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German Public Expenditures and the
Prevention of Hyper-Inflation

Randall Hinshaw,
Division of Research and Statistics,
Board of Governors of the
Federal Reserve System.

Relation of Public Expenditures to Inflation

Hyper-inflation, that condition in which the value of the monetary unit falls "to something more ridiculous than zero," is invariably associated with budgetary difficulties. An inflated level of public expenditures, largely financed by methods which result in a persistently increasing money supply, leads to a bidding up of prices, and the rising prices, in turn, lead to a still higher level of public expenditures. A vicious inflationary spiral is thus created, in which public expenditures, the quantity and velocity of money (including bank deposits), and the level of prices pursue one another upward with explosive violence.

If hyper-inflation in Germany is to be prevented after this war, the key will lie in control of governmental expenditures. It is true that there is already in Germany a great amount of "pent-up inflation"--inflationary pressure which has been prevented from raising prices as a result of rigid direct control. But the release of this pressure, while it would lead to considerable inflation, could hardly result in hyper-inflation. Hyper-inflation requires a rapidly increasing money supply, such as is ordinarily created only by a huge budget that is badly unbalanced. ^{1/} The release of pent-up inflation might result in a tripling or quadrupling of the price level; a continuation of inflationary public finance could multiply it a thousandfold, ^{2/}

^{1/} It should be added that hyper-inflation thrives where the elasticity of supply of goods and services is, in general, low. This is particularly likely to be the case in a country in which plant and equipment have been ravaged and disorganized by war. Heavy deficit spending in these circumstances is a very different matter from the same policy during a period of severe depression, when elasticity of supply, owing to unemployment of men and equipment, in general is high.

^{2/} This is not to condone inflation which "merely" results in a doubling or tripling of the price level. Doubling of the price level cuts the value of the monetary unit in half, and no matter to what heights prices rise beyond this, only the remaining 50 per cent of the value can be obliterated. The major evils of inflation--impaired savings and undesirably altered distribution of income--are acutely in evidence before hyper-inflation is threatened.

Several items are likely to loom very large in the post-war German budget. One of these is expenditures for internal reconstruction and rehabilitation. Contrary to the situation in World War I, the physical damage in Germany has this time been enormous, and it does not appear that foreign capital will be forthcoming to repair it. A second expenditure that may be great is the service of the public debt. The German debt has increased at an exceedingly rapid rate since the beginning of the war and, unless the debt is defaulted, the interest burden will be very substantial. A third expenditure that may assume large proportions during the period immediately following German collapse is unemployment relief. It is hardly necessary to emphasize that the German economy for many years has been a war economy--a highly efficient machine for the production of instruments of destruction. When the war is over, it is almost inevitable that millions of Germans will be temporarily out of work, and to the millions no longer at work on war output will be added the millions of returned soldiers. The tasks of reconstruction, both at home and abroad, should eventually absorb the redundant labor, but it would not be surprising if for a period of months there were an unemployment problem of grave magnitude. Finally, mention must be made of an expenditure that may outrank all others, namely, reparations. Any statements made on this subject are complete guess-work, but it is not improbable that Germany will find herself confronted with a far larger reparations bill than after the last war.

These are all of the nature of extraordinary expenditures--extraordinary in the sense that they are the direct result of the war. With the exception of the interest burden, the magnitudes to which they attain will in large measure depend on the degree of inflation that occurs. The same statement applies to the ordinary expenses of government. If inflation can be prevented, running expenses can be kept at a reasonable level, but if prices and wages soar, even these expenditures may be at immensely higher levels than before the war. As already pointed out, the relation between inflation and mounting public expenditures is of a reciprocal character: inflated expenditures, financed by the printing press or its equivalent, result in rising prices and rising prices induce further expenditures.

German Public Expenditures, 1925-1943

Before attempting to estimate the magnitude of German public expenditures following the war, it will be helpful to review the course of expenditures following stabilization of the mark in 1923. In this way, we can get some idea of the normal level of non-war expenditures. We can also see how large a part reparations played in German expenditures during the twenties and how significant a role unemployment relief played during the early thirties. On the assumption that hyper-inflation is prevented, these magnitudes should give us a degree of perspective in estimating both ordinary and extraordinary expenditures after the war.

The budgets of the German political divisions--Reich, states, and municipalities--are more integrated than is true in this country, and for our purpose it is best to consider German public expenditures as a whole.

Total German public expenditures since 1925 (estimated since 1933) are shown in Table I.

TABLE I
GERMAN PUBLIC EXPENDITURES, 1925-1943 ^{1/}
(Billions of Reichsmarks)

Fiscal Year	A Total Expenditures (C + E)	B Index of A	C Reich Expenditures	D C as % of A	E State, Local Expenditures	F E as % of A	G A as % of National Income
1913-14	7.3	35.1	2.4	32.9%	4.9	67.1%	16.0%
1925-26	14.5	69.7	5.3	36.6	9.2	63.4	23.9
1926-27	17.2	82.7	6.6	38.4	10.6	61.6	26.6
1927-28	18.8	90.4	7.2	38.3	11.6	61.7	26.1
1928-29	20.8	100.0	8.4	40.4	12.4	59.6	27.5
1929-30	20.9	100.5	8.0	38.3	12.9	61.7	28.1
1930-31	20.4	98.1	8.2	40.2	12.2	59.8	30.4
1931-32	17.0	81.7	6.6	38.8	10.4	61.2	31.3
1932-33	14.5	69.7	5.7	39.3	8.8	60.7	31.9
1933-34	14.7	70.7	5.6	38.1	9.1	61.9	30.6
1934-35	16.8	80.8	7.6	45.2	9.2	54.8	31.0
1935-36	21.6	103.8	12.9	59.7	8.7	40.3	35.9
1936-37	23.5	113.0	14.6	62.1	8.9	37.9	35.3
1937-38	28.4	136.5	19.5	68.7	8.9	31.3	38.9
1938-39	42.2	202.9	33.3	78.9	8.9	21.1	52.6
1939-40	59.4	285.6	50.4	84.8	9.0	15.2	72.2
1940-41	87.4	420.2	78.4	89.7	9.0	10.3	
1941-42	113.4	545.2	104.4	92.1	9.0	7.9	
1942-43	125.3	602.4	116.3	92.8	9.0	7.2	

^{1/} Expenditures through the fiscal year 1932-33 are as recorded in the official German statistics. From 1933 on, expenditures are estimated. For the period beginning with fiscal 1933-34 and extending through 1937-38, the estimates of Otto Nathan are used (Otto Nathan, Nazi War Finance and Banking, National Bureau of Economic Research, January, 1944, preliminary and confidential, Appendix Table 7). For later years, estimates are made by the writer from data prepared by Paul Hermberg. It should be emphasized that expenditure figures for the war years (continued on following page)

Perhaps the most striking fact revealed in this table is the rapid rise in public expenditures under the Nazi regime. Total expenditures for the fiscal year 1937-38 were double those of 1933-34, and this was merely the beginning. Two years later, total expenditures had doubled again, and by 1942-43 they had doubled once more. One aspect of this rapid increase was a marked increase in the ratio of Reich expenditures to total expenditures. During the period 1925-1933, Reich expenditures averaged 38.7 per cent of total public expenditures, and in no year during the period was the percentage far from this figure. In 1934, however, the percentage began to increase steadily, and by 1941, Reich expenditures accounted for over 90 per cent of the total.

Another aspect of the rapid growth in public expenditures was a sharp increase in the ratio of total public expenditures to national income. On the eve of World War I, German public expenditures amounted to about a sixth of national income. In the middle twenties, the fraction was about one fourth, and in the late twenties and early thirties was about three tenths. From 1933 to 1938, this ratio rose only slowly, since the marked increase in public expenditures was matched by an almost proportionate increase in national income. With the outbreak of World War II, however, the fraction increased sharply. In 1939-40, total public expenditures amounted to more than half the national income, and in 1940-41 to more than seven tenths.

The enormous increase in public expenditures is of course primarily the result of German military activity. Official figures for German military expenditures are available for the period 1925-33, and rather rough estimates are available for the period since. These figures are shown in Table II.

Military expenditures, it will be seen, rose from well under a billion reichsmarks during the late twenties and early thirties to 26 billion for 1938-39 and to well over 100 billion for 1942-43. Constituting between 3 and 5 per cent of total public expenditures during the period 1925-1933, military expenditures rose to 61 per cent of total expenditures in 1938-39 and to 87 per cent in 1942-43. During the late twenties and early thirties, German military expenditures amounted to about 1 per cent of national income. By 1937-38, they amounted to a sixth of national income; by 1938-39, to a third; and by 1939-40, to over half.

(continued from preceding page)

are at best rough approximations, and are based on much guess-work. Strictly speaking the figures in Column A for the period since 1933 should read: "estimated income, including net borrowing, available for spending." This quantity is assumed to approximate actual expenditures, and the reliability of the estimates is of course dependent, inter alia, upon the validity of this assumption,

TABLE II
GERMAN MILITARY EXPENDITURES ^{1/}
(Billions of Reichsmarks)

	A	B	C	D
Fiscal Year	Military Expenditures	A as % of Total Expenditures	A as % of Reich Expenditures	A as % of National Income
1913-14	1.8	24.7%	75.0%	3.9%
1925-26	.6	4.1	11.3	1.0
1926-27	.7	4.1	10.6	1.1
1927-28	.8	4.3	11.1	1.1
1928-29	.8	3.8	9.5	1.1
1929-30	.8	3.8	10.0	1.1
1930-31	.8	3.9	9.8	1.2
1931-32	.6	3.5	9.1	1.1
1932-33	.6	4.1	10.5	1.3
1933-34	.9	6.1	16.1	1.9
1934-35	2.0	11.9	26.3	3.7
1935-36	7.0	32.4	54.2	11.6
1936-37	8.2	34.9	56.2	12.3
1937-38	12.6	44.4	64.6	17.2
1938-39	25.7	60.9	77.2	32.0
1939-40	43.0	72.4	85.3	52.2
1940-41	71.0	81.2	90.6	
1941-42	97.0	85.5	92.9	
1942-43	108.9	86.9	93.6	

^{1/} Military expenditures (Wehrmacht) through the fiscal year 1932-33 are as recorded in the official German statistics. For the period beginning with fiscal 1933-34 and extending through 1938-39, the estimates of Otto Nathan are used, (op. cit., Appendix Table 9). For later years, estimates are made by the writer on the basis of data prepared by Paul Hermberg. The method employed is the same as that used by Nathan and other investigators.

A break-down of total German public expenditures for the period 1925-1933 is shown in Tables III and IV, ^{1/} Absolute amounts are shown in the former table and relative amounts in the latter. War items, mainly in connection with World War I, account for a large fraction of total expenditures for each of these years. For the period 1925-1930, war items represented about a fourth of total expenditures, and it will be noted that the same was true in 1913-14 (though for different reasons). By 1932-33, war items had dropped to a sixth of total expenditures, but, as we have just seen, the fraction thereafter became much greater. The two principal war items during the period 1925-1930 were external charges (mainly reparations) and war pensions. At their peak (in 1928-29) external charges accounted (according to official German figures) for over 10 per cent of total German expenditures. Those payments under the Dawes Plan which were covered in the German budget, however, were considerably less than this, amounting at their peak (in 1929-30) to 5.8 per cent of total expenditures (14.3 per cent of Reich expenditures).

Of the non-war expenditures, the two most important items are education and social security. Education during these years accounted for between 14 and 17 per cent of total expenditures; social security, to between 11 and 25 per cent. The latter item assumed first place during the depression. The sub-item "unemployment aid" includes government contributions to the unemployment-insurance system, direct relief, and work relief; the sub-item "other aid to needy" is also affected by the volume of unemployment, and during the fiscal years 1931-32 and 1932-33 includes a special Reich appropriation for social security.

The average percentage composition of non-war expenditures for the period 1925-1933 is shown in Table V, and is compared with the percentage composition of the same items for the fiscal year 1913-14.

The most striking change from 1913-14 is the sharp increase in the relative importance of social-security expenditures. For the period 1925-1933, social security and education both are far in the lead of other expenditures, each accounting for about a fifth of the total.

German Expenditures After the War

What can be said concerning German public expenditures following World War II? Let us consider first normal peace-time expenditures, and let us begin with the very favorable assumption that inflation is completely avoided. If, now, we take the lowest figure during the period 1925-1932 for each item under "non-war expenditures," excepting from

^{1/} Detailed figures beyond this period are not available, and such figures as there are tell only part of the story, owing to the emergence of undisclosed public expenditures. The classification of figures in Tables III and IV involves some re-arrangement of the official statistics.

TABLE III

GERMAN PUBLIC EXPENDITURES, 1925-1933 ^{a/}

(Billions of Reichsmarks)

	1913-14	1925-26	1926-27	1927-28	1928-29	1929-30	1930-31	1931-32	1932-33
War items.....	1.9	3.7	4.0	4.5	5.3	4.8	4.6	3.0	2.4
Past wars.....	.1	3.1	3.3	3.7	4.5	4.0	3.9	2.4	1.7
External charges.....		1.1	1.3	1.8	2.2	2.0	1.9	.6	.2
Dawes Plan ^{b/}		(.3)	(.6)	(.9)	(1.2)	(1.1) ^{c/}			
Internal charges.....	.1	1.9	2.0	1.9	2.3	2.0	2.0	1.8	1.5
Pensions.....	.1	1.4	1.5	1.6	1.8	1.7	1.7	1.4	1.2
Other.....		.6	.5	.3	.5	.3	.3	.4	.3
Armed forces, current.....	1.8	.6	.7	.8	.8	.8	.8	.6	.6
Non-war expenditures.....	5.4	10.8	13.2	14.3	15.5	16.1	15.8	14.0	12.1
General administration.....	.7	1.4	1.4	1.6	1.7	1.7	1.7	1.4	1.3
Education.....	1.4	2.4	2.5	2.9	3.2	3.3	3.2	2.6	2.2
Police.....	.2	.7	.7	.8	.9	.8	.8	.7	.7
Courts.....	.3	.6	.6	.7	.7	.7	.7	.6	.5
Industry and transport.....	1.0	1.5	1.7	2.1	2.2	2.2	2.1	1.7	1.4
Public health, child welfare	.4	.8	.8	.8	.9	1.0	.9	.6	.5
Social security.....	.3	1.7	2.8	2.1	2.5	2.7	3.4	3.7	3.5
Unemployment aid.....	.0	.5	1.3	.5	.7	.7	1.1	1.1	.4
Other aid to needy.....	.3	1.2	1.5	1.6	1.8	2.0	2.3	2.6	3.1
Housing.....	.0	1.1	1.4	1.6	1.5	1.6	1.3	.6	.3
Debt service.....	.5	.2	.5	.7	.9	.8	.8	.8	.7
Other.....	.6	.4	.8	1.0	1.0	1.3	.9	1.3	1.0
TOTAL.....	7.3	14.5	17.2	18.8	20.8	20.9	20.4	17.0	14.5
Reich.....	2.4	5.3	6.6	7.2	8.4	8.0	8.2	6.6	5.7
States, local.....	4.9	9.2	10.6	11.6	12.4	12.9	12.2	10.4	8.8

^{a/} Slight discrepancies in totals are due to rounding of figures.

^{b/} Only that portion of the Dawes payments provided for in the German budget is shown here.
Report of the Agent General for Reparation Payments, May 21, 1930, pp. 288-289.

^{c/} Includes 410,000,000 reichsmarks paid under terms of Young Plan.

TABLE IV

GERMAN PUBLIC EXPENDITURES, 1925-1933 ^{a/}

Percentage Composition

	1913-14	1925-26	1926-27	1927-28	1928-29	1929-30	1930-31	1931-32	1932-33
War items.....	26.0%	25.5%	23.3%	23.9%	25.5%	23.0%	22.5%	17.6%	16.6%
Past wars.....	1.4	21.4	19.2	19.7	21.6	19.1	19.1	14.1	11.7
External charges.....		7.6	7.6	9.6	10.6	9.6	9.3	3.5	1.4
Dawes Plan.....		(2.1)	(3.5)	(4.8)	(5.8)	(5.3) ^{b/}			
Internal charges.....	1.4	13.1	11.6	10.1	11.1	9.6	9.8	10.6	10.3
Pensions.....	1.4	9.7	8.7	8.5	8.7	8.1	8.3	8.2	8.3
Other.....		4.1	2.9	1.6	2.4	1.4	1.5	2.4	2.1
Armed forces, current.....	24.7	4.1	4.1	4.3	3.8	3.8	3.9	3.5	4.1
Non-war expenditures.....	74.0	74.5	76.7	76.1	74.5	77.0	77.5	82.4	83.4
General administration.....	9.6	9.7	8.1	8.5	8.2	8.1	8.3	8.2	9.0
Education.....	19.2	16.6	14.5	15.4	15.4	15.8	15.7	15.3	15.2
Police.....	2.7	4.8	4.1	4.3	4.3	3.8	3.9	4.1	4.8
Courts.....	4.1	4.1	3.5	3.7	3.4	3.3	3.4	3.5	3.4
Industry and transport.....	13.7	10.3	9.9	11.2	10.6	10.5	10.3	10.0	9.7
Public health, child welfare	5.5	5.5	4.7	4.3	4.3	4.8	4.4	3.5	3.4
Social security.....	4.1	11.7	16.3	11.2	12.0	12.9	16.7	21.8	24.1
Unemployment aid.....	.0	3.4	7.6	2.7	3.4	3.3	5.4	6.5	2.8
Other aid to needy.....	4.1	8.3	8.7	8.5	8.7	9.6	11.3	15.3	21.4
Housing.....	.0	7.6	8.1	8.5	7.2	7.7	6.4	3.5	2.1
Debt service.....	6.8	1.4	2.9	3.7	4.3	3.8	3.9	4.7	4.8
Other.....	8.2	2.8	4.7	5.4	4.8	6.2	4.4	7.7	6.9
TOTAL.....	100%	100%	100%	100%	100%	100%	100%	100%	100%
Reich.....	32.9	36.6	38.4	38.3	40.4	38.3	40.2	38.8	39.3
States, local.....	67.1	63.4	61.6	61.7	59.6	61.7	59.8	61.2	60.7

^{a/} Slight discrepancies in totals are due to rounding of figures.

^{b/} Includes 1.9 per cent paid under terms of Young Plan.

TABLE V

AVERAGE PERCENTAGE COMPOSITION OF
NON-WAR EXPENDITURES, 1925-1933.

	Average 1925-1933	Fiscal 1913-14
General administration	10.9%	13.0%
Education	19.9	25.9
Police	5.5	3.7
Courts	4.6	5.6
Industry and transport	13.3	18.5
Public health, child welfare	5.6	7.4
Social security	20.0	5.6
Unemployment aid	5.6	.0
Other aid	14.4	5.6
Housing	8.4	.0
Debt service	4.8	9.3
Other	7.0	11.0
Total	100.0%	100.0%

consideration for the moment the items "unemployment aid" and "debt service," we arrive at a total of 8.5 billion reichsmarks or, roughly, 9 billions. Let us take this figure as a starting point. The other items that we must consider are service of the German debt, internal reconstruction, unemployment relief, war pensions, and external charges.

Interest on the total German public debt is estimated to amount to somewhere in the neighborhood of 8 billion reichsmarks. If we exclude that portion of the debt (about 30 per cent) held by the Reichsbank and its subsidiaries, we can assume an interest burden amounting, very roughly, to 6 billion reichsmarks. This figure would probably provide for some amortization as well, but it must be remembered that the German debt may be substantially larger than at present when hostilities end.

The need for internal reconstruction will be great, and for a period there may be considerable redundant labor. Much of the reconstruction can be financed by private funds, but the pressure for public expenditure on this account will be great. If hyper-inflation is to be prevented, such expenditures must be rigidly limited. Since the situation may be one that is temporarily characterized by severe unemployment (a condition not inconsistent, in these circumstances, with acute inflation), payments to unemployed may well serve the double purpose of affording relief and effecting reconstruction. Let us allow 3 billion reichsmarks for this

combined purpose. ^{1/}

War pensions amounted to an average of 1.4 billion reichsmarks annually during the period 1925-1933. Let us assume that war pensions and other internal charges resulting from the war can be kept down to 2 billion reichsmarks per year.

We now have the following items:

"Normal" expenditures	RM 9 billion
Debt service	6
Unemployment and reconstruction	3
War pensions	2
	<u>RM20 billion</u>

We have as yet failed to consider what may be the most important item of all--reparations. Suppose we venture the guess that at the outset reparations amount to a billion dollars per year and that the post-war dollar-mark rate is set at 5 marks to the dollar. We can then add 5 billion reichsmarks to the above figure, and get a total of 25 billion reichsmarks in annual public expenditures. This figure compares not very unfavorably with the figure of 20.8 billion reichsmarks in total expenditures for 1928-29 and with an annual average of 18.0 billion reichsmarks for the period 1925-1933. Moreover, it is only about a sixth of total expenditures for the fiscal year 1942-43.

However, we have made one very favorable assumption. We have assumed that inflation is completely avoided. To the extent that inflation occurs, we may expect a roughly proportionate increase in public expenditures. If the release of existing pent-up inflation should result, say, in a quadrupling of the present price level, total expenditures after the war might continue at a level not far below the current level of war expenditures. Thus every effort should be made to nip inflation in the bud and to ease existing inflationary pressure by methods which do not involve a rise in prices.

^{1/} It should be remembered that many of the unemployed will have large savings to draw upon, and to the extent that this is true, government aid will not be necessary.