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Secular Changes in Fiscal Magnitudes and Fiscal Policies

Before turning to a detailed examination of the cyclical behavior of federal receipts and expenditures, it is necessary to review briefly some of the significant changes that have come about since 1879 in the magnitude of the fiscal operations of the government and in the policies governing them.

Fiscal Magnitudes

Federal finance moved on a much lower level before World War I than later and differed markedly in the relative importance of revenue sources and in the kinds of expenditures. Between 1879 and 1913, revenues rose from about \$300 million annually to about \$700 million (Chart 1). Then, in a matter of five years, government revenues rose to almost \$7 billion annually—almost ten times as large as in the prewar period. During the interwar period, revenues fluctuated between \$2 and \$4 billion a year; and, once again, the advent of a world war brought about a tenfold increase in revenue—to more than \$46 billion a year. The end of the war did not, however, bring an appreciable curtailment of revenue or expenditure. Instead, it left the government not only with heavy charges for the direct cost of the war and for veterans, but also with new responsibilities in providing for the general welfare both at home and abroad.

The changes that have taken place over time are clearly discernible in terms of the average annual level of federal receipts and expenditures during successive business cycles (Table 2). In the ten pre-World War I cycles, 1879 to 1914, there had been a slow, steady growth in federal income and outgo corresponding closely to population growth. Between 1880 and 1910, the population had grown from 50 million to over 90 million, while government receipts at an annual rate rose from \$350 million to \$650 million.

During the 1914-1919 cycle, the unprecedented level of military activity

TABLE 2
Average Level of Federal Receipts, Expenditures, and Surplus or Deficit During Successive Business Cycles, 1879-1958

Business Cycle (trough to trough)	Total Receipts ^a	Total Expenditures	Surplus (+) or Deficit (-)	Surplus or Deficit as Per Cent of Expenditures	Major Sources of Receipts ^b		
	(millions of dollars per month at annual rate)				Customs	Miscellaneous Internal Revenue	Individual and Corporate Income Tax
	(1)	(2)	(3)		(4)	(5)	(6)
Mar. 1879—May 1885	349	271	+78	+29%	197	128 ^c	
May 1885—Apr. 1888	356	265	+91	+34	206	119	
Apr. 1888—May 1891	390	304	+86	+28	224	138	
May 1891—June 1894	343	367	-24	-7	172	154	
June 1894—June 1897	322	359	-37	-10	160	145	

June 1897—Dec. 1900	505	509	-4	-0.8	203	251	
Dec. 1900—Aug. 1904	560	520	+40	+8	263	253	
Aug. 1904—June 1908	602	593	+10	+2	298	252	
June 1908—Jan. 1912	655	695	-40	-6	312	270	47
Jan. 1912—Dec. 1914	713	727	-14	-2	294	307	
Dec. 1914—Mar. 1919	2,132	7,337	-5,204	-71	198	667	978
Mar. 1919—July 1921	6,156	6,110	+46	+0.8	305	1,432	3,541
July 1921—July 1924	4,010	3,186	+824	+26	506	985	1,848
July 1924—Nov. 1927	3,952	3,037	+914	+30	586	746	2,016
Nov. 1927—Mar. 1933	3,317	3,834	-517	-13	452	611	1,776
Mar. 1933—June 1938	4,282	7,306	-3,024	-41	371	1,868	1,508
June 1938—Oct. 1945	21,012	48,642	-27,630	-57	365	4,153	14,716
Oct. 1945—Oct. 1949	42,557	42,406	+151	+0.4	433	8,130	29,904
Oct. 1949—Aug. 1954	58,292	62,661	-4,369	-7	566	9,924	44,988
Aug. 1954—Apr. 1958	71,372	71,915	-543	-0.8	718	11,431	56,702

SOURCE: See source note to Table A-3.

^a Includes certain miscellaneous receipts that change in definition from time to time.

^b Excludes certain miscellaneous receipts, which are included in total (column 1).

^c Incomplete cycle. Data begin July 1879.

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and of national participation resulted in a need for new taxes and an increase in tax rates. Congressional action resulted in trebling receipts as compared with the preceding cycle. The story of the rapid growth in receipts is partly obscured in the average for the cycle by two factors. First, this country did not enter the war until midway through this cycle; and second, a lag of nearly a year occurred between the enactment of war revenue legislation and receipts under this legislation. As a result, the full impact of expanded revenues does not appear until the 1919-1921 cycle, when tax receipts were again nearly treble those of the war cycle. Thus, in less than a decade, receipts increased nearly tenfold.

In the 1920's, federal revenues were cut nearly in half, as rates on the various sources of revenue were gradually reduced or eliminated. The depression of the 1930's together with the pump-priming philosophy of the New Deal reversed this trend. World War II brought about an expansion of revenues of a relative magnitude similar to that experienced in World War I. However, unlike its course in the post-World War I period, revenues have continued to expand above the level reached in the war and immediate postwar period; so in the 1954-1958 cycle they reached a level of about \$71 billion per year. This is more than three times as large as the level during the World War II cycle and \$13 billion larger than during the Korean War cycle (1949-1954).

During the period covered by our data the sources of revenues have changed drastically. During the four cycles from 1879 to 1894, customs revenues constituted better than 50 per cent of total revenues; and during the succeeding six cycles from 1894 to 1914, better than 40 per cent (Table 3). The onset of World War I, with its attendant reduction in world trade and the emergence of the federal income tax, suddenly dropped customs revenues to less than 10 per cent of total revenues. While customs receipts did rise in the postwar period, they scarcely reached 15 per cent in the 1920's. Since World War II, they have been an almost negligible part (1 per cent) of our revenue system.

Miscellaneous internal revenues, on the other hand, have been a more stable source of federal revenues. Their contribution to the total rose from about one-third in the 1880's to close to one-half in 1897-1900, then declined to less than one-fifth in the 1920's. The depression of the 1930's brought a sharp but temporary increase in their relative contribution. In the four cycles since 1938, miscellaneous internal revenues have produced from a sixth to a fifth of the total.

The income tax, almost at its inception, became the primary source of government revenues. In only three cycles did it raise less than 50 per cent of the total revenues. It dropped to 35 per cent during the 1933-1938 cycle, but since then it has been responsible for 70 per cent or more of the federal

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revenues. In the 1954-1958 cycle, income taxes accounted for nearly 80 per cent of the revenues.

Government expenditures were of approximately the same magnitude as

TABLE 3

Distribution of Federal Receipts During Business Cycles, 1879-1958
(per cent)

Business Cycle (trough to trough)	Percentage of Total Receipts Obtained from				
	Customs	Misc. Internal Revenue	Income Tax	Other Receipts ^a	Total
1879-1885	56.4	36.7		6.9	100.0
1885-1888	57.9	33.4		8.7	100.0
1888-1891	57.4	35.4		7.2	100.0
1891-1894	50.1	44.9		5.0	100.0
1894-1897	49.7	45.0		5.3	100.0
1897-1900	40.2	49.7		10.1	100.0
1900-1904	47.0	45.2		7.8	100.0
1904-1908	49.5	41.9		8.6	100.0
1908-1912	47.6	41.2		11.2	100.0
1912-1914	41.2	43.1	6.6	9.1	100.0
1914-1919	9.3	31.3	45.9	13.5	100.0
1919-1921	5.0	23.3	57.5	14.2	100.0
1921-1924	12.6	24.6	46.1	16.7	100.0
1924-1927	14.8	18.9	51.0	15.3	100.0
1927-1933	13.6	18.4	53.5	14.5	100.0
1933-1938	8.7	43.6	35.2	12.5	100.0
1938-1945	1.7	19.8	70.0	8.5	100.0
1945-1949	1.0	19.1	70.3	9.6	100.0
1949-1954	1.0	17.0	77.2	4.8	100.0
1954-1958	1.0	16.0	79.4	3.6	100.0

SOURCE: Table 2.

^a This is not a strictly continuous series, because the definition of what is included or excluded changes from time to time. Other receipts represent all revenues other than those received from customs or internal revenue. A complete listing of the sources of these revenues would include several hundred items. Among the more important are: seigniorage and coinage, licenses and permits, fines, penalties and forfeitures, gifts and contributions, interest, rents, royalties, dividends and other earnings, sale of government property and products, fees for services, sale of public lands, receipts from the District of Columbia, taxes on national banks and renegotiation of contracts.

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revenues in the pre-World War I era, but rose from about \$700 million in 1913 to more than \$18 billion in 1918—two and a half times the peak revenues in this period. Expenditures in the first half of the interwar period fell to lower levels than revenues; as a result, it was possible to reduce the federal debt between 1920 and 1930 from about \$25 billion to about \$17 billion. However, the Great Depression reversed this trend; between 1930 and 1933, revenues declined from \$4 billion to \$2 billion annually, while expenditures—principally on a work relief program and on veterans' benefits—increased from \$3.5 billion to more than \$5 billion. The recovery period from 1933 to 1937 was characterized by rising revenues (from \$2 billion to \$4 billion annually) and by heavier and rising expenditures (from \$5 billion to \$8 billion annually). The federal debt was doubled in the six years from 1930 to 1936, rising from \$17 billion to \$33 billion. Expenditures during World War II rose from less than \$10 billion annually to nearly \$100 billion; again, revenues failed to keep pace with expenditures, and an enormous increase in the federal debt resulted. The servicing of this debt, aid to veterans, maintenance of an enlarged military establishment, and aid to our allies kept expenditures at a level only slightly lower than revenues for about two postwar years and prevented as effective a reduction of the debt as was achieved after World War I.

Again, if the expenditure data are examined during successive cycles (Table 2, above), a pattern similar to that observed for revenues emerges, but with more pronounced changes. The conduct of war could not await the imposition and collection of taxes. Thus, the entire increase in federal expenditures occurred during the war cycles 1914-1919 and 1938-1945, instead of being spread into the next cycle following as the revenues were. Expenditures declined immediately upon the cessation of hostilities in 1918 and 1945, but revenues continued to rise during both postwar cycles.

After a relatively small decline during the 1945-1949 cycle, federal expenditures rose sharply during the Korean War cycle (1949-1954), and reached a still higher level (close to \$72 billion per year) during the 1954-1958 cycle.

During the long period covered by our data, while federal revenues and expenditures were growing, the economy was growing also. Moreover, the value of the dollar was changing. Hence, the growth in the real value of government receipts and expenditures, in relation to the nation's real volume of economic activity, was much smaller than the growth in the dollar magnitudes. For example, during 1921-1938, federal expenditures averaged \$4.8 billion annually, more than ten times the annual average of \$450 million for 1879-1914. Relative to gross national product (GNP), however, the increase was less than threefold (expenditures rose from 2.4 per cent

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of GNP to 6.3 per cent). Nevertheless, this was a significant increase, and it has continued.¹

Surpluses and deficits in the pre-World War I period ran at annual rates that seldom exceeded \$100 million (Chart 2).² During World War I, the deficit rose to a figure close to \$20 billion per year; and in the first postwar period, surpluses were accumulated at a rate of about \$1 billion per year. In the depression of the 1930's, deficits ran between \$2 and \$4 billion. They increased to more than \$50 billion per year during World War II. After the war, surpluses alternated with deficits more frequently, though deficits became large again during the Korean war period.

Table 2 shows the extent to which the federal budget was balanced when averaged over the period of a business cycle (columns 3 and 4). During the first three cycles (1879-1891), substantial surpluses were obtained, amounting to a fourth or a third of expenditures. During the next seven cycles, the balances³ were much smaller—ranging from a deficit of 10 per cent of expenditures in 1894-1897 to a surplus of 8 per cent in 1900-1904. World War I brought an end to this close balance, with a deficit during the 1914-1919 cycle that was 71 per cent of expenditures.

During the 1920's, the conscious efforts of the administration to wipe out the war-incurred debt resulted in large surpluses of revenues over expenditures. Starting with the depression of the 1930's, which brought lowered revenues and increased spending, deficits again became the order of the day, though in no wise of the magnitude experienced in the two world-war periods.

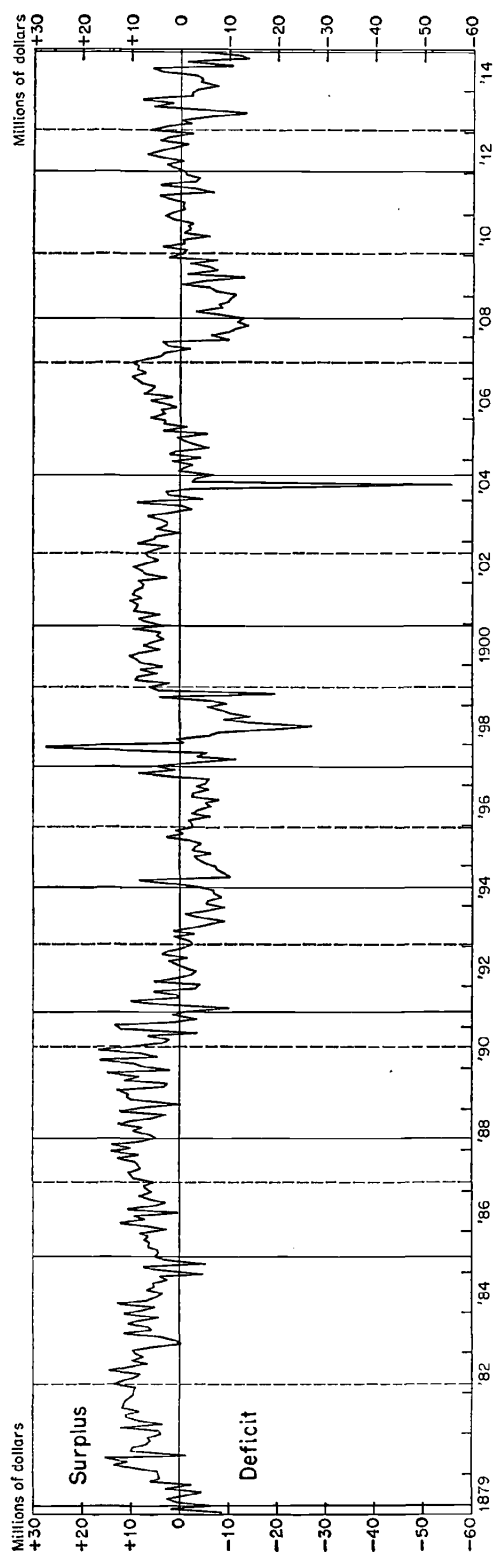
While the government had, in the decade following World War I, met with a fair degree of success in reducing the debt incurred by the wartime deficits, this was not the experience following World War II. The surplus in the 1945-1949 cycle was less than 1 per cent of expenditures. During 1949-1954, when expenditures associated with the Korean War mounted, the deficit came to 7 per cent of expenditures. During 1954-1958, revenues and expenditures again came more closely into balance, with the deficit 0.8 per cent of expenditures. As we shall see, experience suggests there is a much greater chance of achieving a balance over the full period of a business cycle than in any brief calendar period such as a fiscal year.

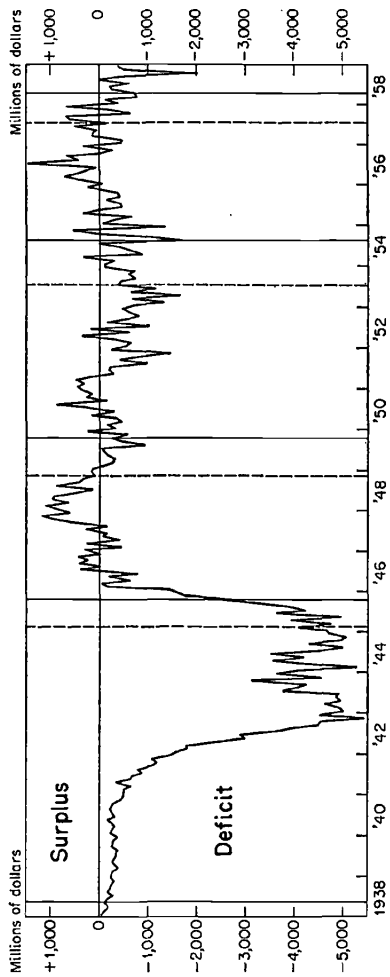
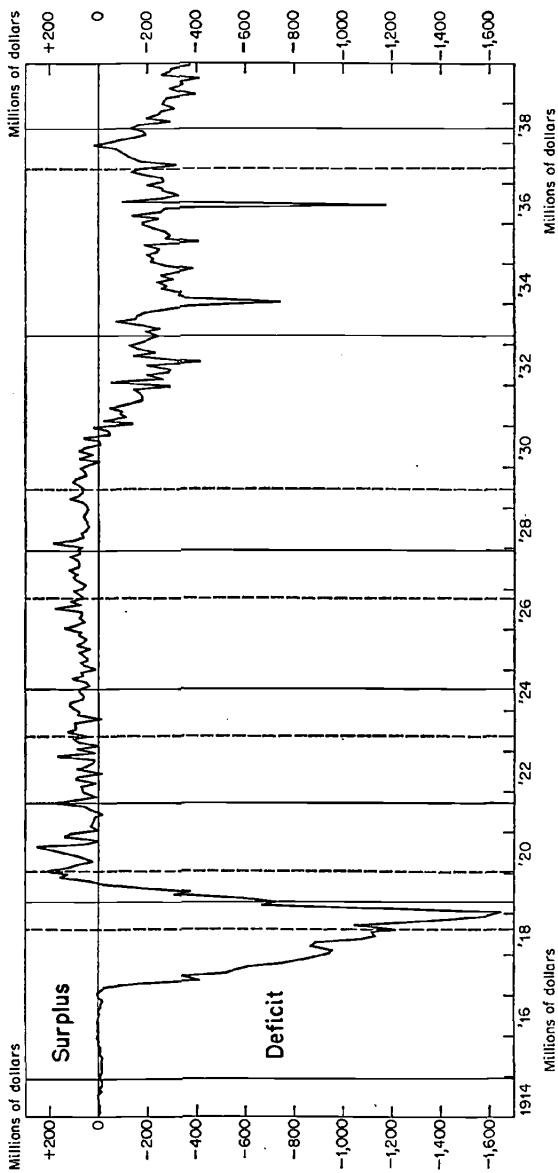
¹ For further analysis of the secular changes in the level of federal expenditures, see M. Slade Kendrick, *A Century and a Half of Federal Expenditures*, National Bureau of Economic Research, Occasional Paper 48, 1955.

² The actual monthly surpluses and deficits shown in Chart 2 have been converted to annual rates in the text. Annual rates are also used in Table A-5, Section A(2).

³ Balances as used here and in the remainder of this paper, refer to the differences between receipts and expenditures, not to cash balances on hand.

CHART 2
Federal Surpluses and Deficits, Monthly, 1879-1958





Solid and broken vertical lines represent NBER reference cycle troughs and peaks, respectively (see Table 1).
Source: Table A-3.

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Tax Legislation

In order to interpret changes in tax receipts it is important to have a grasp of the changes in tax legislation and their relation to business cycles. It is, of course, quite possible that the delays attendant upon these changes prevented any consistent correlation. Moreover, many considerations other than the effect of the state of business on revenues influenced tax legislation. Nonetheless, it is worth while to examine this record. Accordingly, we have compiled a chronology of the important changes in federal revenue legislation since 1879, recording the types of revenues affected, the direction of the change in rates, and the stage of the business cycle when the legislation was passed.

The tax law changes, dealt with later in more detail, are summarized in a set of tables covering all of the cycles studied. Only the direction of the changes, not their size, is measured. To attempt to assign a numerical value to a rate change would have involved the creation of hypothetical situations in which tax laws remained unchanged. Among the difficulties entailed (to mention only the more serious) would be: the justification of the size and distribution of incomes that would have to be assumed, of the consumption pattern for liquor and tobacco under a different set of excise rates, and of the import distribution under different tariff schedules. In addition, it would have been necessary to construct a model that was consistent in all its elements (imports, consumption, income, etc.)—a formidable task which lies beyond the scope of this paper.

Even when we restrict our observations to the direction of changes in rates, we must be cautious in inferring the direction of the effect on receipts. An increase in tariff rates, for example, can restrict imports enough to cause a reduction in customs revenues, and restriction of imports has ordinarily been the objective of such increases. On the other hand, it seems likely that in the case of income and excise taxes the immediate effect of most increases and reductions in rates has been to alter receipts in the same direction.

Table A-1 shows, in chronological sequence, the important changes in revenue (tax and tariff) laws between 1879 and 1958, the major objects of taxation affected, the direction of change, and the business cycle stage in which the legislation was passed. In this table, a plus sign designates a rate increase, a minus sign a decrease, and zero indicates either no change or a change which is indeterminate in direction (as would occur in a new tariff law where rate changes were made in both directions with no preponderant movement either way). Table A-2 recapitulates the changes in tax rates by cycle stage for each of the major objects of taxation, during peacetime cycles and wartime cycles (1897-1900, 1914-1919, 1938-1945 and 1949-

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1954) separately.⁴ The tax law changes that conform inversely to business cycles have been circled in this table. Circles around plus signs designate increases during business contractions and circles around minus signs designate decreases during business expansions.

These tabulations, summarized in Table 4, reveal that most of the tax law changes during peacetime business cycles have conformed inversely to

TABLE 4
Number and Direction of Tax and Tariff Rate Changes During Business Cycle Phases, 1879-1958

Nature of Changes	Peacetime Cycles	Wartime Cycles ^a	All Cycles
<i>Changes conforming positively to business cycles</i>			
Increases during business expansions	23	70	93
Decreases during business contractions	11	8	19
Subtotal	34	78	112
<i>Changes conforming inversely to business cycles</i>			
Decreases during business expansions	37	11	48
Increases during business contractions	27	7	34
Subtotal	64	18	82
Direction of change uncertain	3	2	5
All changes	101	98	199

SOURCE: Table A-2.

^a Wartime cycles are June 1897-December 1900, December 1914-April 1919, May 1938-October 1945, and October 1949-August 1954. The Spanish-American War cycle (1897-1900) is included here because of the special tax legislation that was enacted to finance the war. Since the actual impact of the war on government finances was so small, it was decided to treat this cycle as a peacetime cycle in the other parts of this study.

the cycle. That is to say, during business expansions tax and tariff rates have been reduced more often than raised, while during business contractions rates have been raised more often than lowered. During wartime cycles, on the other hand, tax changes have conformed positively to the business cycle, especially during the business expansions that have accompanied wars, which is when the heaviest expenditures have occurred.

Thus the net effect of governmental efforts to obtain a balanced budget during most of our peacetime history has been to lower tax rates during prosperity and raise them during depression. This did not, of course, result

⁴ See note to Table 4.

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in an inverted movement of total revenues relative to business activity. As we shall see, revenues have risen and fallen *with* the business cycle. Tax rate changes presumably have, on balance, merely reduced the size of these cyclical swings, assuming that the effect of rate increases has been to increase receipts and of rate decreases to diminish receipts, and that these effects have come about fairly promptly. Our tables, it should be observed, record the date when legislation was enacted, not when it came into effect or when it actually affected Treasury receipts. In some instances, especially in the case of income tax changes and prior to the advent of the pay-as-you-go basis for the payment of income taxes, these intervals were substantial.