Government Component in the National Wealth

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A Scope and Coverage

Our aim is to explore the sources of data and the problems that arise in estimating the value of physical assets and claims owned by federal, state, and local governments together with their liabilities. Except for estimates of direct investments abroad, the geographic coverage is confined to the continental United States, excluding Alaska and all other noncontiguous areas. The estimates are in current prices on two dates, December 31, 1946 and 1939.[1]

As far as the data permit, we included holdings of all federal, state, and local agencies that are either directly operated by government employees or in which the government holds a substantial equity interest. For example, the assets of Federal Reserve banks are included although all their stock is owned by private commercial and mutual savings banks.[2] Similarly, the wide array of trust funds administered by governmental agencies or appointees is included, even though for most such funds the beneficiaries are wholly or predominantly private citizens and institutions. But we omitted property in bankruptcy proceedings and estates controlled in some measure by probate courts, which presumably were included in other portions of the national wealth totals. The properties controlled by the Office of Alien Property (Justice Department) in 1946, another borderline case, are included in our totals, since the announced policy after World War II was not to return any property of Japanese or German nationals to their former alien enemy owners.[3]

1 Only arbitrary over-all totals are included for military physical assets in 1939.

2 The controlling facts are: (a) The 'owners' of Federal Reserve stock have only a minor say in Federal Reserve policies, which are determined by the Presidentially-appointed Board of Governors and by the Federal Open Market Committee of which it comprises the majority. (b) Dividend payments are limited by law to a 6 percent maximum. (c) In the event of withdrawal of any member bank or liquidation of the System, stockholders receive only their original investment; the balance eventually reverts to the Treasury.

3 "In the spring of 1945, the Secretary of State, the Secretary of the Treasury, and the Alien Property Custodian agreed that all property in the United States of hostile German and Japanese nationals should be vested in the Alien Property

Data for the federal government are shown separately from data for state and local governments. In general, the basis of allocation of assets between the levels of government is ownership, whether this is in fee or merely possession of long term easements. Indian lands and improvements held in trust by the federal government, however, are included with federal assets because of their special status, the large expenditures the federal government has made in connection therewith for improvements, and the continuing obligations it has assumed for protection and maintenance. Assets, such as federal-aid highways, which have been built or acquired by state or local governments with federal financial aid, are shown as state and local assets. Federal loans, such as those for rural electrification, are considered claims to wealth from the standpoint of the federal government; the physical assets are counted as assets of the debtor group, in this case usually private rural electrification cooperatives. The assets of the Unemployment Compensation Trust Fund, deposited in the federal treasury, are classified as federal, although legal title is in the several states.

The major classifications of assets and liabilities conform as far as possible to the general framework laid down for the studies in this volume. This imposed a degree of rigidity upon the governmental estimates, but the suggested classification was substantially adhered to, to permit consolidation with other estimates. In a few cases it was necessary to merge two or more types of claim, in others to subdivide in order to show meaningful groups. The definitions for some categories of physical assets are rather liberal.

Similarly, it was impracticable to make the suggested segregation between federal credit institutions and 'the rest of government'. Important credit institutions have substantial noncredit activities; e.g., the defense plant program of the Reconstruction Finance Corporation. On the other hand, many governmental agencies carry on relatively minor lend-

Custodian and that neither the property nor its proceeds should be returned to the former owners." *Terminal Report of the Office of Alien Property Custodian*, p. 3.

ing programs as a part of operations of a much broader scope; e.g., loans to the Indians by the Department of the Interior and purchases of securities of local housing authorities by the Federal Public Housing Authority (now the Public Housing Administration). Accordingly, it proved more convenient to group all federal government corporations (including mixed-ownership corporations) with certain other agencies that report their financial status quarterly to the Treasury pursuant to Budget-Treasury Regulation 3 under Executive Order 8512.

As far as possible, physical assets were divided into reproducible and nonreproducible. Federal, state, and local reproducible physical assets consist of a relatively small volume of housing, machinery, equipment, and inventory, but a relatively large volume of buildings and transportation and resource improvements. In the nonreproducible category, the federal government owns a large land area which is generally of low unit value except for the timber and minerals contained therein and for parcels used as building sites. State and local governments possess only a moderate share of the nation's land area: a large share of the land in city areas is highly valuable, but rural lands are predominantly of low value.

Nonreproducible physical assets comprise indigenous resources, such as land, forest growth, and minerals. But governments have made expenditures for conservation and development that contribute to the value of these resources as they now exist, and in which the improvements become so absorbed as to render their separation as a reproducible addition impossible. Although this merging prevents complete segregation of values for nonreproducible from reproducible assets, the estimates do give an approximation to the separate values. Forest lands contain the largest intermingling of reproducible with nonreproducible assets. In time and with care, forests are in fact completely reproducible. However, only the identifiable capital items, such as roads, trails, and fire towers, were separated as reproducible items. The same procedure was used for improvements of grazing lands and parks.

All mineral resources were classified as nonreproducible

assets. Since development of minerals is undertaken almost entirely by private concerns under lease agreements, permits, or land patents, governments possess almost none of the facilities necessary for this activity. Their investment in conjunction with mineral resources consists mostly of laboratories, demonstration plants, and structures which are properly regarded as reproducible assets.

B Summary

1 *Government Assets and Liabilities*

Because of the exploratory character of the study, the emphasis upon concepts and methods, and the unavailability of reliable data on important areas, the estimates should be taken as only general orders of magnitude and used with caution. Even on the basis of the concepts used, the probable error is substantial and many important figures are arbitrary or token (intended primarily to indicate the existence of some items belonging in the designated category).[4]

In terms of depreciated replacement costs, physical assets of government agencies, as of December 31, 1946, were estimated to be $198 billion. Liabilities, $404 billion, however, were $257 billion larger than claims. On balance, therefore, the obligations of federal, state, and local governments exceeded the assets by $58 billion (Table 1).

[4] The value of atomic energy construction and equipment was omitted from both military and nonmilitary assets.

Table 1
Assets and Liabilities of Federal, State and Local Governments
(millions of dollars)

	1946	*1939*	*Net Change*
Claims to wealth	147,486	54,729	92,757
Liabilities (& private equity)	404,105	118,843	285,262
Excess of liabilities	256,619	64,114	192,505
Reproducible physical assets	179,138	65,686	113,452
Nonreproducible physical assets	19,031	11,881	7,150
Total physical assets	198,169	77,567	120,602
Excess of physical assets & claims over liabilities	−58,450	13,453	−71,903

During the seven years 1939-46 the value of physical assets increased $121 billion, largely because of federal expenditures for military assets, together with the war and postwar rise in price levels. Claims rose $93 billion; two-thirds of this, however, represented merely increases in holdings of direct or fully guaranteed obligations of the federal government by federal, state, or local agencies. Liabilities increased most sharply, a total of $285 billion, reflecting predominantly increases in public debt, currency in circulation, and the liabilities of trust funds (Table 2).

Table 2

Assets and Liabilities of Federal, State and Local Governments 1946 and 1939

(millions of dollars)

	FEDERAL GOVERNMENT		STATE & LOCAL	TOTAL GOVT.
	Non-military	Military		
DECEMBER 31, 1946				
Claims to wealth	128,075		19,411	147,486
Currency in circulation	258		175	433
Demand and time deposits	5,441		6,811	12,252
Other claims receivable	116,658		12,275	128,933
Stocks	682		150	832
Direct investment abroad	5,036			5,036
Liabilities & proprietorships	381,875		22,230	404,105
Claims payable	381,329		22,230	403,559
Equities held by others	546			546
Excess of liabilities	253,800		2,819	256,619
Reproducible physical assets	42,025	77,903	59,210	179,138
Residential buildings	719		1,050	
Other structures	10,892	13,115	28,700	80,830
Roads and streets	654		25,700	
Machinery and equipment	780	3,350	3,150	7,280
Rolling stock	4,467	35,038	500	40,005
Inventory	1,524	26,400	100	28,024
Livestock	2		10	12
Monetary gold and silver	22,987			22,987
Nonreproducible physical assets	9,326	2,130	7,575	19,031
Land	4,926	2,130	6,925	13,981
Subsoil assets	3,400		550	3,950
Collectors' items	1,000		100	1,100
Total physical assets	51,351	80,033	66,785	198,169
Excess of physical assets & claims over liabilities	−122,416		63,966	−58,450

DECEMBER 31, 1939

Claims to wealth	43,225		11,504	54,729
Currency in circulation	2,269		90	5,863
Demand and time deposits			3,504	
Other claims receivable	39,136		7,785	46,921
Stocks	781		125	906
Direct investment abroad	1,039			1,039
Liabilities and proprietorships	95,838		23,005	118,843
Claims payable	95,445		23,005	118,450
Equities held by others	393			393
Excess of liabilities	52,613		11,501	64,114
Reproducible physical assets	24,761	4,800	36,125	65,686
Residential buildings	500		55	
Other structures	5,612		19,350	
Roads and streets	329	4,800	14,300	48,377
Machinery and equipment	525		1,950	
Rolling stock	225		400	
Inventory	271		60	
Livestock	2		10	12
Monetary gold and silver	17,297			17,297
Nonreproducible physical assets	6,546	200	5,135	11,881
Land	2,596	200	4,560	7,356
Subsoil assets	3,200		500	3,700
Collectors' items	750		75	825
Total physical assets	31,307	5,000	41,260	77,567
Excess of physical assets & claims over liabilities	−16,306		29,759	13,453

Details in Tables 3, 5, and 6.

Federal agencies on December 31, 1946 owned $131 billion in physical assets, including $80 billion in military and $51 billion in nonmilitary assets. Total assets, including claims, however, were $122 billion short of total liabilities.

State and local governments in 1946 had $67 billion in physical assets, almost entirely civilian in character. Their liabilities and claims were almost in balance. As a result, their total assets exceeded their liabilities by $64 billion.

The excess of liabilities over claims in 1946 almost equaled the outstanding public debt of the federal government. This chance equivalence arose from the approximate equality of all other claims and liabilities. To the extent that governmental agencies can levy and collect future taxes (or create legal tender money) to service their debts, there is no reason why their net liabilities should be limited by their physical assets.

For the economy as a whole—with the minor exception of claim relationships with foreigners—the excess of liabilities over claims of governmental agencies is offset by a corresponding excess of claims by others over their liabilities.

Claims on other governmental agencies, including deposits in the Treasury, accounted for $100 billion of the $147 billion in outstanding claims due federal, state, and local governments in 1946. Accrued tax claims, bank deposits, and loans and other credits were other major assets.

Apart from the public debt, the chief obligations owed the public were the present value of net claims of trust fund beneficiaries, the deposit liabilities of the Federal Reserve banks to member banks, Postal Savings deposits, and the outstanding currency.

Nonmilitary physical assets of the federal government, with a depreciated replacement value of over $51 billion, consisted largely of monetary gold and silver, nonresidential structures, 'rolling stock', and land. Flood control, river and harbor, reclamation, power, and valley authority improvements, together with public buildings, made up most of the value of nonresidential structures. Ships owned by the Maritime Commission were the largest component in 'rolling stock'. Commercial forests and structural sites accounted for most of the value of federally-owned land; public domain and land held in trust for Indians were only a minor portion. Mineral resources and other subsoil assets under federal land were valued at $3 billion.

All except $11 billion of the $67 billion in physical assets owned by state and local governments in 1946 consisted of construction assets. These included roads and streets valued at $26 billion, nonresidential buildings at $15 billion, and sewage disposal and water supply facilities at $8 billion. Land owned by state and local governments represented predominantly (in terms of value) the sites for these and other construction assets.

Military assets of the federal government in the continental United States, which originally cost $84 billion, had in 1946 an estimated depreciated replacement value of $80 billion. Of

this, 'rolling stock' (ships, aircraft, and trucks) accounted for $35 billion. Industrial plants, military and other structures were valued at $13 billion, and machinery and equipment at $3 billion. The inventory of other equipment and supplies—ordnance, combat vehicles, and other inventory—amounted to another $26 billion. Land was only $2 billion.

2 *Methods and Problems*

The accuracy of the various subsections of these totals varies widely, from precise figures for public debt and similar publicly-recorded liabilities and claims to rough guesses for many of the most important physical assets. Even more fundamental from the standpoint of the pilot character of this study, the concepts used in determining coverage and classification and particularly in valuing various types of assets are subject to serious controversy. The assumptions that had to be made do not in every instance represent a definitive judgment on what the answer ought to be. Further exploration of basic concepts and methods should accompany, or preferably precede, any major efforts to refine the figures.

In determining the range of assets and liabilities included, 'government' was defined rather broadly. Agencies that are nominally privately-owned (such as the Federal Reserve banks) were included if major incidents of equity or control were vested in governmental agencies or appointees. Assets of trust funds administered by governmental agencies or appointees were also included as government assets, but corresponding liabilities were shown on the assumption that the value of the actual or potential claims of beneficiaries in 1939 and in 1946 equaled the net value of all the assets of the funds at that time.

In valuing claims held by federal agencies, the reserves established by most agencies were accepted as reasonable, although some were probably more than required. The chief cases of possibly inadequate valuation reserves were foreign loans and direct investments abroad. Little evidence was available on the valuation reserves appropriate for state and local governments. Because of the large volume of intergovern-

mental claims on which the possibility of loss is remote, however, the probable error from this source for federal, state, and local governments as a whole is relatively small.

For most physical assets, current data on valuations were unavailable. Estimates, accordingly, were built up largely by cumulating historical data on expenditures with varying degrees of coverage. These cumulative historical costs in turn were adjusted by resort to heroic assumptions concerning rates of depreciation, obsolescence, supersession, salvage values, and changes in levels of reproduction costs. Questions arose also concerning the appropriateness of replacement costs when the property would not or should not be replaced.

The problem of valuing monetary gold and silver is apparently unique, since federal monetary policies determine the replacement cost of gold and dominate that of silver. As in the case of many other government assets, if the Treasury sold its gold and silver stocks the bottom would fall out of the market; the most reasonable assumption seemed to be that it would continue indefinitely to buy both at current or higher prices. In the present anomalous situation, the government determines directly the value of a portion of its own wealth—as well as indirectly, through its monetary and fiscal policies, the price levels at which all wealth, public and private, is valued.

Since a major part of the value of government-owned land consists of the sites of government structures, the formula used in allocating the portion of the total value of an installation represented by the site becomes of major importance in determining the value of government-owned land. A related question, left unresolved in this study, is whether the value added to or subtracted from adjacent lands by the dedication of rights-of-way for roads and streets is reflected entirely in the value of the adjacent property or should be included in whole or in part as an element in the value of the roads and streets themselves.

In valuing mineral resources, bold assumptions were required respecting the trend of requirements and production, the percentage of mineral value likely to accrue to the government, the expected value of unproved resources and discov-

eries, and the appropriate rate for discounting future returns. No attempt was made to allow for the value of resources not now in prospect or for a possible increase in the value of known resources of little present value. These problems of course arise in valuing any mineral resources, governmental or private.

Valuation of military assets raised especially difficult problems from the standpoint of both the availability of the data and the concepts involved. Coverage was very unequal among the services, and practically no information was available on the value of equipment or supplies (other than ships and aircraft) issued and in the possession of military personnel. The proper rates of depreciation and obsolescence were especially hard to determine. Replacement costs of equipment are particularly difficult to establish in uses in which the technology of warfare is advancing rapidly. Similarly, it makes a great deal of difference whether costs are based on the low levels of peacetime production or on the high levels and mass production methods of wartime. Most military assets except land have little more than scrap value for civilian use; hence, market considerations were given little weight.

Except for these residual physical assets, the victories in World War II and earlier wars were for the most part not treated as assets. Most of the wartime expenditures that caused the fivefold increase in the federal debt, in fact, were excluded as having been for current consumption, although from a national point of view it can be argued that they represent capital investment of major significance. Without a better crystal ball, however, it is impossible to judge whether the intangible assets exceeded the intangible liabilities—whether wars create conditions more favorable for future peace or sow the seeds for later conflicts. Like police protection, war expenditures can at least be said to help preserve existing wealth from enemy destruction or appropriation.

Some government-owned property is on the borderline of economic wealth in the sense that it may represent in some locations an artificial duplication of facilities that elsewhere

are provided by nature with little or no outlay of labor and materials. Is the mountain road worth more than the prairie road because it costs more to build? Is the artificial canal worth more than the natural river channel? In these estimates an affirmative answer was tentatively assumed.

A potential source of controversy over the selection of a basis for valuing some types of government property arises from the fact that ownership is vested in the public. Actually, there are many publics. In establishing tax and service charge policies for such facilities as highways and airports (as well as liquor monopolies and other public service enterprises), an essential ingredient of the inquiry is the distinction between the users of the service and the general taxpaying public. For purposes of the estimates, it was assumed that monopoly pricing is not desirable government practice and that, consequently, the earning value represented by any such element in the charges for service should not be capitalized as a governmental asset.

Closely related is another question: if a governmental organization can produce certain commodities or fee-commanding services that yield a profit at a non-monopolistic price, what considerations govern the choice to be made between price reduction, general tax reduction, or the expansion of other services? In such a case, it is doubtful that depreciated replacement cost adequately measures the value of the physical assets involved.

Future commitments and contingencies raise important problems in assessing the claims and liabilities of governments. If the valuation of private property discounts future tax liabilities, should not government likewise include as a claim the discounted present value of such future tax receipts? If government is committed to the payment of pensions, if it guarantees private lenders against loss, should not its liabilities include an allowance for the discounted value of the ultimate payments? The estimates exclude all allowance for future tax receipts when the liability has not yet accrued and for future commitments or contingencies—except to the extent that funds have already been accumulated to meet them.

C Claims and Liabilities

The federal, state and local governments and their constituent agencies in 1946 had claims on one another and on the rest of the economy amounting to an estimated $147 billion after valuation reserves. The corresponding liabilities and book value of private equities in governmental agencies were nearly three times as high, $404 billion. Thus, on balance, governmental agencies owed $257 billion more than they were owed. In 1939 the estimated liabilities and private equities, $119 billion, exceeded claims, $55 billion, by $64 billion (Table 3).

This net excess of obligations over claims by governmental agencies is roughly offset by an excess of claims over liabilities by all other groups. In fact, if the net excess of claims against foreigners were eliminated from both, the two would be exactly equal. Accordingly, with the exception of its influence on claim relationships with foreigners, the volume of governmental claims and liabilities has no direct influence on the net total of national wealth.

The ability to create both claims and liabilities of this magnitude, however, has had a profound, though indirect, influence on both the extent and the direction of changes in national wealth. To take the most obvious example, the huge borrowing and related currency expansion operations during World War II were largely used to finance current war expenditures together with military installations, equipment, etc., rather than to construct the types of physical assets most useful in times of peace. These operations caused a substantial rise in the net liabilities of the federal government, increased the market valuations of all wealth, and helped to create a pattern of wealth and income relationships that will have continuing influence on the flow of income and the creation of wealth.

On a gross basis (before valuation reserves and including intergovernmental claims), the Federal Reserve banks, the Treasury Department, and federal government trust funds in 1946 held an estimated $104 billion in claims, or over 70 percent of all claims held by governmental agencies. If holdings of

Table 3
Claims * and Liabilities of Federal, State and Local Governments, 1946 and 1939
(millions of dollars)

	FEDERAL GOVERNMENT					STATE & LOCAL	TOTAL GOVT.
	Corp. & credit agencies	Treas.	Federal Reserve banks	Trust accts.	All other	Total		
	DECEMBER 31, 1946							
Claims to wealth	13,109	32,452	44,972	26,398	11,144	128,075	19,411	147,486
Currency in circulation	232				123	258	175	433
Demand & time deposits in Banks		2,761		194		3,052	6,811	9,863
Treasury & other fed. agencies	1,456	682			251	2,389		2,389
Other claims receivable	11,162	28,685	44,972	26,204	5,635	116,658	12,275	128,933
Accrued tax claims		15,500				15,500	3,100	18,600
Accrued interest receivable	6		27	250	15	298	25	323
U.S. govt. securities	1,873		23,350	25,839	3,206	54,268	6,200	60,468
Guaranteed obligations of fed. agencies	9	10,693				10,702		10,702
Obligations of state & local govt.	460					460	2,400	2,860
Gold certificates & similar claims		265	18,813		1,800	20,878		20,878
Loans	5,831	854	164	115		6,964		6,964
All other	2,983	1,373	2,618		614	7,588	550	8,138
Stocks	223	324			135	682	150	832
Direct investments abroad	36				5,000	5,036		5,036
Liabilities & proprietorships	18,220	288,861	44,543	26,398	3,853	381,875	22,230	404,105
Claims payable	17,861	288,861	44,356	26,398	3,853	381,329	22,230	403,559
Accrued tax refunds		2,700				2,700	10	2,710
Accrued interest payable	6	1,200			95	1,301	70	1,371
Accrued wages & salaries		760				760	125	885
Public debt, direct		258,404				258,404	16,200	274,604
Guaranteed debt of fed. agencies	10,963					10,963		10,963
Claims payable in gold		20,286				20,286		20,286
Currency in circulation		4,280	24,672			28,952		28,952
All other claims payable	6,892	1,231	19,684	26,398	3,758	57,963	5,825	63,788
Equities held by others	359		187			546		546
Excess of claims over liabilities	—5,111	—256,409	429		7,291	—253,800	—2,819	—256,619

DECEMBER 31, 1939

Claims to wealth	10,691	4,677	18,986	4,690	4,181	43,225	11,504	54,729
Currency in circulation					4		90	
Demand & time deposits in	96					1,059		4,653
Banks		906			53		3,504	
Treasury & other fed. agencies	364	675		79	94	1,210		1,210
Other claims receivable	9,451	3,058	18,986	4,611	3,030	39,136	7,785	46,921
Accrued tax claims		2,700				2,700	3,250	5,950
Accrued interest receivable	90	1	9	58	7	165	10	175
U.S. govt. securities	758		2,484	4,356	1,058	8,656	400	9,441
Guaranteed obligations of fed. agencies	138	101			146	385		
Obligations of state & local govt.	183					183	3,700	3,883
Gold certificates & similar claims		169	15,558		1,800	17,527		17,527
Loans	7,075	66	22	153		7,316	425	9,945
All other	1,207	21	913	44	19	2,204		
Stocks	741	40				781	125	906
Direct investments abroad	39				1,000	1,039		1,039
Liabilities & proprietorships	8,314	62,296	18,941	4,690	1,597	95,838	23,005	118,843
Claims payable	8,057	62,296	18,805	4,690	1,597	95,445	23,005	118,450
Accrued tax refunds		80				80	10	90
Accrued interest payable	52	250			36	338	80	418
Accrued wages & salaries		150				150	90	240
Public debt, direct		41,547				41,547	19,600	61,147
Guaranteed debt of fed. agencies	5,704					5,704		5,704
Claims payable in gold		17,078				17,078		17,078
Currency in circulation		2,686	4,912			7,598		7,598
All other claims payable	2,301	505	13,893	4,690	1,561	22,950	3,225	26,175
Equities held by others	257		136			393		393
Excess of claims over liabilities	2,377	—57,619	45		2,584	—52,613	—11,501	—64,114

* After valuation reserves.

government or government-guaranteed securities, gold certificates, and other interagency assets are eliminated, however, only the Treasury Department, the state and local governments, and the lending institutions included in government corporations and credit agencies had a significant volume of claims, and these were fairly well scattered among the various debtor groups.

1 *Basis of Valuation*

Most claims held by federal, state, and local governments can be evaluated with reasonable accuracy by applying to the unpaid balance of principal and interest of the original obligation a relatively minor valuation reserve based upon experience. Most claims, as noted above, are intergovernmental. To the extent that they are direct or indirect claims on the federal government—or on gold held by it—no valuation reserve whatever was assumed.

In the case of loans receivable and similar claims of federal government corporations and credit agencies, valuation reserves already set up were used, since most seemed adequate to cover all probable losses; indeed, in many cases, assets are probably undervalued. The chief possible overvaluation was in foreign loans, where political factors are so dominant that no useful purpose would be served by setting up reserves in addition to those used by the agencies themselves. All World War I debts, except Finland's, however, were eliminated as uncollectible. No allowance whatever was made for unsettled Lend-Lease commitments for World War II.

2 *Limitations of Data*

The chief conceptual problem in this portion of the study was where to draw the line between claims and liabilities firm enough to deserve inclusion and claims and commitments conditional and contingent enough to warrant exclusion. The items included were defined rather narrowly.

From a broad point of view it could be argued, for example, that the claims owned by governments should include not only

the claims to tax payments already accrued (and included in our estimates), but also the present discounted value of probable future tax levies. From the same point of view, the present value of many long term commitments of governments, such as interest on the public debt and veterans' pensions, should be included in their liabilities. This position is fortified by the recognized fact that the value of important types of private wealth is determined in part by capitalizing the average net income expectations—which in turn depend upon anticipation of the future levels of particular types of government tax levies and expenditures.

Moreover, in recent decades, the federal government in particular has entered into an increasingly wide range of conditional or contingent commitments.[5] In the last few years federal agencies at all times have had several billions of dollars in unliquidated obligations incurred against appropriations and contract authorizations, which were almost certain to result later in expenditures; only part of these are reflected in the estimates. Similarly, government corporations and credit agencies normally have substantial commitments outstanding (not reflected in the estimates) to make disbursements on loans and for other purposes, most of which will result in expenditures.

Larger but more remote contingent liabilities and commitments are involved in federal guarantees and insurance of private loans, and federal insurance of bank deposits and savings and loan share accounts. In all these cases the government's liability becomes actual only if and to the extent that underlying assets prove inadequate to protect the insured from loss. Moreover, since such assets often consist of government securities, much double-counting would be involved in adding these contingent liabilities to totals that already include all direct obligations of the federal government.

[5] Fairly comprehensive tabulations of such major commitments and contingencies for the federal government have been included in recent years in Congressional appropriation hearings, e.g., House of Representatives, *Hearings before the Subcommittee of the Committee on Appropriations on the Independent Offices Appropriations Bill* for 1948, Part I, p. 987.

The estimates in this study, in general, include only claims and liabilities that either had already accrued or would accrue in specific determinable amounts at definite future times. Claims and liabilities of the various types of social insurance, veterans' life insurance, and retirement systems are shown only to the extent that specific assets had been set up in a fund. As a result the coverage varies from case to case depending upon the adequacy of the present assets to meet actuarial standards. The deficiency of the Civil Service Retirement Fund on this basis in 1946, for example, was several billion dollars. In the case of military retirement and veterans' pensions, which were unfunded, the current value of future liabilities was undoubtedly even greater.

Apart from limitations arising from these conceptual problems, the chief shortcomings of the data arise from the unavailability of reliable data on certain important components. The arbitrary figures on direct investment abroad and the token figures on certain state and local government items reflect these basic weaknesses. In some cases, e.g., accruals of military pay and holdings of foreign currency by disbursing officers, significant potential items were excluded for lack of time to dig out the necessary information.

In general, interagency claims and liabilities were included except when the basic source material excluded them. While a good case could be made for consolidating all federal interagency items, the time available did not permit the attempt. Hence our financial statements are combined rather than consolidated statements.

Whenever possible, the data were based on government accounts. For some items, however, e.g., tax claims and bank deposits, it was necessary to use material built up at least partly from other sources. From these items the 'float' of payments in transit was not entirely removed.

3 *Claims by Type*

Currency. This category is largely a residual since it includes only currency and coin outside the Treasury and Federal Re-

serve banks. Currency held by most other federal agencies could not be segregated from deposits. Likewise, currency held by state and local governments could be estimated only roughly.

Demand and time deposits. Deposits of governmental agencies in commercial and mutual savings banks at the end of 1946 amounted to $9,863 million, divided between deposits of federal agencies, $3,052 million, and those of state and local governments, $6,811 million. In addition federal agencies had $2,389 million on deposit with the Treasury, the Federal Reserve banks, and with certain government corporations.

Other claims receivable. Since, in many cases, it was impractical to segregate short and long term claims, they were combined in our analysis. The aggregate, $129 billion in 1946 and $47 billion in 1939, was divided into six major types.

Accrued tax claims totaled an estimated $18,600 million in 1946. Despite the pay-as-you-earn provisions of the federal personal income tax instituted during the war, the accrued tax claims of the federal government, $15,500 million, were five times as high as the 1939 estimate, $2,700 million. Corporation taxes and personal income taxes accounted for most of the 1946 total. State and local accrued tax claims of $3,100 million in 1946 consisted primarily of unpaid property taxes, including relatively small amounts of delinquent taxes.

Accrued interest receivable amounted to $323 million in 1946. Most of the $298 million accrued by federal agencies represented accruals on government securities held by trust accounts.

Investments in direct obligations of the federal government were estimated to be $60,468 million in 1946, including $6,200 million held by state and local governments. Most of these securities were held by federal trust funds and by Federal Reserve banks. In addition, the Treasury Department and federal agencies held $10,702 million in guaranteed obligations of federal corporations and agencies. State and local governments and a few federal agencies (chiefly the Federal Public Housing Authority and the Reconstruction Finance Corporation) held

$2,860 million in obligations of state and local governments. In 1946 these types of government security totaled $74 billion; in 1939, $13 billion.

Gold certificates and similar claims not included in money in circulation—gold certificates held as reserve for Federal Reserve notes and for deposits of member banks in Federal Reserve banks, the unused $1,800 million in gold claims of the Exchange Stabilization Fund, the reserve of $156 million behind outstanding United States notes, the Federal Reserve notes held by the Treasury, and the Federal Reserve notes and other currency held by the Federal Reserve banks—amounted to $20,878 million in 1946, all held by federal agencies.

Outstanding loans of federal agencies in 1946 amounted to $7,447 million on a gross basis, or $6,964 million after valuation reserves. Except for the Treasury loan to the United Kingdom, at that time $800 million, most of the loans were made by more specialized government corporations and credit agencies, chiefly the Reconstruction Finance Corporation, the Export-Import Bank, the Federal Land banks, the Home Owners' Loan Corporation, the Rural Electrification Administration, and the Farmers' Home Administration. The 1939 total, $7,316 million (comparable as far as feasible after valuation reserves), was not far different, but farm and home mortgage loans constituted a much larger part, and foreign loans and rural electrification loans a much smaller. As already noted, with the minor exception of the $8 million in outstanding balances on the loan to Finland, no allowance was made on either a gross or a net basis for outstanding debts of foreign governments arising from World War I, amounting on November 15, 1946 to $15,064 million. The totals excluded also outstanding guarantees of private loans, estimated to exceed $5,800 million in 1946, as well as substantial undisbursed commitments to make direct loans.

'All other' claims in 1946 came to an estimated $8,138 million after valuation reserves, about three times the 1939 total. The largest component was the $2,983 million of federal corporations and credit agencies (after valuation reserves of $54

million), consisting of a wide variety of receivables, accrued assets, advances to contractors and agents, deferred and undistributed assets, and miscellaneous assets. Uncollected items and other assets of Federal Reserve banks accounted for another $2,618 million. Receivables such as Lend-Lease credits and property credits arising from sales of war surpluses were the other chief federal claims. Miscellaneous claims of state and local governments totaled an estimated $550 million, mainly represented by nongovernmental bonds and mortgage investments held by public endowment, trust and sinking funds, and by publicly-owned enterprises.

Stocks. Stock holdings in private and foreign enterprises in 1946 amounted to an estimated $832 million. Stocks owned by federal agencies involved an initial gross investment of $715 million, and were valued on December 31, 1946 at $682 million. Most of the federal total consisted of RFC investments in preferred stock and capital notes of banks, smaller investments by other corporations in production credit association and savings and loan association shares. Treasury investments in the International Bank for Reconstruction and Development and the International Monetary Fund, and an equity interest of $135 million by the Alien Property Custodian (now the Office of Alien Property) in vested business enterprises and other vested assets (valued as of October 1, 1946). State and local holdings represented chiefly rough estimates of stocks held in endowment funds of state universities.

Direct investment abroad. The net value of physical assets in United States possessions or in foreign countries was arbitrarily estimated to be $5 billion in 1946; $1 billion in 1939. All except negligible amounts were held by federal agencies, and the majority were in military installations abroad.

4 *Liabilities by Type*

Claims payable. Outstanding claims owed by government agencies totaled an estimated $404 billion, including $382 billion by federal agencies and $22 billion by state and local agencies. In 1939 total claims payable were $119 billion, in-

cluding $96 billion for federal agencies and $23 billion for state and local governments.

Of the $2,710 million in accrued tax refunds in 1946, almost exclusively by the federal government, $1,700 million represents refunds of personal taxes and $1,000 million corporation refunds. The figures were based upon an assumed lag averaging more than 15 months between the original overpayment and the subsequent refund. In 1939 such liabilities were only $90 million.

Accrued interest payable was estimated to be $1,371 million (including $70 million by state and local governments) in 1946; $418 million in 1939. The federal components represented roughly three months' accruals. Accrued wages and salaries were estimated to be $885 million in 1946 and $240 million in 1939. No allowance was made for accrued military pay in either year.

Direct public debt obligations in 1946 amounted to $274,604 million, including $16,200 million gross debt of state and local public bodies. Debt of governmental agencies fully guaranteed by the federal government accounted for another $10,963 million. The sharp rise in federal obligations accounted for the entire increase from the 1939 total of direct and guaranteed debt, $66,851 million. The federal total in 1946 excluded $745 million in United States notes, national bank notes, Federal Reserve bank notes, and other currency included under currency in circulation.

Claims payable in gold, $20,286 million in 1946, included gold certificates used as security for Federal Reserve notes, certificates held by the Exchange Stabilization Fund, and certificates used as reserve for United States notes. They excluded the $49 million in gold certificates still held by the public and counted in currency in circulation.

Of the $28,952 million currency in circulation in 1946, $24,672 million represented Federal Reserve notes. Obligations not only of the Reserve banks but also of the United States, they are receivable for taxes and redeemable in lawful

money. The remaining $4,280 million consisted chiefly of silver certificates and a wide variety of other Treasury currency and coins. In 1939 currency in circulation totaled $7,598 million.

Other claims payable amounted to $63,788 million in 1946, $26,175 million in 1939. The largest components in the federal total, $57,963 million, were the deposit and other liabilities of the Federal Reserve banks, the claims of future beneficiaries of federal trust funds, the sizable miscellaneous liabilities of federal corporations and related agencies, the deposit liabilities of the Postal Savings System, and the liabilities to the Indians for the physical assets held in trust for them. Miscellaneous claims owed by state and local governments, estimated to be $5,825 million, consisted primarily of claims of future beneficiaries of trust funds. In the case of government trust funds, at all levels of government, the present value of claims of beneficiaries was arbitrarily assumed to equal the entire net assets of the funds. As noted above, the probable liability is considerably larger.

Equities held by others. The book value of the equity of private institutions and individuals in federal agencies, $546 million in 1946, included privately-held Federal Reserve bank stock as well as private holdings in Federal Land banks, Federal Home Loan banks, and banks for cooperatives. It excluded stock of the Federal Deposit Insurance Corporation held by the Federal Reserve banks.

5 *Claims and Stocks, by Obligor Groups*

To promote consistency in treating claim and liability relationships of governmental agencies and the rest of the economy, both the claims (excluding currency and deposits) and the stock held by governmental agencies in 1946 (Table 3) were classified by major obligor groups (Table 4). For federal agencies gross valuations, before valuation reserves, were used rather than the net valuations used in Table 3; net valuations, however, were used for claims and stock owned by state and local governments.

Table 4

Claim * and Liability Relations of Federal, State and Local Governments, December 31, 1946

(millions of dollars)

	FEDERAL GOVERNMENT							
	Corp. & credit agencies	Treas.	Federal Reserve banks	Trust accts.	All other	Total	STATE & LOCAL	TOTAL GOVT.
Other claims receivable owed by								
Credit institutions								
Private	583	500	2,613			3,696	85	3,781
Federal government	1,775	10,738				12,513	1	12,514
Public utilities	153	1,022				1,175	600	1,775
Manufacturing & trade	270	8,600			391	9,261	1,400	10,661
Mining concerns	5	200				205	65	270
Farms	1,787	600				2,387	210	2,597
Foreigners	1,361	1,999	148		185	3,693	5	3,698
Collectives								
Private nonprofit	716					716	5	721
Rest of government	2,611	293	42,199	26,089	5,006	76,198	8,624	84,822
Households	685	4,000		115		4,800	920	5,720
Others & unclassified	1,749	637	12		53	2,451	360	2,811
Total	11,695	28,589	44,972	26,204	5,635	117,095	12,275	129,370
Stocks issued by								
Private credit institutions	254	1				255	5	260
Public utilities	2					2	80	82
Manufacturing & trade corp.					135	135	25	160
Foreign corporations		323				323		323
Unclassified							40	40
Total	256	324			135	715	150	865

* Before valuation reserves, except for claims of state and local governments.

Other claims receivable, by debtor groups. Gross claims receivable (excluding currency and deposits) exceeded $129 billion in 1946. Over $97 billion represented claims owed by other governmental agencies (including claims owed by federal credit institutions). Over half of the remaining claims were for unpaid taxes; hence, the tax item dominated many of the individual components.

Claims on private credit institutions totaled $3,781 million, chiefly uncollected items of the Federal Reserve banks, obligations of savings and loan associations, and production credit associations held by government corporations, and unpaid taxes. Claims against public utilities were $1,775 million, consisting mainly of estimated taxes payable, secondarily, of government loans to railroads. Similarly, claims of $10,661 million owed by manufacturing and trade consisted predominantly of estimated taxes payable, secondarily, of obligations arising from sales of surplus property and corporation loans to business. Apart from small Reconstruction Finance Corporation loans, the only major obligations of mining concerns to governments were their tax liabilities.

Claims on farmers, $2,597 million, consisted primarily of loans by the Federal Land banks, the Farmers' Home Administration, and other government corporations, secondarily, of outstanding personal and corporate tax liabilities. Loans to rural electrification cooperatives [6] and other farmers' cooperatives largely accounted for the $721 million in claims against private nonprofit institutions. Foreigners owed governmental units an estimated $3,698 million, representing chiefly loans, Lend-Lease termination credits, and surplus property credits.

Total claims on households (excluding unincorporated businesses and farmers), $5,720 million, represented primarily estimated tax liabilities, secondarily, loans by the Home Owners' Loan Corporation and other government corporations. Finally, the $2,811 million in claims on other obligors and unclassified

[6] All REA loans were included in this item, although a small percentage were made to public power districts and other governmental units.

claims was concentrated largely in accounts and notes receivable, advances to contractors and agents, undistributed charges, and other miscellaneous assets of government corporations and credit agencies.

Stock, by issuer. The gross value of stock held by governmental agencies was estimated to be $865 million, concentrated almost entirely in stock issued by four types of issuer. Investments in private credit institutions, $260 million, represented chiefly preferred stock and capital notes of banks, secondarily, shares in savings and loan associations held by federal corporations. Public utility stock, $82 million, consisted almost entirely of an arbitrary estimate of holdings by state and local governmental units. The equity, about $135 million, in domestic business enterprises held by the Office of Alien Property as trustee was allocated in full to manufacturing and trade. By the end of 1946 the Treasury Department had invested $323 million in the International Bank for Reconstruction and Development and the International Monetary Fund; both were classified as foreign corporations.

D Physical Assets, Excluding Military

Physical assets of federal, state and local governments, other than military assets, are estimated to have had a depreciated replacement value of $118 billion at the end of 1946. Federal government assets were $51 billion; state and local government assets, $67 billion (Table 5). Of total assets estimated for 1939, $73 billion, over $31 billion belonged to the federal government and $41 billion to state and local units.

Civilian physical assets of governmental agencies represent predominantly structures and roads and streets. Monetary gold and silver valued at $23 billion in 1946 was the largest other type classified as a reproducible asset. Land and other nonreproducible assets were about $17 billion.

The following discussion emphasizes the methods pursued and problems encountered in constructing estimates for the

Table 5
Physical Assets of Federal, State and Local Governments, excluding Military, 1946 and 1939
(millions of dollars)

	December 31, 1946			December 31, 1939		
	Federal	State & Local	Total Govt.	Federal	State & Local	Total Govt.
Total physical assets	51,351	66,785	118,136	31,307	41,260	72,567
Reproducible	42,025	59,210	101,235	24,761	36,125	60,886
Residential buildings	719	1,050	1,769	500	55	555
Other structures	10,892	28,700	39,592	5,612	19,350	24,962
Nonresidential	1,978	15,400	17,378	1,311	11,100	12,411
Other improvements	8,914	13,300	22,214	4,301	8,250	12,551
Roads & streets	654	25,700	26,354	329	14,300	14,629
Machinery & equipment	780	3,150	3,930	525	1,950	2,475
Rolling stock	4,467	500	4,967	225	400	625
Inventory	1,524	100	1,624	271	60	331
Livestock	2	10	12	2	10	12
Monetary gold & silver	22,987		22,987	17,297		17,297
Nonreproducible	9,326	7,575	16,901	6,546	5,135	11,681
Land	4,926	6,925	11,851	2,596	4,560	7,156
Res. sites, acquired	307	150	457	104	10	114
Sites, other structures	1,334	5,350	6,684	662	3,570	4,232
Forests, parks, & unimproved lands	3,285	1,425	4,710	1,830	980	2,810
Subsoil assets	3,400	550	3,950	3,200	500	3,700
Collectors' items	1,000	100	1,100	750	75	825

federal government. Similar methods were used for state and local governments, but in many instances the data were less adequate.

1 *Basis of Valuation*

The valuation of government physical assets for the purpose of measuring wealth presents a special problem, since most are noncommercial and market value has little, if any, meaning. The value of most government assets for purposes other than those served by the governmental body itself is so low as to be of questionable significance as a measure of wealth.

This study proceeded on the premise that government assets have value independent of the value they add to (or subtract from) private assets. Even a cursory review of the inventories of government-owned property quickly suggests that acquisition does not necessarily and inevitably take things outside the concept of economic wealth. Nor did it seem appropriate to appraise most government assets at the value they would possess if converted to private use. Such a concept is valid only for

assets that have a governmental use approximating a private use. Forests, range lands, and the roads that serve almost exclusively a particular private owner may be of this type. However, even in these instances, there are some marked dissimilarities. In managing the national forests, for example, the federal government gives weight to secondary objectives, such as recreation, and to long term objectives, such as conservation, far more than does a private forest owner, and such special factors should be taken into account in estimating the value. The concept is even more difficult to apply to the evaluation of assets for which analogies do not occur in the competitive market place.

The concept of government wealth applied in this study assumes that government assets generally possess economic value whenever they make it possible for the government to serve society under the customs and legal system prevailing. It is basically little different from that underlying private property, where the value is also dependent on usefulness within an accepted framework of custom and law.

The value of all assets, public or private, depends also on the specific functions they can perform. Government assets, in many cases, perform such highly specialized functions as to preclude using their value for an alternative purpose as a general measure of their value. Nevertheless, it would be inconsistent with the measurement of private wealth to adopt the absolute maximum of valuation, since, if market value is the basis, the objective is not to determine what the highest possible value to a single user may be but rather to determine how far another potential user is willing to go in driving up the price that must be paid by the successful purchaser. There undoubtedly are instances in which the value of assets in governmental use is lower than their value would be if they were in private use. Such instances are, however, believed to be exceptional.

In general, government wealth must be valued on the assumption that the assets are essential to the provision of governmental services and that these services, by and large, are worth what they cost. Certain government property has been

in public possession since the creation of the governing body. The historic action of the federal government in divesting itself of most of the public domain may be interpreted as reflecting a series of decisions that the property would have a higher value in private ownership. Fortunately, this study does not need to appraise the correctness of these decisions. But it does need some evaluation of the property retained, and this raises questions about whether disposals have reached or passed the point at which values in private ownership can be applied in evaluating government assets.

Assets that have been purchased may be subjected to a similar test, although there is usually little doubt—at least at the time of acquisition—that a higher value would be put on them in governmental use than in any competitive private use. Of course, if a private individual or group were to possess the property under conditions of monopoly, they might be able to exact revenue from the public at such a level that the capitalized value of the property would be far above any value that would be considered reasonable in government ownership. But unregulated monopoly is at least exceptional in a competitive enterprise system, if it is not, in fact, incompatible with that system; and the net monopoly gains are, in a strict sense, a return on a special privilege bestowed by the action or inaction of government. It would be anomalous to credit government itself with the value of such monopoly privileges just because it possesses the physical means and the legal powers (as in the case of atomic energy production or state liquor stores) to establish a monopoly position. Indeed, it is almost a contradiction in terms to speak of an unregulated government-owned monopoly.

The value of purchased government assets depends upon the quality of the decisions made by the authorities. These decisions may be correct or incorrect, much the same as the decisions of private individuals may or may not be well advised in acquiring property. Government assets may be regarded, perhaps without excessive error in most instances, as having an average value at the time of their original acquisition equal to

their cost. Subsequently, their value may increase or decrease, depending upon the function they can perform in the light of the physical deterioration of the property, the availability of alternative means for providing the services, and the public interest in or demand for such services. There might be either 'unearned increment' or functional disability. A meticulous study of government wealth would require that the factors of increase and decrease be appraised for each particular type of property. Such a study would require a staff larger than has ever been assembled to study even a selected major segment of wealth. The Interstate Commerce Commission, for example, has never been able to complete a detailed valuation of the nation's railroads. It has been necessary, as a practical matter, to deal with major groups of governmental properties and to apply such over-all methods of estimation as will give reasonably useful results.

Several methods were used for estimating the value of physical assets in this study, the choice depending on the applicability of each method to particular groups of property and the availability of information. The estimates are exceedingly rough, suggesting orders of magnitude rather than measures. For government land that does not have a highly specialized use, competitive value was used as far as feasible. When data were available on cumulative expenditures, historical cost was used as an approach to value. When the assets were not purchased by the government or when information on acquisition cost was not available, reproduction cost depreciated or, when appropriate, market value was used. Whenever investment was the starting point, adjustments were made to allow for depreciation, obsolescence, salvage, and changes in price.

Government surplus property is a special case, since it has undergone such a radical change of function that neither historical nor reproduction cost can measure its value. The subsequent actual sales realization or the expected realization was used. Short-lived government property was necessarily valued in current market prices, since past expenditures gave little or no clue to the value of the property still remaining.

2 *Limitations of Data*

The methods of valuation have necessarily varied between major types of physical assets as well as between agencies. Engineering appraisals are virtually non-existent. For agencies issuing business-type balance sheets, these records were accepted as guides to the value of the property. Otherwise, the values were derived in the main from expenditure records or, as in the cases of machinery, equipment, and inventories, from scattered surveys. The guides to value were specially questionable for the public domain, mineral resources, and collectors' items. When reproducible and nonreproducible assets were mingled, e.g., in nonresidential buildings, the allocation was based on fragmentary information.

3 *Reproducible Assets*

Construction assets. Long term nonmilitary improvements owned by governmental agencies include residential buildings, other structures, and roads and streets. These improvements, plus surplus real property and emergency public works, had an estimated total depreciated replacement value on December 31, 1946 of $68 billion. State and local governments accounted for $55 billion. In 1939, the total was $40 billion, of which state and local governments owned $34 billion.

Expenditure records for federal construction and other long term improvements were assembled back to the fiscal year 1791, by major groups according to purpose. First, total or gross cost for each group was calculated. Second, the cost of acquired sites was subtracted, leaving the cost of improvements. Third, the cost of the improvements was adjusted to allow for depreciation, obsolescence, and supersession. Fourth, the 'depreciated' cost of the improvements was adjusted for changes in price to get final valuations as of the end of 1939 and 1946.

The calculations for depreciation, obsolescence, and supersession were intended to measure 'economic depreciation', not to follow the conservative private business practice of writing off the value of property faster than it declined in

economic usefulness. The depreciated values do not necessarily reflect the economic usefulness of the property for the years concerned. If possible, the depreciation schedules for each component of government wealth should be adapted to the particular characteristics and usefulness of each major constituent. Such a survey would subdivide even individual pieces of property according to the depreciation applicable to each segment. Some depreciation schedules would doubtless show a fast rate in the early life of the property and a slower rate in the later years; others might show the reverse. Allowances would have to be made also for the salvage value of each component which might be large in some instances, and zero or even negative in others. The depreciation schedule for each component would be difficult to predict and the refinement would not be justified. Moreover, the data made it necessary to apply calculations to groups of properties with a mixture of components having varying lengths of life and types of depreciation curve.

The method we followed in adjusting for economic depreciation utilizes two straight lines: one to represent the depreciation rate for the combined short- and long-lived components in the early years of the asset; the other to represent the slower rate for the surviving components in the later years. This resembles more closely a parabolic curve, in which salvage is assumed to be reabsorbed and amortized within the general category of similar assets, than it does a single straight line over the average life with an adjustment for salvage at the end.

The application of this method can be illustrated in connection with the projects undertaken by the federal government for the improvement of river valleys. The major storage dams are likely to have a useful life of more than a century; navigation locks, power houses, and irrigation works for the most part are likely to have a substantially shorter life. A relatively rapid depreciation schedule was applied to part of the investment and a slower schedule for the remainder. Since, on the average, a large part of the total expenditure was on dams, the transition from the faster rate of depreciation to the

slower rate was relatively high on the curve. Each class of property was thus analyzed as a special case, and depreciation curves were applied according to the characteristics involved (see the Appendix for details).

Property held for disposal. The war brought into being a class of assets that required special treatment. Created to serve the federal government during the war, it no longer serves that purpose. Because the property has lost most of its original functional value, it is revalued in terms of peacetime markets. Data of the War Assets Administration, the predominant surplus disposal agency, were used.

In the case of real property, the original cost of property declared surplus but not disposed of by December 31, 1946 was reduced by applying the actual sales realization on disposals through September 1947. A minor addition was made to allow for surplus property held for disposal by other agencies. Separate estimates, derived by similar procedures, were prepared for rolling stock, including ships sold or to be sold by the Maritime Commission, and for inventories of goods.

In December 1946 almost all the property held for disposal was of these types. In December 1939 it consisted largely of farm property held by the Federal Land banks and the Federal Farm Mortgage Corporation and property held by the Reconstruction Finance Corporation. In the case of the farm property a relatively large percentage of the value was assumed to be in land. Some farm housing was included, but no urban housing held for disposal. Property held by the Home Owners' Loan Corporation for disposal was included in residential buildings.

Emergency public works. A special problem arose in evaluating some of the public works undertaken as depression measures when relief to the unemployed was an element in the construction programs. The cost of the project ordinarily exceeded competitive costs. In view of these considerations, expenditures for state and local relief construction, including those financed from federal funds, were discounted approximately one-fourth to give the estimated value of the physical as-

sets produced. Expenditures for construction from emergency funds by regular federal agencies (e.g., Corps of Engineers and Bureau of Reclamation) during the depression were included in the various types of structure without discount for the relief aspect, since the funds were expended generally under regular contracts on the same types of project as regular funds.

A similar problem arose in connection with emergency war housing and community facilities which have a relatively short life or low resale value. For these assets, values reported by the owning agencies or realizations on disposals were used.

Other reproducible assets (excluding gold and silver). Machinery and equipment, rolling stock, inventories, and livestock, including the relevant portions of the surplus property previously discussed, accounted for $11 billion in government assets in 1946, $3 billion in 1939. Most of the increase was in federal assets.

Some federal agencies maintain reports on the valuation of machinery, equipment, rolling stock, and inventory. The major construction agencies had sizable investments in machinery and equipment. Ships held by the Maritime Commission accounted in 1946 for the predominant share of the federal investment in 'rolling stock', and agricultural commodities held by the Commodity Credit Corporation constituted a large part of the inventory investment. When reported figures such as these were available they were included in the tabulations. Otherwise, the data were based on scattered samples and informed opinions.

A large segment of these assets of government was represented by relatively standardized office machinery, equipment, and supplies. Spot checks suggested an average valuation of $500 for each employee for machinery and equipment and $50 for supplies in the federal government in both 1939 and 1946. The effect of the war on space per employee, inventory controls, and the age and quality of the facilities available were assumed to offset the increase in prices from 1939 to 1946. The average value per employee was multiplied by the number of employees in civilian functions.

Monetary gold and silver. Federal monetary policies determine the market value of monetary gold stocks. Since 1934 the federal government has taken all gold offered at $35 per fine ounce. Valued at this price the monetary gold stock on December 31, 1946 amounted to $20,529 million; in addition, there was $177 million of gold in the active portion of the Exchange Stabilization Fund. In 1939, $16,110 million were in monetary gold stocks and $156 million in Stabilization Fund gold.

From 1934 until the war, the federal government purchased the entire domestic output of silver and much of the foreign output, as well as other supplies, domestic and foreign. Since July 2, 1946 the government price of newly mined domestic silver has been 90.5 cents a fine ounce (although for monetary purposes it is valued at $1.29 an ounce). The average cost of the existing monetary silver stocks, however, was much lower, since almost all the domestic silver and all the foreign silver were acquired at considerably lower prices. Deducting cumulative seigniorage and potential seigniorage, $1,723 million, from the monetary value, $3,514 million, the net acquisition cost of the silver in the monetary stocks on December 31, 1946 was $1,791 million. On the basis of the New York market price, 83¾ cents, the current market value was $2,281 million; on December 31, 1939, when the market price was only 35.1 cents, the value was $1,031 million. These market values were used in the over-all tables.

4 *Nonreproducible Assets*

Public land resources. Excluding land owned by military agencies, government-owned land was valued at $12 billion in 1946. Federal lands accounted for nearly $5 billion, and state and locally owned properties for $7 billion. The total government land valuation was slightly more than $7 billion in 1939 including federal land of about $2.5 billion and state and local land of about $4.5 billion.

Public lands (excluding reproducible improvements) include some types having high values per unit of area. Sites for public buildings and other structures, parks, playgrounds, and

rights of way for streets in urban areas usually have high values. Forests are valuable; but the return obtainable from the timber stand is difficult to segregate from the bare land which usually has only a low unit value. Finally, a minor share of public lands in experimental farms, highways, and other uses consists of valuable land.

Otherwise public lands are predominantly of low unit value, although they cover an enormous expanse. In 1945 federally owned rural lands comprised 24 percent of the total land area; nearly nine-tenths of these holdings were public domain lands. Federal lands were 85 percent of the total land area in Nevada, 73 percent in Arizona and Utah, 65 percent in Idaho, and 53 percent in Oregon. About 97 percent of the public domain and about 21 percent of the acquired lands were in the 11 Mountain and Pacific Coast states. Almost one-half the acquired lands were owned by the Forest Service.

Federal lands acquired for post offices, national parks, and river, harbor, and flood-control projects were valued in 1946 at their original cost plus an allowance of 70 to 100 percent for appreciation resulting from social and economic development and from the higher price level. Those of the Tennessee Valley Authority were valued at cost plus 55 percent; the smaller increase was used because sizable acquisitions have been made in recent years, in part at wartime prices.

The value of sites for public improvements, exclusive of properties already enumerated, was estimated in 1946 at an average of 15 percent of the total cost of the public works, with an upward adjustment of 100 percent to reflect a rise in land prices. The proportion of the project cost assignable to land is likely to run higher than this average in populous areas and lower in sparsely settled areas. By excluding the major special cases listed above, the scope of this estimate was narrowed considerably. In the District of Columbia the cost of all federal land has run about 17 percent of the total cost of federal land and improvements. In other areas the percentage has apparently been somewhat lower.

Acquired federal rural lands, excluding national parks,

Corps of Engineers' project sites, and Tennessee Valley Authority lands already discussed, and excluding also forest and Indian lands, were valued at $18 an acre as of the end of 1946; the basis was scattered sales data.

Commercial forest lands are a special case, since their value resides mainly in the timber stand. For these lands, whether acquired or part of the public domain, Forest Service estimates of the average commercial value in 1946 were used as the basis for estimation. The estimates disregarded certain noncommercial values such as those for recreation and rainfall retention. The total value was divided between federal and state and local government holdings on the basis of a weighted average of acreage and saw-timber stand.

Federal public lands not accounted for above were in the public domain. About half of these lands (excluding commercial forest lands) were vacant, unappropriated, or unreserved; the rest were withdrawn public lands. Most of the unreserved lands were worth less than the standard offering price, $1.25 per acre; otherwise they would be purchased. On the other hand, the reserved lands may run either higher or lower, but part of them are worth many times this price. On the assumption that high and low values were approximately offsetting in 1946, $1.25 an acre was used as an average value. For 1939, however, an average value of $1.00 an acre was used. There was a negligible amount of duplication of public lands valued by this method, since sites for some public buildings and structures consisted of rural lands that were included in the acreage data.

Mineral reserves on government lands. The various methods of valuing mineral resources differ in their applicability to measuring government wealth. In many instances the data and the objectives are clearly inapplicable to this study, particularly because the classification of wealth used in this study requires that the value of construction machinery, equipment, and inventories in the mining industry be excluded, and the estimate itself must properly take into account quality and feasibility factors. Commonly used estimates of coal reserves,

for example, assume a standard or degree of exploitation that is far too broad for the coal likely to be produced in the foreseeable future. On the other hand, the estimates of petroleum and iron ore tend to be too conservative in that they do not include all the reserves likely to be utilized even in the near future. In general, the tendency is to underestimate mineral reserves, except when the definition is too broad, as in the case of coal. A principal reason for this underestimation is that in many instances state and local taxes on estimated reserves encourage operators to report only a minimum; another reason is the tendency to report only reserves that have been measured and tested preparatory to the undertaking of actual mining operations.

In general, mineral reserves can be valued either by a physical appraisal as of a given time or by capitalization of the expected future returns. The physical appraisal method requires the assignment of values to the quantities recorded. Such estimates represent a gross value unless they include a discount of the returns expected from future production to allow for interest and risk. On the other hand, such estimates are usually inadequate in that they apply only to the portion of the reserves considered to be definitely proved. From the standpoint of wealth measurement, when the trend of discoveries is favorable, it is necessary to allow for the unreported portion.

The capitalization method starts with the net return assignable to minerals production and works back to an estimate based on a discounting of the returns and the outlook for reserves. Such an estimate excludes outlays for labor, machinery, equipment, and other production expenditures. The net return, however, is not limited to royalties, but includes also profits from the sale of leases or other net returns properly applicable to the reserves.

An advantage of the capitalization method of measuring mineral wealth is that it reduces the common overemphasis on mere physical availability as a factor in valuation. The concept of definite physical limits is rarely accurate when applied to mineral reserves which occur in varying concentrations and

forms. Whether a particular deposit is valuable depends also upon the availability of a suitable process for handling the type of mineral in the formation. Mineral reserves are far different from industrial plants, which constitute visible and definable segments.

Since most government lands are open to exploration, development, and production, the revenue-producing potentialities of the minerals were relied upon primarily in measuring wealth. No attempt was made to measure the value of minerals suitable for the production of atomic energy or other minerals that are in a restricted status. However, a rough approximation was made of the off-shore oil pools claimed as federal wealth. It was assumed that the oil in the off-shore area would about duplicate that in the on-shore area; an allowance was made for the greater hazard and time required for exploration and development in water.

The 1946 estimate of mineral wealth, excluding off-shore oil, assumed that mineral production would increase 3 percent in the calendar year 1947 (the present estimated long term rate), declining gradually to 1.5 percent per year in 30 years to reflect limitations of reserves; thereafter it would continue at a constant level until the returns were so long deferred as to have an insignificant present value. Returns assignable to these on-land reserves were estimated to be 15 percent of the value of the minerals at the mine in 1946. This proportion, 76 percent more than the royalty paid to the federal government on leasable minerals in 1946, represents estimated bonuses and other profits to reserves.

Off-shore oil reserves were assumed to be sufficient for production to increase steadily from substantially no output at all in 1946 to an annual output of 200 million barrels in 1959 and to continue at that level as long as it would have any appreciable effect on the calculations of present discounted value. The net value of the output was determined by applying to the production estimates a net amount of 35 cents a barrel as royalty, bonuses, and other profits to the federal government.

This assumed a royalty of 12.5 percent on the oil to be sold at $2.50 per barrel; the remainder of the estimate represents profits on the leases.

In calculating the present value of all mineral reserves, 3 percent was accepted as the most feasible discount rate, since the objective was an estimate of national wealth rather than the value a private enterpriser would place on the reserves. Such a rate is undoubtedly lower than a nonintegrated company would use because of the risks it would have to face. Integrated concerns commonly apply a 3 percent discount rate on the ground that control of reserves affords possibilities of profit from non-mining operations. The situation is believed to be similar in government reserves, since the government can reduce the risk element and thereby derive a relatively large benefit from the reserves.

Data on the value of mineral reserves on state land are too fragmentary for estimation on the same basis as for federal lands. These reserves are believed to aggregate roughly one-third of the value of the federally owned reserves exclusive of off-shore oil, and were counted at that portion on the basis of the discounted value.

The estimated value of mineral reserves in 1946 amounted to $3,950 million. Federal wealth represented in mineral reserves was estimated to be $3,400 million in 1946, about half in submerged oil reserves; state and local wealth, $550 million.

ESTIMATED VALUE OF MINERAL RESERVES, 1946
(millions of dollars)

Discount period and area	Total net return for period indicated	Value at end of 1946 at 3% discount rate
Federal lands		
30 years	3,080	1,821
40 years	4,438	2,290
50 years	5,796	2,630
60 years	7,164	2,881
70 years	8,512	3,075
75 years	9,191	3,146
N years (estimate)		3,400
State and local lands (N years assumed)		550
All public lands (N years)		3,950

The 1939 value, $3,200 million for federal mineral reserves and $500 million for state and local, was estimated by the same method. The return from off-shore oil was figured at zero for 1940 through 1946. For the other minerals the trend of net returns was extended to cover the intervening years 1940-46.

Collectors' items. The value placed on collectors' items held by federal, state, and local governments was largely arbitrary. It gives recognition, however, to the various collections of documents, rare books, scientific exhibits, curios, and works of art in the possession of governmental agencies. Although some of these items are replaceable, they were assumed to be in this classification if retained for display purposes. It was difficult to evaluate many of these items. Cost was an important indicator for some recent acquisitions and for items that would lose significance if not in the possession of the government.

Evaluation of important records emerging from government administration was impossible. The records in the National Archives as well as in the state, for example, in addition to their intangible historical value, are valuable for the protection of individual or government rights in real property and other legal claims, for genealogy and various other reference purposes. Though a definite value could not be assigned to such records, some of the documents would bring substantial returns if sold to private collectors. The same can be said of selected documents in the possession of the Library of Congress and in various other public collections.

E Military Physical Assets

Military physical assets amounted to an estimated $80 billion in terms of depreciated replacement value on December 31, 1946. Reproducible assets accounted for $78 billion, including industrial and nonindustrial facilities, $13 billion; 'rolling stock' (largely ships and aircraft), $35 billion; machinery and equipment in industrial facilities, $3 billion; and other equipment and supplies, over $26 billion. Nonreproducible assets, exclusively land, were estimated at $2 billion (Table 6). As

mentioned above, the value of atomic energy construction and equipment has not been allowed for. We arbitrarily set the 1939 depreciated replacement value at $5 billion, all except $200 million in reproducible assets.

Table 6

Military Physical Assets of the Federal Government, excluding Offshore Installations, December 31, 1946

(millions of dollars)

	Original cost	Depreciated original cost	Price index *	Depreciated replacement value	Market value
Reproducible	82,085	56,200	139	77,903	10,352
Installations (construction only)	17,081	8,835	148	13,115	2,867
Industrial	6,356	3,510	144	5,040	1,242
Nonindustrial	10,725	5,325	152	8,075	1,625
Machinery & equipment	4,141	2,350	143	3,350	935
Rolling stock (largely combatant)	36,863	27,115	129	35,038	3,550
Aircraft & trucks	7,950	4,020	124	4,980	780
Ships, naval & merchant	28,913	23,095	130	30,058	2,770
Other equipment & supplies	24,000	17,900	147	26,400	3,000
Nonreproducible	1,830	1,830	116	2,130	1,065
Land	1,830	1,830	116	2,130	1,065
Total physical assets	83,915	58,030	138	80,033	11,417

* Original procurement prices equal 100.

The 1946 depreciated replacement value, $80 billion, allows for an average price increase of about 38 percent between the time the assets were initially procured and December 31, 1946. The original cost was $84 billion and the depreciated historical cost $58 billion. The foregoing figures are all in terms of military uses. If this same property were placed on the civilian market the estimated realization would be only about $11 billion.

1 *Basis of Valuation*

The agency figures were in terms of original cost. Most of the military assets on hand as of December 31, 1946 had been procured by the vast World War II defense expenditures in 1941-46. In terms of the military purposes for which they were acquired, therefore, they were on the average relatively new. Even so, the depreciation and particularly the obsolescence factors for certain classes of these assets are high, if experi-

ence during World War II is a criterion. For example, aircraft have a service life of 3 to 5 years; war-built manufacturing facilities and installations have rapidly depreciated in many cases.

Depreciated historical cost and depreciated replacement value were estimated on the assumption that the assets would continue to be held or used for the initial military purposes. To obtain figures on depreciated replacement value, depreciation factors were applied to original cost, then allowance was made for increases in price from the time the present assets were procured to December 31, 1946. For example, for industrial facilities the historical cost figures were reduced about 45 percent, then a price rise of about 44 percent was allowed on depreciated historical cost to approximate the depreciated replacement value.

Valued on this basis the military property constitutes a sizable portion of the nation's total wealth. These large figures reflect the fact that, under present unsettled world conditions, the tools of war have a high national value. The large scale experience we have had in the sale of military property through the War Assets Administration and the Foreign Liquidation Commissioner indicates that in the competitive civilian market the remaining military assets would have a very low value. Rough estimates of $11 billion contrast sharply with a depreciated replacement value for military purposes of $80 billion.

2 *Limitations of Data*

Because of the scope and character of the data the estimates are exceedingly rough. The totals include the assets of the National Military Establishment (Air Force, Army, and Navy), the warbuilt plant and strategic supplies of the Reconstruction Finance Corporation, and the portion of the maritime fleet and facilities deemed to be primarily of military use.

The reports of the War (Air Force and Army) and Navy Departments on the value of facilities they own in the continental United States are in terms of original cost and are difficult to convert to a different valuation basis. Furthermore,

no integrated inventory of either industrial or command (non-industrial) facilities on a government-wide basis exists. It was practically impossible to integrate the figures for the several agencies, partly because the figures of the military agencies probably overlapped the War Assets Administration figures. The same was true of the industrial machinery and equipment figures.

The Navy Department publishes balance sheet data showing its assets. The records, however, are in terms of original cost for the property still on hand and do not reflect its condition. Moreover, coverage is incomplete.

Reports of the War Department were even less adequate. Figures for supplies on hand in the Technical Services did not cover equipment or supplies issued to the troops. This resulted in substantial understatement. For the Air Force, no value data were readily available. The figures for this study, therefore, include only a rough valuation of complete aircraft on hand, plus an even rougher estimate of spare parts. The use of Army and Air Force reports was limited by the fact that many are confidential and details could not be published.

Over-all data on RFC industrial facilities include figures on depreciation allowances. Estimates based on cumulative expenditures by the Maritime Commission and the War Shipping Administration were useful in calculating the original cost of the war-built merchant fleet. Since they did not reflect disposals and depreciation, however, unpublished information was used to make rough adjustments.

3 *Reproducible Assets*

The fixed facilities (construction only) covered in this study—installations of the National Military Establishment, the Reconstruction Finance Corporation, and the Maritime Commission—aggregated $17 billion in original cost, including over $6 billion of industrial plant and $11 billion of command facilities. To compute the depreciated historical cost, the industrial facilities were depreciated about 45 percent, the nonindustrial about 50 percent. The depreciated replacement value,

$13 billion, as of December 1946 allowed for an average price rise of about 48 percent after acquisition. The market value was estimated to be 15-20 percent of original cost. The original cost of the machinery and equipment in the foregoing industrial facilities, using crude assumptions based on War Production Board data, was estimated to be $4 billion. In computing depreciated replacement value, $3 billion, the factors used were by and large comparable with those in the facilities calculations.

'Rolling stock' of the National Military Establishment and Maritime Commission cost originally about $37 billion; including complete aircraft, largely combat, nearly $8 billion; naval fleet, $22 billion; Maritime Commission vessels in reserve and in active use, $7 billion; and watercraft and trucks of the War Department. The depreciation factors for aircraft assume an average service life of about 4 years, for naval vessels built during World War II a life of about 15 years, and for maritime vessels a life of 10-15 years depending on whether they are in reserve or in active use. In arriving at the depreciated replacement value, $35 billion, price increases of about 29 percent were assumed. Most of the market value in this category would be in the cargo vessels of the Maritime Commission and the Navy and the transport aircraft of the National Military Establishment. The naval combatant fleet and the combatant aircraft would have only scrap value.

Other equipment and supplies make up the inventory of the National Military Establishment and the strategic stockpile. The aggregate original cost was estimated to be $24 billion, including $14 billion of Navy Department holdings. As indicated above, the figures for the Air Force and Army were probably greatly understated. The figures for the National Military Establishment included vast amounts of ordnance and ammunition, communications equipment, aircraft parts, and similar military equipment and supplies. To compute the depreciated historical cost, different assumptions were made concerning the life of the several classes of material, running from 5 to 15 years, so that the average life assumed was above

8 years. In computing the depreciated replacement value, $26 billion, price increases of about 47 percent were assumed. The market value of this material was relatively small, of course, since much of it was ordnance, ammunition, and similar material which would have to be scrapped.

The $82 billion of military reproducible assets in original cost terms remaining on December 31, 1946 represented less than 40 percent of the $215 billion expended by the federal government for munitions and war construction in the fiscal years 1941-46, plus the relatively small amounts of military assets previously on hand.[7] During the six defense preparation and war years $30 billion was expended for construction and equipment. Installations and machinery of about $21 billion were still classified as military assets as of December 31, 1946; other installations costing billions of dollars had been transferred to the War Assets Administration and were classified as 'civilian' assets. For naval and merchant ships over $40 billion had been spent; about $29 billion were accounted for under military assets and some were counted as 'civilian' assets. Expenditures for aircraft and aircraft parts were about $45 billion; nearly $8 billion of complete aircraft remained, plus an estimated $3-4 billion in spare engines and parts (classified as 'other equipment and supplies'). Expenditures for all other 'equipment and supplies'—guns and fire control, ammunition, tanks, and other combat vehicles, communications equipment, and other equipment and supplies—were about $100 billion. About $20 billion remained on hand at the end of 1946, of which nearly one-half was ordnance equipment, supplies, and vehicles. And, as indicated above, items in the hands of troops, particularly for the Army, were not included in the inventory.

4 *Nonreproducible Assets*

The land held for military purposes is estimated to have cost the government $1,830 million. Lack of integrated information on holdings made it difficult to ascertain accurately either the acreage or the cost. The convention of valuing public do-

[7] Roughly the same as the $4.8 billion on hand on December 31, 1939.

main at the 1860 figure, $1.25 per acre, perhaps did not give enough weight to these lands, of which the War Department alone held over 20 million acres at the end of 1946. In terms of original cost the Navy was estimated to have about two-thirds of all the military land. Although its acreage was far smaller than that of the War Department, land used for shipyards and similar Navy installations in urban areas had a relatively higher original cost.

APPENDIX: SOURCES AND METHODS

Notes on Tables 3 and 4

GOVERNMENT CORPORATIONS AND CREDIT AGENCIES

Data were derived from a compilation of balance sheets (*Treasury Daily Statement,* Jan. 31, 1940, p. 6; Feb. 17, 1947, pp. 12-5). The following adjustments were made:

All Treasury assets and liabilities were excluded.

Real estate and other physical assets were excluded. It was assumed from a comparison with other sources that $222 million of CCC assets in 1939 was wrongly classified as 'loans', instead of assets (commodities) acquired and held for sale (*Agricultural Finance Review,* Nov. 1948, Table 12, p. 114).

Private loans guaranteed by the Export-Import Bank and the Commodity Credit Corporation were excluded from both assets and liabilities.

Loans made to states, territories, and other public bodies are shown as 'obligations of state and local governments'.

Private equity in government corporations excludes the stock of the Federal Deposit Insurance Corporation held by Federal Reserve banks.

Values for 1946 are net of 'reserves for losses'. In 1939 'reserves for uncollectible items' are deducted from loans; 'other operating reserves' are excluded from liabilities and treated as part of federal equity.

'Accrued interest payable' for 1946 represents only an estimate on debt held outside the Treasury.

TREASURY DEPARTMENT

Data were derived from *Treasury Daily Statement* (Dec. 29, 1939; Dec. 31, 1946; Jan. 2, 1947; Feb. 17, 1947) with the following exceptions:

Claims

Other claims receivable. Accrued tax claims, 1939: estimated for personal and corporation income taxes and estate and gift taxes on basis of tax liabilities for 1939 (*Statistics of Income, 1939,* Parts 1 and 2), plus arbitrary allowance of $268 million for back taxes due, additional assessments, excise taxes, customs, and employment taxes. Results checked against corresponding Commerce data (*Survey of Current Business,* National Income Supplement, July 1947, Table 8). 1946: estimate for individual and estate and gift tax accruals based on Bureau of Internal Revenue collection reports, corporate tax accruals estimates based on Commerce data (*Survey of Current Business,* July 1948, and preliminary data for *Statistics of Income, 1946,* Part 2).

TAX ACCRUALS
(millions of dollars)

	1939	*1946*
Corporate tax accrual	1,232	9,200
Individual income tax accrual	929	5,300
Estate and gift tax accrual	271	1,000
All other	268	
	2,700	15,500

Accrued interest receivable, 1939: estimated on basis of accrued interest payable by government corporations and credit agencies.

Obligations of federal agencies, guaranteed: 1939: Special obligations (*Treasury Bulletin,* Feb. 1940, p. 31).

Gold certificates and similar claims: includes Federal Reserve notes in General Fund and gold reserve behind U.S. notes and Treasury notes of 1890.

Loans: includes loans to railroads, advances to Federal Reserve banks for industrial loans, World War I loan to Finland and loan to United Kingdom (*Treasury Form 30,* Dec. 31,

1946; *Annual Report, Secretary of the Treasury, 1939,* p. 795; *1946,* p. 561).

All other, 1939: includes miscellaneous and unclassified deposits and securities transferred from the Reconstruction Finance Corporation. 1946: includes miscellaneous and unclassified deposits, Lend-Lease credits (*Foreign Transactions of U.S. Government,* Part 2, Dec. 31, 1946, p. 151), accrued assets due from governmental agencies (*Treasury Form 30,* Dec. 31, 1946), and advances and prepayments to contractors (SEC, Statistical Series Release 779).

Stocks. 1939: stock in federal savings and loan associations; 1946: includes also $323 million in stock of International Bank for Reconstruction and Development and of International Monetary Fund (*Treasury Form 30,* Dec. 31, 1946).

Liabilities and Proprietorships

Claims payable. Accrued tax refunds: includes estimates of personal, estate, corporate, and AAA processing taxes.

ACCRUED TAX REFUNDS
(millions of dollars)

	1939	*1946*
Personal income and estate taxes	35	1,700
Corporation income taxes		1,000
AAA processing taxes	45	
Total	80	2,700

Accrued interest payable: estimated on basis of volume and composition of outstanding debt.

Accrued wages and salaries: excludes military pay; assumes that there is no lag between pay day and pay period in 1939; 1-2 weeks in 1946; and an average accrual of 22.7 days of annual leave (on basis of survey by Senate Committee on Appropriations). No allowance was made for sick leave (a contingent obligation only). Pay rates are based on Civil Service Commission surveys. The totals include $310 million in accrued pay and $450 million in accrued annual leave in 1946; in 1939 the latter was $150 million and the former, zero.

Public debt, direct: excludes U.S. notes, national bank notes, Federal Reserve bank notes, and other currency.

Claims payable in gold: includes gold certificates and gold in Exchange Stabilization Fund (*Treasury Bulletin,* March 1940, p. 47; March 1947, p. 72).

Currency in circulation: excludes Federal Reserve notes (*Banking and Monetary Statistics,* Table 110, p. 413; *Treasury Bulletin,* March 1947, p. 75).

All other claims payable: includes general fund liabilities, Treasury currency held by Federal Reserve banks (*Annual Report, Board of Governors of the Federal Reserve System, 1939,* p. 32; *1946,* p. 70), trust and deposit liabilities (*Treasury Form 30,* Dec. 31, 1946), and claims owed U.S. corporations (SEC, Statistical Series Release 779).

FEDERAL RESERVE BANKS

Data were derived from statements of condition of Federal Reserve banks (*Annual Report, Board of Governors of the Federal Reserve System, 1939,* pp. 32-5; *1946,* pp. 70-1). All figures are net of valuation reserves. The following adjustments were made: bank premises were excluded, since they are physical assets, classified elsewhere; Federal Reserve notes held by Treasury and Federal Reserve banks were excluded from 'currency in circulation' (*Banking and Monetary Statistics,* p. 413; *Treasury Bulletin,* July 1947, p. 82); surplus account (Sec. 13b) was treated as a claim payable to the Treasury Department.

TRUST ACCOUNTS

Data were derived by adding the excess of receipts over expenditures (excluding investments) plus accrued interest during the next six months (*Treasury Daily Statement,* Dec. 29, 1939, p. 3; Feb. 17, 1947, pp. 9-11) to assets in trust accounts as of June 30, 1939 and 1946 (*Annual Report, Secretary of the Treasury, 1939,* pp. 81-98; *1946,* pp. 563-84). Methods used on individual items follow.

Claims

Demand and time deposits. In Treasury and federal agencies, 1939: unexpended balances June 30, 1939, plus excess of receipts over expenditures and investments; 1946: unexpended

balances, the residual after deduction of other items from total assets. Unexpended balance of U.S. Government Life Insurance Fund excluded.

Other claims receivable. Accrued interest receivable: estimates based on investment portfolio.

U.S. government securities, 1946: from tabulation supplied by Treasury Department, Fiscal Services, Bureau of Accounts.

Loans, policy loans of U.S. Government Life Insurance Fund: interpolation between amounts shown on balance sheets at beginning and end of fiscal years (*Annual Report, Secretary of the Treasury, 1939,* p. 88; *1940,* p. 212; *1947,* p. 461).

Liabilities and Proprietorships

Claims payable. All other claims payable: entire assets of trust funds assumed to be payable to beneficiaries.

ALL OTHER (FEDERAL)

Data derived from the following sources for the various agencies and funds involved:

Exchange Stabilization Fund: all data from balance sheets of the Fund (*Treasury Bulletin,* April 1940, p. 52; May 1947, p. 81). Gold held by the Federal Reserve Bank of New York and the U.S. Assay Office excluded and classified elsewhere as a physical asset.

Postal Savings System: based on balance sheet data (*Banking and Monetary Statistics,* p. 519; *Treasury Daily Statement,* April 1, 1947, p. 11, note 7) and total assets and deposit liabilities (*Federal Reserve Bulletin,* July 1947, p. 869).

Office of Alien Property, 1939: included in trust accounts; 1946: based on October 1, 1946 data (*Terminal Report, Office of Alien Property Custodian,* Oct. 1946, Table 4, p. 84). Represents net equity vested, after direct expenses; excludes real estate and patents. Assumes entire equity vested in Alien Property Custodian in accordance with 1945 agreement (ibid., p. 3).

Other agencies (by items):

All other claims receivable, 1946 only. Includes receivables of $389 million for War Assets Administration (obtained from

WAA) and $176 million for Office of Foreign Liquidation Commissioner (*Foreign Transactions of the U.S. Government,* Dec. 31, 1946, App. Table 21, p. 151).

Direct investment abroad. 1939: arbitrary estimate; 1946: includes estimate by Sammons (see his App. Table 3) for direct foreign assets (realty and movables) of federal government, plus an arbitrary estimate, $2.4 billion, for the depreciated historical cost of government installations in Alaska, Hawaii, Puerto Rico, and the Canal Zone.

All other claims payable. Includes $200 million in 1939 and $360 million in 1946 for Indian lands (*Annual Report, Secretary of the Interior, 1946,* p. 363) and $80 million in 1939 and $132 million in 1946 for improvements (estimated from Budget expenditures).

STATE AND LOCAL GOVERNMENTS

Claims

Currency. Rough guess, based on a few scattered ratios of vault holdings to bank deposits.

Demand and time deposits in banks. For 1946 from FDIC, *Report 26, Assets and Liabilities, December 31, 1946, Operated Insured Commercial and Mutual Savings Banks,* pp. 9, 33; plus $179 million in uninsured banks, as derived from FDIC, *Annual Report, 1946,* Table 110. For 1939, FDIC, *Report 12, December 30, 1939,* pp. 5 and 29, plus $92 million in uninsured banks estimated at the same ratio as deposits in such banks in 1946. All governmental deposits in uninsured banks are assumed to be state and local.

Other claims receivable. Accrued tax claims: mainly rough guesses, guided somewhat by ratios in F. L. Bird, *Trend of Tax Delinquency, 1930-1946* (Dun & Bradstreet, 1947), and by scattered reports of a few cities, e.g., monthly statements of the New York City Department of Finance.

Accrued interest receivable: token estimates.

U.S. government securities: *Treasury Bulletin,* May 1947, p. 48.

Obligations of state and local governments: *Annual Report,*

Secretary of the Treasury, 1948, pp. 629-30, with interpolations for December 31. It is assumed that state and local units did not hold any obligations of territories and possessions, and that the latter held no more than a negligible quantity of state and local obligations.

Loans and all other: guesses to represent mortgage loans, nongovernmental bonds, service charges receivable, and all other claims except prepaid expenses, which are netted out of claims payable.

Stocks. Guesses to represent equities in private enterprises, including such investments held by public endowment and trust funds.

Direct investments abroad. Probably negligible.

Liabilities and Proprietorships

Accrued tax refunds. Token estimates.

Accrued interest payable. Estimate based for 1939 on about $16.3 billion of debt, and for 1946, about $13.6 billion, held by others than state and local governments, at assumed average rate of about 3 percent and year-end average accrual of about two months.

Accrued wages and salaries. Assumed end-of-year (lower than at other dates) of about 2 percent on estimated payrolls of $4.2 billion in 1939, $6.3 billion in 1946 (compensation paid to employees: from national income estimates, Department of Commerce).

Public debt, direct. Interpolation between June 30 totals of interest bearing debt shown in *Annual Report, Secretary of the Treasury, 1948,* p. 628, with deductions to exclude debt of territories and possessions. For each year $0.2 billion was added to cover non-interest bearing debt (and possibly other omissions) on the basis of differences between the Treasury totals and total gross debt as shown by the Bureau of the Census, Governments Division, in its *Summary of Governmental Debt in 1948* (Dec. 1948).

All other claims payable. Assumes an average lag of about 5 percent of annual total on all expenditures other than for

employees' pay and interest on debt. Prepaid expenses are assumed to be offset against claims payable. Trust fund liabilities (excluding unemployment compensation funds to the extent that they are covered by deposits in the federal Treasury) are assumed to equal the net assets of the funds; the trust fund asset valuations are estimated to be $5.6 billion in 1946 and $3.0 billion in 1939, on the basis of reported totals:
1946, state retirement funds, $1.7 billion; 37 large-city retirement funds, $1.1 billion (Census Bureau, Governments Division, *State Finances, 1946, Compendium,* p. 39, and *1947,* p. 44; *Large City Finances in 1946,* p. 51, and *1947,* p. 49).
1939, retirement and other trust funds of states, $2 billion; of cities with more than 100,000 population, $0.9 billion (*Financial Statistics of States, 1939,* Vol. 3, pp. 141-6, and *1940,* Vol. 3, p. 45; *Financial Statistics of Cities, 1939,* Vol. 3, pp. 199-206, and *1940,* Vol. 3, p. 96).

On the basis of ratios derived from ibid., *Retirement Systems for State and Local Government Employees: 1941* (Special Study 17, Oct. 1943), the reported amounts are assumed to represent 95 percent of all state and local retirement funds in 1946, and 95 percent of all state and local trust funds in 1939. All other trust funds in 1946 are estimated on the basis of the ratios of state and large-city retirement funds to other trust funds, as reported in 1940.

Notes on Table 5

FEDERAL GOVERNMENT

Reproducible Assets

For purposes of this source note, the derivation of the values for construction assets, including residential buildings, other structures, and roads and streets, is shown in Appendix Table 1.

Construction assets. Classified according to character or purpose. In the case of the structures for resource development, the multiple-purpose projects are classified by the predominant purpose.

Values of the construction assets in Table 5, from the last column of Appendix Table 1, were derived by tabulating the total historical costs of these improvements back to 1791; subtracting the value of land; adjusting the cost of improvements for depreciation, obsolescence, and supersession; and adjusting the depreciated cost of the improvements for changes in price.

To facilitate the computations the historical costs were added by 5-year intervals and depreciation schedules were set up to yield depreciated values of the improvements as of December 31, 1939 and 1946. For example, in the case of 'lighthouses and other coastal facilities', the depreciation rate was 1.5 percent for the first 40 years, 0.8 percent for the next 50 years. The depreciated value of 1930-34 construction at the end of 1946 would be 77.5 percent of the historical cost. (The midpoint of the interval 1930-34 is 15 years removed from December 31, 1946 and the depreciation at 1.5 percent would amount to 22.5 percent of the historical cost.) Similarly, the depreciated value of 1870-74 construction at the end of 1946 would be 12 percent of the historical cost. (The midpoint of the interval 1870-74 is 75 years removed from December 31, 1946, and depreciation at 1.5 percent for 40 years and 0.8 percent for the next 35 years would amount to 88.0 percent of the historical cost.) According to this depreciation method, the depreciated value of construction 90 years old or older at the end of 1946 would be zero, although cost values are included in the historical series from 1791 to 1946.

Machinery and equipment, rolling stock and inventory. See the text.

Livestock. Estimates including livestock on experimental farms and federal institutions. The value of livestock owned by Indians on reservations is excluded (about $40 million in 1946).

Monetary gold and silver. Data on gold are derived from monetary gold stocks (plus active gold in the Stabilization Fund) valued at $35 per fine ounce. Data on silver are derived from silver monetary stock valued at New York market price of 35.1

Appendix Table 1: Derivation of Estimates of Value of Reproducible Construction Assets of Federal Government, excluding Military Assets, 1946 and 1939 (millions of dollars)

	ESTIMATED HISTORICAL COST			IMPROVEMENTS			
				Depreciation schedule [c]	Depreciated hist. cost	ADJUSTMENT FOR PRICE CHANGES	
	Total [a]	Land [b]	Improvements			Factor [d]	Adj. cost
DECEMBER 31, 1946							
Construction assets	15,850	1,011	14,839		7,486		12,265
Urban housing (predominantly emergency)	2,118	307	1,811	A	480	1.50	719
Other structures	13,160	704	12,456		6,621		10,892
Public buildings	1,758	276	1,482	B	1,041	1.90	1,978
Resource development							
Predominantly reclamation, power & valley authority improvements	1,929	66	1,863	C	1,652	1.55	2,560
Predominantly flood control, river-channel & harbor improvements	3,702	102	3,600	C	2,757	1.75	4,825
Other resource development	441		441	C	273	1.70	465
Lighthouses & other coastal facilities	199	14	185	D	95	1.75	167
Airports & air navigation facilities	107	*	107	E	91	1.44	131
Real property held for disposal	4,928	246	4,682	F	634	1.00	634
Structures held in trust, improvements on Indian lands	96		96	G	78	1.70	132
Roads & streets	572		572	H	385	1.70	654
DECEMBER 31, 1939							
Construction assets	6,897	513	6,383		5,076		6,442
Urban housing (predominantly emergency)	697	104	593	A	500	1.00	500
Other structures	5,752	409	5,342		4,210		5,612
Public buildings	1,417	212	1,205	B	904	1.45	1,311
Resource development							
Predominantly reclamation, power & valley authority improvements	859	26	833	C	753	1.13	852
Predominantly flood control, river-channel & harbor improvements	2,714	74	2,640	C	2,066	1.40	2,893
Other resource development	364		364	C	275	1.10	302

Lighthouses & other coastal facilities	143	10	133	D	56	1.60	90
Airports & air navigation facilities	27	[e]	27	E	24	1.08	26
Real property held for disposal	148	88	60	F	60	1.00	60
Structures held in trust, improvements on Indian lands	80		80	G	72	1.10	79
Roads & streets	448		448	H	366	0.90	329

[a] Except as noted below, historical costs of improvements and land 1791-1936 are from a summary of federal expenditures on public works compiled by the Public Works Administration, Projects Division, from official Treasury statements; costs from 1937 to December 1946 were compiled from *Budget of the United States Government* for fiscal years 1937-49. Exceptions are: (a) costs for roads and streets 1894-1941, taken from *Public Aids to Domestic Transportation* (House Document 159, 79th Cong., 1st Sess., p. 542) ; for 1942-47 from federal budgets; (b) costs of housing, from reports of Housing and Home Finance Agency; costs for property held for disposal in 1946, from reports of War Assets Administration. Above sources were supplemented by various agency reports and the *Treasury Daily Statement* for January 31, 1940 and December 29, 1946.

[b] Historical land costs, when not from primary sources such as annual reports of the Chief of Engineers of the War Department, Tennessee Valley Authority, Secretary of the Interior Department, supplemented by *Federal Ownership of Real Estate and its Bearing on State and Local Taxation* (House Document 111, 76th Cong., 1st Sess.) and *Federal Rural Lands* (Bureau of Agricultural Economics, June 1947), were generally estimated at 15 percent for housing and public buildings and 7 percent for lighthouses and other coastal facilities.

[c] Depreciation, obsolescence, and supersession were estimated roughly by applying the following rates to the estimated historical cost of improvements:

A *Housing:* for war housing and veterans re-use housing 75 percent; for other types smaller percentages.

B *Public buildings:* 1.4 percent for each of first 50 years and 0.75 percent for each of next 40 years.

C *Resource development:* reclamation, flood control, river-channel & harbor improvements, including hydro-electric power generation facilities at 1.25 percent for each of first 60 years and 0.5 percent for each of next 50 years; power transmission and distribution facilities at 2.5 percent for each of first 30 years and 1.25 percent for each of next 20 years; other resource developments at 3 percent for each of first 25 years and 1.25 percent for each of next 20 years.

D *Lighthouses and other coastal facilities:* 1.5 percent for each of first 40 years and 0.8 percent for each of next 50 years.

E *Airports and air navigation facilities:* Airports at 2.4 percent for each of first 25 years and 1.6 percent for each of next 25 years; air navigation facilities at 2.5 percent per year for 40 years.

F *Real property held for disposal:* Surplus real property in Dec. 1946 at 86.5 percent on basis of ratio of actual sales realizations to actual cost of property sold to date; property for resale in 1939 (largely held by Federal Land banks) valued as shown in *Treasury Daily Statement* for January 31, 1940.

G *Improvements on Indian lands:* 1.5 percent for each of first 50 years and 1.0 percent for each of next 25 years.

H *Roads and streets:* 3 percent for each of first 22 years and 0.67 percent for each of next 51 years.

[d] The factors shown are rough estimates of the ratio of unit construction costs on December 31, 1949 and 1939 to the weighted average cost at the time of the original investment. In determining these ratios, the following cost indexes were used as guides: American Appraisal Company Index, Associated General Contractor's Index, *Engineering News Record* Index of Construction Costs and Index of Building Costs, Public Roads Administration Highway Index. For a description of these indexes, see *Construction and Construction Materials,* Industry Report, Statistical Supplement, May 1948, Bureau of Foreign and Domestic Commerce, pp. 41-3.

[e] Less than $500,000.

cents and 83.75 cents per ounce at the end of 1939 and 1946, respectively (*Treasury Bulletin,* April 1940, p. 52; May 1947, pp. 81-4).

	1939	*1946*
	(millions of dollars)	
Monetary gold stocks	16,110	20,529
Exchange Stabilization Fund	156	177
Monetary silver	1,031	2,281
Total	17,297	22,987

Nonreproducible Assets

Land. Much of the discussion on source and methods of estimating land values is included in the text. In Appendix Table 2, the 'Adjusted value' column provides an estimated value for the various classifications of federal land values presented in Table 5.

Appendix Table 2

Derivation of Estimates of Land Value, Federal Government, excluding Military Lands, 1946 and 1939

(millions of dollars)

	December 31, 1946			December 31, 1939		
	Est. hist. cost[a]	Price adj. factor[b]	Adj. value	Est. hist. cost[a]	Price adj. factor[b]	Adj. value
Land			4,926			2,596
Residential sites, acquired	307	1.0	307	104	1.0	104
Sites for other structures, primarily acquired	815		1,334	535		662
Reclamation, flood control, river-channel & harbor projects including TVA	168	1.7	286	100	1.2	120
Real property held for disposal	246	1.0	246	88	1.0	88
Post Office sites	139	2.0	278	125	1.5	188
Sites for all other structures[c]	262	2.0	524	222	1.2	266
Forests, parks & unimproved lands			3,285			1,830
Forests (except on Indian lands), incl. com. timber			2,006			1,077
Parks, acquired lands only	90	1.9	171	74	1.0	74
Acquired lands, n.e.c.	[d]		401	[d]		191
Other public domain			347			288
Indian lands, held in trust			360			200

[a] See 'Land' column in Appendix Table 1.

[b] Adjusted in accordance with Index of Farm Real Estate Values and other information; no adjustment for residential sites, which are valued as of dates shown.

[c] Includes some sites on public domain or donated lands.

[d] Historical costs not summarized; valued as of dates shown.

Subsoil assets. See the text.

On-shore mineral production was based on projections of Geological Survey data on the value of federally leased mineral production and the royalty obtained, 1935-46. The value of the product was increased 20 percent to approximate total production from federal lands, including the product from non-leased lands. The net value assignable to reserves was taken to be 15 percent of this total to account for both royalties and profits accruing to the lessors. Off-shore oil deposits are expected to increase rapidly in yield from 1947 to approximately 200 million barrels annually by 1959, continuing at that rate thereafter. The 200 million barrel annual production is a conservative estimate.

Collectors' items. The valuation is largely arbitrary, as explained in the text.

STATE AND LOCAL GOVERNMENTS

Reproducible Assets

Estimates of reproducible assets and sites acquired by purchase are based primarily on the historical record of construction expenditures, as tabulated by the Bureau of Foreign and Domestic Commerce, Construction Division, in *Construction and Construction Materials: Industry Report—Statistical Supplement, Construction Volume and Costs, 1915-1947* (May 1948). Arbitrary additions were made to reflect such expenditures prior to 1915 for assets still of some value in 1939 or 1946 and also for purchases of existing assets from private owners.

Construction assets. The derivation of the value estimates is summarized for major classes of construction assets in Appendix Table 3. The depreciation and amortization factors, service-life assumptions, and price adjustments are discussed in the text. Their source and computation are explained briefly below.

In addition to figures published in the *Industry Report* cited above, and adjustment factors listed in the notes to Appendix Table 3, the estimates are based on the following assumptions:

Appendix Table 3
Derivation of Estimates of Value of Reproducible Construction Assets of State and Local Governments, 1946 and 1939
(millions of dollars)

	ESTIMATED HISTORICAL COST			IMPROVEMENTS			
	Total	Land [a]	Improvements	Depreciation schedule [b]	Depreciated hist. cost	ADJUSTMENT FOR PRICE CHANGES Factor [c]	Adj. cost
	DECEMBER 31, 1946						
Construction assets	57,900	2,800	55,100		32,710		55,350[e]
Residential buildings	800	100	700	A	660	1.6	1,050
Other structures	27,000	2,700	24,300		16,050		28,600[e]
Nonresidential buildings	14,100	2,100	12,000	B	8,600	1.8	15,400
Sewage disposal & water supply facilities	7,200	100	7,100	C	4,200	1.9	7,900
Emergency public works except roads & streets [d]	2,600		2,600	D	1,950	1.6	3,100
'All other' construction	3,100	500	2,600	D	1,300	1.7	2,200[e]
Roads & streets	30,100		30,100		16,000		25,700
Regular, including federally-aided	28,500		28,500	E	14,800	1.6	23,600
Emergency public works [d]	1,600		1,600	E	1,200	1.7	2,100
	DECEMBER 31, 1939						
Construction assets	49,265	2,410	46,855		31,555		33,705[e]
Residential buildings	65	10	55	A	55	1.0	55
Other structures	23,600	2,400	21,200		15,600		19,350[e]
Nonresidential buildings	12,800	1,900	10,900	B	8,500	1.3	11,100
Sewage disposal & water supply facilities	6,250	100	6,150	C	4,000	1.2	4,800

Emergency public works except roads & streets [d]	1,950		1,950	D	1,750	1.1	1,950
'All other' construction	2,600	400	2,200	D	1,350	1.1	1,500[e]
Roads & streets	25,600		25,600		15,900		14,300
Regular, including federally-aided	24,400		24,400	E	14,800	0.9	13,300
Emergency public works [d]	1,200		1,200	E	1,100	0.9	1,000

[a] Land costs were assumed to be as follows:

Residential and nonresidential buildings and 'all other' construction, 15 percent of historical cost.

Sewage disposal and water supply, 1.5 percent.

Roads and streets and emergency public works—land not segregated from improvement costs.

[b] Depreciation, obsolescence, and supersession were estimated roughly by applying the following rates to the historical cost of improvements:

A *Residential buildings:* 1.75 percent for each of the first 40 years; 1 percent for each of the next 30 years.

B *Nonresidential buildings:* 1.4 percent for each of the first 50 years; 0.75 percent for each of the next 40 years.

C *Sewage disposal and water supply facilities:* 2 percent for each of the first 40 years; 0.5 percent for each of the next 40 years.

D *'All other' and emergency public works, except roads and streets:* 3 percent for each of the first 25 years; 1 percent for each of the next 25 years.

E *Roads and streets:* 3 percent for each of the first 22 years; .667 percent for each of the next 51 years.

To facilitate computation, these factors were applied to historical cost, excluding land, as summated for 5-year intervals (1915-19, 1920-24, etc., except that 1945 and 1946 were computed separately). Pre-1915 investment, estimated roughly, was depreciated in the same manner.

[c] Rough estimates of the ratio of unit construction costs on December 31, 1946 or 1939 to the weighted average cost at the time of the original investment. In determining these ratios, the following indexes were used as guides: Residential buildings: American Appraisal Company index; Other structures: *Engineering News-Record* construction cost index; Roads and streets: Public Roads Administration index of price trends in highway construction.

[d] Adjusted to eliminate relief and maintenance expenditures, and arbitrarily divided between 'roads and streets' and 'other structures'. About 30 percent of emergency public works were not identified here, but were included in other categories, as in the compilation from which total historical cost is derived (cf. *Construction Volume and Costs, 1915-1947,* p. 5, note).

[e] To this estimate was added, in Table 5, $100 million to represent the value of acquisitions of finished properties from private owners (mainly public utility properties), minus dispositions to private owners.

Nonresidential buildings: pre-1915 original expenditures for construction and sites assumed to be $2.7 billion, spread at an accelerating rate from 1850 through 1914; 1915-19, estimated to be $1,050 million, in the reported federal-state-local total of $1,127 million; 1920, not reported, interpolated at $266 million.

Sewage disposal and water supply facilities: pre-1915 total assumed to be $1.5 billion, spread at accelerating rate from 1860.

'All other' construction: pre-1915 total assumed to be $400 million, spread at accelerating rate from 1890.

Roads and streets, regular, including federally-aided: pre-1915 total assumed to be $3.8 billion, spread at accelerating rate from 1860.

Emergency public works: actual expenditures, discounted 27 percent for the relief element involved, are divided on the assumption that half was for roads and streets, half for other construction. To eliminate maintenance activities, the amount allocated to roads and streets is discounted another 33⅓ percent, and the amount for other construction, another 10 percent. Consequently, the amount shown for roads and streets represents 19.9 percent of total emergency public works expenditures, and the amount for 'all other' construction, 31.5 percent. This treatment applies, however, only to expenditures specifically reported under 'work relief' in *Construction Volume and Costs, 1915-1947*, p. 5. As noted there, about 30 percent of the expenditures is included in other figures for new public construction and cannot be segregated for each type of construction. The 50-50 division is based on *Final Report on the WPA Program, 1935-43* (Government Printing Office, 1947), p. 122. The discounts for relief and for road and street maintenance follow the Board of Investigation and Research, *Public Aids to Transportation* (79th Cong., 1st Sess., House Doc. 159, 1944), p. 531. The maintenance discount for construction other than roads and streets is a guess.

The service-life assumptions, applied to historical costs of physical construction assets, are intended to represent rough,

generalized averages for all improvements of the specified types. Instead of applying a uniform straight-line depreciation and amortization factor over the whole period, these computations assume a more rapid rate of diminution of value in the earlier years of service-life than in the later years. This use of two life-schedules for each type of asset is prompted by considerations similar to those discussed in the report of the research staff of the Board of Investigation and Research on public aids to transportation (pp. 222-5).

Other reproducible assets. All these figures are guesses, guided by a few scattered inventory reports. 'Equipment' includes collections in public libraries and museums.

Nonreproducible Assets

Residential sites and sites for other structures. These are the estimated historical costs, as shown in Appendix Table 3, adjusted for price appreciation by applying very rough adjustment factors, as shown in Appendix Table 4.

Forests, parks, and unimproved lands. State and local forests represent about 10 percent of the Forest Service estimates of the total value of all public forests. For parks and other unimproved lands, the estimates were built up by rough extrapolation of incomplete data on the acreage and unit values of city, county, and state parks (National Recreation Association, *Municipal and County Parks in the United States, 1940,* 1942, pp. 9, 49, 56; *World Almanac, 1948,* p. 288; *1943,* p. 493), adjusted to eliminate improvements in the case of urban parks on the assumption that these represented half of the $2 billion total for such parks in 1946; and to eliminate improvements and forested lands from the county and state parks. In summary, the estimates for parks and other unimproved lands in 1946 comprise $1 billion for city parks, $50 million for county parks, and $10 million for state parks. The $750 million for 1939 is more largely a guess guided by data in the sources cited above. For public school endowment lands (such as school-owned Section 16 lands in downtown Chicago) the estimates

are rough guesses based on Illinois state school reports and other scattered data.

Subsoil assets. Rough estimates related to the federal estimate (see text).

Collectors' items. Largely guesses.

Appendix Table 4
Derivation of Estimates of Site Values for State and Local Government Structures, 1946 and 1939
(millions of dollars)

	December 31, 1946			December 31, 1939		
	Est. hist. cost[a]	Price adj. factor[b]	Adj. value	Est. hist. cost[a]	Price adj. factor[b]	Adj. value
Land in sites	2,800		5,500	2,410		3,580
Residential building sites	100	1.5	150	10	1.0	10
Sites for other structures	2,700		5,350	2,400		3,570
Nonresidential buildings	2,100	2.0	4,200	1,900	1.5	2,850
Sewage disposal & water supply facilities	100	1.5	150	100	1.2	120
'All other' construction	500	2.0	1,000	400	1.5	600

Site values for roads and streets and for emergency public works were not segregated from improvements.

[a] From 'Land' column in Appendix Table 3.

[b] Rough guesses.

Notes on Table 6

As indicated in the text, the source material for these estimates was much less adequate than in other areas and a considerable amount was not published. There has therefore been considerable reliance on informed opinion. Although the various branches of the National Military Establishment report their holdings of ships, aircraft, other munitions and facilities, the reports are usually confidential.

Balance sheet data were obtained for the Navy Department from the Annual Report of the Bureau of Supply and Accounts (*Naval Expenditures,* Navsanda Publication 39). This annual publication contains fairly detailed figures on the Navy property investment at the end of each fiscal year in terms of acquisition cost.

Some of the estimates for the War Department (now split between the Department of the Army and of the Air Force)

were prepared by using data summarized from generally confidential administrative supply control reports. The value of all the aircraft of the Air Force is not published. Estimates were made by multiplying the number of planes on hand as shown in administrative reports by estimated unit costs based on wartime War Production Board records. The value of the federal strategic stockpile was estimated from data on budget expenditures and reports of stocks on hand.

On installations the administrative reports of the Army and Navy, also usually confidential, contain figures in considerable detail. The estimated cost of industrial installations during World War II was reported by company and by plant location by the Civilian Production Administration (War Industrial Facilities Authorized, July 1940-August 1945). An integrated inventory of industrial facilities was also published by the War Assets Administration during April 1948 (*Report on Government-owned Industrial Plants as of September 30, 1947*). Gross valuations and depreciation allowances for RFC industrial facilities were obtained partly from the general compilation for government corporations and credit agencies (*Treasury Daily Statement,* Feb. 17, 1947). The costs of the maritime fleet and facilities deemed to be primarily of military use was built up from cumulative expenditures of the Maritime Commission and War Shipping Administration. These were adjusted to reflect disposals and depreciation on the basis of informed judgments of persons working on the program.

Cumulative budget expenditures for the World War II program were a useful guide to estimates on military assets. The analysis of 'The War Program' (*Budget of the United States Government for the fiscal year ending June 30, 1947,* pp. 751-3) contains estimated expenditures by half-years from the fiscal years 1941-46 for munitions, war construction and non-munitions. The Civilian Production Administration also made detailed estimates of the value of United States munitions output by categories and by months from July 1, 1940 to August 31, 1945 (*The Production Statement,* May 1, 1947).

The Federal Supply System, by a task force of the Commission on Organization of the Executive Branch of the Government, affords a check on the estimates for part of the military assets. It estimates that the three military departments had on hand in storage 'current total inventory' of about $26.8 billion, of which $10.6 billion was held by the Navy, $8.0 billion by the Air Force, and $8.2 billion by the Army. Reports from the military departments in the Commission's files indicate that these inventory figures included about $6.8 billion of 'non-expendable' material reported by the Air Force, such as "complete aircraft and complete engines". The date of the inventory was indicated only for the Army (Dec. 31, 1947) and the pricing assumptions were not stated. However, it seems probable that the inventory was at about the end of 1947 and that the prices were on the 'original cost' basis comparable with the prices in the first column of Table 6. Adjusting to eliminate the estimated value of complete aircraft it would seem that while 'other equipment and supplies' in Table 6 are estimated to be about $24 billion in original prices, the Commission's comparable figure for a year later is about $22 billion.