Some Economic Aspects of Rearmament : I

by

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The Review *offers this article as a commentary from one particular point of view on a much-discussed factor in economic development during the last few years, namely rearmament expenditure. The article attempts to appraise the general economic significance of this expenditure, its importance at present, and the implications which it may have for the development of international economic relations in the near future. The argument is built up on lines suggested by recent discussions of the trade cycle, and deals with rearmament expenditure particularly from the point of view of its effects on the cyclical process. Mr. A. S. J. Baster, formerly Lecturer in Economics at University College, Exeter (England), was temporarily attached to the Economic Section of the International Labour Office. His article is of course to be regarded as an expression of his personal views only, and not in any way as an interpretation of the policy of the International Labour Office.*

FOR some time public opinion in various countries has been apprehensive of the danger and risks of another economic depression like the last. The present business recession in the United States has accentuated these fears, and speculation is rife as to the appropriate manner of meeting a substantial reversal of the recovery movement. It is generally realised that many characteristics of the recent recovery and of the present economic situation show the influence of a new factor, namely rearmament expenditure. In the following article an attempt is made to analyse some of the effects of this expenditure, and to outline some possible ways of meeting the difficulties to which it may give rise.

The Magnitude of Rearmament Expenditure

Some indications of the importance of rearmament expenditure at present, and its rate of increase in the last few years, appear in table I.

TABLE I. NATIONAL DEFENCE EXPENDITURE OF CERTAIN COUNTRIES [1]

(*Millions*)

Country	Currency	1913 [2]	Per cent. of 1913 national income	1932	1933	1934	1935	1936	1937	Per cent. of 1937 budget
United States	$	491	1.4	641.6	570.4	804.7	913.3	966.6	993.2	11.7
United Kingdom	£	77	3.4	88.2	93.5	99.1	122.3	162.6	261.6	29.3
France	Francs	2,062	5.5	10,860.2	13,606.4	11,645.7	13,218.1	7,338.6	9,694.4	20.1
Germany	Marks	2,056	4.6	633.7	671.7	894.3	6,500.0 [4]	6,500.0	—	—
Italy	Lire	737	3.2	5,481.8	4,891.7	5,665.1	4,417.1 [5]	4,734.7	6,036.1	25.4
Soviet Union	Roubles	718	—	1,412.3	1,547.3	5,000.0	8,200.0	14,815.5	20,102.2	20.7
Poland	Zloty	—	—	837.8	841.4	848.7	838.7	837.5	838.8	37.7
Czechoslovakia	Crowns	—	—	1,935.8	1,843.3	2,071.5	2,161.5	2,317.6	2,095 3	24.8
Japan	Yen	208	—	686.4	872.6	941.8	1,033.0	1,059.8	1,409.0	56.0
Estimated total for 60 countries [3]	U.S. $ (1936 parity)	—	—	3,815.7	3,992.0	5,064.1	8,810.1	10,730.7	—	—

[1] Compiled from figures taken from League of Nations: *Armaments Year-Book*, 1937.

[2] Cf. Stone and Fisher: "The Rising Tide of Armament" (Foreign Policy Reports, 15 Feb. 1937).

[3] The 1913 figures are from Jacobson: "Armaments Expenditure of the World", reprinted from *The Economist*, London, 1928.

[4] Estimates of Stone and Fisher: *op. cit. The Banker* (London, Feb. 1937, p. 114), estimated a total of 31,100 million marks for the period 1933-34 to 1936-37. Cf. also estimates of Trivanovitch on p. 190.

[5] According to a speech of the Italian Finance Minister delivered in May 1937 expenditure on the conquest and exploitation of the Empire during 1934-35 and 1935-36 amounted to 12,111 million lire.

The official figures are incomplete, and have been supplemented by unofficial estimates where indicated. If rearmament expenditure is broadly defined to include any expenditure intended to serve the end of national preparedness for war, there are obvious gaps in every case. In conscript countries, there is the expense of maintaining large sections of the working population in unproductive occupations during their most fruitful years; in almost all countries there are the costs of national self-sufficiency—tariffs, subsidies to industries producing substitutes, uneconomic diversions of resources into agriculture, various sorts of "planning" for strategic purposes

(such as the reorganisation of road and rail transport to serve threatened frontiers), re-planning urban settlement so as to minimise air-raid risk, neglecting export markets for domestic armament orders, etc., a great deal of which need never appear as Government expenditure at all, much less as part of the national defence budget.[1] It is quite impossible to separate the part of these expenditures incurred for defence from the part incurred for other reasons.

Since the published figures are incomplete in these diverse ways to a varying extent in different countries, they cannot safely be used for purposes of comparison. Comparisons are also vitiated by variations in exchange rates, differences of nomenclature and budget procedure, and irregular extra-budgetary defence expenditure.[2] Even so, the figures as they stand represent relatively large proportions of the national budgets and national incomes of most States, and they show a striking increase in the last few years.[3] Their magnitude is better appreciated in comparison with estimates of recent public works expenditures.[4] Polish State expenditure on public works in 1931-2 was 345 million zloty ; appropriations allotted to the French Ministry of Public Works in 1933 were 272 million francs ; in Germany, in June 1934, total sums voted on the 1932

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[1] Complete enumeration and valuation of all the peculiar forms of subsidising rearmament is impossible. A common but not very obvious form is the Government practice (common in most countries with a private arms industry) of spreading orders in such a manner as to keep even inefficient armament firms in operation, so that expansion in war-time will be easier. Monopolies justified partly on the ground of national security (such as Imperial Chemical Industries in Great Britain) cause economic waste, compared with the full effectiveness of competition, which ought strictly to be debited to national defence. Cf. ROYAL COMMISSION ON THE PRIVATE MANUFACTURE OF ARMS : *Minutes of Evidence, 1935*, p. 269 ; UNITED STATES : *Senate Enquiry into the Munitions Industry, 74th Congress : Report*, Vol. 2 ; P. N. BAKER *(The Private Manufacture of Arms*, Vol. 1, p. 65) states that British armament firms receive a disguised subsidy of £1,000,000 a year in the shape of the results of costly Government researches, which are passed to them gratuitously.

[2] For example, the Public Works Administration in the United States recently transferred 238 million dollars to the Navy for the creation of employment. For a full list of the technical difficulties of comparing defence budgets, see J. C. STAMP : *Economic Effects of Disarmament*, p. 6, and LEAGUE OF NATIONS : CONFERENCE FOR THE REDUCTION AND LIMITATION OF ARMAMENTS : *Report of the Technical Committee*. Conf. D. 158, Vol. 1, ch. 21.

[3] The German Institute for Business Research gives the following percentages of arms expenditure to national income in 1935 ; United States, 1.5 ; Great Britain, 3 ; France, 7.4 ; Japan, 8 ; Poland, 9 ; Soviet Union, 12.5 ; the world, 2-3 *(Vierteljahrshefte zur Konjunkturforschung*, Vol. III (a), 1937, p. 283). FORSTER, in *The Contemporary Review* of July 1935, alleges that the rate of increase of world armament expenditure is greater now than it has ever been.

[4] Cf. INTERNATIONAL LABOUR OFFICE : *Public Works Policy ;* Studies and Reports, Series C (Employment and Unemployment), No. 19, pp. 33-57. Geneva, 1935.

and 1933 programmes for public works amounted to 5,448 million marks ; in Great Britain, national schemes of unemployment relief and economic development and local borrowings for this purpose by public bodies cost £246 million in 1930-31 ; in Italy, public works undertaken by the State, local authorities, and private concerns, amounted for 1932 to 5,873 million lire ; in Japan, total public works expenditure in 1931 was 37½ million yen. In all cases these figures are below the defence estimates for 1937—in most cases, considerably below. Another conception of the magnitude of armament expenditure is suggested by the statement of the Federation of British Industries [1] that the direct stimulus given by rearmament in 1936 was four to six times that given by foreign investment in the last boom ; in a recent note on the British rearmament programme [2], Mr. Balogh calculates that the contemplated expansion of capital equipment for rearmament is " of somewhat the same order of magnitude " as the recent expansion in building activity during the housing boom which is alleged to have led the country out of the depression. In 1936, the German Institute for Business Research calculated [3] that at least 11 per cent. of the net product of world industry was being spent on armaments.

Rearmament and " Boom " Conditions

Defence expenditure did not increase substantially much before 1935 ; its effect on the world economy thus consisted in calling forth fresh activity in the midst of the recovery movement, which by then was well advanced in most countries outside the gold bloc, and which had already been stimulated considerably by large Government expenditures for relief purposes. Because of its complex secondary effects, it is quite impossible to say how much of the increase in business activity in various countries was due to armaments expenditure ; but the increased *tempo* of recovery after 1935 and the boom conditions in the heavy industries during the early months of 1937 are at least consistent with the explanation given above.

The general trend towards boom conditions in a number of rearming countries may be illustrated by the following table.

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[1] Cf. *F.B.I. Business Barometer*, 3rd Quarter, 1937.

[2] Cf. Manchester University : *The Manchester School*, Vol. VII, No. 2.

[3] *Op. cit.*, p. 281.

TABLE II. RECOVERY OF INDUSTRIAL PRODUCTION IN VARIOUS COUNTRIES [1]

Index	United States			United Kingdom			France			Germany			Italy		
	1932	1936	Average: first six months of 1937	1932	1936	Average: first six months of 1937	1932	1936	Average: first six months of 1937	1932	1936	Average: first six months of 1937	1932	1936	Average: first six months of 1937
General index of industrial production	54	88	98	83	116	124	69	70	74	53	106	113	67	87	98
Engineering index	13	88	134	73	121	135	61	64	73	38	97	113	68	115	126
Textiles index	72	97	109	86	104	109	65	73	74	87	107	106	66	69	80
Pig-iron and ferro-alloys (thousand metric tons)	735	2,591	3,336	303	651	679	461	520	626	328	1,275	1,252	38 [2]	62	59
Steel (ingots and castings) (thousand metric tons)	1,128	3,973	4,871	445	990	1,073	470	559	655	481	1,596	1,624	116	169	179

Index	Japan			U.S.S.R.			Poland			Czechoslovakia		
	1932	1936	Average: first six months of 1937	1932	1936	Average: first six months of 1937	1932	1936	Average: first six months of 1937	1932	1936	Average: first six months of 1937
General index of industrial production	98	151	168	183	382	— [2]	54	72	84	63	80	96
Engineering index	107	242	285	333	926	— [2]	44	74	91	— [2]	— [2]	— [2]
Textiles index	105	135	145	— [2]	— [2]	— [2]	63	80	88	68	91	111
Pig-iron and ferro-alloys (thousand metric tons)	98	185	213	513	1,193	1,183	17	49	56	38	95	184
Steel (ingots and castings) (thousand metric tons)	200	419	479	490	1,362	1,458	47	95	118	56	180	184

[1] League of Nations: *Monthly Bulletin of Statistics*, Oct. 1937. Indexes are based on 1929 = 100. [2] Excluding ferro-alloys, [3] Figures not available.

To judge from the statistical indicators, the boom took a "normal" course, clearly influenced at a number of points by rearmament. Recovery developed along "nationalist" lines, with international trade (except the trade in armaments) lagging behind productivity, as shown in the table below.

TABLE III. INDEXES OF WORLD ECONOMIC ACTIVITY

(Base : 1929 = 100)

Index	1932	1933	1934	1935	1936
World production [1] :					
Foodstuffs	90.7	101.5	101.5	100.9	102.9
Raw materials	71.4	78.8	85.3	93.5	105.5
Industrial activity	69.0	78.0	85.0	96.0	111.0
World trade quantum [1] :					
Foodstuffs	89.0	83.0	82.0	85.5	86.0
Raw materials	81.5	87.5	88.0	91.5	96.0
Manufacturing	59.0	60.5	66.5	69.5	75.0
Value of exports :					
General [2]	39.0	35.5	34.3	35.0	37.8
Value of exports :					
Armaments	52.9	57.2	61.4	60.4	71.5
World unemployment [3]	291.0	277.0	225.0	196.0	151.0

[1] LEAGUE OF NATIONS : *World Economic Survey*, 1936-37, ch. VI.
[2] LEAGUE OF NATIONS : *Statistical Year-Book of the Trade in Arms and Ammunition. 1937*, p. 202.
[3] INTERNATIONAL LABOUR OFFICE : *I.L.O. Year-Book of Labour Statistics*, 1936 and 1937

International trade in raw materials picked up much more than the trade in foodstuffs and very much more than the trade in manufactured goods, in conformity with the policy of national self-sufficiency of the principal rearming countries. The diversion of trade to members of the same political bloc is also part of the same policy. Thus the share of "British" countries in total imports of the United Kingdom rose from 35.3 per cent. in 1932 to 39.2 per cent. in 1936, while the share of these countries in United Kingdom exports rose from 45.3 per cent. to 49.2 per cent. Trade within each "imperial" bloc (the British, French, Dutch, Belgian, and Japanese) is estimated to have reached 13.7 per cent. of world trade in 1932 and 17.7 per cent. in 1936 [1].

[1] LEAGUE OF NATIONS : *Review of World Trade*, 1936, p. 69.

In general, the national wholesale price indexes have shown a reassuring lag behind indexes of productivity [1], but there were sharp price rises at the beginning of 1937 and much greater rises in raw material prices than in any others.

TABLE IV. PRICE MOVEMENTS IN VARIOUS COUNTRIES [1]

Country	Wholesale				Raw materials				Manufactured goods			
	Percentage change				Percentage change				Percentage change			
	1934	1935	1936	Jan.-Mar. 1937	1934	1935	1936	Jan.-Mar. 1937	1934	1935	1936	Jan.-Mar. 1937
United States	+ 9.1	+ 2.3	+ 6.6	+ 2.0	+ 19.5	+ 2.0	+ 12.8	+ 2.0	+ 6.3	+ 2.0	+ 3.0	+ 1.5
United Kingdom	— 0.6	+ 4.0	+ 12.1	+ 6.7	— 6.7	+ 11.3	+ 22.4	+ 12.5	+ 0.1	+ 1.4	+ 6.5	+ 4.3
Poland	— 8.8	— 1.1	+ 12.1	+ 2.3	— 10.7	— 0.5	+ 21.1	+ 1.4	— 5.0	— 2.1	+ 1.3	+ 0.5
Italy	+ 0.7	+ 19.8	+ 6.5	+ 3.7	— 0.9	+ 23.8	+ 14.8	+ 3.3	+ 1.3	+ 13.6	+ 8.5	+ 2.5
Germany	+ 5.0	+ 2.5	+ 1.6	+ 0.6	+ 2.1	+ 1.7	+ 3.6	+ 1.3	— 4.6	+ 0.3	+ 2.9	+ 0.4

[1] LEAGUE OF NATIONS: *World Production and Prices, 1936/1937*. Figures for 1937 from unpublished sources.

In the United States, the largest spring advances (Bureau of Labour Statistics wholesale price index) were in metals [2], farm products, and building materials; in England (Board of Trade wholesale index) in coal, iron and steel, non-ferrous metals, and "basic industrial materials in general". Some of these movements were undoubtedly speculative; but the reduction in world stocks of the principal raw materials and foodstuffs suggests that the limits of supply were being reached [3] in many directions and that blockages resulted.

[1] Early in 1937, however, the wholesale price index in Great Britain rose above the *Economist* index of business activity for the first time.

[2] In April 1937 President Roosevelt announced that the United States Government would stop buying steel and copper as it considered the prices too high.

[3] Normally, rising output and sales would be expected to be accompanied by increased stocks. Doubtless the erratic behaviour of stocks is partially to be explained by semi-monopolistic price-fixing, which reduces prices in a depression and increases them in a recovery only after long delay.

TABLE V. STOCKS OF PRIMARY COMMODITIES AND RAW MATERIALS [1]

Item	1929	1932	1933	1934	1935	1936
World index of stocks of primary commodities (average for 1925-29 = 100)	120	141	140	133	118	108
Industrial raw materials stocks at end of year (average for 1925-29 = 100)	116	137	131	124	109	103
Total cotton stocks on 1 August (thousand bales)	9,625	17,046	16,076	15,879	13,591	11,846
Wool stocks of 4 exporters on 1 July (thousand metric tons)	—	97	38	71	49	30
Rubber at end of year (thousand metric tons)	385	649	674	757	672	512
Copper at end of year (index : 1925-29 = 100)	125	213	191	171	161	118
Tin at end of year (index : 1925 = 100)	136	206	96	56	49	79
Lead in United States and United Kingdom at end of year (index : 1925-29 = 100)	108	274	315	322	309	243
Zinc in United States and United Kingdom at end of year (index : 1925-29 = 100)	240	407	327	385	269	186

[1] LEAGUE OF NATIONS : *World Production and Prices, 1936/1937.*

Inelasticity in the labour supply was also developing. The available statistics do not suggest that the pressure was sufficient to lift real wages even to the extent of equalising the recent increases in productivity, but in the skilled sections of the employment market, particularly those affected by specifically rearmament industries, it seems that limits were being reached in Great Britain, Germany, Japan, and other industrial countries [1].

[1] Cf. reports cited in LEAGUE OF NATIONS : *World Economic Survey, 1936-37*, p. 104.

TABLE VI. INDUSTRIAL PRODUCTIVITY AND THE REAL WAGES OF INDUSTRIAL WORKERS IN VARIOUS COUNTRIES [1]

Country	Nature of wage data	1932		1935		1936	
		Real wages	Industrial productivity	Real wages	Industrial productivity	Real wages	Industrial productivity
United States	Hourly earnings (National Industrial Conference Board)	108	54	123	76	123	88
	Weekly earnings (do.)	77		95		101	
United Kingdom	Weekly rates	100	83	111	106	111	116
France (Paris)	Hourly rates	110	69	117	67	127	70
Germany	Hourly rates	104	53	99	94	98	106
Italy	Hourly earnings	101	67	110	92	104	—
Japan	Daily earnings	112	98	105	142	101	151
Poland	Hourly earnings	111	54	114	66	118	72
Czechoslovakia (Prague)	Hourly minimum rates	112	63	108	70	106	80

[1] LEAGUE OF NATIONS: *Monthly Bulletin of Statistics*, Oct. 1937; INTERNATIONAL LABOUR OFFICE: *Year-Book of Labour Statistics 1937*.

Naturally, countries where large conscript armies have recently been created have deprived their industries of many men who would otherwise have been trained as skilled labourers. In Germany, armament concerns have now to be given priority in the allotment of skilled metal workers [1], and advertising for skilled workers in the metal and building trades requires official permission. Even in England, shortages of skilled labour in the engineering and metal trades have been chronic, and cyclical unemployment was alleged to have disappeared altogether. [2]

[1] Cf. TRIVANOVITCH: *Economic Development of Germany under National Socialism*, p. 57 (National Industrial Conference Board, New York).

[2] *The Economist*, 20 March 1937. Sir William Beveridge wrote in September 1936 that cyclical unemployment was "practically non-existent"; but added later (cf. *Economica*, May 1937) that rearmament might "eat into the 4 per cent. of long-period unemployment" and might reduce frictional and seasonal unemployment from 8 per cent. to 6 per cent. R. W. B. Clarke suggests (cf. "Internal Consequences of Rearmament", in *Political Quarterly*, July 1937) that the "obsolescence of skill" in engineering and shipbuilding may make this a long and costly operation.

Shortages of working capital are indicated by pressure on the banking systems. Available figures show a diminished cash reserve against deposits recently in Great Britain, Italy, Japan, and Poland [1]. In Great Britain the ratio dropped to nearly 10 per cent. in July 1937, as compared with a pre-depression ratio of 11.7 per cent. ; there has been a recurrence of " window-dressing "—evidence of the strain on reserves [2]—and the banks' sales of securities to restore their liquidity are said to be an embarrassment to Government rearmament issues [3]. Borrowing by the British Government has already forced up long-term interest rates from a 3 to a 3½ per cent. basis, and has produced serious setbacks in the bond markets. [4]

The limits of productive capacity in the steel industry—the basis of rearmament—began to be reached everywhere in 1937. Imports of iron and steel into Great Britain in June 1937 were over six times as great as in June 1936, but the industry was even then unable to satisfy all requirements [5] (of which fully 20 per cent. were for armaments) and building operations particularly were seriously delayed. The United States steel industry was reported to be close to effective capacity in April, when the *Iron Age* stated that " seldom if ever, in the history of the steel industry, not excluding 1920 and 1929, has there been so decidedly a sellers' market. " [6] " Bottle-necks " in the steel industry explain the abolition by Great Britain of the tariff on pig-iron in March 1937 and the reduction and final abolition (under certain conditions) of the import duty on iron and steel products, and also the abandonment by Japan of import duties on iron and steel for the period April 1937—March 1938.

No interruption in the rate of increase of industrial profits was visible by the middle of 1937. The *Economist* index for Great Britain, after a steady rise of about eleven points from 1934 to 1936, rose twenty points in 1937, with the largest

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[1] LEAGUE OF NATIONS : *Monetary Review, 1937*, Appendix, Table XII.

[2] LEAGUE OF NATIONS : *World Economic Survey, 1936-37*, ch. 2.

[3] VALLANCE : " Arms and the Slump ", in *New Fabian Research Bureau Quarterly*, No. 14, 1937.

[4] This situation has developed in spite of the favourable position of the British Government as a borrower in London at present, due to its access to extra-budgetary funds through the National Debt Commissioners. Cf. HALL : " Some Technical Aspects of the Financing of Rearmament ", in *Economica*, May 1937.

[5] *The Economist*, 17 July 1937.

[6] *The Iron Age*, 25 March 1937 ; *London and Cambridge Economic Survey*, 3 April 1937.

individual rises in shipping, rubber, oil, iron, coal, steel, engineering, motors, and aircraft, in that order.[1] In 1936 the return on the nominal capital of 2,140 United States corporations rose from the 1935 average of 5 per cent. to 7.4 per cent.; and preliminary estimates for 1937 show a further rise to 11.8 per cent., again principally in the capital-goods industries. It is doubtful how far this rate of increase can be maintained in face of the rise in costs, in part due to rearmament. Mr. C. Clark's elaborate British index of " the incentive to invest ", varying with profits, the price of capital equipment, and the rate of interest, reached its maximum in the last quarter of 1936 and is now declining.[2]

The above-mentioned tests suggest that the productive machine in the principal industrial countries became fully occupied in the early part of 1937, and that competition for the use of it was driving up costs so as to threaten profits in the near future. Although the stimulus given to economic activity by rearmament has been considerable, the tests do not and cannot show how great it has been, or what the precise reactions of such expenditure are. This is a task for general analysis.

Economic Problems of Rearmament

There is no generally accepted explanation of " the business cycle "; but the rather specialised nature of rearmament expenditure makes the analysis of its effects on business fluctuations somewhat less controversial and less dependent on particular theoretical doctrines. Starting at a low level of abstraction, it may be said that one of the chief characteristics of a boom is a relatively greater expansion of the capital-goods industries as compared with the consumption-goods industries. Rearmament will exaggerate this disparity. Table VII (p. 179) shows that the disparity has in fact become marked and is consistent with this interpretation.

Speed is the essence of the process; armament manufacture is competitive, and economic safeguards are at a discount if they interfere with production programmes. But a century of experience with railway booms, building booms, and the

[1] *The Economist*, 17 July 1937. Profits for the second quarter in each year.

[2] Cited in *Economic Journal*, June 1937. This index meets the objection to ordinary profit indexes that they are based always on past profits (usually of a whole year), whereas current business activity depends on estimates of future profits.

TABLE VII. PRODUCTION OF INVESTMENT GOODS AND CONSUMPTION GOODS IN VARIOUS COUNTRIES [1]

(Base : 1929 = 100)

Country	1932		1935		1936		July 1937	
	Investment	Consumption	Investment	Consumption	Investment	Consumption	Investment	Consumption
United States	28	76	63	88	82	94	101	93
Germany	34	76	99	88	113	98	129	101
Japan	134	118	195	138	219	143	254	163
Poland	42	64	62	75	72	78	90	87

[1] LEAGUE OF NATIONS : *Monthly Bulletin of Statistics*, Oct. 1937.

like, has shown that a relatively great expansion of the capital-goods industries during a boom must sooner or later be reversed by an investment crisis, which brings about at least a marked contraction in the capital-goods industries followed by capital losses and unemployment. An explanation commonly accepted at present is (*a*) that there is excessive investment in the capital-goods industries based on false assumptions about the rate of growth in consumer expenditure, and (*b*) that through inflation the money stream becomes " artificially " diverted from consumer-goods markets to investment-goods markets.[1] Thus some damping down of investment (as by taxation or high interest rates) and redirection of the money stream (as by imposing some system of " neutral " money) appear desirable in theory. But in practice the slightest deviation from what is theoretically desirable at a critical stage of the cycle is liable to have cumulative effects. Intense specialisation of the economic system to produce houses or railways in great quantities at short notice

[1] The first problem is illustrated by Professor Aftalion's fire, " As one rekindles the fire in the hearth in order to warm the room, one has to wait awhile before one has the desired temperature .... To allow oneself to be guided by the present sense of cold and the indications of a thermometer to that effect is fatally to overheat the room. " Cf. HABERLER : *Prosperity and Depression*, p. 127. The second problem is illustrated by Mr. Robertson's bank loan, originally created for the production of goods. " While the goods are coming to birth, the money created on the strength of them is going on its travels, flitting from chequery to chequery :

Like the wandering dove that found
No repose on earth around."

The new money diverts resources to producers and so causes " forced " saving.

is thus difficult enough to deal with in ordinary times. We are now faced with intense specialisations for the manufacture of arms at a time of great political tension, at a competitive rate, and not for any economic reason but as an alleged necessity of national existence. It appears likely that the stimulus of rearmament, which might have had some economic advantage [1] in 1932, has (with a world boom then gathering momentum) increased over-investment from 1935 onward.

This outline of the analysis may now be filled in with greater detail. Broadly speaking there are two economic problems of rearmament. First, what may be called the " budget problem " of collecting from private individuals the requisite proportions of the national income; second, the " diversion problem " of adjusting the economy to produce more armaments with the proceeds of budget collections, and readjusting it to its old tasks when rearmament is finished. The budget problem will be different in different countries; " diversion " has some common characteristics which may be discussed first.

(*a*) " *Technical* " *Diversion*

The technical difficulties of diversion are far less serious than is commonly believed. Technical progress has increased the " war potential " of industrial countries partly because the arms-manufacturing industries depend largely on specialised equipment common in the " heavy " industries and on particular sorts of skilled engineering labour. Extreme specialisation sometimes necessitates equipment which is of little use for any other purpose, owned either by very few firms or by the State. In England, for instance, armour plate is said to be manufactured by three firms only, submarines by two firms, and gun mountings and tanks by the Vickers firm only. [2] Small-arms powder is produced commercially by many firms in several countries; " cannon powder " not at all. These specia-

[1] Conversely, the depth of the depression was no doubt partially due to efforts to disarm at that time. The difficulties of the British steel industry (leading to the heavy writing down of steel capital and extensive rationalisation schemes based on the English Steel Corporation) were not unconnected with a falling off of armament orders after the war. Professor J. H. Jones, in his article entitled " Notes on the Next Depression " in *Building Societies Gazette*, Aug. 1937, stated that " much of our persistent unemployment between 1923 and 1929 was due to disarmament ".

[2] R. W. B. CLARKE: *op. cit*; and ROYAL COMMISSION ON THE PRIVATE MANUFACTURE OF ARMS: *Minutes of Evidence*, 1935. Appendix to ch. 8.

lised products are often made in parts of a plant devoted mainly to other uses [1] and the sudden expansion or contraction of such parts in the few plants involved may clearly require great technical organisation. But the manufacture of such specialised equipment is connected only indirectly with the ordinary economic system (being " nursed " by Government subsidies or other special treatment); the products themselves are exceptional [2], and a well-rounded constellation of manufacturing industries and commercial firms can easily be organised, without serious technical changes, to supply most needs, the aim being not merely to accumulate stocks of war equipment but to build up the machinery necessary to manufacture them at short notice, and adequate forces of highly-trained technicians (including chemists, surveyors, builders, tailors, accountants and lawyers) to see that the machinery works effectively. Thus there is no technical difficulty in diverting the iron ore, coal, and limestone, used in the construction of battleships and shells, the non-ferrous metals used in cartridge cases, or the nitrates for explosives, from their ordinary commercial employment. Even the main organs of the battleship will be the same as those of a merchant ship; the propelling machinery is the same, and most of the manufacturing processes for the guns can be carried out on " commercial " machinery. Manufacturing processes in a motor works can be utilised to a very large extent in making tanks and aircraft. " Lethal substances " may easily be made from organic and heavy chemicals with the normal equipment of any chemical works, and the conversion of German dye factories into poison-gas plants was said to be " the work of only a few hours " during the war. A paper-making factory and a bakery use similar machinery to that needed for works manufacturing cordite; and the semi-finished materials used in the making of artificial silk, cellulose paint, and photographic films, are also similar

[1] In reply to a questionnaire, the British Government stated that " there are no private undertakings in the United Kingdom which can strictly be described as engaged chiefly or largely in armament manufacture " (cf. LEAGUE OF NATIONS : CONFERENCE FOR THE REDUCTION AND LIMITATION OF ARMAMENTS : *Report of Committee for Regulation of Armaments Trade.* Conf. D. 160, 1933). There are many instances of United States armament firms also manufacturing washing machines and electric refrigerators, and of Italian armament firms producing also agricultural machinery and locomotives.

[2] The special requirements are mainly of " finish ". Cf. UNITED STATES : *Senate Enquiry into the Munitions Industry, 74th Congress, Report,* Part 17, p. 4336. " Both guns and recoil mechanisms are machine-finished with a nicety unusual in commercial practice . . . the fuse for a shell is as delicate as a watch . . . Cannon powder must be as nearly uniform as it is humanly possible to make it, since even relatively slight variations in quality will cause serious variations in range."

to those needed for the production of cordite. [1] Where industrialisation is being accelerated, as part of a rearmament programme, in countries not naturally suited for it, all these facts may justify a more serious view of the economic problem of diversion (calling for greatly increased investment); but it appears that the technical problem in a developed industrial country has usually been over-emphasised.

(*b*) "*Economic*" *Diversion*

Quite insufficient attention is given, on the other hand, to the economic problem of diversion. It is not merely a question of setting aside a few factories for the production of guns and battleships, but the adjustment of the entire national economy into a state of preparedness for war and then adjusting it back again if the war scare dies down. [2] Primarily, large productive parts of the working population must be taken from their ordinary tasks to perform warlike manœuvres of no economic value; but even larger parts of the productive equipment must provide the food, clothing, and buildings necessary, with an absolute minimum of imports, for these manœuvres to be carried out. So far then, apart from a relatively few specialised arms factories, the economic system of the rearming countries will go on producing much of what it is already organised to produce, but under increasing difficulties because it must make much of what was formerly imported. In a developed industrial country, it is doubtful whether the difference between "armament equipment" as a whole and ordinary peace-time production is great enough to involve any more serious difficulties than the expected changes of technique and of consumers' tastes in normal times. To this extent, arms expenditure is less "wasteful" than is commonly thought; the soldiers, however unproductive their present occupations, would have to be fed,

[1] ROYAL COMMISSION ON THE PRIVATE MANUFACTURE OF ARMS: *Minutes of Evidence*, 1935. Vol. 1, pp. 183 and 185. "The range of industries engaged in the production of chemicals which are intermediate for explosives is wide enough to embrace gas-works, coke oven plants, and soap works . . . These industries are not armament industries." See also UNITED STATES: *Senate Enquiry into the Munitions Industry, 74th Congress: Report*, Vol. 1, p. 262, and Part 12, p. 2759; and a speech by Sir H. MENSFORTH, ex-Director of Ordnance Factories, British War Office, before the Conference on Disarmament and Unemployment of the League of Nations Union, 1932.

[2] Thus, shortly stated, rearmament involves exactly the same kind of problem as would be raised by a war in which each combatant country, instead of killing the soldiers or destroying the property of the enemy, should destroy its own property in a very highly organised manner and in the shortest possible time.

clothed, and housed, in any case. Table VIII shows that about three-fourths of a normal defence budget is not spent on " armaments " in the technical sense at all.

TABLE VIII. PERCENTAGE DISTRIBUTION OF TOTAL EXPENDITURES OF CERTAIN POWERS ON AIR, LAND AND SEA FORCES IN 1931 [1]

Group	Germany	United Kingdom	United States	France	Italy	Japan	Soviet Union	Average [2]
Pay of personnel	42.5	44.4	41.8	33.6	35.8	23.0	19.2	40-50
Maintenance of personnel	7.3	8.0	11.9	15.4	15.3	16.4	31.3	
Transport	8.4	5.9	5.8	8.2	6.6	8.7	11.5	10
Buildings	11.7	9.1	5.7	9.1	10.9	6.2	20.6	15
War materials	30.1	33.0	34.8	33.7	31.4	45.7	17.4	25-35
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] LEAGUE OF NATIONS : *Report of the Technical Committee of the Conference for the Reduction and Limitation of Armaments.* [Conf. D.158.] 1933. Vol. I, p. 264.

[2] These figures were given by the Committee of Experts on Budgetary Questions to the Preparatory Commission for the Disarmament Conference [C.182.M.69. 1931, page 19] " as an illustration of the order of magnitude of the various elements in a national defence budget ".

The nature and severity of the problem of economic diversion will of course differ to some extent between different countries. The geographical isolation of the United States, for instance, indicates plans for mobilisation of troops and industries, rather than actual diversion. [1] Great Britain, with no large conscript army and a high " industrial potential ", is concentrating on complete and up-to-date armament equipment. Conscript States like France spend more on soldiers' pay. States fearing blockade, like Sweden, will store necessities. [2] But the basic problem is common to all, once the stage of planning is passed—that is, to divert the national resources into the building-up of a greater capacity to produce all the varied needs of

[1] Cf. in UNITED STATES : *Senate Enquiry into the Munitions Industry, 74th Congress : Report,* many references to the American Plan for Industrial Mobilization under Section 5a of the National Defence Act, 1920.

[2] In May 1937 the Swedish National Commission for Economic Preparedness obtained a Parliamentary grant of 70 million crowns to buy abroad and store such vital necessities as might be unavailable in Sweden in time of war. Sir Arthur Salter has suggested that Great Britain should buy and store a year's supply of wheat at an annual cost of £4,000,000.

a nation at war : in short, to " invest " very extensively and very rapidly.

The economic difficulties of diversion due to armaments expenditure are thus commonly misunderstood. During the disarmament discussions, for instance, it was said that " there is no question whatever of disarmament involving a sacrifice or cost " [1] . . . " You do not increase unemployment as a whole by reducing armament expenditure because you give greater facilities for spending on other things. " [2] This view altogether overlooks a fact which cannot be emphasised too strongly, namely that armament manufacture means a " vertical " shift in the structure of production, not a mere sectional change in consumers' demand. The results will depend on a number of factors of which the following are most important.

(1) If rearmament involves monetary inflation, that is, a substantial increase in the effective money supply, over-investment will be greatly accentuated and correspondingly difficult to deal with. Inflation will be necessary if the armament and allied industries have to drive up the prices of labour and resources in order to divert them to their own uses from employment elsewhere. It is true that the boom itself may provide some " real " savings [3]—if the present very rapid rise in consumption is not maintained [4] ; further, resources may be set free by the expiration of the " natural " recovery. Building plans in England, for instance, are now falling off because of the cessation of demand [5] ; in place of house mortgages the building societies, savings banks, and insurance companies might of course substitute Government securities sold to finance armaments. But house building is also falling off because of the rise in interest rates—itself a sign of competition for the available supplies of capital. And to judge from the building-trade complaints of competitive bidding for basic materials, it is doubtful whether the decline in building will be so marked as to set free all the resources at the time and in the form required.

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[1] J. C. STAMP : *The Economic Effects of Disarmament*, p. 98.

[2] Cf. LEAGUE OF NATIONS UNION : Sir Arthur Salter's speech in *Report of the Conference on Disarmament and Unemployment*, London, 1932.

[3] Cf. J. M. KEYNES : in *The Times*, 11 March 1937.

[4] For statistical evidence on this, cf. Colin CLARK : *National Income and Outlay*, p. 253.

[5] The Ministry of Labour reported £9,015,200 of building plans approved for May 1937, as compared with £12,476,600 for May 1936. But these figures exclude London, the rural areas, and Government contracts.

Alternatively, resources may be borrowed from abroad without inflation or any immediate diversion problem at all. The direct import of armaments on a sufficient scale is not feasible for the larger countries. They may, however, relieve shortages of raw materials and consumption goods at home by borrowing to a limited extent through Exchange Funds. Home balances acquired by foreigners through the operation of such Funds might be converted into medium or long-term securities issued to pay for armaments if the terms were attractive enough ; or alternatively the Funds might sell a part of their foreign holdings to finance essential imports. [1] Obviously the scope of such operations is limited. On the whole, in view of the present large budgetary cost of rearmament, its present rising trend and unpredictable limits, the great speed thought necessary, the advanced stage of recovery already reached in 1935, and the necessity for low money rates and cheap Government financing at least to maintain appearances, it is difficult to see how a large measure of general inflation can be avoided. The resulting danger suggested both by history and theory is that this will cause excessive investment ; and that, after the point of full employment has been passed, it will be necessary to maintain resources in the capital-goods industries against the pull of increasing consumer expenditure by more and more inflation. In default of this, contraction of the heavy industries and a consequent rise in unemployment and severe checks to general business activity may be expected.

(2) If the terms of contracts allow for prices high enough to cover amortisation quotas, over-investment can be liquidated harmlessly. This is in fact customary [2], though the amount of amortisation provision can be decided only in the vaguest way, allegedly over-generous in America and inadequate in England. [3]

[1] Cf. " Armament Finance " in *Monthly Bulletin of the London and Cambridge Economic Service*, 23 March 1937.

[2] Cf. UNITED STATES : *Senate Enquiry into the Munitions Industry, 74th Congress : Report*, Part 15, Exhibit A, p. 3800 (adjusted compensation contract). Other methods of compensation may be used. The British Government has paid direct subsidies to help meet the maintenance charges on idle plant—i.e., in 1928 a payment of £90,000 was made to five armour-plate concerns for this purpose. In 1934 the Government paid £5,000 to the English Steel Corporation for the reconditioning of the Cyclops Works, and £1,000 a year is paid for their maintenance. Cf. ROYAL COMMISSION ON THE PRIVATE MANUFACTURE OF ARMS : *Minutes of Evidence*, 1935. Vol. 1, p. 174, and Vol. 2, p. 273.

[3] Cf. UNITED STATES : *Senate Enquiry into the Munitions Industry, 74th Congress : Report*, Vol. 5, pp. 30-36 ; and sections on " Cost Padding ", pp. 85 *et seq.* It is said that certain British steel firms are reluctant to undertake new investment in default of adequate amortisation payments (*The Statist*, 3 July 1937).

In the most favourable cases, over-built equipment can be discarded without loss to armament industries; but the secondary industries of the rest of the economy which are now being piled up in support of the armament factories to supply raw materials, consumption goods, and semi-finished goods, in appropriate quantities, will pay the usual penalty. And there are no amortisation quotas available for the skilled workmen who will be discarded on the completion of the contracts.

(3) If the rate of obsolescence in defence equipment is high enough, replacement demand may at least keep much of the new machinery in operation once the new investment has been completed. Obsolescence is known to be much speedier than before the war, because the rate of technical progress has increased considerably [1], particularly in aircraft, where the latest type of medium bombing aeroplane in England, for instance, is said to be put out of commission after two years. But exact figures on this point are lacking, for obvious reasons. There is no general rate of technical progress for each defence arm known (each country keeping its own developments secret) and the scrapping of old equipment depends much on budget conditions and the international situation at a given time, with the proviso that an improvement in the international situation might slow up rearmament, reveal over-investment, and produce depressing reactions on the budgets of the rearming countries. In naval armaments, for instance, according to the Treaty for the Limitation of Naval Armament [2] (Part 1, Art. 1, para. C.), capital ships are deemed " over-age " after 26 years, aircraft carriers after 20 years, light surface vessels after 16-20 years, and submarines after 13 years. But among many obvious objections to this criterion, the fact that Governments continue (partly for financial reasons) to retain many over-age vessels is decisive. The " wear and tear " of arms equipment in peace time is probably negligible as a source of outside employment, as the defence services now employ normally much of the necessary trained personnel, and running repairs, e.g. to heavy-gun barrels after their normal firing life, can be carried out in State arsenals. All that can safely be said is that the higher rate of investment due to rearmament can partially be supported only

[1] Some evidence of this is to be found in the large sums devoted to technical research. In England, about 20 per cent. of the estimates for " technical and warlike stores " is spent on experiment and research. Cf. ROYAL COMMISSION ON THE PRIVATE MANUFACTURE OF ARMS : *Minutes of Evidence*, 1935. Vol. 2, p. 94.

[2] London, 25 March 1936.

by a very high rate of technical obsolescence and the general decision to take advantage of it, which in turn is contingent upon a steady worsening of the international situation.

(c) *The Budget Problem*

The other great problem of rearmament, that of levying on the population for the cost, is being tackled in many different ways. By no means all of the expenditure goes through a defence budget, and much of it does not appear in the Government accounts at all. The policy of national self-sufficiency in order to prepare for war, for example, takes many forms. The recent drives to collect scrap metal and rags in several countries seem unexceptionable and nearly costless; but the local production of foodstuffs and raw materials which could be imported more cheaply may involve both budgetary costs and disguised levies on the consumer. Recent statistics of wheat imports in certain European countries illustrate the lengths to which such a policy may go.

TABLE IX. QUANTUM MOVEMENT OF IMPORTS OF WHEAT AND WHEAT FLOUR INTO CERTAIN COUNTRIES [1]

(Thousand metric tons)

Country	Average 1925-29	1932	1935	1936
United Kingdom	5,561	5,559	5,471	5,488
France: From French oversea territories	250	633	498	376
From other countries	1,004	1,313	742 [2]	272 [2]
Germany	2,066	537	133	12 [2]
Italy	2,186	889	278	333
Poland	147	68 [2]	157 [2]	207 [2]
Czechoslovakia	500	371	96	32 [2]

[1] League of Nations: *Review of World Trade*, 1937.
[2] Exports.

A few calculations of the costs of self-sufficiency in different countries are available. In England, Lord Astor stated in 1936 that it cost £7,000,000 a year to raise the national wheat production from 16 per cent. to 24 per cent. of consumption; but more adequate military preparation was not the sole end in view. In Germany, where for geographical reasons self-

sufficiency is much more important from the military point of view, 1,000 million marks is said to have been spent on the erection of plants for synthetic petroleum and metallurgical products to make good deficiencies in minerals [1], and 1,000 million marks is to be spent on land improvement under the Four-Year Plan of increased self-sufficiency. The products of industries " artificially " created like this require continuous tariff protection in order to assure them a market. The net protection in Germany in favour of home-produced petrol, for instance, is estimated at nearly 350 per cent. *ad valorem* [2]; and since May 1937 rubber imports, hitherto duty free, have been subjected to taxes which have had the effect of practically doubling the price in Germany. The net national burden (apart from transfers) of supplementary acts of policy such as the reduction of retail margins on foodstuffs, the cancellation of agricultural debts, or the forcible maintenance of resources in agriculture [3], is also alleged to be very heavy [4], but is quite incalculable. The main point is that this sort of expenditure need not necessarily involve intractable budget problems, because much of it is financed automatically by various forms of disguised levy throughout the economy, but chiefly by means of higher prices to the consumer.

The direct budgetary problem of rearmament raises a number of questions, of which the following seem most important.

(1) The year 1935 was commonly thought to be a favourable time for rearmament " because we can afford it now ". If this means incurring more public debts when business is good, the advice runs counter to that suggested by theoretical analysis and the experience of the past depression, which is that public authorities should reserve their deficits for the depression and pay off loans during the boom. Borrowing in a boom period exaggerates the fluctuation of business and leaves a heritage of debt-service problems for the period of falling revenues and

[1] *The Economist*, 31 July 1937. PRIESTER in *Das deutsche Wirtschaftswunder*, p. 101, gives 1,000 million marks as the sum invested in building up " raw-material industries ".

[2] PARKER : " The Economic Outlook of Germany ", in *Lloyds Bank Monthly Review*, July 1937.

[3] E.g. the recent Decree forbidding the use of wheat and rye for animal food, forbidding reduction in the acreage allotted to these two crops, and ordering the compulsory delivery to the State distribution organisation of all supplies. The German law forbidding the sale of peasant property similarly immobilises it in present hands without regard to efficiency.

[4] Cf. " Germany under National Socialism ", in *The Banker*, Feb. 1937; and TRIVANOVITCH : *op. cit.*

tax yields which the borrowing itself may have helped to produce. On the other hand, the spread of the present American recession in Europe may be halted or reversed by further rearmament borrowing.

(2) The possibility of " making future generations pay " for rearmament by the flotation of loans or otherwise is very limited. Rearmament loans may be described rather as attempts to bind the taxpayers of a future generation to pay the bondholders of a future generation. Direct levies on the real income of the future may be made, however, by consuming capital directly [1], by neglecting to set aside depreciation funds, or by employing savings in armament production which would otherwise have gone into commercial investment. " Natural " capital may be consumed by " wearing out " adult workpeople by long hours in armament factories or by drafting adolescents into them before their education is completed. [2] All these methods were used rather generally in the last war, but it is doubtful how far they could be adopted as a conscious national policy at present.

(3) In the final choice between taxation and loans, the limits of taxable capacity will depend much on whether taxpayers can be convinced that the national security is endangered. Very heavy taxation might in fact be quite effective in the short run ; but in the period during which rearmament is to proceed it would probably damp down business enterprise and delay the programmes. In Great Britain, for instance, it is stated [4] that if the present defence expenditure were all met from revenue an increase of 2s. in the pound in income tax (to 7s. in all) would have been necessary instead of the 6d. actually added apart from the special National Defence Contribution. Large loans, on the other hand, force up the rate of interest, weaken the banking system (already in most countries a large holder of Government securities), and affect the rich less than taxes would [3], besides being suspect during boom times for reasons already mentioned. Loans have strong claims, however, for immediate effectiveness in raising money. Most countries, with these considerations in mind, have decided on a combination

[1] The reduction of fodder imports into Germany, for instance, is said to have led to the slaughter of large numbers of calves, chickens, oxen, sheep, and pigs, as the high price of fodder makes it unprofitable to rear them.

[2] Cf. PIGOU : *Political Economy of War*, p. 73.

[3] F. W. HIRST : letter addressed to *The Times*, 4 Sept. 1937.

[4] PIGOU : *op. cit.*, ch. 8.

of both methods, taking refuge in the doctrine that recent rearmament represents a " capital cost " which may legitimately be met out of loans . The amounts involved are very large in relation to past figures and to present total defence estimates. Under the Defence Loans Act of March 1937, the British Treasury may spend £400,000,000 during the period 1937-1942, the funds being supplied by borrowing. Estimates for 1937-38 in fact include fresh expenditure of approximately £27,000,000 on each of the three defence forces, to be covered by Defence Loan proceeds. In France, capital expenditure has been undertaken from several special Treasury accounts outside the ordinary defence budget. Outlay authorised for defence purposes under the *Programme de Travaux intéressant la Défense Nationale,* the *Installations et Matériel d'Armement,* and the *Fonds d'Armement, d'Outillage et d'Avances sur Travaux,* amounts to 11,751 million francs, all to be covered by the issue of redeemable *rentes* or Treasury bills.[1] The 1937 Finance Act contains large additional credits (not shown in Table I) to be covered by loans, of which those appertaining to national defence amount to 9,500 million francs. The proportion of the defence estimates of Czechoslovakia covered by loans has nearly trebled since 1934 [2], and at the end of 1936 a Three-Year Plan for special undertakings, principally for armaments, was announced, to be financed by loans of 5,000 million crowns in each of the three years 1937-1939. A special National Defence Fund set up in Poland in 1936 provided for credits of 1,000 million zloty to be covered by receipts from foreign loans ; and in Japan, 1,300 million yen of the current Budget of 3,400 million yen is claimed to be the minimum loan issue necessary to finance the deficit. [3] An estimate for Germany [4] suggests that the public works and rearmament programme from 1932-33 to 1936-37 cost about 22,000 million marks (of which 19,000 million marks was for rearmament), and that it was paid for in

[1] Actual expenditure from these accounts amounted to 2,329 million francs in 1934 and 1935. Cf. LEAGUE OF NATIONS : *Armaments Year-Book,* 1937.

[2] Czechoslovak expenditure

	1934	1935	1936	1937
		(Million crowns)		
Defence material and installation (covered by proceeds of loans)	158.3	94.2	360.0	438.0
Net deficits of military undertakings (covered by proceeds of loans and cash reserves)	8.0	11.0	2.8	7.7
Total defence expenditure	2,071.5	2,161.5	2,317.6	2,095.3

[3] *The Statist,* 4 Sept. 1937.

[4] TRIVANOVITCH : *op. cit.,* p. 140.

approximately equal proportions from current revenue and borrowing, mainly on short term. Rearmament borrowing forms a large part of the total estimated indebtedness of Germany (about 21,000 million marks), but the total itself is not disproportionate, and large funding operations are now proceeding. [1]

(4) Generally speaking, the difficulties raised by the problem of levying for the cost of rearmament will vary with the degree of Government control over the economic system. In countries where the major movements in the system are no longer left to the relatively free decisions of business men and the consuming public, Governments may to a great extent effectively short-circuit the price mechanism and postpone breakdowns indefinitely. All the belligerents adopted strictly controlled economies during the war; nothing which could be called a slump occurred (was allowed to occur) in any of them. And the means of control are now very much more effective. Given adequate control of the Stock Exchanges, the banking system, and the foreign exchanges, therefore, any breakdown which threatened at one of the usual points (as by a Stock Exchange collapse, a run on the banks, or a flight from the currency) on account of intolerably heavy rearmament taxes, could be postponed for a long time; and by shifting as much as possible of the burden on to the shoulders of those least likely to complain effectively—namely, the consumers [2]—the pressure on profits, which is the fundamental cause of depressions in a free system, could be relieved for a very long time. Conversely, in the absence of rigid Government control, a system where heavier taxation encroached gradually on business profits, and business men were free to move their resources both within and outside the country, would be one much more liable to breakdown. The final question—that of determining the practicable limits of levying for armament expenditure in any particular case—involves the consideration of political imponderables which cannot be handled by economic analysis.

(To be continued.)

[1] Direct Government control of the capital market and the discount market greatly facilitate the conversion of the two-thirds of the total indebtedness which is said to consist of short-term debt.

[2] Possibly at a considerable loss. Generally speaking, those receiving under the new dispensation rewards which they thought inadequate might reduce their efforts in proportion, if they could do so with impunity (instead of moving their resources and abilities elsewhere). Those not able to do this would bear most of the burden.