading institutional lender to agriculture in 1974, followed in order by the Farm Credit Administration, life insurance companies, and the Farmers Home Administration.

As bank lending has been important to agriculture, lending to farmers has been important to many commercial banks. Throughout the nation, banks held only 4.8 per cent of their total loans in the form of loans to farmers in 1974; but in some geographical areas, the role of agricultural lending was much greater. In the Tenth Federal Reserve District, for example, banks had an agricultural loan-total loan ratio of about 20 per cent in 1974. Agricultural lending is even more important to small banks. Tenth District commercial banks with less than $10 million in deposits held nearly one-third of their total loans as agricultural loans in 1974. Finally, about one out of every six banks in the nation, or 2,303 out of a total of 14,278 banks, had 50 per cent or more of their total loan portfolios in loans to farmers. Quite evidently, the growth and prosperity of the agriculture and banking industries have been closely interrelated. The strengthening of this relationship, therefore, should be an important objective in the development of policies and institutional arrangements designed to cope with the future financing needs of rural America.