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XXXI

SOME INTERNATIONAL ASPECTS
OF THE
BUSINESS CYCLE

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SOME INTERNATIONAL ASPECTS OF THE BUSINESS CYCLE

BY

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To
My Mother

PREFACE

IN THIS STUDY I have tried to combine two different approaches. First, I present a theoretical framework for the interpretation of international cyclical forces. Secondly, in order to show the fruitfulness of the concepts developed, I attempt to apply them to specific historical fluctuations, using as examples events occurring during the last business cycle; though not pretending to give a complete explanation, I hope by this approach to shed some light on peculiarities of this era which have not been sufficiently noticed.

In many respects the quantitative analysis could not but remain incomplete for lack of adequate material; the usual statistical data are not shaped with regard to the theoretical necessities and, thus, could be used only after careful selection. Since that is true for a period in which statistical activities were intensified to an unusual degree, the chance of reaching a satisfactory explanation of former business cycles seems rather small.

More serious is the one theoretical defect, or rather omission, of which I became conscious only in a relatively late stage of my studies: the all-too-brief treatment of what I call "latent overproduction," namely, of the problem whether and under what conditions competition would secure optimal utilization of at least one industry. Undoubtedly, no theory of economic dynamics is complete that does not give a conclusive general solution of this problem.¹ After repeated examination, however, I am not convinced that the conclusions reached in this book are seriously impaired by this defect.

I want to express my gratitude to Professor A. Bezanson and Miss M. Hussey of the Industrial Research Department, Wharton School of Finance and Commerce, to Professors G. Colm and F. Lehmann both of New York City, S. Kuz-

¹ This problem is, in fact, the paramount issue in Keynes' recent book.

nets, Philadelphia, A. Loewe and to Dr. G. Meyer, Manchester, who read the manuscript, for valuable suggestions.

HANS NEISSER

Philadelphia, September, 1936

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SOURCES

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ABBREVIATIONS

Balfour Report

Committee on Industry and Trade, London, 1927, ff.

Balfour Report, *Survey*

Committee on Industry and Trade, *Survey of Industries*.

Dt. A.

Der deutsche Aussenhandel unter der Einwirkung weltwirtschaftlicher Strukturwandlungen (Enquete-Ausschuss I, 5, 20.)

Two volumes, Berlin, 1932.

K. St. H.

Konjunkturstatistisches Handbuch 1933, herausg. v. Institut für Konjunkturforschung (German Institute for Business Research) Berlin, 1933.

Macmillan-Report

Committee on Finance and Industry, Report (Cmd. 3897), London, 1931.

St. Hdb. D. Weltw.

Statistisches Handbuch der Weltwirtschaft, Berlin, 1936.

St. Jb.

Statistisches Jahrbuch für das Deutsche Reich.

V. H.

Vierteljahrshefte zur Konjunkturforschung, herausg. v. Institut für Konjunkturforschung, Berlin.

W. Z.

Wirtschaftszahlen, 1925-1931, the same editor, Berlin, 1932.

CHAPTER I

FUNDAMENTAL CONCEPTS AND RELATIONS

THE customary theoretical analysis of business cycles treats the world as a unit; at least orthodox economics, whether stressing the monetary side or the conditions of agriculture or of the durable goods industries or the supply of capital in general, has discussed the problem as arising out of relationships between all spheres and all branches of the economic system *in toto*, whereas in reality scarcely any nation is entirely self-supporting in the strict sense of the word. Justice to the national differentiation is mostly done in the more historical studies about business cycles, except only the unsuccessful attempts of the Neo-Marxian theory of "Imperialism." This traditional theoretical habit is entirely justified as a starting point of analysis; but, on the other hand, it partly explains the lack of confidence on the part of statesmen and laymen in some fundamental ideas and propositions of orthodox economics which, at the first glance, do no fit the form in which the economic life of the nation is presenting itself. The aim of the present study is, therefore, to describe theoretically the forms in which the phases of the general business cycle express themselves if we take account of the narrower boundaries of a national economy; this is possible in our opinion without resorting to any particular theory of the business cycle, although not without using some fundamental concepts of dynamic theory.

A. SOME CONCEPTS OF DYNAMIC THEORY

1. *The Meaning of "Crisis"*

Any theory of "business cycle" or "crisis" in any empirical study of these subjects at least should answer the question:

what is the characteristic feature marking the different phases of the cycle? Post-war attention was mostly concentrated on the fluctuations of unemployment, but neither the attitude of pre-war science nor theoretical analysis permits the selection of this factor as the distinguishing feature. The "crisis" was held to be characterized by financial strain and bankruptcy. There were authors who maintained that not every period of prosperity was terminated by financial difficulties, but that the turn to depression might present itself in a milder shape; they defined prosperity as expansion of "business activity" in general, and depression correspondingly as contraction of this activity. But the level of unemployment, if used at all as an empirical criterion, represented only one of the components of the "activity" index.¹ Nevertheless, the choice of unemployment as *the* characteristic feature of the business cycle, could have been easily justified in pre-war times by the fact that business activity and unemployment seemed to be closely correlated in this period at least since the 40's or 50's of the last century. But after the war this close correlation vanished. Besides the development of a so-called structural unemployment on account of the war, the last period of prosperity was characterized in countries as different as the United States and Germany by simultaneous increases of unemployment and employment; it was, therefore, less theoretical reasons than it was the gravity of the unemployment situation that brought unemployment into the center of studies of the business cycle.

That unemployment as such is not a reliable index for "disequilibrium" nor in flat contradiction with "prosperity" could be shown, too, easily by theoretical analysis. Suppose a system in perfect equilibrium, i.e., labor fully employed, no idle industrial capacity, and costs covered by prices, and a sudden invasion of the system by a huge flow of immigrants who could not, however, find employment. They must, then,

¹ Wesley Mitchell's distinction between crisis and recession (*Business Cycles* pp. 378 ff.) was already made by Spiethoff (cf. article on "Krisen" in the *Handwoerterbuch der Staatswissenschaften*, fourth edition, pp. 9 and 26). About the attitude of other authors (Bouniatian, Aftalion, Lescure) see Mitchell, p. 379.

be supported by a dole and could only slowly be absorbed through the accumulation of capital. The equation between costs and receipts would not be disturbed, nor the degree of employment lessened as far as the factors hitherto used are concerned. Precisely the same may happen if the additional supply of labor is due to a surplus of births over deaths, or to other causes, like displacement by labor-saving devices.² Despite a vast fringe of unemployment, receipts and costs in the rest of the system may balance, allowing on the average the normal return to the entrepreneur.

Orthodox theory, however, would not call this situation an equilibrium, because in an equilibrium all factors are supposed to be fully employed. This theory brings into light a two-fold mechanism through which the fringe of unemployed, by pressing down wages, causes its absorption, even with a *given* stock of capital. For the sake of brevity these mechanisms may be called the "Cassel mechanism" and the "Clark mechanism."³ The decline of wage rates (commodity price level and volume of production being assumed constant) exercises a two-fold influence: (1) by lowering the relative level of prices of commodities produced with a relatively small amount of capital per head, it increases the sales volume of these commodities and thus the demand for labor (Cassel mechanism); (2) it induces the entrepreneur to alter the technique of production and to prefer methods of production in which the unit of labor is coöperating with less capital than before (Clark mechanism).

In the article mentioned in footnote 3, however, I tried, to show that both mechanisms work only within definite limits. In no case do they permit the selection of unemploy-

² The possible disturbances due to the latter factor will be discussed later.

³ I examined both mechanisms closer in an article "Lohnhoehe und Beschäftigungsgrad im Marktgleichgewicht" in *Weltwirtschaftliches Archiv*, October 1932. The second mechanism, based on the general principles of mutual substitution of factors, is implied in the theory of marginal productivity developed, on the basis of Thuenen's early work, simultaneously (1888, 1889, 1890) by Boehm-Bawerk, J. B. Clark, and Alfred Marshall. The objectionable blending with the Agio-theory of interest by Boehm-Bawerk and the utmost caution and reserve displayed by Marshall in promoting the idea of marginal productivity suggests J. B. Clark as the unequivocal protagonist of the mechanism of substitution.

ment as a suitable criterion for the cycle, especially for the turning point from prosperity to depression; for they need a long period before they have accomplished their task (if ever) and they could not prevent, therefore, unemployment from existing to a great extent during a period characterized otherwise not only by increasing production in all spheres but also by a satisfactory return to capital.

If we, therefore, use the term "equilibrium" not in the sense of modern static theory, but in the special meaning of business cycle theory indicating a situation in which, for the system as a whole, receipts do not fall short of costs, then equilibrium is not necessarily characterized by full employment of all factors. Labor, in particular, might be unemployed in "equilibrium," the real wage rates being the "prevailing ones" (fixed by custom or union agreement) or already being pressed down to the minimum level of subsistence.

To escape the difficulties encountered by the customary approach of business cycle theory and statistics, we have to dig deeper in order to reach the fundamental actions of the individuals upon which equilibrium and disequilibrium are contingent, i.e., to the behavior of consumers (as determined by income-distribution and tastes) and to the attitude of capitalists and entrepreneurs, determined by profit-expectations, which in turn depend, to a large extent though by no means exclusively, on current profits and losses.

2. *The Meaning of "Overproduction"*

Actual overproduction is the state of an industry ("industry" defined, itself, as producing certain goods of homogeneous character) in which, for some producers, the total sum of costs including normal interest on owned capital, is not covered by the receipts. It has to be kept in mind that we refer to the circumstances under which the current activity of a firm is going on. The existence of a fringe of non-operating firms or of unutilized capacity ("latent overproduction") would be quite immaterial from the standpoint of

our basic definition, neither necessary nor sufficient to justify the application of the concept of actual overproduction to any particular industry, though important for the explanation of unemployment. The law of markets holds good for actual overproduction because it is based on the simple fact that a given amount of purchasing power paid out as costs by an enterprise could not vanish unless into certain monetary *culs de sacs*. Enterprises that have shut down and do not pay out costs at all could not be reckoned within the circular flow concerned.⁴

On the other hand, we have to include *all* producers in an industry, however high their costs, provided only they are located within a certain "region," in which the economic obstacles to a free flow of commodities could be disregarded. Losses occurring within this region, with any producer whether marginal or intramarginal, enforce the acknowledgment of a state of overproduction in the industry concerned, although some intramarginal producers might still earn differential rents. Indeed, it could easily be seen that for every good produced the quantity of demand at a price equal to marginal costs for the good concerned *might* just correspond to the supply of the good as it is determined by the current output of all producers, marginal and intramarginal ones. Every industry would then be able to recover, by selling its output, the amount of money paid out before as costs. If the cost differences between the bulk of intramarginal producers and a few marginal ones are very great, there would be no chance for the latter to survive very long; expansion of the former sooner or later would create a temporary state of overproduction (unless the demand elasticity is very great); the marginal producers would be undersold and forced out. Nor, for similar reasons, would a new firm entering the industry at sub-marginal costs, other things being equal, create anything but overproduction. But these obvious facts do not impair the general proposition that for any cost structure of

⁴ In the last chapter certain implications of "latent overproduction" will be discussed, especially the applicability of the law of markets.

an industry there is always a structure of demand that would exclude overproduction.

Thus, if overproduction is appearing in an industry, then one of the following four alternatives must take place. The amount of money representing the deficit of the overproducing industry⁵ must have been used for one of the following purposes:

1. for purchasing other goods
2. for hoarding⁶ or bank debt repayment
3. for being transferred—
 - a. to financial circulation (i.e., for acquiring property titles)
 - b. to governmental circulation (i.e., between the tax receiver and the disbursing agency)
4. for a wage fund (or for other income payments and business payments) in *new* enterprises.

Cases 3b and 4 represent, from a certain point of view, only a delay in so far as the money used for that particular purpose ultimately would purchase, again, economic goods produced. That does not prevent, however, the fact that the current flow of purchasing power for the goods supplied in the market is reduced, not only below the former level but below the volume of cost payments incurred in the production of the goods concerned.

Cases 2, 3, and 4 would usually be called deflation; either absolute deflation, as case 2, or relative deflation, as cases 3 and 4, in which the volume of transactions *in toto* is increasing while the money flow that has to operate them remains constant. Losses may be created by this deflationary process if the economic organism is not able to adapt itself at once

⁵ A monopoly, when first established, would cause losses to other industries, because it would receive more than paid out; afterwards, however, the spending of the monopolistic profit would make good this deficit.

⁶ Usually income is not utilized at just the same time at which the goods, in the production of which the income is earned, are offered in the market; we may, however, synchronize both events by assuming that the time-lag is bridged by saving. If the charging of some cost-elements (as depreciation) is not associated with a simultaneous disbursement of purchasing power, we would treat that as a case of hoarding.

to the falling price level, i.e., if and when certain prices lack plasticity (being habitually or contractually fixed) or if the fall of the price level creates anticipations in the minds of entrepreneurs which are not consistent with the smooth action of the productive mechanism.

Case 1 is a proper case of the law of markets because the overproduction in one industry would be strictly associated with "underproduction," i.e., super-normal profits, in another industry. In cases 2, 3, and 4 overproduction would not remain partial but become general, which makes necessary a qualification of the law of markets: general overproduction is impossible, unless through deflation.⁷

It was shown at greater length in a previous publication⁸ that a certain type of partial overproduction, namely "oversaving," i.e., a suddenly arising discrepancy between the cost value (w_2) of consumers' goods output and the expenditure (e) for consumers' goods ($w_2 > e$) is able to *generate* deflation, thus generalizing overproduction. For a general overproduction in the sphere of consumers' goods industries would act on the anticipations of the entrepreneurs and prevent the timely investment of current savings. We may distinguish this "endogenous" deflation from the more accidental "exogenous" deflation due to political events or institutional weaknesses. On the other hand, though the chain of argument in the case of "undersaving" (overproduction in the whole sphere of capital goods industries: $w_2 < e$) is very similar to the oversaving case, we should not be able to deduce in the same manner an automatic generalization of the overproduction, because losses in the higher stages would not prevent investment in the lower ones. Nevertheless, the financial crises which in reality frequently were associated with the great undersaving recessions of the nineteenth century could not be looked at as *purely* accidental, though based on institutional grounds, namely the organization of

⁷ It does not follow, however, that it could be easily avoided by setting up a suitable credit system and initiating a suitable credit policy.

⁸ "General Overproduction" in the *Journal of Political Economy*, August 1934, pp. 433-465.

banking, financing, and exchanges; a certain chain of actions, explainable in strict economic terms, led from undersaving to excessive claims on the financial mechanism.

Historical as well as theoretical reasons, therefore, justify the exclusive use of the term "crisis" for the turn to generalized overproduction, the ensuing deflation arising for whatever reasons. We may distinguish between two definite forms of financial collapse, namely (1) collapse of an intensive speculative wave (speculation in commodities or in securities) and (2) a contraction of bank credit whether caused internationally by an outflow of gold or domestically by an unusual demand for cash, especially by the undermining of public confidence, which would bring about liquidation of credit and sometimes even create a run and enforce a universal closing of banks. The term "recession" would then be reserved for an absolute reduction of current net output in physical terms caused by a widespread overproduction which in the economic sense destroys capital and opportunities for work, but which is not generalized by deflation.

In elaborating the concept of overproduction we did not differentiate the cost concept but used actual costs as disbursed by the entrepreneurs. These costs might be normal costs in the Marshallian sense: i.e., the unit of supply would be paid at a rate sufficient and necessary to elicit just the supply actually in use.⁹ Or these costs might be different from normal, especially if the rewards of factors were fixed by long-time contracts in a period with a higher level of commodity prices. Overproduction of a peculiar kind ("deflationary overproduction") as distinguished from overproduction proper, might then arise in an industry despite the fact that the actual supply of the commodities in question would be equal to the demand at normal prices. In this manner a previous cycle might obscure the economic structure of a new prosperity phase.

Causes of overproduction might be conveniently grouped under the headings "supply" and "demand." There are,

⁹ The term "normal" is used throughout this study in the Marshallian sense and does not denote an average, neither is it fraught with ethical implications.

however, cases that do not permit this separation. If, for example, a change in the actual quantity of demand at a given time is not due to independent variations, such as changing tastes or changing distribution of income, but to a change in the price of the goods concerned due in turn to a variation on the supply side, we could not attribute the results alone to the change on the latter side. Naturally, not all variations in supply would create overproduction, but on the other hand, it is not limited to the instances of a rising supply; take the case of a bad crop: if the demand elasticity happens to be greater than unity, then the outlay of the producer might exceed his receipts; overproduction would be created despite the *reduction* of the supply.

The sudden changes on the demand side do not need here a special examination. But further attention is required for the supply side where technical progress, by concentrating investment in one particular sphere, would suddenly increase the cost bill. We devote the next sub-section to the concept of technical progress and to certain of its relationships to overproduction:

3. *Technical Progress*

We define "technical progress" as variation of the productivity function. Thus, there are excluded all technical changes due to the one-sided change in the quantity of some factors of production, the function itself remaining unchanged. Any increase in the quantity of factors, with a given productivity function, may be called "growth." In the case of a proportional increase of all factors ("extensive growth") no technical change would occur and the price-relations of the factors would remain constant; a one-sided increase of some factor ("intensive growth") would *lower* its relative price according to the law of decreasing returns. Upon this relative price-fall, the technical change implied by intensive growth would be contingent.¹⁰ If we describe a given situation by the productivity function

¹⁰ About the more complicated situation in case of "technical progress" see my article quoted in footnote 3, above, s. III, B.

$$f(K_m, A_p, L_r, \dots) = \pi_0$$

($K, A, L, \dots$ denoting homogeneous factors of production, the subscripts $m, p, r, \dots$ denoting their given quantity, and π_0 denoting the resulting quantity of output), then for a given quantity of factors, technical progress implies that

$$\phi(K_m, A_p, L_r, \dots) = \pi_1 > \pi_0.$$

It follows that the "productivity" or "efficiency" of *each* factor (given by π/m , etc.) would be raised (different from the case of "intensive growth," where the "productivity" of the factor increased as to quantity would decline). We may express that increase in "productivity" also by stating that "real costs" in general would be lowered by technical progress, extending the Marshallian term to all factors.

In reality, technical progress may not be realizable just for the given combination of factors $m, p, r, \dots$, but may require a change to, say,

$$\phi(K_s, A_p, L_r, \dots) = \pi_1' \quad s \gtrless m.$$

In case of $s > m$ this change could be carried through for the system as a whole only if and when an additional supply of the factor concerned should come forward. π_1' represents a "mixed" case, in which peculiarities of technical progress are blended with peculiarities of "intensive growth" (or "intensive decline"). The mixed case is of great importance in the theory of disequilibrium.

Technical progress in this wider sense includes all variations of the productivity function;¹¹ it would be more exact, although, too, more cumbersome, to distinguish between such variations as are due to the discovery of new rich natural sources (or to crop variations) and such as are due to technical progress in the narrower sense, namely inventions. As far as necessary we shall use the latter more elaborate classification, but usually we shall give to the term "technical progress" in the wider sense the general meaning explained above.

¹¹ Technical progress includes also inventions that provide entirely new means for satisfying old wants or even creating new wants.

In the article "General Overproduction" we have already tried to show that technical progress is apt to create, under certain conditions, partial overproduction, whereas pure "intensive growth" (and even more so, "extensive growth") may be excluded from the list of disturbing factors, being by virtue of its nature a slow process which allows adaptation of the structure of production to the structure of demand. Whether or not technical progress would create a disturbance depends upon the changes it causes in the cost bill and in the volume of receipts.

If the *cost bill* remains *unchanged* because the amount of each factor in use is the same as before,¹² evidently only the case of a demand elasticity (η) equal to unity is devoid of trouble; for an unchanged cost bill meets an unchanged consumers' outlay: despite the fall in price per unit, costs would be covered by receipts as before. On the other hand, in case of $\eta < 1$ consumers' outlay for the commodity concerned (denoted in the following by g_1) would shrink, i.e., the price per unit will fall more than the cost per unit, transferring purchasing power to other commodities ($g_1 \cdots g_n$). In the case of η greater than unity when the receipts for g_n are rising and additional profits are created in this particular industry, equilibrium in the other branches ($g_2 \cdots g_n$) is disturbed because the consumers are transferring purchasing power to g_1 . Arguing this way, we should, however, under-rate the number of cases free from disturbance. The situation looks different if we give up the premise of a given income and now consider technical progress occurring simultaneously in various industries. Then, even in the case of an elasticity less than unity, the consumers' outlay for a certain commodity might be maintained because real income would rise on account of the simultaneous technical progress, whether or not this rise in real income was associated with a rise of nominal income. The transfer of purchasing power from g_1 to $g_2 \cdots g_n$ due to the price fall in g_1 would be compensated for by a

¹² A second condition is that no differential rents are created which we should have to treat as costs.

simultaneous re-transfer of purchasing power from $g_i \cdots g_m$ to g_1 , due to the price fall in $g_i \cdots g_m$.¹³

On the other hand, we have to take account of the variations in the cost bill brought about by technical progress. Since the diminution of the factors employed could not create losses in the industry concerned, only a rise in the cost bill would be important, which of course is entirely compatible with the lowering of costs per piece. Theoretically, technical progress may be carried through slowly by using only depreciation funds; or, as a larger unit of enterprise appears desirable, this may be accomplished by amalgamating some hitherto independent enterprises: no investment of new capital would occur and thus no increase in the cost bill would take place. In capitalistic reality, however, technical progress very seldom is realized in this smooth manner. Usually the progress would be carried through either by investment of new capital in old plants or by erecting new plants, raising the total cost bill of the industry concerned. In the instances of a discovery of new, rich natural resources this process is inevitable, whereas crop variations take an intermediate position, a rich crop causing only slightly higher costs than a poor one.

Now, in all these cases, technical progress in one commodity would be associated with an increase in aggregate income due to an increase in the volume of factors employed; but the increment in income is not likely to be devoted exclusively to raising the outlay for the particular commodity in the production of which the income was earned; overproduction would arise. If, however, the technical progress would raise the cost bills in *many* industries, then the structure of demand and the structure of production again may remain in accordance. It is a one-sided concentration of investment that brings about a discrepancy.

¹³ In "General Overproduction" we spoke erroneously of these relationships by stating, "On the average the elasticity of demand is axiomatically equal to unity."

It may be noted that the re-transfer of purchasing power to g_1 may happen even if the demand elasticity for some of the $g_i \cdots g_n$ is greater than unity.

4. *Producers' Goods Industries and Consumers' Goods Industries*

The distinction between producers' goods and consumers' goods does not create difficulties at least if one starts with the definition of consumers' goods; while the distinction between producers' goods industries and consumers' goods industries necessarily contains certain elements of arbitrariness.

Consumers' goods are those commodities and services that are just going to be transferred to the consumer (usually in exchange for money), all productive work, including transportation, marketing, etc., being done before. Producers' goods, or better, *investment-goods*, would then be all other goods including: (1) durable means of production (goods in use); (2) goods in process and speculative commodity stocks; (3) residential buildings. The inclusion of the last item may seem illogical because we do not include other durable consumers' goods like radios, refrigerators, etc., in the group "investment-goods." Indeed, Irving Fisher's concept of income may look more logical which considers as income only the services rendered during time by any goods, durable or non-durable, which satisfy human wants. Our reason for not using this service concept is simply that from our particular business-cycle point of view we have to compare a certain time-flow of purchasing power with the time-flow of objects to be purchased therewith; and in most cases not the services of the goods but the goods themselves are bought. For the same reason we include under the head "consumers' goods" most durable consumers' goods in the hands of consumers because they are usually bought out of that share of income which is destined for spending; even installment credit for buying such goods would be granted only for a period much shorter than the lifetime of the goods. Residential buildings, on the other hand, are bought out of savings and the purchase credit frequently runs during the whole lifetime of the building. In other words, a diminution of the spending quota will diminish the demand for durable consumers' goods, other things being equal, but it enhances the fund out of which

both means of production and residential buildings usually are purchased.

It seems, after all, most proper to classify as investment-goods all non-consumers' goods, because bought out of "capital," i.e., out of savings funds or business funds. Investment-goods minus residential buildings and minus speculative commodity stocks would then be called producers' goods, which therefore would consist of: (1) durable means of production; (2) goods in process.

There is, per unit of time, a flow of consumers' goods of a measurable size (besides the stock of consumers' goods in the hands of consumers which is to be disregarded), but there is no *stock* of such goods of a finite magnitude in the hands of entrepreneurs at any moment of time.¹⁴ On the other hand, there is at every moment a stock of investment-goods, especially of producers' goods, in the hands of entrepreneurs, usually called the real capital of the economic system, fixed capital, working capital, speculative capital.¹⁵ Is there a definite flow of producers' goods per unit of time?

Evidently a flow of producers' goods (or investment-goods) per unit of time could be measured only if we are able to single out, for economic reasons, a certain crossing sector (or some sectors) in the current flow of goods;¹⁶ in the same way, we measure the turnover or output of consumers' goods at the consumers' borderline, where the consumers' goods are transferred to the income receiver. This crossing sector

¹⁴ The usual stocks in the hands of retailers are not stocks of consumers' goods proper because they could not be sold and transferred at once to the consumers *in toto* without interrupting the continuous flow of business. Physically they have the shape of consumers' goods; economically they are not quite "finished" because during the ordinary flow of business a certain time period has, on the average, to elapse before the stock would be sold out to the consumer. It is just the same as to finished consumers' goods in transportation from the factory to the wholesaler.

¹⁵ I prefer the term "speculative capital" to Keynes' term "liquid capital" because the latter is better reserved for stocks of money and certain claims on money.

¹⁶ "Flow" is here used, not in the sense of "time flow," i.e., of flow per unit of time passing a sector, but denotes a stock of a given size in perpetual movement in one direction: e.g., the volume of water in a river at a moment of time, in distinction to the volume of water passing the mouth or any other sector of the river per unit of time.

for producers' goods would be situated above the consumers' borderline. The difficulty is to find an economic reason why a certain spot at the banks of the current flow should be preferred to the other innumerable spots at which sectors across the stream could be projected.

Three possibilities may be mentioned: (1) the volume of monetary turnover; here the crossing sectors are singled out at which commodities have to pass from one juridically independent firm to another in exchange for money; and the various amounts of turnover at these sectors are added up. (2) The "gross" output; we split the continuous flow of goods above the consumers' borderline into a finite number of "compartments," each compartment being characterized by a coherent technical aggregate which could not be split up farther for technical reasons; a spinning mule, for example, must belong as a whole to a certain compartment; again, the various turnovers at the sectors that are separating the different compartments would be added up. The concept is, however, not unambiguous and partly depends upon juridical facts, as the concept of monetary turnover. In the manufacture of steel, for example, the pig iron may either be cooled and then transferred to a steel plant, or may be converted within the boundaries of one amalgamated enterprise within one heat into steel. Moreover, replacement, and therefore the current turnover of certain durable producers' goods could be partly substituted by repairs, thus diminishing the "gross" output without really lowering the amount of "services" or "utility" rendered by the plant. (3) A special case of the gross output is the "total product" in the Marxian theory. To the output of consumers' goods per unit of time is added the output of finished, durable producers' goods and of residential buildings. The same qualifications as in case 2 have to be borne in mind.

On this basis the difficulty concerning the notion of consumers' goods *industries* is easily ascertained. Since goods become consumers' goods only by crossing an infinitely thin borderline, no industry could produce only consumers' goods,

its production process necessarily taking a finite period of time. One would rather not exclude the trade of the miller or even of growing wheat from the sphere of consumers' goods "industries," though in fact these trades usually are represented by juridically independent enterprises on the so-called higher stages of production and though agriculture needs a long period of production. The term "consumers' goods industries," especially if used in the phrase "investment in consumers' goods industries," covers, therefore, the stages producing or manufacturing the raw material that ultimately matures into consumers' goods.

This classification seems to require a rigid distinction between "goods in use" and "goods in process." It would not be easy to find a satisfactory distinctive criterion. In fact, however, we need not bother about that. From a dynamic point of view we need a class of industries producing goods the demand for which is, to a considerable extent, contingent upon the amount of savings. But there are industries producing raw materials like cotton or wheat, where even in times of prosperity by far the greatest part of the current output is converted into consumable products and only a small part is added to the stock (directly, or indirectly in the form of semi-manufactured commodities); only this small part would have to be financed out of savings. Thus we introduce, from our specific point of view, the term "capital-goods industries" denoting all industries producing either durable producers' goods¹⁷ or intermediate goods, i.e., raw materials, supplementary materials, etc., that ultimately mature into such durable producers' goods. The sphere of capital-goods industries would include, too, the production of residential buildings which, to the largest extent, are bought out of savings, only the current services being purchased out of the spending fund; investment in residential buildings, as distinguished from investment in the building trade naturally

¹⁷ The concept of durability requires separate interpretation, which, however, would claim too much space without being material for the specific problems with which this study is dealing. Particularly illuminating in this respect is the analysis of the so-called "acceleration" or "multiplication" principle.

would represent investment in consumers' goods industries.

An individual industry may belong to both spheres. This is unavoidable regardless of the classification as shown by the examples of the transport industry, paper industry, etc. The coal industry because of household coal, too, belongs partly to the consumers' goods sphere, according to any principle of grouping. Our classification adds a further part by transferring to this sphere the coal burned in other consumers' goods industries.

5. *A Scheme of Economic Disturbances*

With the help of the concepts interpreted in the preceding sections, we are able to set up a simple scheme of economic disturbances which underlies the following discussion of the international aspects of the business cycle.

Partial overproduction in one industry, arising from changes in production or in expenditure, does not, by itself, remove the equality between costs and receipts nor disturb the profit outlook for the system as a whole. In fact, partial overproduction is going on during *all* phases of the cycle, not excluding the boom; its influence on the volume of output is largely offset by technical progress and by current investment.

If occurring in a whole sphere (consumers' goods industries or capital-goods industries), partial overproduction is of a more serious character: as "undersaving" it is associated frequently with a financial breakdown, as "over-saving" it is *liable* to generate reluctance to invest, even if a financial breakdown is avoided. In both cases, overproduction would be generalized by *deflation*, which, therefore, represents not only an accidental disturbance of the economic system due to political events or to an institutional scarcity of purchasing power, but is an inherent characteristic of some phases of the business cycle. With the help of the same concepts we may, too, characterize the phases of the business cycle in one region.¹⁸

¹⁸ A more detailed interpretation will be found at the beginning of the various chapters dealing with the international aspects of each phase.

“Prosperity” is the phase in which:

1. receipts equal costs
2. net savings (and investments) possess a positive magnitude
3. the equipment in at least one industry is utilized not less than “optimally” (i.e., for all firms in the industry the point of minimum of average costs is reached, if not passed).

“Boom” is characterized by an excess of receipts, the condition as to 3 for prosperity being fulfilled, too.

“Crisis” indicates the turning point to general overproduction.

“Depression” is a state of deflation, cumulating until the “bottom” is reached; at the bottom, general overproduction would vanish, i.e., costs would be covered by receipts, but net savings would be at the zero point.

“Recovery” is characterized by receipts exceeding costs, the condition of optimal utilization not being fulfilled for any industry.

The scheme claims only to relate the typical phenomenon of recurrent business cycle to the fundamental activities of the agents of production and to the behavior of consumers. It does not give an adequate explanation of the level of real income of the different classes or of the degree of employment. However, since it represents the indispensable basis for the analysis of these topics, I hope the reader will forgive the fact that, by dealing with certain aspects of unemployment, especially in Chapter IV, at some places the strict boundaries set by our concept of the business cycle are trespassed.

The introductory analysis of the business-cycle concepts has to be discontinued here, despite its fragmentary character. The discussion of the international aspects of the business cycle, however, requires, too, introductory analysis of some properties of the mechanism of international trade.

B. CAPITAL IMPORTS AND COMMODITY IMPORTS

1. *Savings and the Structure of Production*

In an overwhelming number of cases international capital movements are associated with international commodity movements (including movements of services). As to gold movements, both the current supply of newly-mined gold and the amounts released from national stocks are usually too small to represent more than a fraction of the migrating capital; it is only during depression, when sudden debt payments become necessary, that gold migration becomes more significant. A second alternative would be represented by capital imports for defraying the current amount of interest due to foreign countries on account of previous investments (briefly: an exchange of titles for coupons) though usually interest is paid by exports.¹⁹ But, since that in fact represents consumptive credit in a disguised form, the inclination of the creditor countries to grant such credits would be limited. Later we have to analyze the conditions of consumptive credit more closely; in this section we shall disregard all capital movements not associated with commodity movements. Some remarks about the structure of production in a growing system must be made first.

In a stationary system, by definition, the current output of consumers' goods (in terms of value) is equal to the national income. Workers and other income receivers in the capital-goods sphere are supported by a flow of consumers' goods transferred from the consumers' goods sphere in exchange for capital goods which are needed for replacement in the latter sphere. By saving, the amount of spending and of consumption is diminished; thus, other things being equal, the current output of consumers' goods is curtailed, provided consumers' goods industries are able to adapt their size, in time, to the change in the structure of demand and to pre-

¹⁹ Statistically, "coupons" frequently may look to be financed by exportation of "titles," when, in reality, the coupons' import caused an exportation of commodities, and the export of titles caused an importation of commodities. We are here concerned not with statistical balances but with causal relationships.

serve the equilibrium between costs and receipts. This fact is sometimes denied in the misleading statement that, what is not consumed by the saving people, is consumed by the workers in the producers' goods industries. This statement is a wrong conclusion from correct premises. There is, indeed, a transfer from consumers' goods industries to capital-goods industries (akin to the transfer in a stationary state), but in the case of saving that transfer affects a current output of consumers' goods that, other things being equal, is *smaller* than the output under stationary conditions, for the initiation of saving caused a transfer of productive *resources* from consumers' goods industries to capital-goods industries. As in the case of a stationary state, a certain fraction of the consumers' goods output does not represent net income of the income-receivers in the consumers' goods industries, but is transferred to higher stages in exchange for capital goods needed as replacements; and a second part of the output of consumers' goods, equal to the amount of savings in consumers' goods industries,²⁰ is not consumed in the consumers' goods sphere but transferred to higher stages in exchange for additional investment-goods.²¹

The goods in which the savings of either sphere are invested consist not only of durable means of production but of investment-goods of all kinds: of residential buildings and of goods in process in both sections. In other words, the volume of consumers' goods that is equivalent to savings in consumers' goods industries is exchanged only partly against durable goods; partly it is transferred to new enterprises in capital-goods industries (or to already existing enterprises that are expanding) in order to support the income-receivers during the initial period, and partly it is used in new

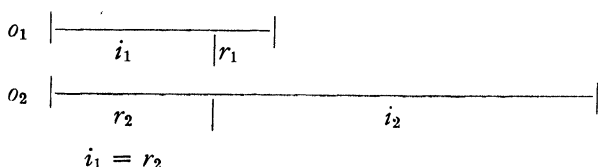
²⁰ The total volume of current savings naturally is greater than the flow of savings out of income earned in consumers' goods industries. The capital-goods sphere also saves, but its earnings are represented by an output of capital goods: in order to invest them no preceding exchange between the spheres would be necessary.

²¹ These additional capital goods are produced by agents of production which, under stationary conditions, would produce consumers' goods, thus supporting themselves.

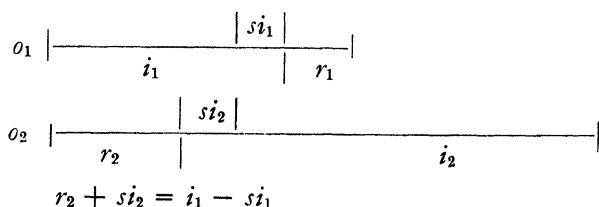
enterprises in consumers' goods industries for the same purpose. Similarly, the work of *assembling* the machines and tools and creating a new plant must be distinguished from the production of the capital goods concerned, because the savings that finance the assembling work are not transferred just to the capital-goods industries, and embodied there in the value of the current output, but to the industry in which the investment takes place. We may call "preliminary investment" that part of savings used in financing working capital and in assembling.

Certain relationships between both spheres are more easily understood by a simple diagrammatic scheme in which the current output of the capital-goods sphere and the consumers' goods sphere (o_1 and o_2 respectively) per unit of time is represented by two straight lines; i_1 and i_2 denote net income; r_1 and r_2 replacement funds, s the savings quota in net income, supposed to be of the same magnitude in both spheres. Likewise, we suppose $i_1/r_1 = i_2/r_2$. Thus we have:

A. A stationary system



B. A growing system (disregarding the necessity of preliminary investment).



It will be noticed that, going over to a growing system, o_1 increases for three reasons. First, consumers' goods industries, by consuming less, support an additional segment in the capital-goods sphere equal to si_2 ; secondly, the income-

receivers in the capital-goods sphere consume only a fraction $(1-s)$ of their income which consists partly of capital goods; and thirdly, the replacement in the capital-goods sphere requires a larger output of capital goods corresponding to the increased volume of i_1 and therefore of the real capital invested in capital-goods industries. The income-receivers in the r_1 -segment are supported by the rest of the income-receivers in capital-goods industries; for the exchange value of the volume of capital goods transferred to consumers' goods industries exceeds the net income derived in their production by the value of the r_1 -goods.

If we now take account of the necessities of preliminary investment we are not able any more to use a simple geometric representation. The reason is to be found in the fact that the components of the consumers' goods sphere are not to be considered any longer as independent variables from which the magnitudes in the capital-goods sphere could be derived. Instead of this a mutual interdependence exists between the elements of both spheres. Now the capital-goods sphere does not use the total amount of their savings for trading in capital goods; it preliminarily invests a fraction of them (g'); the smaller, therefore, is the income in the capital-goods sphere (insofar as it is based on savings in consumers' goods industries and not on r_2). But if i_1 is smaller, then also si_1 and therefore both the part of si_1 that is used for purchasing capital goods and the part $g'si_1$ that is used for consumers' goods are smaller. This mutual interdependence is better expressed by an algebraic statement, which may be found in the appendix to this chapter.

We have stressed the peculiarities of the preliminary investment because the location of this investment depends upon the use of the additional capital goods which may be allocated by the investors to either sphere or both spheres or outside of the system. This point will be considered more closely in the next sub-section. Here it must be noted that the equations deal only with the exchange of commodities between both spheres and do not determine the location of

any investment. More important is the other qualification that the determination of the share of preliminary investment is not possible, strictly speaking, for one period of time but only for two successive periods; for the amount used for buying capital goods during the period t_1 induces a proportional preliminary investment during period t_2 in which income and savings may have increased due to investment in period t_0 . Nevertheless, as long as the amount of income and savings is increasing at the same rate, the coefficient g' would be constant. That may be supposed in case of extensive growth. In the case of intensive growth, however, all coefficients are likely to vary, for the higher the income per head the higher is s ; the higher capital per head, the smaller both average and marginal productivity of capital, other things being equal, and thus the lower the interest rate; and the lower this rate, the greater is the durability.

2. International Capital Investment

The analysis in the last sub-section shows clearly that not all international movements of capital goods are associated with international movements of capital; nor is all international investment associated with foreign trade just in capital goods. If we treat the capital-goods sphere and the consumers' goods sphere as different countries, then obviously the mere fact of an international division of labor causes an exchange of consumers' goods against capital goods. The international investment transfer of commodities must be distinguished from the division of labor transfer. The first depends only upon the geographic location of investment; if, for example, the consumers' goods sphere invests in the capital-goods sphere, the only flow of commodities visible in foreign trade is a flow of consumers' goods into the capital-goods sphere in order to support producers, in producing (and assembling) capital goods and goods in process. If the investment is made outside of the system (we may say "in new countries") we notice: first, a flow of consumers' goods into the capital-goods sphere; secondly, a flow of consumers'

goods from the consumers' goods sphere to new countries (preliminary investment); and, thirdly, a flow of capital goods from the capital-goods sphere to new countries. Likewise, if the capital-goods sphere invests abroad that may be done not only by an additional exportation of capital goods but also by a diminution of the importation of consumers' goods, the difference being used as preliminary investment either in the consumers' goods sphere or in new countries; only in the latter case would the total volume of the world's trade remain constant.

Indeed, even if the capital-goods sphere would invest within its own precincts it would need additional consumers' goods which could be provided for only in one of two ways: either by an absolute diminution of the current consumption in the sphere concerned or by an exchange of additional capital goods against the surplus output in the consumers' goods sphere, which is possible only if this sphere, too, saves and invests. The capital-goods sphere is, however, in a better position than the consumers' goods industries, for the latter sphere never would be able, by more saving, to provide the capital goods indispensable for any productive investment (unless it would achieve an alteration in the composition of its current output, turning to the production of capital goods itself); it has to find a way to induce the capital-goods sphere to expand its production.

The assumption of a neat geographical and political separation between both spheres is extremely artificial. To approach economic reality more closely the consumers' goods sphere may be split up in two parts, the one producing consumers' goods of an industrial kind and being identical geographically with the capital-goods sphere, and the other producing agricultural commodities. Likewise the sphere of capital-goods industries and industrial consumers' goods has to be split up by amalgamating certain higher stages producing raw materials with the sphere of agricultural commodities. In this manner a new classification, industrial countries versus non-industrial countries, could be set up. Neverthe-

less we may not treat the industrial countries as the only capital-exporting regions; for the stock of capital in the non-industrial countries, to a large extent, is owned by absentees whose savings and investments, therefore, have to be considered as made by the non-industrial countries. This new classification will be used in the later part of the study dealing particularly with the international aspects of the business cycle. Here it suffices to point out that the more realistic classification does not substantially alter the results of the foregoing abstract analysis, especially that capital investment abroad would be as likely to raise as to reduce the volume of foreign trade and that it might cause a movement of consumers' goods as well as of capital goods. Only one point is to be mentioned, namely that the industrial country by being separated from the raw-stuff sphere is now put into the same situation as the consumers' goods industries in our analysis above: it needs raw materials for carrying out investment, and it could provide by its own saving these raw materials only if they are of the same kind as the raw materials used in manufacturing consumers' goods; otherwise the industrial country would have to induce the non-industrial countries either to save more or to increase production.

The amount of savings, however, may be supposed for any country as given at a certain moment, being determined by the distribution of income and the thrift of the people. In reality, therefore, only the second alternative is left: stimulation of higher output. The Cambridge school, especially the writings of Pigou and D. H. Robertson, based the theory of "inducement" on the terms of exchange offered mutually by the producers to each other. This explanation, however, does not cover the whole ground; and since both the kind of commodities entering international trade and the relationship between capital movement and the degree of employment depend very much upon a satisfactory theory of production, some clarifying remarks are indispensable. A change in the terms of trade could stimulate the exertions of a laborer only if the amount of work depended solely upon the will of the

worker. But that is not the case today when laborers have to coöperate with a certain amount of fixed capital. Then it is necessary to persuade the entrepreneur to hire more labor, i.e., no unused capacity being available, to over-work his plant. More favorable terms of barter may induce him to do this; however, it would be feasible to do only within certain narrow limits. In reality, more favorable barter terms for non-industrial countries would, in this sphere, enhance income and savings and would thus independently of international investment direct a flow of goods, partly of capital goods, to the non-industrial country, a flow which is made available in the industrial country either by an adaptation of the current raw-stuff supply to the particular needs of *more* investment or by re-direction of the *current* flow of investment goods.

The previous discussion was based on the premises of an equilibrium, either a stationary or a moving one. From the business-cycle point of view we also must take account of the possibility of idle factors and of speculation. In order to cover all possible cases it would be necessary to set up a complicated scheme, differentiating according to the nature of the idle capacity (industrial or non-industrial country) and to the causes of the change in foreign trade (either brought about by capital movements, by technical progress, or other causes). As far as necessary, certain complications will be discussed in Chapter III. Here it may suffice to indicate in brief the main character of the qualifications arising under circumstances of disequilibrium.

Starting the analysis under conditions of equilibrium, the additional commodity imports associated with net capital imports or with investment of increasing receipts from exports would consist mainly of capital goods; consumers' goods would be imported only to the extent to which additional working and assembling capital is required by the nature of the field of productive investment. But under conditions of idle capacity some of these consumers' goods, e.g., food in food-producing countries, might be produced within

the capital-importing country itself, if and when this production would be supplemented by imports of commodities for which no additional capacity exists in the borrowing country. Secondly, foreign capital also might be imported, especially into non-industrial countries, for utilizing the speculative opportunities which are bound to arise in connection with the discovery of new resources, with the better utilization of the existing agricultural and mining enterprises, with the boom in residential building and other construction work, and with the ensuing land boom; a considerable part of the speculative profits, made in this way by the real estate owners and certain entrepreneurs in the capital-importing country would be used for importing consumers' goods.

Appendix to Chapter I

SAVINGS AND THE STRUCTURE OF PRODUCTION, ALGEBRAICALLY INTERPRETED

We denote by d the rate of depreciation of fixed capital per unit of time; by $1/m_1$ and $1/m_2$ the average productivity of capital in capital-goods industries and consumers' goods industries, i.e., the ratio: output per unit of time to the stock of real capital. In Case C we use $(1-g_1)$ and $(1-g_2)$ as denoting the fraction of preliminary investment in current total investment per unit of time. $i = i_1 + i_2$; $o = o_1 + o_2$. The other symbols are used as in the text above, p. 21.

Case A (a stationary system)

$$r_2 = dm_2o_2 \quad (1)$$

$$r_1 = dm_1o_1 \quad (2)$$

$$i_2 = o_2(1 - dm_2) \quad (3)$$

$$i_1 = r_2 = dm_2o_2 \quad (4)$$

$$o_1 = i_1 + r_1 = dm_2o_2 + dm_1o_1 \quad (5)$$

$$\frac{o_1}{o_2} = \frac{dm_2}{1 - dm_1} \quad (6)$$

$$\frac{o_1}{o_2} = \frac{i_1}{i_2}. \quad (7)$$

In case of $m_1 = m_2 = m$

$$\frac{o_1}{o} = dm. \quad (8)$$

Case B (a growing system, disregarding preliminary investment)

Equations 1a, 2a, and 3a are the same as above equations 1, 2, and 3.

$$o_1 = d(m_1 o_1 + m_2 o_2) + s(i_1 + i_2) \quad (5a)$$

and since

$$i_1 + i_2 = o_1(1 - m_1 d) + o_2(1 - m_2 d)$$

we have

$$\begin{aligned} o_1 &= dm_1 o_1 + dm_2 o_2 + s o_1(1 - m_1 d) + s o_2(1 - m_2 d) \\ \therefore o_1(1 - dm_1)(1 - s) &= o_2[m_2 d(1 - s) + s] \\ \frac{o_1}{o_2} &= \frac{dm_2(1 - s) + s}{(1 - s)(1 - dm_1)} \end{aligned} \quad (6a)$$

$$i_1 = o_1(1 - dm_1) = o_2 \frac{dm_2(1 - s) + s}{1 - s} \quad (4a)$$

$$\frac{i_1}{i_2} = \frac{dm_2(1 - s) + s}{(1 - s)(1 - dm_2)}. \quad (7a)$$

In case of $m_2 = m_1 = m$

$$\frac{o_1}{o} = dm(1 - s) + s = \frac{i_1}{i}.$$

Case C (a growing system, taking account of preliminary investment)

Equations 1b, 2b, and 3b are the same as above equations 1, 2, and 3.

$$o_1 = d(m_1o_1 + m_2o_2) + si_1g_1 + si_2g_2 \quad (5b)$$

$$= m_1o_1d + m_2o_2d + sg_1o_1(1 - m_1d) + sg_2o_2(1 - m_2d)$$

$$\frac{o_1}{o_2} = \frac{m_2d(1 - sg_2) + sg_2}{(1 - m_1d)(1 - sg_1)} \quad (6b)$$

$$i_1 = o_2 \frac{m_2d(1 - sg_2) + sg_2}{1 - sg_1} \quad (4b)$$

$$\frac{i_1}{i_2} = \frac{m_2d(1 - sg_2) + sg_2}{(1 - sg_1)(1 - m_2d)} \quad (7b)$$

In case of $m_2 = m_1 = m$ and $g_2 = g_1 = g$

$$\frac{o_1}{o} = md(1 - sg) + sg = \frac{i_1}{i} \quad (8b)$$

It is questionable whether the assumptions made for equations 8, 8a, and 8b above, namely that $m_1 = m_2$ and $g_1 = g_2$, could be justified. The material presented by A. E. Feavear-year in the *Economic Journal*, June 1926, pp. 220 ff., strangely enough points to a higher amount of capital per worker in consumers' goods industries than in capital-goods industries even if we leave aside public utilities. Since, however, the statistical basis is not fully reliable we may take an intermediate position between his figures and the common view according to which capital-goods industries show a higher amount and, assuming $m_1 = m_2$ and $g_1 = g_2$, use equation 8b for a simple numerical illustration, supposing:

$$d = \frac{1}{10} \quad s = \frac{1}{6} \quad m = 2 \quad g = \frac{4}{21}$$

$$\therefore \frac{o_1}{o} = \frac{i_1}{i} = \frac{97}{315}$$

CHAPTER II

SOME ASPECTS OF PARTIAL OVERPRODUCTION

A. REGIONAL AND DOMESTIC OVERPRODUCTION

AS POINTED out before, general overproduction is essentially a monetary phenomenon arising from absolute or relative deflation. Partial overproduction, on the other hand, would occur even if the current money flow would vary correspondingly with the amount of factors employed. We briefly discussed, in the former sections, the causes for partial overproduction on the side of demand and supply.

The main subject of the present section is the interpretation of the general concept of overproduction from the particular point of view of a regional differentiation. For this discussion the content of the concept of costs has to be enlarged. Now it has to include all obstacles to movement from one place to the other. If, for example, in region 1 an overproduction in commodity A arises on account of a change in tastes or in the income structure, the following situation may appear: the surplus produce (as far as exceeding the amount salable at cost price) could be disposed of in region 2, where underproduction exists, at the cost price in region 1. But the obstacles to the movement, especially freight and duties, may raise that cost price for region 2 and, on account of the demand elasticity prevailing there, may prevent the sale of the surplus in region 2. Residents in region 2, therefore, would be forced to pay more than the cost price for A as produced in 2 (though that increase would not be sufficient to cover the cost price in 1 plus the costs of movement) and that might cause a partial overproduction for another commodity, B. In this manner there arises the appearance of a general overproduction because no industry would exist

which would not be characterized by overproduction in *some* region; the difference between this "spurious" general overproduction and the case of general overproduction proper is, however, evident. We would call the first "regional" overproduction, thus distinguishing between regional overproduction caused by obstacles to the free movement of goods, and purely domestic overproduction, which would occur if the bulk of underproducing industries favored by the flow of purchasing power from the overproducing industries are located outside the boundary of the country.¹ Let us now turn to the latter.

As a limiting case, a country may be thought of as possessing merely one industry—wheat production, for example. A good crop may cause overproduction of wheat if the demand elasticity is sufficiently small; costs would not be covered by receipts; a flow of purchasing power exceeding the inflow of purchasing power caused by the export of wheat would be directed to foreign goods.

This simple and well-known fact is sometimes used to build up a particular agricultural theory of the business cycle. The loss of purchasing power caused by overproduction is supposed to create a depression in industrial countries.² Such a theory overlooks the fact that, as a matter of principle, an amount of purchasing power exactly equal to the loss in agricultural countries would be devoted by consumers in industrial countries to purchasing industrial goods previously exported to agricultural countries. Timoshenko, himself, tried to show in another study³ that an industrial boom was always preceded by agricultural depression—a fact which could be explained by the law of preservation of purchasing power

¹ A special case of domestic overproduction is represented by a country possessing only marginal producers in one industry who are going to be ruined by the rise of superior competition outside.

² Cf., for example Timoshenko, Vladimir P., *World Agriculture and the Depression* (1933), p. 642.

³ *The Role of Agricultural Fluctuations in the Business Cycle*, (1930). The same opinion is expressed by: L. H. Bean, "Agriculture and the Nation's Business" in the *Journal of Farm Economics*, 1927, pp. 340 ff.; E. Grane, "The Relationship of Business Activity to Agriculture" in the *Journal of Political Economy*, 1930, p. 472, with interesting quotations from Bagehot.

which is the very essence of the law of markets. Fluctuations in the quantity or in the value of the agricultural output are, therefore, not able to bring about a general fluctuation in business unless they induce monetary changes, i.e., fluctuations in total investment or in the volume of bank credit. The closer examination of this side of the problem must be postponed to a later section.

Here we have, first, to add some remarks about the significance of the wheat example. Formally the result is always true, however great the elasticity of demand, provided it is less than unity. On the other hand, as discussed before, the result becomes more complicated if more than one commodity with an elasticity of demand less than unity is produced, for the deficit in expenditure for wheat, due to the overproduction, may be utilized to increase the expenditure for any other good, provided its income elasticity is not smaller than that of wheat, though it is appreciably below unity. Even if the other goods produced besides wheat in the country concerned do not enter international trade, their production may mitigate the partial overproduction in wheat, because the domestic consumer may partly devote the excess of purchasing power to the other home products.

What was said about the effects of a sudden fluctuation in wheat could not be applied without qualifications to a *secular* rise in the production of this commodity. In the long run, even the real income per head of the world's population might increase faster than the output of wheat (or of any other commodity with a low elasticity of demand); despite the low elasticity of demand, the demand for wheat may then rise sufficiently to keep the price on the cost level. It is by no means true (except for a few goods like salt) that the increase of consumption of goods with a low elasticity of demand exclusively depends upon the increase in population.

Therefore, the crisis of 1929, being a general one, cannot be explained merely in terms of agricultural overproduction—still less in terms of agricultural prices. An overproduction in raw materials and certain kinds of foods (harvested

products) would be welcomed by the industrial countries and would there foster prosperity. Other branches of agriculture, like meat production, would be benefited too by the overproduction in grain. Moreover, the fact of a general overproduction in agricultural commodities prior to the autumn of 1929 may be doubted.⁴ We shall discuss this problem from the methodological and the practical angle in the two following sections.

B. CRITERIA OF PARTIAL OVERPRODUCTION

First of all it should always be remembered that the term "overproduction" as used in this study has a specific technical meaning. In economic literature the term "agricultural crisis" has been mostly used in a wider and looser sense, denoting the absolute or relative decline in farmers' real income.⁵ Even in a time of general prosperity and rising industrial wages, the farmer may prefer to stick to his farm despite a lowered income; his normal income rate would have declined, but his costs would still be covered by receipts.⁶ The critical limit for a decline that would not yet indicate overproduction is to be found in an income which would not be regarded as sufficient by a new farmer to enter agriculture.⁷ This factor alone suffices to make useless all simple comparisons of the prices of agricultural products and of industrial products as far as the problem of overproduction is concerned.

⁴ Cf., Timoshenko, as quoted in footnote 2 above; Ohlin "The Course and Phases of the World Economic Depression" (Report to the League of Nations, 1931), especially p. 108.

⁵ The same difficulty exists for any person in whose income wages, management fees, and interest on owned capital are amalgamated without an attempt to separate the components by strict bookkeeping.

⁶ The Norwegian situation may serve as an example: there even the rise since 1927-1928 did not bring back the net yield per acre to the pre-war level (cf. League of Nations Economic Committee Memorandum on Agricultural Crises, Vol. I, p. 243). Nevertheless, the number gainfully occupied in agriculture, forestry, and fishing increased from 1910 to 1930.

⁷ On the other hand, the decline in income may induce a farmer to liquidate his enterprise and to migrate to the town. Since he might, in this way, prevent an impending overproduction from being realized, the phenomenon of migration alone would not represent conclusive evidence of overproduction.

Secondly, the distinction between actual and latent overproduction has to be kept in mind. Overproduction in one commodity is one of the most common features of capitalism, because almost any technical progress, if arising in isolation, creates overproduction.⁸ But in an overwhelming number of cases overproduction ends as quickly as it arises, the marginal producers either taking over the advanced methods of the intramarginal ones or dropping out entirely or getting protection by monopoly (which, however, might arise also in the absence of overproduction) or by tariff walls. In both of the latter cases, latent overproduction might be said to exist, but actual overproduction would not arise as long as the consumers' outlay at the artificially enhanced prices would cover the costs of the actual output. The financial danger arising out of monopolistic practices (such as the coffee monopolization) could not be cited as evidence for actual overproduction until realized, though the breakdown of the coffee monopolization during the summer of 1929 was caused by the absence of sufficient financial backing. But it must always be kept in mind that if the financial system had been able to stand the strain, the rise of overproduction in coffee would not have caused a crisis, but underproduction and additional profits in other industries. Moreover, the great difficulties of making out statistically a true case of overproduction will become clearer from the following methodological reflections.

1. A fall in the prices of some commodities relative to the general price level does not necessarily indicate overproduction, because a fall in real costs per unit may have occurred due to technical progress. The non-ferrous metals are a good example in the post-war period and the same is very likely to be said about the developments in the price of butter.

⁸ By disregarding the time element the German Institute for Business Research was enabled (in a quarterly published in the second half of 1930, vol. 5, #2A) to make up a long list of industries with a world-wide overproduction, covering not only almost all branches of agriculture, but, too, of the raw materials and manufactures. To a certain extent that was an afterthought; for even in the quarterlies published as late as in November 1929 and February 1930 (vol. 4, #3B and #4B) there was pointed out a favorable situation in American agriculture.

If, however, the fall of the real costs is limited to certain producers, temporary overproduction would be indicated by the relative fall in prices. Even then the questions remain as to in which year the overproduction occurred and whether it was wholly overcome or was followed by "latent" overproduction. These points are especially important if the prices of the post-war period are compared with the prices in a base year as far back as 1913.

On the other hand, even if the prices of certain commodities are kept up during the period concerned in relation to the general commodity price level, overproduction might have arisen because of a relatively great rise in money costs per unit. There is no reason to suppose an increase in real costs in agriculture. But it is a well-known fact that at least the price of one factor in terms of money, namely of common labor, has increased in most countries more than the commodity price level since 1913.

2. The accumulation of stocks could be taken as a safe index only if none of the following exceptions takes place.

- a. Any increase of current output and sales requires, other things being equal, an increase of working capital, partly in the form of commodity stocks.
- b. A speculative increase of stocks may be caused by *underproduction* which justifies the hope of a rise in prices.
- c. The case of stock accumulation and price fluctuations in a monopolized industry must be carefully distinguished from the situation under competitive conditions.

3. Neither is an increase in the current output nor even of the profit rate a reliable evidence for the absence of overproduction, because a rise in output (or profits) of the intra-marginal producers might outweigh the decline with marginal ones. If, however, the rate of increase in the output of certain industries exceeds the average for a sufficiently *long period of time*, the continuous existence of overproduction is hardly probable. Despite the declining trend in prices of raw

materials in the post-war period compared with the price level of manufactured commodities, a general overproduction in this realm could not be supposed; for the average rate of increase in the output of raw materials between 1925 and 1930 was close to 5 per cent; certainly not less than the general rate of increase.⁹

4. Profit fluctuations are not measured correctly by the quotient of costs and gross receipts. A rising quotient would not be indicative of a failing profit rate, if and when real costs per unit are falling; for, under these circumstances, a smaller profit-margin per unit may be adequate to earn normal rewards to the factors of production, the output of which increased. A falling profit rate would not be indicative of overproduction, if and when associated with a corresponding decline in the normal rate of interest.

C. AGRICULTURAL OVERPRODUCTION BEFORE 1929

From the preceding remarks it follows that a definite opinion about the causes of overproduction in any commodity could only be rendered after careful examination of the particular profit situation. The following remarks do not claim to fulfill this condition. They are only intended to show that the available material for 1925-1929 does not point unequivocally to a general overproduction proper in agriculture, existing for all agricultural commodities during the whole period. We must always keep in mind that regional overproduction is particularly frequent in agriculture, not only in the case of products like milk with a necessarily limited radius of market, but also for the bulk of commodities with a relatively small value per unit of weight or size, let alone the strong tendencies to protect branches of production considered as indispensable for political or social reasons. Moreover, the more perfect the competition in the world market for a certain commodity, the greater the sensitiveness of the trade to changes in the structure of demand and of production, and the greater the necessity of frequent

⁹ Cf., *Dr. A.*, Vol. I, p. 268.

adaptation which, as already mentioned, in theoretical terms must be described as a sudden rise of overproduction, followed by a sudden eclipse. While in manufacturing industries the remnants of the adaptation process—"latent overproduction"—might be wiped out quickly, they may remain visible for a long time in agriculture or mining as deserted farms or closed mines, though in fact their existence does not prove actual overproduction or a crisis more than does the existence of virgin forests, rivers overcrowded with fish, or unused tracts of land outside the boundaries of civilization.

If we first look at a country with a well-diversified agriculture like the United States, we perceive an increase of investment in agriculture which, though expressed in terms of dollars, would show up also in terms of physical volume.

MATERIAL FACTORS OF PRODUCTION IN AMERICAN AGRICULTURE
1925 and 1930

	1925	1930
Value of Buildings (millions of dollars)	11,747	12,950
Value of Implements (millions of dollars)	2,692	3,302
Value of Live Stock (millions of dollars)	4,858	6,064
Acreage of Farm Land (thousand acres)	924,319	986,771
Acreage of Crop Farm Land (thousand acres) ^a	391,460	419,236

^a For the years 1924 and 1929 respectively.

Source: *Statistical Abstract of the United States*, 1933, pp. 539, 545.

It has to be admitted that an increase of investment by itself is not inconsistent with overproduction, because technical progress might cause large investments in intramarginal enterprises driving out simultaneously the marginal ones. Such changes indeed took place because the all-inclusive figure for farm acreage (which shows an increase) conceals the fact that the acreage declined in the eastern parts of the country (east of the Mississippi, with the exception of the East South Central region and Georgia) and increased in the West.

It does not follow, however, that the whole field of agriculture was in a state of overproduction proper. To a certain

extent the turn to the West still might have represented the after-effects of the inflation of 1917-1920 which are visible also in the decline of the land value per acre; we distinguished above deflationary overproduction from overproduction proper. A better understanding of the real trend could be gained by studying figures of agricultural income and of the cost-price relationship.

As to the first, we notice a slight increase in the income per farm for labor and management (after deduction of $4\frac{1}{2}$ per cent interest for owned capital) from 1925 (\$624) to 1929 (\$669)¹⁰ while gross income was constant (\$11,968 million and \$11,918 million respectively).¹¹ This constancy, however, was due to a decline in income of about \$700,000,000 from crops and an increase of an equal amount in income from livestock and products.

The same turning away from crop farming to livestock, dairy, and poultry farming is visible in the cost-price series. Again the all-inclusive series show relatively little change. In using them we have to keep in mind that these figures refer only to the price per cost unit (including elementary factors) but not to the development of real costs per unit which, however, may be supposed to have declined on the average in the period concerned, especially if compared with the pre-war level. As already mentioned, only the price variations of commodities representing production costs of the farm have to be taken into account (besides the price level of factors of production such as labor and capital), whereas the prices of commodities to be bought out of the farmer's *net income* are immaterial. The American statistics cover only commodities bought and wage rates; but the interest-rate level undoubtedly has fallen mainly because of the activities of the federal farm system and very likely in

¹⁰ League of Nations Memorandum, as quoted in footnote 6, above, p. 287. The computations of Dr. R. Freund (in an article in *Berichte ueber Landwirtschaft*, Berlin, 1936, p. 637) show slightly different figures (\$697 and \$645); but even the latter figure (equal to 89.7 per cent of the farm workers' wage) still exceeds the level of 1910-1914 (\$374 = 87.6 per cent of the farm workers' wage).

¹¹ *Statistical Abstract of the United States*, 1933, p. 562.

such a degree as to compensate for any increase in taxes up to 1929.

COST-PRICE RELATION IN AMERICAN AGRICULTURE
BEFORE AND AFTER THE WAR
(1923-1925 = 100)

Year	Prices Received for Farm Products	Prices Paid by Farmers For Commodities Bought		Wages Paid to Hired Farm Labor
		Total	For Productive Use	
1910-14	72	65	69	60
1922	89	98	97	87
1925	106	103	103	101
1926	98	101	99	102
1929	99	100	101	102

Source: *Statistical Abstract*, as above, p. 568.

The comparison is here made on the basis of average prices (or wages) in the years 1923-1925. That is unfortunate, because the year 1925 displayed an unusually high level. If this abnormality is ruled out then prices received do not display any appreciable change from 1923 to 1929 and cost prices show only a very slight increase of about one per cent. The divergence, however, is greater with 1910-1914 as a basis. In any case, the inspection of the prices for specific commodities reveals again the differences between the two groups of products.

INDICES OF FARM PRICES OF SELECTED AMERICAN AGRICULTURAL
COMMODITIES BY GROUPS
(1923-1925 = 100)

	1910-1914	1926-1930
Farm Products	72	95
Grains	75	92
Fruits and Vegetables	71	112
Meat and Animals	80	123
Dairy Products	71	96
Poultry	66	97
Cotton and Cottonseed	48	65

Source: *Statistical Abstract*, as above, p. 568.

The favored group is joined by wool which showed a price rise of about 50 per cent until the middle of 1929, and certainly by coffee where the monopolization proved efficient until the same time. The disfavored group is amplified by hides and sugar and by rubber, where the breakdown of the monopolization happened as early as in 1926 but overproduction might have lasted during the subsequent years.

The westward migration of agriculture in the United States occurred, despite the fact that the center of density of population did not show corresponding shifts. Therefore the migration may be interpreted as the eclipse of obstacles to the free movement of commodities within the United States; the latent regional overproduction in the West vanished and was replaced temporarily by an actual domestic overproduction of certain commodities in the East. On the other hand this overproduction in the East has to be considered as regional from the truly international point of view; for it was contingent upon the rising obstacles to the free movement of grain products from the new world to Central Europe.

If we turn now to countries with a less diversified agricultural system, we must be satisfied with a scant supply of statistical material. In the *International Yearbook of Agricultural Statistics* of 1930-1931 some figures about the agricultural price relations in a few countries may be found. These figures, taken by themselves, suggest for Switzerland (1928: cost index 172, price index 151) and for Sweden (1927-1928: cost index at least 165-170, price index 143) an unfavorable profit situation. But other figures do not confirm this impression: net income in Swedish agriculture reached, in 1926-1927 and again in 1929-1930,¹² the pre-war level in terms of kronas (i.e., about 70 per cent of the pre-war level in real terms); but the price divergence between cost prices and prices received (about 15 per cent) would suggest a far greater reduction of the net margin, which in

¹² League of Nations Memorandum, as quoted in footnote 6, above, pp. 272, 277. The net income is calculated on the basis of the 1912-1913 harvest.

1912-1913 amounted to about 20 per cent of the gross income.¹³

The conclusion seems warranted that a price spread of at least 5 to 10 per cent was offset by a decline in real costs. This view is confirmed by the most complete index series available, namely the material for New Zealand. In most years the index of farm expenditure which covers also the items of interest and wages shows a greater rise than the export price index.

NEW ZEALAND COST-PRICE RELATION
(1914=1000)

Year	Farm Expenditure	Export Price
1925	1582	1702
1926	1555	1377
1928	1642	1520
1929	1636	1456

Source: *New Zealand Official Yearbook*, 1932, p. 688.

There is, however, no doubt that the development of New Zealand's national economy in the post-war period was favorable despite the apparent relative fall in price of the most important products. This relative fall in export prices did not prevent a very strong increase in the output of the staple articles. Foreign trade *in toto* rose 140 per cent from 1913 to 1929. The export of butter and cheese (in thousand tons) increased from 115.5 (average of 1921-1923) to 159.1 (average of 1927-1929); the production rose at a still greater rate mainly by reason of the rising productivity of the live stock.¹⁴ New Zealand's development is a good evidence of the favorable position of the dairy industry in the post-war period which would be confirmed by a more detailed analysis of the development in Denmark, New Zealand's most important, though not quite so successful, competitor.

¹³ Similarly, in Switzerland (*ibid.*, p. 281): net yield (as percentage of investment) in 1929 about 80 per cent of the level of 1906-1913. According to the reports in this memorandum the world's agricultural crisis at the end of 1929 had not yet reached the following countries: Denmark (p. 143), Finland (p. 154), Netherlands (p. 234), Sweden (p. 272).

¹⁴ Cf. *Dr. A.*, Vol. I, p. 138, Vol. II, p. 391.

We may summarize our results by stating that before the summer of 1929 agriculture as a whole did not display signs of general overproduction proper. The production of grain was disfavored, but this overproduction did not show up with the real marginal producers, namely the national economies of Central Europe which were protected by tariff walls, but it occurred as regional overproduction with certain really intramarginal producers, e.g., to a lesser extent in the United States where it was compensated for by the underproduction of other agricultural commodities, and to a larger degree in the countries of Southeast Europe, which lacked this compensation. Since the spring of 1929 the tendencies to convert a latent overproduction (of a monopolistic character) into an actual one were strengthened in some agricultural commodities. But the credit pressure exercised by certain monopolistic schemes to prevent such an outcome had no bearing on the two great financial events responsible for the collapse of 1929; the end of German capital imports and of the American stock exchange boom. We have to analyze more closely the cyclical situation of these countries to understand the arrival of the turning points.

Appendix to Chapter II

GERMAN COST-PRICE RELATION IN AGRICULTURE

There is no all-inclusive cost index for German agriculture. Consider the following table:

AGRICULTURAL PRICE INDICES IN GERMANY

1927-1929
(1913 = 100)

Date	Farm Produce	Fertilizer	Agricultural Implements	Concentrated Feed
1927	137.8	83.3	133.3	141.6
1928	134.3	81.8	139.4	157.4
Sept. 1929	132.6	81.9	141.3	151.3

Source: *K. St. H.*, pp. 166, 119, 122.

The interest burden was about the same as in pre-war times; wage rates (as far as cash payments are concerned) had increased about 40 per cent.¹ Taking account of the decline in real costs, the conclusion seems to be justified that German agriculture as a whole was free from overproduction until the fall of 1929.

¹ Cf. *V. H.* 7, 4A, p. 199.

CHAPTER III

CAUSES OF THE CRISIS—I

UNDERSAVING

A. SOME CONSEQUENCES OF FLUCTUATIONS IN THE FLOW OF INTERNATIONAL CAPITAL

UNDERSAVING, usually called "capital scarcity,"¹ is a particular case of partial overproduction; the supply of capital goods is greater than the demand for them at cost price, this demand being displayed by the savings flow and, as far as replacement is concerned, by the business fund. In other words, a greater part of the current net income (i.e., earnings in the production of all kinds of goods) is devoted to the purchase of consumers' goods ("spending") than would correspond to the share of consumers' goods in current net output. The causes for this discrepancy may be just the same as in any other case of partial overproduction: technical progress may concentrate the flow of investment in a particular industry, or changes in the distribution of income or in the scale of tastes may alter the direction of the demand. There remains, however, a difference justifying a separate treatment. The outlay for goods with an elasticity of demand less than unity would decline if suddenly the supply were increased by technical progress, but the outlay for capital goods *in toto*, i.e., the amount of savings, would scarcely be lowered by technical progress in the capital-goods sphere.

The fluctuations in the outlay for consumers' goods *in toto* depend mainly on the distribution of the national income; thus the two other main causes of undersaving (besides a change in the structure of production arising from

¹ About the different meanings of this term see my article "General Overproduction," *Journal of Political Economy*, August 1934, p. 462, and *infra* footnote 3.

technical progress as described above) are to be found in the sudden rise of the level of wage rates and in "forced" saving, which might ultimately create a discrepancy between the structure of production and the structure of expenditure in the direction of undersaving.²

The sudden occurrence of undersaving brings to light the incompleteness of the structure of production which characterizes any non-stationary economic system. In a stationary system the demand for replacement from the lower stages financed by the revolving business fund would suffice to take over the current output of capital goods. In a growing system, a relatively greater amount of resources is allocated to the higher stages, which, accordingly, for marketing the output, have to rely on savings. A deficit in savings³ would result in the impossibility of expanding the lower stages: lack of funds may hinder the erection of additional independent units in the lower stages or their provision with working capital.

From an international point of view it is not necessary to dwell on the simple fact that capital goods industries may be concentrated in one country, so that partial overproduction in this sphere would represent general overproduction for the country concerned. It must be noted, however, that the secular trend of capital investment almost enforces a change in the direction of investment and, therefore, may create selling difficulties for certain capital goods industries dominating the production of a particular country. For the longer capital investment goes on, the more it has to turn

² As is well known, this chain of events is made the paramount point of business cycle explanation by two modern Austrian authors, Professor Mises and Professor Hayek.

³ The deficit of saving as defined here (deficit in relation to the cost-value of the output of capital goods) has to be distinguished from the deficit in relation to the demand for savings necessary to complete certain durable investments (like railroads) that are financed in "installments." In the latter case, made the center of the theory of crisis by G. Cassel, no discrepancy between the flow of savings and the output of capital goods is presupposed; a true "crisis," however, may be generated, if and when the public's confidence in investments in general is shattered by the losses suffered in investments which could not be completed or which, in order to be completed, would be forced to pay a higher interest rate than would be warranted by their prospective net return.

to opportunities, such as construction work, which, to a lesser extent, make use of the typical capital goods (like machines and tools) that represent the main products of the leading industrial countries. It may be doubted, however, that these changes occur fast enough to create overproduction in the countries concerned. Of greater importance are other fluctuations in the *direction* of investment. To a certain extent international capital movements are more limited than domestic ones because the number of debtors of international reputation is rather small; absence of a sufficient supply of new capital will especially impair the activity of small entrepreneurs in commerce and industry, who have not much chance of being supplemented by capital brought from abroad. A similar scarcity exists in the so-called new countries, especially of the colonial type, where the import of capital depends upon unusual chances for return (exploitation of natural resources or land speculation arising on the basis of this exploitation); the rise of public borrowing in a later stage of the colonial development is, too, conditioned by the same prosperity situation. Investment here would, therefore, be subjected to heavy fluctuations even if the flow of savings in the world as a whole displayed a steady course.

The consequences, however, are different in both cases. Colonial countries are, for a long period of development, limited to the production either of consumers' goods or of raw materials, which, in most cases, could easily be exported wherever the ultimate investment of the capital goods, into which they are going to be converted, would take place.⁴ The situation is entirely different in a country possessing numerous capital-goods industries. These countries are usually capital-exporting countries.⁵ But, as already pointed out, extraordinary circumstances may alter the situation,

⁴ Partial overproduction in one industry might, of course, arise, but independently of the course of the capital movements.

⁵ This coincidence is not accidental but could be explained by the economic history of the country; capital-goods industries, even if at first established with the aid of foreign capital, grow in the long run only if the national income increases fast enough to allow for sufficient domestic savings.

as in Germany after the War. By utilizing the capacity of capital-goods industries to the usual degree, both national income and current net output would have been increased correspondingly in such a country, but since a great part of the increment in income would have been spent for consumers' goods, no equilibrium would have been created and a breakdown in the market of capital goods would have been inevitable.

If we consider the limiting case of a colonial country that would spend the whole amount of foreign funds for importing capital goods, we see clearly that not the fact of capital importing itself would increase employment, but that an increase of employment would take place only according to the employing power of new enterprises established by assembling the imported capital goods; this employing power would correspond to the usual ratio of invested capital to number of employees. In the opposite limiting case these enterprises are supposed to be already in existence; thus any amount of capital imported per unit of time would be used as working capital and would support a number of workers equal to the available amount of fresh capital divided by the average output per employee (at current prices) during the same unit of time. "Available" capital here would denote the difference between the amount actually imported per unit of time and the part necessary to pay for the foreign raw materials embodied in the forthcoming capital goods.⁶ This current employing power of capital investment is further enhanced by the fact that the foreign funds act in the hands of the income-receivers in the capital-goods industries like a flow of *additional* purchasing power. To a large extent the demand for goods of any kind displayed by the additional income in turn would be satisfied by better utilizing the domestic industrial capacity. This process of creating "secondary employment"⁷ is repeated again by the

⁶ We disregard here the complications arising out of the need for additional preliminary capital.

⁷ This term was introduced by R. F. Kahn in an article in the *Economic Journal*, 1931, pp. 173 ff., for indicating the effects of an income expansion during depression. About the limited use of Kahn's formula for secondary employment. see my re-

successive scale of income-receivers, etc., until the original amount of imported foreign funds is converted entirely into foreign goods, which, for any reason, could not be produced in time in the capital-importing country.

In choosing a colonial country as a limiting case we do not want to imply that this type, historically, has used capital imports exclusively for importing capital goods from abroad. Besides being used for preliminary capital, a considerable part of the foreign funds would be imported in order to acquire property speculatively, thus directly swelling the spendable funds of the inhabitants; secondary employment could be supposed to have been associated with any historical capital import to any country. Thus the current employing power of any capital import may be described

by the simple formula: $e = \frac{c}{\gamma \times o}$, where e denotes additional employment, c the net import of capital, o the net output per worker (these coefficients measured per unit of time) and γ the fraction of expenditure spent on the average for foreign products.

This coefficient, γ , sometimes is supposed to be rather rigidly determined by the economic conditions at the moment of the expansion of purchasing power (for example, in R. F. Kahn's formula) or even by the general economic conditions of the country. The proposition of a fixed ratio between the volume of exports (and thus, other things being equal, of imports) and the volume of national income was brought forward recently by Douglas Copeland in explaining the course of the Australian depression and recovery.⁸ In the rather rigid form in which this proposition is stated, it could

marks in the *Review of Economic Statistics*, February 1936, and Kahn's reply, *ibid.*, August 1936.

⁸ Douglas Copeland, *The Australian Crisis* (1934). Copeland's theory is based on a slightly different reasoning: a certain fraction of the receipts from export is supposed to be spent on home produce and the rest on foreign produce. Every home producer is then supposed in turn to distribute his receipts in the same manner as the exporting producer. The premises of Copeland's arguments, however, are basically the same as mine.

not be accurate, however. On the one hand the national income certainly would not shrink to zero if the foreign trade vanished entirely and on the other hand it should not be overlooked that any increase of the domestic income depends on the available supply of *all* factors and not only of the goods imported. The following qualifications would very likely be accepted also by Douglas Copeland, himself.

1. We have to deduct from imported capital the amount of gold definitely retained in the importing country in order to provide an adequate reserve for the monetary circulation, which, other things being equal, would rise correspondingly to the increase of domestic factors employed, or in order to enlarge the gold reserve relatively.

2. That part of the current output which consists of services of public officials and public property and does not possess a market price is, by definition, not automatically linked to the mechanism of the market; its value would, therefore, not necessarily increase when the channels of the market system are filling; a business revival may, of course, bring about indirectly an increase both of public income and public expenditure.

3. Frequently the increase of national income (within the sphere of the market system) would not be associated with any increase in employment but only with more work per person occupied. That is especially true of personal services and of the services of artisans, retailers, etc.

4. During the preliminary period of investment an importation of numerous commodities may be indispensable, while the same goods later and under usual conditions would be produced at home.

5. As soon as the limits of idle capacity are reached in a certain industry, additional fixed capital has to be provided by investment. Thus, the employment facilities would be extended by an increase in the quantity of equipment, but to what degree?

For a long while in a colonial country, the direction of

investment might be determined exclusively by the particular natural advantages of the country. Secularly, however, there may develop a trend to complete the structure of domestic production by industrialization. In an industrial country afflicted by undersaving the tendency to completion would be visible almost at once, though very likely it would be restricted to certain industries. Any allocation of capital to the lower stages of production would create, after due time, a replacement demand for capital goods which would be financed out of business funds and not require savings. Savings, themselves, would increase when, by an influx of capital, domestic employment and domestic net income are enhanced.

The last-mentioned equilibrating function of capital imports (their permanent employing power) would be determined by, or rather be identical with, the employing power of the industry in which the investment took place, given at any moment by the ratio of stock of real capital to the number of employees, while the *current* employing power of the capital imports per unit of time would depend exclusively on the actual size of the γ coefficient, i.e., mainly on the range of the domestic industries and on the degree of unutilized capacity. Under conditions of an open competitive market, the actual direction of any investment would be determined solely by the structure of demand and the physical chance for return and not by the aim of minimizing unemployment. Still worse is the situation, in fact, in the instance of capital imports; for governments, municipalities, and other public agencies who internationally are preferred as borrowers usually would direct the fresh capital supply into industries which possess a small employing power (on account of technical conditions as well as on account of great durability of the equipment), especially into public utilities, railroads, and buildings.⁹ This policy may be justifi-

⁹ One has to distinguish the relatively high employing power of the building trade from the low power of the building, itself, rendering its services with the small aid of a janitor and some current repair work. Public investments usually do not occur in the building trade.

able from different angles, both social and economic. Any-
way, it would retard the absorption of unemployment.

B. THE GERMAN CRISIS OF 1929

In order to establish definitely that the theoretical scheme developed in the last section for industrial countries is applicable to the specific German conditions in 1925-1929, we must avoid resorting to the permanently high level of the interest rates during this period. As little as a penniless beggar's wants would represent effective demand for food,

GERMANY'S COMMODITY AND CAPITAL IMPORTS
1913, 1925-1930
(Million Marks)

Year	Com- modity Imports	Imports of Manu- factured Goods	Net Capital Imports	Change in Note- Banks Reserve of Gold and Foreign Exchange	Net Capital Im- ports Corrected for Change in Reserve
1913	10,770	1,392			
1925	11,990	2,005	3,135	90	3,045
1926	9,884	1,363	607	568	39
1927	14,078	2,539	3,792	-452	4,244
1928	13,938	2,450	4,123	931	3,192
1929	13,676	2,402	2,304	-165	2,469
1930	10,617	1,926	490	-120	610

Source: *Wirtschaft und Statistik*, S. H. 14, Berlin, 1934, pp. 10-11.

as little would the latent supply of capital goods, which could not be sold at cost prices, represent effective demand for liquid capital; and even despite an ample supply of fresh capital, interest rates could be driven up by the demand of the government, as occurred in Germany, or by the demand of adventurous entrepreneurs. As to the specific function of the capital imports 1925-1929, we rely on the simple fact that the domestic output of capital-goods industries increased quickly and almost proportionally when foreign capital was imported. The table above shows clearly that in the years with high imports of capital, the increase in the

imports of manufactured goods was much smaller than the increase in the capital import, while imports of raw materials increased. It follows that to a large extent the equipment goods demanded by the new debtors, and to a certain degree also the goods consumed by the newly employed, were produced in Germany.

The fact of undersaving, however, has to be established by a more detailed analysis. Is it compatible with the decline in output of consumers' goods, which had a peak in February 1928?

First, we want to correct the statistical picture: consumers' *outlay* is reflected adequately not by current output, but by retail turnover figures (1927: 33.782 billion marks; 1928: 36,261 billion marks; 1929: 36,595 billion marks); and about 60 per cent of the outlay is claimed by food and rent,¹⁰ and less than 30 per cent by the industrial commodities included in the index of current output.^{11,12} In fact, even the retail turnover figures, presented above, under-rate the increase in consumers' outlay in 1929, because they are distorted by the inclusion of the last quarter. Sales proceeds of German agriculture (after deducting exports) increased about $\frac{3}{4}$ billion marks in the crop-year 1928-29, i.e., about 1.2 billion in terms of finished produce, while the retail turnover statistics for food and of the co-operatives increased only about 0.3 billion.

There cannot be any doubt that consumers' outlay was higher in 1929 than in 1928. This, however, is a minor point,

¹⁰ In addition to slightly rising rents, the current building activity raised the total outlay for rent not inconsiderably.

¹¹ That is one reason why statistics of industrial profits could not be used for indicating the particular field in which the disturbance originated. Moreover, they cover a whole year, and do not permit one to distinguish the effects of the factors generating a crisis and the effects of depression.

¹² Likewise, the decline in wholesale prices of consumers' goods (from 176.1 in November 1928 to 170.4 in September 1929) is of no importance, because it was not reflected in living costs, which rose, even excluding rents. The *wholesale* index is dominated by prices of textiles and shoes; even here, however, *retail* prices remained almost constant (the item "clothing" in living costs showed a decline only from 172.0 to 171.1). Both wholesale prices and living costs were in 1929 above the level of 1927.

for an increase in consumption would not create any discrepancy, if associated with an increase in consumers' goods output (as was the case with German agriculture). Much more important is the theoretical side of the problem. We have to remember that undersaving could be created not only by a relative rise in the share of spending but also by an increasing share of capital-goods output in total net output. Now, during the whole period 1925-1929 the share of spending was larger than the corresponding share of the output of *domestic* consumers' goods. Harmony was upheld, though with some difficulties,¹³ for a long while only by foreign countries taking over the excess of capital goods (directly or in the form of titles for investment in Germany) and supplementing in turn the deficit in consumers' goods (in the form of raw materials and food). When this exchange eventually broke down in the second half of 1929, the income of the lower strata being still in the rising phase, creating a slight autonomous undersaving tendency, the imports in question could be upheld for a short while with the help of gold exports; consumption, too, could be supplemented from stocks; eventually, however, the volume of spending could not but be affected by the undersaving crisis.

The German cyclical situation, therefore, possessed, too, features of *regional* overproduction: not only the bulk of the German capital-goods industries but also some of the consumers' goods industries, especially the textile industries, found it difficult during the crucial years 1928-1929 to utilize their capacity optimally, because optimal utilization would have required a further exchange of a part of their produce against foreign rawstuffs and food, which did not prove possible on account of the "obstacles" in the world market. The structure of German production could not be adapted to the demand as changed by the war; in other

¹³ The increase in the number of bankruptcies since the beginning of 1928 might be regarded as a symptom of these difficulties, though by no means as proof of the existence of a depression proper. Bankruptcy figures, taken by themselves, are not a reliable symptom; they rose, for example, in Germany from 1896-1899, a period generally characterized as one of prosperity.

words, without an increase in international exchange, mainly to be based on the exports of capital goods, it was not possible to maintain the traditional standard of living for a population of 200 people per square mile, let alone the burden of reparations.

These results will be confirmed by a more detailed analysis of the years 1928-1929, which, too, will permit one to come to certain conclusions about the value of the γ coefficient for the same years.

EMPLOYMENT IN GERMANY
1928-1930
(Thousand Persons)

Monthly Average	1928	1929	1930
First Quarter	17,038	16,334	16,295
Second Quarter	18,519	18,668	17,110
June	18,717	18,906	17,137
Third Quarter	18,606	18,739	16,763
September	18,686	18,652	16,592
Fourth Quarter	17,822	17,688	15,539
December	16,895	16,719	14,617
Year	17,996	17,870	16,515

Source: *K. St. H.*, p. 13.

The outstanding feature of these years was a decline in capital imports.¹⁴ Since the year 1930 was already gravely affected by the international depression, we have to study separately the undersaving situation of the two preceding years. Though there was not much difference in the employment situation during the years 1928 and 1929, the economic outlook really changed considerably during this period. The following points deserve consideration:

1. The decline in employment from June to the third quarter was associated in 1928 with an increase in industrial output (from 99.6 per cent in the second quarter to 101.5 per cent in the third quarter), while in 1929 output declined

¹⁴ The cause of this decline was discussed in the last section from an international point of view. It should not be denied, however, that other reasons played a rôle, too.

simultaneously with employment (from 102.5 per cent to 101.0 per cent). It may be concluded that in 1928, but not in 1929, the decline in employment was partly due to displacement by labor-saving devices.¹⁵

On the other hand, the current increase of the capital stock is likely to have absorbed a great part of these newly displaced laborers during the following twelve months.

2. In both years the decline in capital imports was offset by an increase in commodity exports.

GERMAN COMMODITY EXPORTS AND INDUSTRIAL OUTPUT
1927-1929

Year	Volume of Exports (Mill. M. chain index)	Machine Industry (1928=100)		Industrial Output (1928=100)	
		Foreign Orders	Domestic Orders	Consumers' Goods	Capital Goods
1927	8,195	72.9	110.5	102.5	96.8
1928	9,144	100.0	100.0	100.0	100.0
1929	10,391	129.8	88.3	98.1	102.4

Source: *Dt. A.*, Vol. II, p. 412; *K. St. H.*, pp. 38, 236.

Plainly, if the German capital-goods industries were able to avail themselves of investment opportunities abroad, domestic employment would be enhanced, not only despite, but because of, the ensuing increase in imports of food and raw materials. The same would be true to a certain extent if these imports were matched by additional exports of *consumers' goods*; then Germany could utilize better the capacity of some of her industries otherwise enlivened by the secondary influence of capital imports; by overcoming regional overproduction she would trade in specific goods not to be produced in Germany, but desired by the income-receivers: the gap in international circulation would be partly closed. It is, therefore, conceivable that the increasing orders from abroad, especially in the machine industry, enabled the German economic system to overcome the undersaving crisis which developed in the second half of 1928. The unusually

¹⁵ See the following chapter, pp. 67 f., on the statistical implications of this concept.

cold first three months of 1929 retarded the seasonal upswing, but the levels of production and employment in the second and third quarters were above the level of the preceding year.¹⁶

3. The decline in capital imports exercised a more lasting effect on the consumers' goods industries than on the capital-goods industries. The reason is to be found first in the fact that in one respect exports of capital goods do not represent a sufficient compensation for a decline in capital imports, namely as far as preliminary investment is concerned, which possesses a very great employing power, but clearly depends on the location of the investment. Even more important was the fact that the brunt of the decline in investment fell in both years on commodity stocks which showed a smaller rate of increase in 1928 and were depleted in 1929.¹⁷ Consumers' goods industries would be affected much more than capital-goods' industries because of the great volume of retail trade stocks.

4. The decline of output and employment in the last month of both years seems to be due to the uneven distribution of capital imports over the whole year; at least the issues of long-term bonds in foreign markets were much smaller in the second half of each year.

¹⁶ This upswing could not be considered as a "reaction" to the grave *seasonal* slack in the first quarter. Since a decline in output implies a decline in income, a seasonal slack represents a definite loss of going activity except as far as demand from foreign sources and from credit expansion is concerned. If the seasonal difference is ruled out, employment in 1929 reached at least the level of 1928.

¹⁷ It is necessary to exclude fluctuations in commodity stocks insofar as they are held by agriculturists, because their volume depends on crop fluctuations; the spending fund of the farmer is steadied with the help of stocks, or to express it otherwise, investment and savings are here strictly tied together, changes in the one indicating changes in the other; to a certain extent this would apply also to the wholesale dealers' stocks in agricultural commodities; a part of the nation's savings would, by the cushioning action of the dealer, be re-converted into spending and *vice versa*. A second correction is rendered necessary by the price fluctuations, because commodity stocks have to be evaluated at the market prices of the end of the year, if these prices are below cost prices. The wholesale price level was about the same at the end of 1927 and the end of 1928, but slightly lower at the end of 1929 and considerably lower at the end of 1930. Taking account of these corrections, we may estimate the decline in commodity stock investment at one billion marks (constant purchasing power) in 1928, 1¼ billion in 1929, and close to 2 billion in 1930.

5. The decline in net capital imports was smaller in 1929 than in 1928, while the increase in exports over the preceding year was greater. This fact would further help in explaining the reabsorption of the laborers displaced in 1928 by labor-saving devices and in 1929 by the decline in the flow of domestic savings.

6. While the rise in wage rates, labor-income,¹⁸ and pensions in 1928 was associated with a rise in the income of the higher strata and of corporations, the opposite happened in 1929. The presumable shift in spending explains the steadiness of the output in consumers' goods during the year 1929 despite the depletion of commodity stocks, whereas the output of capital goods showed unmistakable effects of undersaving in the second half of the year. As any considerable shift of demand, this diminution of savings had some effect

DISTRIBUTION OF INCOME IN GERMANY
1927-1929

Year	Union Wages Per Hour (1928 = 100)	Income from Wages and Salaries (Million Marks)	Income from Pensions (Million Marks)	Income from Industry, Trade, and Capital plus Undivided Corporation Profits (Million Marks)
1927	92.1	38,880	7,411	15,445
1928	100.0	42,621	8,433	16,279
1929	105.5	43,045	9,188	15,831
Third Quar. 1929	106.6	11,759		

Source: *K. St. H.*, pp. 80-82.

on employment: on the one hand, capital is destroyed in an economic sense; on the other hand, it is questionable that in times of prosperity the capital stock of the favored industries would be able, without being augmented by accumulation and investment, to utilize the displaced labor and to satisfy the rising demand at the former price level.

¹⁸ It is not possible to separate income from salaries and income from wages. Taking account, however, of the constancy in employment and working hours, and of the rise in hourly wages (fall 1927 to fall 1929), we may conclude that the increase in income from wages and salaries almost exclusively was due to the increase in the wage bill.

7. To a great extent the decline in savings was due to the fall in profits which in 1929, but not in 1928, was associated with the rise in wages. By this decline the German cycle was differentiated from the American and British development. The profits of two thousand representative joint-stock companies (including companies with losses) declined from 3.3 billion marks in 1927 to 3.2 in 1928 and to 2.2 in 1929.¹⁹ These figures, however, very likely exaggerate the actual decline. The proceeds of the corporation tax, which, with unimportant exceptions, imposes a flat rate on net profits, show a smaller decline; the figures for the last quarter of each year are as follows: 1927, 121 million marks; 1928, 182.1 million; 1929, 136.3 million; for January of each year we find: 1928, 89.2 million; 1929, 113.1 million; 1930, 103.9 million.²⁰ Likewise, the decline in profits of the joint-stock companies, according to the official statistics, was less than indicated by the statistics of the German Institute for Business Research.

PROFITS OF COMPARABLE JOINT-STOCK COMPANIES IN GERMANY
1928 and 1929

	1928-29	1929-30
Number of Companies	3,017	2,979
Profits in Million Marks	1,510	1,454
Profits in Per Cent of Net Worth	6.87	6.39
Losses in Million Marks	150	339
Losses in Per Cent of Net Worth	0.68	1.49

Source: *St. Jb.*, 1931, pp. 365 ff.; the figures cover corporation accounts closed between July 1 of the opening year and June 30 of the subsequent year.

From the preceding remarks it may be concluded that under any circumstances German prosperity would have come to an end in 1929. On the one hand, a further lowering in capital imports was inevitable: long-time bond issues could not but decline in the long run for reasons already indicated (their net proceeds, after deducting amortization

¹⁹ Cf. *V.H.* 9, 4A, p. 159. The accounting year of the 2,000 firms closes in the last quarter of the year.

²⁰ *K. St. H.*, p. 118.

due, in the three years 1929, 1930, and 1931 together, did not reach the amount of the single year 1926); and the short-term influx had to cease even earlier, the banks and other debtors of reputation being loaded to the breaking point. Also, a further expansion of German exports would have been limited by the secular increase of the world's purchasing power, because competition could not be intensified any longer, profits already being driven down to the minimum, if not below; foreign orders in the machine industry already showed signs of a decline in September 1929. Likewise, investment out of domestic savings, reduced as they were, could proceed only slowly and scarcely would have sufficed to absorb at once the unemployment caused by a further decline in capital imports.

But it could not be made out easily whether or not the recession would have been accompanied by a true crisis and deflation if the world's business had taken an upswing as in the beginning of 1927. It is true that in the past undersaving frequently was associated with a crisis; but in fact that was always due to particular difficulties in the sphere of financial institutions; we do not even know whether *every* undersaving situation brought about a financial breakdown. Nor would it be adequate to ascribe the inevitable end, deflation, to the credit cycle of which the period 1927-1929 would represent the rising phase. We discuss the problem of how depressions are generated in more detail in the sixth chapter. Here it suffices to point out that undersaving itself should not be held responsible for more than the termination of the German upswing.

The further decline of employment in 1930 represents a mixture of undersaving effects (primary and secondary ones), of displacement by labor-saving devices, and of effects of the world depression, most clearly visible in a 5 per cent reduction in the quantity of exports. Again, the theoretical complications will be discussed in Chapter VI. Here it suffices to indicate the order of magnitude of the different factors, especially of the secondary effects of a decline in capital imports.

1. Employment figures for 1930 have to be corrected for the growing amount of short-time; the daily working time decreased on the average 4 per cent, which renders the total decline in employment equivalent to 2.05 million persons.

2. It is remarkable that most financial series show a smaller decline in 1930, if any, than would be warranted by the decline in national income (about 8 per cent) even if account is taken of the selling out of commodity stocks. The volume of bank credits did not decline at all; bank clearings declined about 5 per cent, while the decline in the circulation of trade bills (15 per cent) corresponded more closely to the decline in the value of industrial exports (20 per cent). Short-term interest rates were much lower than in 1929 but long-term rates were lower only to a negligibly small degree and still exceeded the level of 1928. The peculiar financial situation of Germany does not permit the drawing of simple conclusions from these figures. It may tentatively be assumed that any domestic deflation proper (refraining from the investment of savings or liquidating capital in anticipation of a further price fall) did not start before the end of 1930. This problem, too, will be taken up again in Chapter VI.

3. Primary unemployment, attributable to the decline in capital imports (1.85 billion marks) and commodity exports (0.7 billion in terms of prices of 1928), could be estimated for 1930 at close to one million persons. This estimate is based on a 15.3 per cent share of imported raw materials in the value of the manufactured goods²¹ and on a net output per worker of about 2,300 marks (in terms of prices of 1928).²²

²¹ According to semi-official computations by W. Graevell. Cf. *Dt. A.*, Vol. II, p. 553.

²² Value of net industrial output in 1928 (33.7 billion marks) divided by the number of industrially employed (11.5 to 12 million people) gives an annual output per head of 2,800 to 2,900 marks. This figure has to be corrected for the value in the other trades. In agriculture and commerce, however, where it would be much less on account of the smaller coöperation of capital and the greater share of women workers, any computation of the output per *worker* would be meaningless because of the great number of independent small employers who do employee's work without in times of depression being counted as unemployed or short-time workers. A careful consideration of these facts leads to the estimate in the text which, too, closely agrees with the value of the net output per gainfully occupied person.

4. It follows that for 1930 secondary unemployment was of about the same magnitude as the primary one. This figure may look high; it is, however, vastly smaller than a figure computed on the basis of a fixed ratio between exports (or imports) and domestic income, which would suggest a 1:5 proportion of primary to secondary unemployment.

At the first glance the million figure for secondary unemployment seems to be inconsistent with a decline in the output of consumers' goods of about 5 per cent from 1929 to 1930, which would be responsible for unemployment of no more than about 400,000 people; even certain corrections for unemployment in the distributive trade, traffic, production of raw materials, and for the diminution in saving as far as it was associated with the secondary unemployment in industry, would still leave the total secondary unemployment far from the million mark. The explanation lies in the rigidity of wage rates which were kept at the maximum till the end of 1930, transferring the whole brunt of the recession to profits and savings; indeed, the decline in capital imports alone could not have caused a 17 per cent reduction in the output of capital goods because, as already mentioned, replacement demand, representing almost 50 per cent of total demand for capital goods, seems to have been upheld. The decline in domestic savings explains both the relatively great fall in the output of capital goods and the relatively small decline in the output of consumers' goods.

The application of the 1:1 ratio of primary to secondary unemployment at the end of 1929 to the employment during the upswing, especially to the year 1927 with a capital import of 4.24 billion marks, would not be permissible. The greater the capital influx, the greater the needs of preliminary capital to bridge the temporary gap between production and consumption. Moreover, employment does not depend exclusively on the utilization of unused capacity; while capital imports absorb labor, other factors to be discussed in the next chapter would displace it.

CHAPTER IV

STRUCTURAL UNEMPLOYMENT

A. THE CONCEPT OF STRUCTURAL UNEMPLOYMENT

IN THE introductory section we pointed out that an increase in "business activity" is by no means incompatible with unemployment. Since, therefore, unemployment cannot be used as a criterion for the course of the cycle, its causes require separate examination. In the present study it may suffice to define strictly the type of unemployment that may be called cyclical because associated with the cyclical fluctuations of business activity and, thus, to give definite meaning to the vague concept of "*structural* unemployment." Unemployment may be caused by a sudden discrepancy between the structure of production and the structure of expenditure, wherever the cause of the discrepancy is to be found. If overproduction arises only in one industry or a few industries without being at once compensated for by an additional demand for laborers arising from new capital investments in other industries, we would call that *frictional* unemployment which is the natural feature of dynamic capitalistic development; it may, for a moment, remain an open question whether unemployment should still be called "frictional" in a case in which the economic destruction of existing production by partial overproduction is so great that the absolute amount of the current output declines ("recession"). In any case, if partial overproduction is rendered general by a deflationary process, however caused, we should face the typical *cyclical* unemployment.¹

¹ Just because a certain amount of overproduction is almost inevitable and because some process of adaptation is permanently going on, and because, too, a certain migration of labor occurs even in industries optimally utilized, there exists always a certain minimum of frictional unemployment which frequently is considered as an inherent part of "structural" unemployment. In the text we deal only with the excess of structural unemployment above this minimum.

Structural unemployment proper arises when the *physical* stock of capital either in the shape of fixed capital or of working capital is not sufficient to employ the total supply of labor which, under modern conditions, depends for employment on the coöperation of a certain amount of producers' goods per worker; owing to the harmony between the structure of expenditure and the structure of production, capital, but not labor, would be utilized optimally. In case of cyclical unemployment, the existing capital stock could not be utilized optimally because of the absence of adequate demand at *cost price*. Thus it becomes clear that cyclical unemployment may develop in due time into structural unemployment if the accumulation of capital be not sufficient to provide the necessary investment in the industries favored by demand, whereas in the meantime the excess stock of capital in the disfavored industries is also destroyed physically;² or, it may develop in case of a purely exogenous deflation, if and when the long continuation and aggravation of the depression brings about a physical destruction. More difficult is the classification in the case of the displacement of workers by labor-saving devices. Strictly speaking, this unemployment would be of a structural character because it is only the absence of a sufficient capital accumulation that prevents the instantaneous absorption of the displaced persons. Practical reasons, however, suggest the limiting of the term "structural unemployment" to unemployment lasting longer than one cycle. Only with this qualification would we apply the term "structural unemployment" to unemployment caused by labor-saving devices.

We need not dwell on the manner in which the so-called "structural" changes in technique, equipment, tastes of consumers, etc., would initiate a turning point in the cycle and create cyclical unemployment and, under certain circumstances, also structural unemployment. Structural un-

² We consider the equipment as no more existent in the *physical* sense if, under ordinary conditions, it would require an appreciable investment of new fixed capital to be put into operation again.

employment may, however, grow also very slowly without relation to the business cycle, e.g., if and when the net accumulation of capital per unit of time is relatively small, whereas the current supply of labor is increasing steadily by an excess of births over deaths. One may ask, in this case, why the technical equipment of the country would not be adjusted to the slow growth of the labor supply. We have mentioned in another place (cf. p. 3) both mechanisms that, in the case of falling wage rates (relative to the commodity price level), may bring about a rise in the demand for labor that would emanate from a stock of capital constant in physical terms, thus lowering the average amount of capital required to employ one worker. The importance of these mechanisms is reduced by the rather narrow limits set by the present industrial technique and by the great rigidity of the wage rates; but even disregarding these limits there could not be any doubt that the mechanisms need a very long time for achieving adjustment. Thus their action might be neglected in considering the volume of cyclical unemployment; and though they would mitigate the pressure of structural unemployment, successive waves of displacement, capital destruction, etc., might for a very long period, if not forever, hinder the absorption of all unemployed.

B. STRUCTURAL UNEMPLOYMENT IN GERMANY, 1925-1929

Both the distinction between the causes of cyclical fluctuations in "business activity" and the causes of unemployment, and that between cyclical and structural unemployment, will prove useful in analyzing further the German and the British economic development up to 1929. First we present the following table of the German conditions.

There are two remarkable features: first, that German unemployment was practically zero in the middle of 1925 (400,000 in June 1925) and, second, that after the recovery of 1927 employment rose, though unemployment did not decline.

As to the first, it follows that the permanent employing power of the capital stock in Germany was restored in the middle of 1925.³ This is the more remarkable since the equipment of the German industry deteriorated much physically during the war period and since a large part of the equipment of the export industries as it existed in 1914 had grown useless because of the shrinkage in German exports. Nor could it be brought forward as an explanation that the average capital requirements per head were reduced by the turning of production to industries with a great employing power: on the contrary, net investments in buildings were rather small in 1924 and 1925.⁴

EMPLOYMENT IN GERMANY
1925-1930
(Million Persons)

Date	Number of		
	Employed		Unemployed Registered with Labor Exchanges (3)
	(1)	(2)	
Average 1925	19.03		.646
Average 1926	17.65		2.011
Average 1927	19.26		1.353
Average 1928	19.95	18.00	1.353
Average 1929		17.90	1.892
June 1929		18.91	1.260
Sept. 1930		16.59	3.004

Source: for (1) *W. Z.*, p. 4; for (2) and (3) *K. St. H.*, pp. 13, 15. Columns (1) and (2) are not comparable statistically.

It has, therefore, to be assumed that German industry was enabled, by high profits after 1919, to restore on the whole the old employing power by re-investment. There is no way of estimating profits and re-investments for the inflation period; anyway, the year 1924 could safely be considered as a year of high profits; in the beginning the level

³ It must be clear that the permanent employing power has to be measured always in relation to a certain demand structure which allows human labor to utilize optimally the existing physical equipment.

⁴ The relatively low wage level, however, may have contributed to this result by preventing, for a while, the introduction of labor-saving devices.

of money wage rates certainly did not exceed the pre-war level; in fact, it was probably lower if one does not include the relatively high wage rates in the building industry, while the price level of manufactured goods was at least 50 per cent higher than in pre-war years.⁵ Even at the end of 1924 there was still a wide margin, wage rates having risen about 25 per cent. In addition to these opportunities for high profits, the supply of capital was suddenly strengthened by a peculiar kind of "forced saving"—a huge compensation payment of the treasury (from a true budget surplus) to the industries in the occupied territories of the Ruhr which had been forced to make great reparation payments in kind to the French and Belgian authorities. The ample supply of capital in 1924 is also conspicuous in the statistics of investments: net investment minus net capital imports were higher by one billion marks in 1924 than in 1925.

The peculiar development of the employment situation after 1927 was due to the coincidence of a natural growth of population and of displacement of human labor by labor-saving devices. Natural growth alone could not have created unemployment because, as discussed below, the rate of increase in the stock of capital was greater than the increase in the supply of labor.

⁵ Cf. *St. Jb.*, 1924-25, pp. 266, 276 ff., especially p. 284. The *International Labour Review*, July 1930, p. 91, gives the following figures.

Union Wages per Hour in Germany
(1913-1914 = 100)

Date	Skilled	Unskilled
1924 (June)	106	124
1925 (June)	129	150
1926 (June)	138	161
1927 (June)	146	178
1928 (June)	157	193
1929 (September)	163	204

Hourly wages reached the pre-war level in terms of the price level of manufactured goods in the fall of 1926. The pre-war level of the standard of living which depends not on hourly wages but on weekly earnings seems to have been surpassed in the end of 1928.

The case of displacement proper by labor-saving devices, however, could not be established so easily. We would define it as a shifting of the productivity function that would allow a production of the current output (or of a higher amount) with the same amount of "true" capital (in physical terms), but would not require so much labor, lowering at the same time the marginal productivity of labor for the quantity hitherto employed.⁶ The output per worker and the amount of capital per worker would thus be raised. But just the same increase would appear if a wage rise above the level of marginal productivity of labor brought a dismissal of workers (shifting to the left along the productivity function); since such a dismissal necessarily would be associated with a rearrangement of the set-up of coöperating implements, the impression of the use of labor-saving devices would be created, too. It is true that in the latter case the absolute quantity of the current output would be lowered while in the former case that would be very unlikely, but the reduction of output in this latter case might be concealed by additional investment, establishing more plants and re-hiring a part of the displaced laborers. It is true that in this instance output *per unit of capital* would decline, while in the case of labor-saving devices that is unlikely again; but this differentiating feature can not be ascertained safely with the help of available statistics.

For the purpose of this study we have to include, therefore, all cases of displacement under "displacement proper." Fortunately, we are able to differentiate this cause of unemployment from the other important factor: partial overproduction. If brought about by a shifting in the demand structure, partial overproduction would create simultaneous unemployment and *reduction* of output. The case looks, however, more complicated if we take into account the possi-

⁶ Theoretically there is no lower limit to the decline in marginal productivity (cf. my article on "Lohnhoehe etc." as quoted in Chapter I, note 2.) Occasionally it is pointed out also in descriptive literature on rationalization that even the greatest possible wage reduction would not have prevented the application of the labor-saving devices.

bility of partial overproduction from changes in supply. In fact it is one of our main propositions that technical progress, by concentrating investment, may *cause* overproduction and thus create unemployment, even if the progress is not of the labor-saving kind; for example, if the new internal economies could be introduced only by simultaneously enlarging the size of the enterprise. Here we may notice in a single industry, despite the absolute decrease in the number of workers, an increase in output, absolutely, per worker and per unit of capital, though not an increase in the amount of *capital* per worker. Since the conditions of production in the other industries are not changed (only their profits would rise) the system as a whole would, on the average, show the same features as the single industry affected by technical progress. But it follows, likewise, that an increase of the amount of capital per worker in the whole system would be incompatible with the assumption that the unemployment was created only by partial overproduction, without the action of displacement proper.

A glance over the figures of capital investment, as given in the Appendix to this chapter, makes it plain that it was greater than the increase in the number of the gainfully occupied, which amounted to about one and one-quarter per cent per annum. Since, also, the two indispensable conditions (as to the absolute increase of output and to the increase per worker)⁷ are fulfilled, it may be taken as established that displacement proper, in the wider sense defined above, contributed to unemployment.⁸

The growth of German unemployment was, therefore, due to the fact that, despite huge capital imports, the capital stock increased too slowly to absorb in full the fresh supply of labor, created by displacement proper and by the natural growth of population. The undersaving crisis of 1926, caused by the decline in profits and reinvestment (because of rising wages and the absence of the "forced savings" as existing in 1924-1925) was overcome in 1927 by huge capital imports. They reduced the current phenomenon of overpro-

duction and economic destruction of capital to the usual order of magnitude, but they did not suffice to overcome the tendency to structural unemployment, the less so since the introduction of labor-saving devices was furthered by a steady rise in wage rates.

C. STRUCTURAL UNEMPLOYMENT IN GREAT BRITAIN, 1921-1929

The causes of British structural unemployment are more like the causes in Germany than is usually supposed. Natural growth of the population, economic destruction of capital by a decline in exports, displacement by labor-saving devices, these three basic factors of the German development repeat themselves in the British development. There are

⁷ The following special statistics confirm the fulfillment of the last condition (quoted from *Deutschlands Wirtschaftliche Lage, 1929-1930*, Report of the Reichs-Kredit-Gesellschaft).

Efficiency of Labor in Some German Industries

	1925	1926	1927	1928
	(1913 = 100)			
Coal	82.9	98.3	98.6	101.4
Lignite	115.1	122.6	140.6	154.1
Potash	129.7	116.0	152.3	167.6
Cement	124.0	144.4	164.0	174.4
Automobiles	252.0	288.0	505.0	503.0
Iron Ore	111.6	113.8	125.8	129.1
Arsenic and Copper Ore	110.8	125.3	140.0	145.6
Lead, Silver, Zinc	96.3	107.5	112.7	137.3
Railroads	83.4	91.5	99.0	103.7
	(1925 = 100)			
Machine Production	100.0	126.0	142.0	133.0 ^a

^a For 1929 efficiency rose to 142.0.

⁸ One could object that the spreading of certain internal economies from the intramarginal producers to the marginal ones or to newly established enterprises would suffice to enhance the current output as well absolutely per worker as per unit of capital. But then, in fact, technical progress is spreading; it would have existed already in the basic year of the comparison and would be only realized slowly in the whole community. If we consider fairly long periods, no need for a qualification of the statements in the text would arise.

also differences of equal importance; the following analysis gives sufficient opportunity for dealing with them. We shall understand best both similarities and differences if we consider the English development as fundamentally different in the years before and after the beginning of 1925. While all explanation of German post-war economy starts with the stabilization of the mark in the beginning of 1924 and while the depression of 1926 could be considered as a short interval in one great movement up to 1929, the English development is most properly divided into the two periods 1921 to 1924, and 1925 to 1929.

The difference in the periods is visible in both the development of foreign trade and of unemployment. It is true that to a certain extent the decline in British exports after the termination of the inflationary post-war boom of 1920 possesses the features of a secular trend. For certain important export goods like coal, a change in the demand structure developed slowly; other staple trades, like steel, engineering, textiles, were affected by the process of a more or less artificial industrialization abroad, which created regional overproduction in England; a third group, like shipbuilding, was hit by the international overproduction in the "lower stage," i.e., in the shipping trade. The physical volume of British exports in 1924 was 24.5 per cent below the pre-war level;⁹ German exports surpassed this 75 per cent mark in 1925, after the conclusion of the new commercial treaties. On the other hand, though the British share in the world's output and world's exports had declined, only in a part of the disfavored industries were employment and output reduced absolutely.¹⁰ An absolute reduction in output occurred in 1921 as compared with 1911 in textiles, skins and leather,

⁹ See Balfour Report, *Survey of Overseas Markets*, p. 638.

¹⁰ Balfour Report, *Survey*, II, p. 58. From 1913 to 1924 the number of workers increased in the coal industry while the output declined (*Statistical Abstract for the United Kingdom*, No. 74, pp. 256, 260); this development is unusual and is due to shorter hours and increasing physical difficulties which were reflected in the smaller number of workers "at the face" (cf. Report of the Royal Commission on the Coal Industry, 1926, pp. 118 ff.).

and clothing, but not in mining, metals, and machines. The increase in unemployment since 1911 which may be estimated on the basis of the trade union statistics, at 1.2 to 1.3 million persons was not greater than the increase in the number of gainfully occupied (see below, p. 73).

BRITISH EXPORTS
(Domestic Produce)
1913, 1921-1929

Year	Monthly Average (Million £)	Quantity Index	Board of Trade Wholesale Price Index ^a	Percentage of World's Exports	
				British	German
1913	43.8		100		
1921	58.6		197		
1922	60.0		159		
1923	63.9		159		
1924	66.2	100.0	166	12.9	5.8
1925	64.4	99.3		12.1	7.2
1926	54.3	88.9		10.8	8.4
1927	59.1	102.3		11.2	8.3
1928	60.3	104.7		10.9	9.1
1929	60.8	108.3		10.9	9.9

^a According to the volume computations for 1924, on the price basis for 1913, the Board of Trade index seems to under-rate the price level of 1921-1924 about 10 per cent.

Source: First three columns, *Statistical Abstract for the United Kingdom*, No. 74, pp. 312 ff.; last two columns, *St. Jb.*, 1930, p. 89*, 1931, p. 95* and *Statistical Tables Relating to British Trade, etc.*, 1930, Vol. I, p. 165.

The following tables give the same impression as to the development of the big staple industries.

BRITISH OUTPUT AND EXPORTS OF SELECTED COMMODITIES
1. Coal Industry—Million tons

	1913	1924	1929
British Output	292	271	262
World's Output	1,216	1,192	1,325
British Exports	96	81	78
World's Exports ^a	167	ca. 140	158

^a 17 Countries.

Source: *St. Jb.*, 1930, pp. 44* ff., 97*; 1931, pp. 48* ff.; 1926, p. 94*.

2. Pig Iron—Million tons

	1913	1924	1929
British Output	10.4	7.4	7.7
World's Output ^a	79.2	68.4	98.5
British Exports	1.14	0.61	0.46
World's Exports ^a	2.85	1.89	1.92

^a 11 Countries.Source: *St. Jb.*, 1926, p. 95*; 1930, pp. 56*, 97*; 1931, p. 62*.

3. Steel Ingots—Million tons

	1913	1924	1929
British Output	7.787	8.333	9.791
World's Output	76.0	78.4	120.4
British Exports (steel equivalent)	4.44	3.73	

Source: Balfour Report, *Survey*, IV, p. 78; *St. Jb.*, 1930, p. 56*, 1931, p. 62*.

4. Rolling Mill Products—Million tons

	1913	1924	1929
British Output	7.0	7.3	8.0
World's Output (9 countries)	54.4	53.7	80.0
British Exports ^a	2.8	2.4	2.8

^a The British share in world exports (6 countries) in terms of value was: 1913, 35 per cent; 1925, 32.9 per cent; 1929, 25.8 per cent, according to *Dt. A.*, Vol. II, p. 164.Source: *St. Jb.*, 1930, p. 57*; 1931, p. 62*; *Statistical Abstract*, as above, p. 368.

5. Shipbuilding

	1913	1924	1929
British Output (thousand gross tons)	1,932	1,440	1,523
World's Output (thousand gross tons)	3,333	2,247	2,793
British Exports (million £)	11.0	5.5	15.9

Source: *St. Jb.*, 1926, p. 73*; 1930, p. 74*; *Statistical Abstract*, as above, p. 376.

6. Cotton

	1913	1924	1929
British Output, Yarn (million lbs.)	1,983 ^a	1,395	1,270
British Output, Piece Goods (million yds.)	8,044 ^a	5,426	
British Exports, Piece Goods (million yds.)	6,913 ^a	4,627	
British Exports, Per Cent of Output	85.9	85.3	
British Exports, Per Cent of World Trade	57.8		

Source: *Statistical Tables*, Vol. II, p. 192; Balfour Report, *Survey*, III, pp. 51, 157.^a In 1912.

7. Textiles

	1913	1925	1929
British Exports (million marks)	4,110	6,429	4,957
Per Cent of World Exports	41.2	36.8	31.1

Source: *Dt. A.*, Vol. II, p. 208.

8. Machines

	1913	1925	1929
British Exports (million marks) ^a	721	950	1,110
Per Cent of World Exports	28.4	25.8	19.6

^a Per cent of domestic output: 1907, *circa* 50 per cent; 1924, 27.6 per cent; 1926, 28.2 per cent. Balfour Report, *Survey*, IV, pp. 141 ff.

Source: *Dt. A.*, Vol. II, p. 174.

The fact that the year 1925 is a turning point is confirmed by the development of employment and unemployment.

EMPLOYMENT IN GREAT BRITAIN

1. Number of Gainfully Occupied in 1911 and 1921

Year	Manufacturing, Mining, Commerce, and Traffic	Total
1911	13,335	18,354
1921	13,849	19,357

2. Employment and Unemployment, 1921 to 1929

July 1 of Each Year	Employment		Unemployment
	Total	Aged 16-64	
1921	11,338		
1922	11,432		1,563
1923	11,486		1,298
1924	11,664	9,628	1,087
1925	11,892	9,617	1,409
1926	12,041	9,411	1,751
1927	12,131	10,083	1,069
1928		9,943	1,273
1929		10,309	1,164

Source: *Statistical Abstract*, as above, pp. 86, 89; *Twenty-First Abstract of Labor Statistics*, 1934; *St. Jb.*, 1931, p. 25*. Figures relate to the end of June each year.

The employment figures do not cover persons directly involved in trade disputes. In 1928 insurance was restricted to persons aged 16 to 64 years. For the years 1924 to 1927 special estimates permit a comparison.

By comparing: (1) the increase in the number of workers in manufacturing, mining, commerce, and traffic from 1911 to 1921 (about 500,000) and from 1921 to 1924 (300,000) with (2), the increase in the number of unemployed up to 1924 (i.e., to 1,000,000 against 200,000 to 300,000 in 1913), we easily ascertain that the employment level of 1913 was reached at least in 1924.

Unemployment after the great crisis of 1920 thus showed the typical features of cyclical unemployment.¹¹ The stock of capital in the overproducing industries was continuously replaced or supplemented by current investments in other fields out of savings, sufficient not only to absorb the population growth but also a part of the unemployed despite the steady creation of technological unemployment.¹² It is at this time that the famous migration southward of English industries started, which amplified so much the assortment of the domestic produce. The expansion of the domestic market is also visible in the decline of the export quota in important industries, which partly was associated with an increase in output, as in the case of the steel industry.

In the effect on unemployment, the year 1925 thus resembled a mild crisis. The whole period afterwards shows a smaller power of absorbing the unemployed than the period 1921 to 1924. In the earlier, about 235,000 workers were on the average added annually to the number of employed, against 140,000 in the later period. One is inclined to conclude that without stabilization Great Britain would have entered the great depression with only 700,000 unemployed (instead of 1.16 millions). This conclusion, however, would be over-hasty as is any extrapolation. Without doubt other causes coöperated in diminishing the absorption power, es-

¹¹ This crisis would be best interpreted as an association of a financial crisis with undersaving; the capacity of heavy industries was over-expanded in war-time and the demand for their output was financed by inflation as well in the war period as in the subsequent period of reconstruction.

¹² Net output per head of employed in six of the eleven census groups of manufacturing industries increased (1911 to 1924) from £93 to £209, an increase by far greater than the corresponding increase in prices, and great enough to make sure about the absolute increase in output (cf. Balfour Report, *Survey*, II, p. 59).

pecially the rise of German competition. It is necessary to examine the effects of the over-valuation of the pound more in detail.

Since there is no evidence that the pressure on the profit rate brought about by falling prices in terms of the pound sterling caused a discrepancy between savings and investment, there remain only two ways in which the over-valuation could have worked: first, by influencing the volume of foreign trade; and second, by reducing the current amount of savings, the income distribution being altered in favor of the lower-income classes. As to foreign trade, the quantity of British imports (retained imports weighted by prices of 1924) did not rise at an unusual rate: 14.0 per cent for 1924 to 1929, and 9.6 per cent for 1925 to 1929.¹³ That is much less than the famous three per cent annual rate of increase for current output; and likewise much less than the rate for world's imports the volume of which increased from 1925 to 1929 from 89.5 billion marks to 108.9 billion marks (weighted by prices of 1913).¹⁴

Much more important is the effect on exports which rose only 8.3 per cent from 1924 to 1929; as shown by the table above, the British share in world trade declined heavily while the German share increased. If Great Britain had been able to retain in 1929 the share she had in 1924, her exports would have been greater by about £142 million, which would account for about 600,000 workers.¹⁵

More difficult is the question of a decline in savings. The savings quota in the "gross" real income declined according to C. Clark's estimate¹⁶ for 1924 to 1930 from 17.3 per cent to 14.9 per cent; very likely the decline was accomplished already in 1925. We may suppose that the cumulative deficit in total investment from 1925 to 1929 amounted to at least £350,000,000 to £400,000,000 (in terms of 1930 prices) or

¹³ *Statistical Abstract*, as above, p. 313.

¹⁴ *Dr. A.*, Vol. II, p. 348.

¹⁵ For the basis of this estimate see below, p. 128.

¹⁶ C. Clark, *Investment in Fixed Capital in Great Britain*, London and Cambridge Economic Service, Memorandum #49, p. 19.

to two-thirds of the annual savings volume in 1924. The annual absorption of workers achieved by this savings volume was put at 235,000 for 1921 to 1924; the decline in savings from 1925 to 1930 would thus account for about 150,000 to 160,000 unemployed. This figure is, however, much too small for three reasons.

1. Other things being equal, one should expect not constancy but a rise in the *gross* savings quota, because the ratio of real investment to the stock of capital (on which the volume of maintenance and depreciation depends) was very likely greater than the annual rate of increase of net income which, also by Clark's estimates (*op. cit.*, p. 19), is fixed between 3 and $3\frac{1}{2}$ per cent.
2. Since investment in building and contracting took an increasing share of the current total investment and kept closely to the 3 per cent rate of increase per annum, it may be supposed that, with higher industrial profits and with an ampler supply of capital, a greater fraction would have been invested in industry for some while.
3. The absorption figures above for 1921-1929 did not take into account the absorption of displacement proper which must have been considerable, industrial output per head having increased 10.7 per cent from 1924 to 1929.¹⁷ It follows that one unit of capital in fact absorbed a greater amount of labor than indicated by the absorption figures.

The order of magnitude of the second correction is recognized by supposing, first, that the share of industrial investment in the total hypothetical increment would have been twice as great as usual, i.e., about 60 per cent or £200,000,000 and, secondly, that the capital investment per worker in industry would amount to £500-800. That would correspond to an unemployment of about 400,000-250,000 persons caused by the lack of savings.

On the other hand, one might point out that the demand

¹⁷ Macmillan Report, p. 309.

for labor was reduced by a "capital flight" to more profitable investments abroad. But in fact the average annual investment overseas was, during the period 1925-1929, only a trifle greater than 1924 and only a fraction of the pre-war volume. The international position of the city of London and the financial requirements of a vast empire scarcely would have permitted a further reduction of the capital exports. It could be maintained, however, with much better right that any *increment* in savings to a large extent would have been exported because of the small profit chances at home. We discuss this side of the question in more detail below.

It would, of course, not be permissible to add up both deficit figures for unemployment (600,000 and 250,000), a procedure which would bring down the hypothetical unemployment figure for 1929 to the old "Beveridge" minimum; for in order to keep up exports at the relative level of 1925, very likely investments in certain industries would have been unavoidable. The remainder of the additional investments would have been directed to home producing industries, thus strengthening the general trend of post-war British investment¹⁸ and reducing mainly the imports of manufactured commodities¹⁹ which amounted to more than £200,000,000 in 1929.²⁰

In the whole argument of the preceding paragraphs it is supposed that a more correct valuation of sterling and an ampler supply of capital would have allowed British in-

¹⁸ In this respect the figures on labor migration given in the *Ministry of Labour Gazette*, November 1930, pp. 422 ff., are very interesting. They show, for July 1929 as compared with July 1923, a considerable decrease of employment in industries like coal, iron and steel, rolling mills, engineering, shipbuilding, dock and harbor service, railroads, woolen and worsted goods, i.e., in all old staple industries except cotton, and also in boots and bread; while a great number of consumers' industries, public utilities, metal industries, and building, showed increases.

¹⁹ It is sometimes argued that a reduction of these imports would be undesirable because it would bring about a corresponding reduction of exports. This is a fallacy: capital imports might have been reduced or capital exports increased; and above all, any increase of national income associated with the increase in domestic net output would create an additional demand for raw stuff and food also which would offset the reduction of imports.

²⁰ *Dt. A.*, Vol. II, p. 82.

dustry to stand the strain of competition in the world market and, as far as a reduction of imports is concerned, at home. But one might argue equally well that the great rise of costs (wage rates, social insurance contributions, and taxes)²¹ since 1913 would have prevented a sufficient expansion. It is not possible to decide this issue; nor is it necessary, because at least a certain increase of the industrial output would have occurred under the assumed conditions which suffices to clarify the concept of structural unemployment. From another angle the issue becomes more important. It will be discussed in the last section of this chapter. We undoubtedly were witnessing a fundamental dilemma of capitalistic evolution.

Here we want to pursue the analysis of the English economic situation in the period 1925–1929 a little further. What were the causes ending the upswing of the cycle? At this point the differences between Great Britain and Germany and the United States become more striking. There is no sign of a true credit cycle in Great Britain nor of the development of a general overproduction in one or both spheres, i.e., of undersaving or oversaving.²² The first factor is frequently overlooked because a perfect adaptation of the English system to the then-established gold parity of the pound would have required a credit *contraction*; thus the absence of sufficient contraction is frequently identified with undue credit expansion despite the fact that only an *absolute* increase of the volume of purchasing power could generate the phenomenon of “forced saving” considered the paramount cyclical factor by some Austrian theorists. The absence of a true credit expansion in Great Britain becomes evident if one compares British, German, and American figures. Velocity of circulation outside New York increased about 8 per cent from 1927 to 1928 and 10 per cent from

²¹ Cf. Balfour Report, *Survey*, I, ch. VII.

²² The great strike of 1926 renders impossible an answer to the question whether or not the change in the distribution of income brought about in 1925 by the stabilization of the pound would have caused, by itself, undersaving.

1928 to 1929,²³ and in New York City about 50 per cent from 1927 to 1929; but for England *in toto* the rate of increase was only 5 per cent per annum.²⁴ The increase in the amount of demand deposits (or "current accounts") was very small in both countries, namely 1 per cent from 1927 to 1928 and zero in the subsequent year.²⁵ The corresponding figures for Germany (for the first of April in each year) indicate an increase of 28 per cent and 11 per cent, a true "inflation" due to the influx of foreign funds.

Likewise no sudden shifts in the distribution of income and no one-sided concentration of investments in one or both spheres are visible. The home consumption of pig iron and crude steel²⁶ was, in 1929, smaller than in 1927 though greater than in 1928; the rise was restricted to the second half of 1929.

The breakdown of English prosperity, therefore, must be attributed to the international depression (which we will discuss more in detail in the following chapters). The decline in the purchasing power of the countries over the seas and in world prices could not but act unfavorably on British exports.²⁷ Characteristically, the British economic series do not show a decline before the beginning of 1930 while the American crisis is to be dated in the fall of 1929 and the German recession occurred rather earlier.²⁸

We see clearly the instantaneous impact of the world's depression on the volume of exports which declined after November 1929 and the spreading of the recession over the different fields of business activity during the subsequent

²³ According to Karl Snyder's computation (mimeographed sheet of the Federal Reserve Bank of New York).

²⁴ Cf. J. M. Keynes, *Treatise on Money*, Vol. II, p. 31. Velocity figures for Germany are not available.

²⁵ Cf. Keynes, *op. cit.*, p. 10; L. Currie, *Supply and Control of Money in the United States*, p. 33.

²⁶ Cf. London and Cambridge Economic Service, Memorandum #19, p. 13. The rising importance of scrap iron as a raw material for steel production has lowered considerably the usefulness of pig iron consumption as a business indicator.

²⁷ This development is analyzed in more detail in the next chapter.

²⁸ While German profits had already declined in 1929, British profits were still rising: from 106.2 to 109.9 per cent, according to Stamp's index (in the *Journal of the Royal Statistical Society*, Vol. 95, 1932) (1924 = 100).

four months.²⁹ In terms of export prices of 1924 the quantity of exports declined from £72.6 million per month in 1929 to £57.6 million in 1930, i.e., more than 20 per cent, while German exports declined in value about 18 per cent but in

BRITISH ECONOMIC ACTIVITY
1928-1930
Exports and Freight Traffic

Date	Exports of Domestic Produce (Million £: Monthly Average)	Date	General Freight Traffic ^a (Million Tons: Monthly Average)
1928	60.3	4th Quarter, 1928	5.30
1929	60.8	4th Quarter, 1929	5.31
1930	47.6	Dec. 1928	4.75
4th Quarter, 1928	62.8	Dec. 1929	4.77
4th Quarter, 1929	61.8	Jan. 1929	5.22
Oct. 1929 (peak)	64.6	Jan. 1930	5.27
Jan. 1930	58.3	Mar. 1929	5.15
		Mar. 1930	5.12

Indices of Business Activity (1924 = 100)

Date	<i>Economist's</i> Index of Business Activity	Date	Industrial Output ^a
1928	105.9	1928	102.5
1929	110.0	1929	110.6
Dec. 1928	103.9	4th Quarter, 1928	105.2
Dec. 1929	109.5	4th Quarter, 1929	114.8
Jan. 1929	110.4	1st Quarter, 1930	109.6
Jan. 1930	111.8		
Mar. 1929	107.4		
Mar. 1930	109.7		

^a Source: London and Cambridge Economic Service.

quantity only 5.3 per cent, the rate of increase in unemployment being about the same in both countries (around 60 per cent). For further analysis of this new phase of the cycle we refer the reader to Chapter VI.

²⁹ Employment in February 1930 was still above the level of the previous year: 10,103,300 against 9,973,000. It had its peak in September 1929 with 10,316,000; the difference is without doubt mainly of seasonal character.

D. THE DILEMMA OF CAPITALISM

Though considering "underconsumption" or "oversaving" as a theoretical possibility possessing as equal rights as the traditional theory of "capital scarcity" or undersaving, we never admitted the existence of the capitalistic dilemma alleged by the traditional theory of underconsumption, namely that, by perpetual accumulation of capital and by equally perpetual displacement of workers, a permanent surplus of consumers' goods is *bound* to be created which could not be sold at cost price within the capitalistic system.³⁰

The true dilemma of capitalism has already been suggested in Chapter III. The particular situation of a national economy, provided, like England, only scantily with the gifts of nature, deserves attention. For an increasing domestic investment and an increasing domestic output she could not rely indefinitely on her old staple industries in which her efficiency was at least equal to the efficiency of any other country, because the rising barrier of tariffs strangled more and more the exchange between the nations. Additional investment thus would have to turn partly into new fields in which the marginal productivity of both labor and capital was much lower than in the old industries, and in which foreign competition could not be withstood unless wage rates would undergo a sharp cut which would have lowered the whole domestic wage level. It is here that the dilemma arises; for a continuous fall in the wage level threatens, in fact, to create underconsumption; and in any case it would be very undesirable for reasons of social justice to lower the general wage level despite high average productivity, merely because marginal productivity is declining rapidly. Protective measure like duties or subsidies are better understood from this angle: by spreading the otherwise inevitable losses in the new industries characterized by a low marginal pro-

³⁰ For a more correct version of the theory of oversaving see the next chapter; a refutation of the Neo-Marxian theory of underconsumption is given in the Appendix, pp. 161 ff.

ductivity over the whole sphere of income-receivers these measures would limit the reduction of real wages to the decline in average productivity.

This dilemma is a specifically national one, growing largely out of the uncorrelated distribution of natural resources and population over the earth. Other difficulties which, in the stage of "late capitalism," are created for all countries with a high standard of living by the secular trend in the structure of demand, are of more general importance. To elucidate this further, we may roughly distinguish three types of investment in consumers' goods industries.³¹ The investment may procure:

1. Services of durable investment goods like residential buildings, railroads, and services of public construction work of all kinds whether or not they are offered to the consumer for a consideration, and durable consumers' goods proper.
2. Personal services of all kinds, including distribution of goods.
3. Non-durable and semi-durable commodities of the ordinary kind like food, electricity, gas, coal, gasoline, textiles, shoes, books, etc.

The investment, as it occurs in fact, may be determined by different elements, but a moving equilibrium would be kept only if the composition of the additional net output as created by the investment would be exactly in accordance with the spending schedule of the additional income. The schedule of spending, however, would be different for different income distributions; income accruing to the lowest income strata would be mainly used for commodities of type 3 (with a corresponding share of distribution expenditures);

³¹ We treat here capital-goods industries as "higher stages" in relation to consumers' goods industries, because investment in the capital-goods industries depends in the long run on the demand for capital goods displayed by the lower stages. Investment in higher stages would show a mixed type, namely mixed of both type 1 and type 3 as described in the text. We may, however, disregard it at this point, since its influence on the average permanent employing power is relatively small and, too, almost the same in all cases of investment in consumers' goods industries. (See, however, p. 83.)

the higher paid laborers and the lower middle classes might spend a greater part for the services of durable goods (type 1). The bulk of the additional expenditures of the well-to-do classes would be devoted to the services of the durable investment goods and to personal services; the same would be true of an increasing governmental expenditure. Now there exists a great difference between the three types in respect to their permanent employing power. This power is very great for type 2 because personal services need practically no coöperating capital equipment at all (with the exception of automobiles driven by a chauffeur) and distribution service needs only working capital and a little building space and other equipment. On the other hand, type 1 (excepting durable consumers' goods) shows a small employing power; in fact, the employing power of building investment even may be zero if the investment does not alter the dimensions, but only the value; it may even be negative if only the durability is enhanced and therefore the repair work for the existing stock is diminished. The third type takes a middle course between the two extremes with the exception of investment in gas and electricity plants, which is kindred to type 1. The average amount of capital per worker would, however, not increase at once, if and when investment would take a one-sided turn to type 1, for this turn would necessitate an additional investment in the building trade, where capital had a high employing power, at least until the development of factory-constructed homes. Thus, successive waves of building activity might conceal, for the time being, the decline in the permanent employing power of one unit of investment; for the high powered investment in the building trade would offer a compensation for the small power of the investment in dwellings and construction work. This compensating effect would vanish as soon as the *rate of increase* in building activity slackened, even though the last-reached high level still would be kept and a great part of the regular savings-flow still would be directed to investments of type 1.

The sinister possibility described in the last paragraph

certainly would be realized to a large extent if the increment of income goes to the well-to-do classes and, in the form of increasing tax receipts, to the government; then unfavorable investment of type 1 would by far outweigh the favorable investment of type 2. Now in times of displacement it is probable that the workers' share in national income would display a tendency to fall even at constant wage rates; at best, this share may remain constant, and in this case, too, the increment in the income of the higher classes would be devoted to a large extent to goods of type 1; the amount of capital per worker would rise.

This fact explains the slow absorption of the unemployed in countries characterized by a vast accumulation of capital and indicates a secular trend of great importance in the labor market. As an example, we may cite the direction of capital investments in Germany after the stabilization.

DISTRIBUTION OF GERMAN INVESTMENTS

1924-1929

	Million Marks
Industry	3,935
Agriculture, etc.	2,536
Artisans trades	805
Commerce	1,166
Traffic	5,142
Other Public Utilities	3,332
Residential Buildings	7,413
Public Administration	7,185
Miscellaneous	1,395
TOTAL	32,909
Commodity stocks	11,588
GRAND TOTAL	44,497

Source: *K. St. H.*, p. 48.

Similar tendencies are visible in all highly industrialized countries, especially in Great Britain.³² In Germany, however, the situation was aggravated by the fact that government and municipalities as preferred borrowers in foreign

³² The material presented by Clark, *op. cit.*, shows this tendency clearly for England.

capital markets would direct the investment flow into the sphere of building and construction. Certainly in a perfectly competitive capital market investment would have turned less to the fabrication of durable goods with a small employing power; for, to a large extent, the services flowing from the investment concerned had to be sold below the cost price proper or even to be given entirely free of charge.

We may now definitely state what we call the dilemma of recent capitalism. Only by an increase of the share of the lower-income groups in the national income would the flow of investment be directed into channels of a great permanent employing power;³³ but by the same development the absolute size of this flow would be diminished on account of the more even distribution of income³⁴ and on account of an increasing outflow of capital into more profitable investments abroad.

From an international point of view there exists, too, another conflict. An increase of income in a country like Germany undoubtedly would have brought about a stronger demand for goods of type 3 than a corresponding increase in countries with a generally higher standard of living; but to a large extent this demand would have been directed to foreign goods, i.e., materials and food to be acquired by the German consumer through increasing exports. Exports, however, consist almost entirely of commodities of type 3 (besides of durable consumers' goods or of capital goods). Moreover, this exchange between commodities consumed in Germany and commodities produced there and exported therefrom would require investments abroad in addition to the investments in Germany; that is obvious in the case of an increase in German exports in capital goods, but it is true also in the case of exports of industrial consumers' goods because

³³ It must not be overlooked, however, that the increasing demand for type 3 goods would be partly offset by the decrease in demand for type 2 goods, even when the rise of the wage bill is associated with a decline in the real income of the upper-income classes.

³⁴ The fall of the interest rate, too, might lower the fraction saved of a given income.

the export at cost prices would depend to a large extent upon the rising income of the lower-income classes abroad, especially in the food- and raw-material-producing countries, and that rise in turn would depend on sufficient investment in these regions. These investments in the countries over the seas would be provided for either by absentee capitalists or by capital imports from industrial countries; thus they would be contingent upon events entirely outside the sphere of the German economic system. It follows that the supply of new capital has not only to provide additional stock of capital for absorbing the unemployed workers in industrial countries like Germany, but also for absorbing the unemployed in the food- and raw-material-producing countries. In the long run, one investment would not be profitable without the other. To say it in one brief sentence, the international division of labor ties together the fate of laborers all over the world.

Again, it would be possible to derive a new argument for protection. There is a choice: either of splitting the current savings between domestic investment and investment abroad in order to use each unit of capital in the most productive manner, with the consequence that domestic unemployment is reduced but slowly; or, by protective devices, of concentrating investment at home in forms adapted to the structure of demand, despite the smaller productivity per unit, and reducing unemployment much faster than in the first alternative.

Appendix to Chapter IV

THE RATE OF INCREASE IN THE STOCK OF GERMAN CAPITAL, 1924-1929

We have to convert the absolute figures for industrial investment since 1924 into a rate of change of the stock of capital which existed at the beginning of this period. The study of investments, undertaken by the German Institute

for Business Research (Sonderheft #22) gives, for the industrial investments of corporations, 1924-1928, an increase of 27.8 per cent (p. 86). There is no doubt, however, that this rate is far too high even for corporations (as remarked in the study itself), because the values of the fixed assets of the balance sheets for the beginning of 1924 were too low on account of certain allowances in the tax legislation; 19 per cent would be a more correct figure. But even this figure is too high for industry as a whole. Total value of fixed capital may be taken as between 50 and 55 billion marks in 1928,¹ and thus at 45 to 55 billions at the beginning of 1924. Industrial net investments in fixed capital from 1924 to 1929 amounted to about 4 billions and since the middle of 1925, the date of the minimum unemployment, to $3\frac{1}{2}$ billions. During the latter period the increase of the stock of capital amounted thus to 7 to 8 per cent; it certainly exceeded one and one-quarter per cent per annum, but scarcely 2 per cent per annum.

¹ Cf. *Kapitalbildung und Steuersystem*, Berlin (1930), Vol. II, pp. 411 ff.

CHAPTER V

CAUSES OF THE CRISIS—II

OVERSAVING

A. CREATING GENERAL OVERPRODUCTION

OVERSAVING is a form of partial overproduction like under-saving. Both terms refer to the relationships between the two entire spheres and not only between two or more horizontally coördinated industries. A sudden discrepancy between the structure of expenditure and the structure of production may arise, the fraction of spending of income being smaller than the fraction of consumers' goods output in net output as a whole. The peculiar feature of oversaving lies in the fact that it may immediately set into motion a mechanism rendering general the partial overproduction and creating the type of a general, self-intensifying depression well known at least since 1929. The course of the generalization could be described in brief as follows.

The additional demand for capital goods, made possible by the relative shrinkage in spending and the corresponding increase in saving, would not be displayed at all, if and when the consumers' goods sphere shows losses on its whole range, investment depending not only on the rate of interest but on the profit expectations. Consequently the flow of savings and later some parts of the business fund are used for repayment of bank debts or hoarding. Thus *general* deflation arises, causing losses also in the capital-goods industries. The difference between this line of argument and the usual reasoning of the classic underconsumption theory from Rodbertus to J. A. Hobson and numerous American authors lies, first, in the weight we attach to the monetary phenomena, and secondly, as already mentioned, in the denial of a secular trend of capitalism which would bring about

a permanent discrepancy between the structures of expenditure and production. The Neo-Marxian theory is examined in detail in the Appendix, pp. 161, ff.; here it suffices to stress again the distinction between "capital-intensive growth" and technical progress. The former is represented by accumulation and investment of capital that is associated with lower marginal returns,¹ rising wages, and a rising volume of consumption—necessarily a slow process permitting adaptation of supply and demand—the latter by sudden changes in the direction of investment and, thus, in the structure of production regardless of the structure of demand.

The similarity between the theoretical framework of undersaving and of oversaving shows up again in the causation of overproduction in a whole sphere. As a cause of oversaving the concentration of investment in consumers' goods industries would correspond to the concentration of investment in capital-goods industries in the instance of undersaving; that means: while a part of the new income flowing from the new investment is saved, the investment yields, to a greater extent, consumers' goods. Likewise, "forced saving" as a cause of overinvestment in capital-goods industries is only one possible instance of a one-sided investment in one sphere. It may lead, under appropriate conditions, to a one-sided investment in *consumers' goods industries* and, unless the contractual payments are adjusted in time, to an oversaving crisis. A third similarity could be found in comparing the effects of a sudden increase in wage rates, bringing about an *undersaving* crisis, with the effects of a displacement of workers by labor-saving devices, which is mostly looked

¹ "Capital-intensive growth" involves, by definition (the production function being given), a decline in the marginal productivity of capital and, therefore, in the long run of the rate of interest. If institutional reasons, such as exist to a certain extent in the United States, prevent this rate from falling below a rather high limit, the impossibility of a safe investment may bring about a discrepancy between saving and investment, i.e., deflation. In fact, however, that did not happen in the period concerned. For as long as additional labor were available for coöperation with new capital, the marginal productivity of capital would not decline unless a third factor, nature, became relatively scarce.

upon as the standard case of underconsumption. Indeed, even if the displacement does not bring about a decline in the wage rate per hour, it cannot but lower the wage bill and, by shifting income to the well-to-do classes, suddenly increase the flow of saving and lower the flow of spending; the prices of consumers' goods would thus be pressed down below the cost level, provided either that the reduction of real costs due to technical progress was restricted to the capital-goods industries or that the expected additional profits were tied up beforehand in contractual interest payments. An eventual fall of the wage rate would present no relief, because a lowering of costs would be offset by a further decline in the volume of spending. Under certain conditions any dismissal of laborers would have the same effect as displacement proper, namely if and when it occurs in the sphere of capital-goods industries, while the change in demand for capital goods would be brought about by changing production methods in consumers' goods industries.²

It is difficult to find historical examples for oversaving crises; that is one reason why the orthodox business-cycle school dislikes so much theories of underconsumption. For it is very doubtful whether the cyclical recessions of the pre-war period could be explained by the reasoning of the latter theory. Marx, himself, pointed out the fact that wage rates usually rose in the last phase of the upswing, reducing very much the probability of an underconsumption crisis. And the famous correlation between the general course of the business cycle and the consumption of pig iron suggests, for this epoch, a concentration of investment in the capital-goods industries rather than in consumers' goods industries.

B. THE AMERICAN CRISIS OF 1929

American prosperity and crisis in 1929, however, seem to present a picture different from pre-wartime. It is not our intention to give a complete description of the cycle, 1921–

² A further typical cause of oversaving is discussed below in connection with the American situation.

1929, nor do we want to take sides in the discussion about the right credit policy in the years preceding the breakdown or to examine the question of whether the fluctuations of credit arose "automatically" or were dominated by the Federal Reserve policy. To a large extent the unsatisfactory status of the discussion seems to be due to the lack of clarity in the fundamental business-cycle concepts utilized and to the neglect of stating clearcut questions before starting the analysis.

From our particular angle, raising the following questions seems to be the best approach to better understanding of the development in 1929.

1. Did the American economic system, in the period concerned, show partial overproduction of a magnitude or a type that was likely to lead to a crisis?
2. How was the generalization of overproduction in the fall of 1929 brought about?
3. What rôle was played by the stock exchange boom of 1929 in respect to the preceding two questions?³

Attacking the first question about the nature of overproduction in 1929, we must dismiss the idea of overproduction in agriculture as leading directly to general overproduction. Despite falling prices of grain and a less favorable crop of wheat the gross income of the American farmer was larger in 1929 than in 1928. Nor seems the American financial situation to have been seriously impaired by the breakdown of the coffee-valorisation or kindred events. And as to the shrinking power of the world's grain, wool, and coffee producers to purchase American export goods, we have to remember that, in principle, it would be compensated for by an increasing purchasing power of the urban population. A psychological effect of declining grain prices, associated with a less favorable crop, on the sentiment of the stock exchange could not be excluded; it is, however, little probable that

³ The international repercussions have been discussed for the period before the crisis in the preceding three chapters. For the subsequent period see the following chapter on "General Depression."

events occurring in the first half of August should exercise a decisive influence in the second half of October, when grain prices already showed signs of recovery.

We must, therefore, look around for other guides. No single statistical series, however, could be used as a safe indicator. As mentioned above, pig iron consumption is no longer strictly correlated with steel consumption. Nor is steel consumption strictly correlated with investment in capital-goods industries, steel representing an important raw material in automobile production. The question of fluctuations in interest rates as indicative of overproduction is a little more complicated. We have already touched upon it, on page 51, and we pointed out that the "need" of an uncompleted structure of production to be completed by saving does not represent an "effective demand" for current capital funds. There exist, however, different opinions: "It is perhaps unnecessary to repeat the point that a long period of high interest rates is inimical to continued business activity."⁴ The vagueness of the terms "business activity" and "high interest rates" does not permit taking definite sides for or against this statement. But if we replace "business activity" with "equilibrium between costs and receipts" then it is not true that "high interest rates" are inimical to this kind of prosperity. If the rates are high on account of a shift of the demand curve to the right (a rising demand of dynamic entrepreneurs or of the state) the equilibrium between the structure of production and of expenditure would not be disturbed. And even if the increase in the interest rate level would be due to a decline in the supply of current capital funds, equilibrium would be preserved, provided only that the structure of production could be adapted in time. Only if the shift of the capital supply function to the left occurred too suddenly, would we have a case in which high rates of interest would be associated with undersaving.

There is a more direct association between high interest rates and the crisis in Cassel's model—the need of capital

⁴ L. Currie in the *Journal of Political Economy*, April 1934, p. 153.

for the sake of completing an unfinished undertaking (like a railroad with tracks but without locomotives); for in this instance of a general miscalculation⁵ the confidence of the saving class might be undermined, and thus a difference between savings and investments would be created. No evidence, however, of the existence of this situation in America in the years concerned has yet been presented. Not even the long-term interest rate increased considerably. The bond yield rose from 4.49 per cent in 1928 to 4.70 per cent in 1929.⁶ It is not disputed that the difficulties of floating bonds were really greater than indicated by the rise in yield, but in fact only real estate bonds were affected, whereas industrial enterprises had found an adequate substitute for bonds in the issue of common stock at very profitable terms; and the difficulty in selling real estate bonds was primarily caused by the decline of confidence in this kind of investment and by the demand situation for one particular good (residential building).

Ultimately the idea of high interest rates as forecasting a break in business activity resides in the sphere of bank credit. Here rising interest rates are indicative *either* of increasing claims on the banking system (which, if not fought off in time, later would bring about credit contraction and deflation) *or* of an absolute diminution of the domestic currency reserve greater than could be tolerated by the currency authorities. The first phenomenon was regularly associated with pre-war crises, the second one was characteristic of the British development from 1925 to 1929. The importance of the credit cycle for the historical explanation of business cycles could scarcely be exaggerated, but it could not be easily used for clarifying the American post-war develop-

⁵ Even then we should scarcely find a "*long period of high interest rates.*" Only in exceptional circumstances would interest rates higher than the true marginal productivity of capital be granted again and again by debtors (e.g., the readiness of the German farmers, 1924-1928); and even then general losses would be created only if a rise in the commodity price level corresponding to the general rise in money costs were prevented by monetary factors or foreign competition.

⁶ Likewise, the average price of 87 first-grade British bonds declined only from 112.3 to 110.2 in the period considered (*W. Z.*, p. 12).

ment; gold was available in plenty and as may be seen, the effects of an increasing money flow were different from the pre-war experience.

On the other hand, it is not easy either to prove the proposition that elements of *oversaving* disturbed the American moving equilibrium in the years 1928 and 1929. Evidently one should not compare the rate of increase in consumers' outlay with the rate of increase in the *market value* of consumers' goods because, axiomatically, both must be equal and differences could be due only to statistical errors; nor would a comparison be useful between the former rate and the rate of increase of output in physical terms during a time of *declining real costs*. It is only the difference between consumers' outlay and the *cost value* of the output of consumers' goods that matters. But here no direct approach is possible. We have to be satisfied with gathering symptoms.

Whether or not American production was in a fairly balanced situation⁷ this question could not be answered by inspecting only the supply figures as given in the following table.⁸

INDUSTRIAL OUTPUT IN THE UNITED STATES
1925-1929
(1922=100)

Year	Consumers' Goods	Residential Building	Capital Equipment
1925	114	165	132
1927	120	155	143
1928	125	165	145
1929	130	115	170

Computed on the basis of the figures in F. C. Mills' *Economic Tendencies in the United States*, 1932, pp. 270-280. Differently from Mills, we exclude residential building from consumers' goods because dwellings are bought out of capital. Weights used: non-durable consumers' goods, 9; semi-durable consumers' goods, 2; durable consumers' goods, 1.

The idea of a balanced production has no meaning unless in reference to a certain structure of *expenditure*. Now, this

⁷ As maintained, especially by L. Currie as quoted in footnote 4, above, and R. G. Hawtrey in *The Art of Central Banking* (1931), Chapter II.

⁸ About the distribution of investments see below, footnote 11.

structure was distorted by the rise of consumers' credit as early as in 1928, if not earlier, and it underwent important changes in 1929, though it has to be pointed out that the rise of consumers' credit acted also as a balancing factor; for it prevented the increment in the money flow⁹ from being turned solely into the sphere of capital-goods industries, a turn so much apprehended by the Austrian theorists of the business cycle.

COMMON STOCK PRICES AND BROKERS' LOANS
1926-1931

Date ^a	Index of Common Stock Prices ^b	Brokers' Loans ^c (Million Dollars)
1926	101.8	3,531
1927	105.6	3,138
1928	134.4	4,420
1929	185.2	6,735
Sept. 1929	225.2	8,549
1931	112.3	1,720

^a The figures in both columns refer to January of each year when no other time is indicated.

^b Index of Standard Statistics Company.

^c New York Stock Exchange.

As far as the speculation was carried through with the help of loans, we are able to ascertain the order of magnitude of the speculative profits, which, to a great extent, surely were consumed.¹⁰ By comparing the value of brokers' loans at a certain moment with the increase in the stock price level during the subsequent period and by taking account of the increase in the speculative commitments themselves, we are enabled to estimate the speculative gains of the New York stock exchange during 1928 at about two billion dollars, i.e., at about two hundred million dollars monthly for the

⁹ This increase is indicated, not in a greater stock of money, but in the rise of the velocity of money. It certainly exceeded the rate of increase in the volume of real costs. For the latter, the fall of real *labor* costs is symptomatic, as indicated by the comparative variations of the payroll index and the index of industrial output. (Cf. also H. Barger, *Journal of Political Economy*, 1935, p. 777.)

¹⁰ The part of the profits that was not realized or was re-invested might have been lost later by further speculative trading.

whole country. The gains in 1929 seem to have even exceeded this amount. Devoted to the purchase of only a few selected goods these sums could not but bring about a considerable rise in demand, the slackening of which would be heavily felt. Since, however, the speculative gains did not decline until the very moment of the breakdown, we could not acknowledge them to be a *cause* of the breakdown, unless the share saved was suddenly enhanced. To a certain extent the decline in the automobile output from 622,000 in March 1929 to 416,000 in September 1929 could be taken as evidence of such a change.

A similar tendency was displayed by the distribution of income. The tables on page 97 have to be inspected simultaneously.

The first problem concerns the amount of net displacement. The figures calculated by Weintraub (and confirmed by the later study of Jerome on "Mechanization in Industry") suggest an almost uninterrupted tendency of American industry to displace laborers; as pointed out by Weintraub, himself, the net effect on total employment could be measured only by taking account of the absorbing tendencies in the distributive trades, professions, and personal services, on the one hand, and of the displacing tendencies in agriculture and of the net growth of population, on the other hand. It is well known that for the period between the census data of 1920 and 1930 the absorbing tendencies by far outweighed the displacing ones. Too, the trend away from industry and towards trade, personal services, and professions must be looked at as indicative of the rising income of the national economy. Here, however, we are interested not in the secular tendencies but in the question whether or not a sudden increase in net displacement caused a shift in the income distribution and thus oversaving in the year 1929. The answer is unambiguously in the negative because, besides trade, personal services, and professions, industry itself absorbed labor in this critical year.

An indirect effect of successive waves of displacement

DISTRIBUTION OF INCOME IN THE UNITED STATES

1927-1929

Year	Composite Index of Wages	Average Earnings of Employees in Manufacturing	Factory Payrolls (Unadjusted)	Cash Receipts of Holders of Common Stocks	Profits in 2,076 Manufacturing Corporations
1927	120	114	102.0	188	126.2
1928	121	116	101.8	229	153.4
1929	122	117	107.7	286	190.3

Source: for "Factory Payrolls" the computations of the Federal Reserve Board, (1923-1925=100); for the rest, Mills, *op. cit.*, pp. 502, 399 (1922=100).

INDUSTRIAL DISPLACEMENT IN THE UNITED STATES

1921-1931

(Thousand Persons)

Year	Displacement		Net Balance	
	Technological	Due to Changes in Physical Output	During Current Year	Since 1920
1921	-176	-2704	-2880	-2880
1922	-998	1797	799	-2081
1923	-250	1860	1610	-471
1924	-315	-781	-1096	-1567
1925	-584	1009	425	-1142
1926	-127	406	279	-863
1927	-70	-337	-407	-1270
1928	-598	410	-188	-1458
1929	-154	604	455	-1003
1930	186	-2065	-1879	-2882
1931 ^a	-466	-1209	-1675	-4557

^a The figures for this year do not include the coal industry.

Source: D. Weintraub, *Journal of the American Statistical Association*, Vol. 27, 1932, pp. 383 ff. Weintraub's method is of use only for a country where no employment statistics exist. It has to be kept in mind that the forces bringing about displacement in Weintraub's terms (by raising output per man-hour) and absorption (by increasing the quantity of output) are not independent but in many cases identical. An increase of the stock of capital per worker (shifting to the right on the productivity function of capital) would raise output both per worker and absolutely and therefore would cause the statistical phenomenon of technological displacement as well as that of absorption, though, in fact, real displacement tendencies would not exist at all. The same would be true for many forms of technical progress.

proper might have been of greater importance, namely, the pressure on the wage level. We are entitled to explain, on these lines, the negligibly small rise of the wage rates in the period 1928 and 1929 for which huge investments of capital would suggest an appreciable increase in the marginal productivity of labor. Even the rise in the wage bill looks insignificant if compared with the increase in profits. If these two statistical series are truly symptomatic of the shares of the labor class and of the "capitalistic" class in national income, then we should have, for the first time, good evidence of the rise of an oversaving disturbance in 1929. The increasing profits brought about a turn to investment in capital-goods industries but that did not prevent an increase of the output and of the cost bill in the consumers' goods industries which was not in accordance with the structure of expenditure.¹¹ For the early decline in residential building seems to indicate

¹¹ The turning of investments to capital-goods industries is first visible in the decline of security issues for residential building and public utilities (which are consumers' goods industries with the exception of the part of electricity plants providing current for capital-goods industries); secondly, it is possible, by grouping industrial security issues proper approximately according to the prospective use of the industrial output, to show that a similar tendency ruled within the sphere also of these industrial issues.

DISTRIBUTION OF INDUSTRIAL SECURITIES ISSUES

Year	Total Million Dollars	Consumers' Goods Industries Million Dollars	Capital-Goods Industries	
			Million Dollars	Per Cent of Total
1927	2518.3	1856.9	661.4	26.3
1928	2887.7	2018.5	869.2	30.1
1929	3430.0	2211.2	1218.8	35.5

Source: Computed from data of Standard Statistics Company.

Capital-goods industries include: chemical industries and steel and iron at 75 per cent; paper and pulp at 66 per cent; shipping at 50 per cent; electrical equipment at 90 per cent; building supplies, copper, miscellaneous mining, and smelting, machinery, railroad equipment at 100 per cent; railroads themselves are not included—they would belong about 50 per cent to each sphere.

Even if the figures were symptomatic for the total net capital investment, their significance should not be overrated. The absolute amount of investment in consumers' goods industries would still exceed the volume of investments in capital-goods industries; thus the increase in the cost bill of consumers' goods industries might have been greater than the corresponding increase in spending.

that the demand of the well-to-do classes, even for this type of goods, was satiated and that an increment in income would have been devoted almost exclusively to savings (besides personal services).¹²

The ensuing fall in prices of consumers' goods scarcely would have been great enough to lower receipts below the cash cost bill; for it could not be greater than the amount represented among total costs by contractual interest payments, the wage part being *spent* according to our premises. But though the situation of the consumers' goods industries would not be desperate, the annihilation of profits by falling prices would suffice to lower investment below saving and to create a deflation. If the statistical basis for this conclusion is valid then the breakdown of the stock exchange boom would have been caused, at least partly, by a sudden change in the profit expectations of the bulk of investors—an attitude which would have been shared by an impartial observer of the industrial situation.

C. INTERNATIONAL COMPLICATIONS

The preceding analysis answers the three questions raised in the beginning, though it does not pretend to exhaust all the points of view from which the American business cycle, 1924–1929, could be considered. We may turn now to our proper task, discussing the international complications of an oversaving situation. We have already analyzed the effects of discontinuing international capital movements in the debtor country, causing there an undersaving crisis. We recognize that, in the particular case discussed, the capital imports consisted mainly of raw materials and food which were produced and “saved” in countries over the seas.¹³

¹² A stage of capitalistic development in which the number of employed steadily is reduced by successive waves of displacement proper, whereas the increment in profits is wholly devoted to savings, plainly would conform most closely to the ideas of the traditional underconsumption school about the fate of capitalism. But not even for the latter condition could it be proved that it was realized in the American boom of 1925–1929, while, as pointed out, the year 1929 was not characterized by net displacement but by absorption.

¹³ Here it does not matter where the domicile of the capitalistic owners of the

These savings exceeded the amount necessary to support the income-receivers in "additional" capital-goods industries in the same region. The termination of capital exports to Germany made necessary an investment elsewhere. Under changed conditions, investment may partly require finished *capital* goods, at least to a greater extent than the investment in Germany did; thus only by increasing production in the capital-goods industries would a volume of purchasing power adequate for buying the surplus of food and raw materials be created. If for one or the other reason the output of finished capital goods were not increased in time, the attempt to invest savings, previously exported to a country in the situation of Germany, in another region could not but result in an increase in the prices of capital goods,¹⁴ creating income that, to the greatest extent, would not be spent but again would be saved; and since the production of food and consumers' goods of any kind could be adapted to a change in demand only with greater difficulty than that of finished capital goods and most raw materials, such a change in the direction of investment might bring about oversaving.¹⁵

It would have been possible to close the gap in international circulation by importing capital goods from Germany (wherever the investment definitely was to be located) and to export, in turn, food and raw materials to Germany, preventing there the outbreak of the crisis. As was pointed out in the last chapter, in the years 1928 and 1929, German industry succeeded by reducing profits in overcoming the obstacles to free international movement of commodities and

consumers' goods industries over the seas was located, provided it was outside the country in need of capital.

¹⁴ We have already mentioned above the increase in output of American capital goods during 1929. Likewise prices of capital goods show a slight relative increase, e.g., iron and steel, structural steel, non-ferrous metals, lumber. (The index of the Bureau of Labor Statistics includes only a few capital goods.)

¹⁵ The difference in the case examined in the text from the instance of overproduction in agricultural countries is to be found in the fact that in the latter instance the industrial part of the consumers' goods sphere is not affected by losses; on the contrary, other things being equal, profits would rise in consumers' goods industries proper, and therefore investment would not stop but would still be equal to savings.

in increasing the exports of capital goods. The decline of capital imports in 1930, however, was too great; thus, regional overproduction of finished capital goods in Germany and regional overproduction of food and raw materials in some non-industrial countries abroad was created simultaneously.

It has to be noted that the reduction of the American net capital exports in 1929 was not due solely to a conscious retreat by American financiers from the international capital market. It is not unlikely that foreign short-term capital was imported in order to take advantage of the high call rates during the boom or in order to speculate.¹⁶ By withdrawing these short-term investments the foreign countries would have been able to mitigate the shock brought about by the termination of the American long-term capital export. In fact, however, both movements did not coincide; whereas an unusual shortage of new capital from abroad was to be noticed in Germany since the beginning of 1929, the continuance of the American boom until the autumn of the same year did not suggest a withdrawal of the foreign short-term capital from New York.

¹⁶ The fact, itself, is disputed. Information the author gathered from experts is contradictory. The remarks in the text may be taken only as a hypothetical statement.

CHAPTER VI

GENERAL DEPRESSION

A. THE PROCESS OF DEFLATION

THE main vehicle for the progress of absolute deflation is the hoarding of current income. The decline in demand for current net output would reduce profits and eventually would create losses, even if certain cost elements were not fixed rigidly by contracts; for even then the adjustment of cost prices would necessarily lag behind the variations of the commodity price level, since it is caused by these variations; and though the losses incurred would lower only the money value of the enterprises' capital, not its real value, entrepreneurs who anticipated a further fall in prices might reach for a deflationary gain in real capital by liquidating in time and keeping the capital in the form of money until the bottom of the slump seemed to have been reached. Thus, liquidation of capital represents a second means of deflation. When the entrepreneur is faced with a shrinkage in ultimate demand, either of the consumer or of the investor, he may react in one of three ways: either keeping up his output at the level indicated by the amount of his receipts and the actual costs per unit (which would not prevent him from hoarding net income) or raising the output above or lowering it below this level.¹ Only in the last case would he liquidate capital either to hoard it or to repay debts.² In the second case, he would reduce, *pro tanto*, net deflation.

The actual attitude of the entrepreneur largely depends on his position in the process of economic circulation. Specu-

¹ The last-mentioned attitude is used as a basis of the general theory of dynamic disequilibrium by W. Lederer in *Social Research*, Nov. 1934 and Feb. 1935; cf. too, my reply in the latter issue.

² The necessity of paying debts may bring about liquidation also when the anticipation of a future price fall is absent.

lative capital is, by virtue of its nature, very liable to be liquidated under the circumstances supposed, whether in the hands of a professional speculator or of a dealer or of a producer. But, too, working capital, indispensable for effecting the actual turnover, may be liquidated by the dealer, who would rather run the risk of serving a customer poorly or even of losing him than of seeing his capital depreciating. In both cases the debt position of the entrepreneur would exercise a decisive influence. On the other hand, the producer proper, burdened with much higher fixed costs, usually would not be inclined to liquidate capital and even would resist the pressure of his creditors. But he would be ready to postpone the replacement of his equipment as long as possible. In a monopolistic position he might, too, reduce his output excessively and partly liquidate working capital, if the new maximum point of monopolistic profits suggests this curtailment. Likewise, in the case of a sudden decline in the cost level, especially of wage rates, below the level corresponding to the fall in commodity prices, a deflationary windfall gain in working capital would be made, which only under conditions of perfect competition would be used for instantaneous re-expansion, but otherwise might be kept in liquid form.

These analytical results permit an answer to the crucial question whether undersaving would induce general deflation by taking away jobs from the workers in the capital-goods industries. The fundamental difference from oversaving lies in the fact that in the case of undersaving opportunities for investment are open: prices and profits in consumers' goods industries are rising. It follows that the decline in consumers' demand would not necessarily lower the price level of consumers' goods below the cost level. Indeed, if we rule out for the moment the influence of deflationary anticipations, of the debt position, of monopoly, and of a decline in wage rates, it could be demonstrated that the prices of consumers' goods would not fall below the cost level. For the temporary loss in capital-goods industries due to under-

saving would be exactly equal to the temporary gain in consumers' goods industries; this gain, therefore, would not be less than the loss in the money value in the working capital of capital-goods industries which, other things being equal, is strictly correlated with the income payments of the enterprise per unit of time.³ In other words, as long as the money flow does not shrink more than output, the price level would not fall below the former equilibrium level and thus the prices of consumers' goods not below their cost level.

We must not minimize the premises of the argument. How far were we entitled to rule out the four factors making for deflation? A heavy fall in wage rates is not likely under the conditions supposed, because consumers' goods industries would continue to attract laborers. The case of a monopolist's maximum profit point excessively shifting to the left is plainly an exceptional one, especially for the German conditions where the "cartel" represented the dominating type of monopoly; since in a cartelized group of independent firms the theoretical maximum point for the industry as a whole is not identical with the maximum points of individual members, the cartel's policy will usually be satisfied with covering the costs of the marginal producer.

Of greater importance are the other qualifications. In fact any partial overproduction of considerable magnitude may produce a "shock" effect on anticipations or bank credit policy, thus creating deflation. The differences from a deflation caused by strictly rational motives, as in the case of oversaving proper,⁴ nevertheless would be conspicuous. More-

³ We have to mention one qualification of however little importance: the less even the distribution of profits, the lower would be the spending quota in entrepreneurs' income. The effect should be scarcely great enough to create general deflation.

⁴ Oversaving proper may be brought about also by partial overproduction within the capital-goods industries, provided that no additional demand for consumers' goods is created. Savings funds plus replacement funds would be equal to the cost value of capital-goods output, but technical changes would induce entrepreneurs in the lower stages to turn their demand for capital goods to certain selected types, neglecting a part of the current output of capital goods. Thus a part of the capital equipment in the capital-goods sphere would be destroyed in the economic sense, workers would be displaced, and a part of the earnings would be shifted as additional profits to the favored entrepreneurs.

over, it is very doubtful whether any partial overproduction by itself would suffice to produce a "shock" effect. It would be wrong to apply the experience of investors' panic during a great stock exchange crash to the particular situation in question; for in a purely undersaving recession a part of the industries would prosper and the index of commodity stock prices on the average would show no decline. Under these circumstances we may equally well assume that a great number of entrepreneurs would take advantage of the drop in the price level of capital goods instead of waiting for a further fall; and as to the rest, the deflationary effect might be compensated for by the inclination of marginal producers, stressed so much by Keynes, to carry on business for a while despite losses and to cover their losses by an extension of bank credit. The banks themselves would be enabled, by the accumulation of idle funds by the "bears," to grant these additional loans.

Our result is in accordance with the fact frequently pointed out by business-cycle theorists that consumers' goods output, after a crisis, declines only slowly. In the German undersaving crisis of 1929, however, the situation was different on account of the peculiar source of the capital flow in 1925-1929. As far as the decline in the capital supply was due to the increase in the wage bill, the results reached above could be applied; the decline in income earned in the capital-goods industries would not be greater than the initial increase in spending. But the greater part of the undersaving in Germany was due to the fall of capital imports, the decline of which could not but bring about secondary unemployment in the consumers' goods industries, sufficiently discussed in Chapter III. There we pointed out, too, that domestic deflation probably did not originate before the end of 1930.

It follows that only the United States of America and not Germany could be considered as the center of the world-wide general deflation. It is not necessary to dwell again on the theoretical aspects of a general overproduction due

to oversaving. If investment stops on account of the losses in the consumers' goods sphere in general,⁵ not only the capital-goods sphere is going to be affected by losses, but the loss of purchasing power in this latter sphere would again affect the consumers' goods industries. As long as net savings are not invested in full the vicious circle cannot be broken. The bottom of the slump, therefore, is reached either when investment is equalized to saving or net saving has vanished entirely, which implies that all saving still carried on by people with a sufficient income is offset by dis-saving, namely dis-hoarding or taking out consumers' credit.⁶

B. INTERNATIONAL SPREADING OF THE DEPRESSION

A depression, spreading from a principal center, like the United States or France, might affect the outside world in a three-fold manner: (1) there might be a tendency to withdraw loans from the world outside; (2) the demand for foreign goods would be reduced, for raw materials and replacement goods as well as for consumers' goods and additional capital goods; (3) the shrinking of the domestic market would aggravate the competition in the world market and force down the international price level. We intend to discuss in general terms the symptoms of this international pressure, the forms of the deflation created in any country, and the power of resistance in the different countries.

1. Symptoms

How far would these deflationary defects be visible in changes of the balances of payments? The answer plainly has to be different for the different factors. Collecting debts entails a change in the international flow of goods or of gold. On the other hand, the pressure exercised by competition in the world market may go on without any change of this kind; in this case the deflationary pressure would be exactly equal

⁵ The industries providing the necessities of life (goods with a small income elasticity) would not suffer losses, but by their very nature they do not represent an opportunity for investment to any considerable extent.

⁶ By selling capital assets to banks or to capitalists who still are saving.

to the ratio of the domestic contraction of purchasing power in the deflationary center to the value of world's output; thus, under all circumstances, the pressure would amount only to a small percentage of the prevailing prices. In reality, however, such an even progress of the deflation in different countries hardly could be expected. Thus, changes in the direction of the gold movements and of the commodity movements would represent important *symptoms* of the spreading of the depression.

A loss of gold amounts to a loss of purchasing power, the pressure frequently being multiplied by the necessity of curtailing the volume of bank credit or of fiduciary money. The current supply of gold from mines would relieve the pressure only as far as it exceeded the net gold consumption in the arts and the needs of a growing economic system for an increase in the volume of purchasing power corresponding to the increase in the volume of factors employed. On the other hand, a loss in gold reserves would not exercise any deflationary pressure for the time being, if and when it would be offset by an increase in the volume of fiduciary money, i.e., if a wholly imperfect gold standard was in force. It is only after the exhaustion of the reserve that certain indirect effects of the deflationary pressure from the outside could not longer be fought off and would become visible in the impossibility of keeping up imports. But, after all, that is only a theoretical possibility. The real credit policy would be different in different phases of the business cycle and in different countries. In general the gold gain of semi-capitalistic countries like China and India amounts to deflation for the rest of the world without exercising a corresponding expansionist influence in the gold-gaining countries themselves; a gold loss here would be best counted as a component of the current supply of newly-mined gold. The same rule would apply to the creditor countries with a rather ample reserve in gold or foreign exchange during the first phase of a depression, because then any influx of gold is likely to be neutralized by a reduction of the member banks' indebtedness, whether

or not there exists an exchange equalization account. On the other hand, during the gold standard phase of the depression, a gold loss of debtor countries would entail some deflation unless it represented a mere swap of *devisen* against gold. With the last qualification we touch a very delicate spot. One may assume that during a depression no debtor country would build up a *devisen* fund consisting of claims on other debtor countries; therefore, one may consider any net increase of the debtor countries' *devisen* funds as equivalent to gold exports from creditor countries and as relieving the deflationary pressure exercised by the gold absorption of another creditor country. Statistically known, however, is only the Central Bank's portfolio of *devisen* and while there is no great chance that member banks in debtor countries (or even Central Banks) could accumulate *devisen* during a period of a heavy deflationary pressure, the situation might be entirely different in the later phases when depression gradually shades into recovery. At this time the statistics of gold imports could be used as indicative of deflation only with the utmost care. Moreover, during the same phase, debtor countries might free themselves from the pressure otherwise arising out of a gold loss by setting up a rigid system of exchange control, which would make the domestic volume of purchasing power entirely independent of the gold reserve; though the country would not escape the effects of the deflationary pressure in the world market, her gold loss would *lower* the pressure. On the other hand, some debtor countries may have gone so far on the path of exchange depreciation that temporary gold *imports* would act as deflation on the world market—like imports to creditor countries proper. Last but not least, debtor countries may change over to a creditor position as did Sweden in 1933; and creditor countries may give the signal for recovery by using a part of their ample gold funds for domestic credit expansion.

Changes in the balance of trade (or rather in the income account of the balance of payments) present even greater difficulties. A deficit on income account of a creditor country

(not including gold imports on the debit side) would be indicative either of gold exports or of "capital imports," i.e., of debt collection or of the influx of panic funds or of investment on foreign account; the last possibility may be disregarded under the specific circumstances of a depression. As to the other, obviously payment of a debt (or capital flight) by transfer of goods does not imply international deflation in itself: clearly, no deflationary pressure would be exercised if the creditor country increased the aggregate demand for foreign goods correspondingly to the debt collection.⁷ Nevertheless, we may treat the sudden and rapid liquidation of debts as an immediately acting factor in a world depression, because then the debtor country, instead of using a regular surplus in income for gradual repayment, would be compelled to sell out goods at any price and to adapt, without regard to the cost situation, her structure of production and exports to demand conditions which have fundamentally changed. On the other hand, a surplus in income account in a creditor country's balance of payments, as far as it is not used for gold imports, would relieve the pressure of debt collection by other creditor countries, because it would be indicative of capital exports, while a debtor country's surplus would not represent relief, but the very expression of the deflation.

2. *Forms of Deflation*

Having interpreted the symptoms of an international depression, we may turn to discussing its effects on a single country. At first we have to stress the importance of the third factor, the shrinkage of the domestic market, mentioned in the introductory paragraph of this section. To a large extent the increasing competition from a deflationary

⁷ For similar reasons a clearing of debts between mutually indebted countries should not be used as an index of *international* deflationary pressure. If somebody in country A paid a debt to somebody in country C by transferring a claim on B to his debtor, no deflation would be caused by the act of payment itself; assets would be swapped. Only the cancellation of means of payment, by an abortive use of income, represents a reliable index of international deflation.

center would frustrate the efforts of the surrounding world to isolate the depression, which might be successful if only the second mechanism (import reduction) were operating and even if the first (debt collection) would come into play. For the latter's influence would be exhausted when all due debts were liquidated, while a discrepancy between saving and investment, as implied by the third mechanism may last for an indefinite period. As to the second mechanism, we have to keep in mind that a decline of purchasing power in the deflationary center would affect the international trade relations between the other countries only as far as the world's trade is of a triangular character: if A had bought exclusively from B, B from C, and C from A, a break in the first link of the chain immediately would entail a break in the others. But even then the foreign trade of B and C might be restored by C now buying from B, which would be impossible only if the international division of labor was carried so far that the world's exports of each specific commodity were strictly reserved for one country. In the present stage of development this condition exists only for a very few commodities. There are, therefore, much less natural or technical causes that prevent the restoration of international trade between the surrounding countries than the fact that the purchasing power of any of them, say of B, if restored by exports to a third country, say C, persistently might be drained by the deflationary center A which continues exporting and liquidating.

Thus deflation may be transferred to a country in different degrees. If the fall in prices was not so great as to reduce profits below the critical mark at which investment would stop, or if an adaptation of costs should occur in time, the only immediate effect would be a smaller need for funds which have to operate a given quantity of turnover; the money market would show signs of increasing liquidity. There remains, however, the possibility of a real employment of the surplus funds in business which necessarily would be realized under conditions of perfect competition.

Now, if the value of exports declined in the meantime, as is very likely, the re-expansion of credit would bring about an outflow of gold, other things being equal: deflation again would be *imposed*.

The third degree is reached when, due to the international deflationary pressure, profits fall below the critical mark, creating a discrepancy between savings and investment and even deflationary anticipations. A new *autonomous* center of deflation would then arise.

These distinctions help, too, in interpreting the decline in the quantity of imports. A fall in the quantity of exports would be responsible directly for a reduction in imports corresponding to the amount of imported foreign raw materials embodied in the exported goods, or, as we may say, for the decline in non-available imports. The decline in exports would, itself, reduce the purchasing power of the income-receivers in export industries and would create a cumulative secondary decline in demand already described in Chapter III. These secondary effects are associated with monetary events: since a decline in exports by itself would not reduce the domestic volume of purchasing power⁸ there would be, other things being equal, a tendency to immediate re-expansion of demand to the old level which would induce a rise of available imports to the old level. Credit restriction and, ultimately, an outflow of gold would check this re-expansion; or, to express it otherwise, imposed deflation would be the mechanism generating secondary unemployment. It follows that any decline of available imports that is not due either to substituting previously imported goods by domestic production or to the physical destruction of domestic equipment utilizing the imported producers' goods, possesses a deflationary character.

The two types of deflation, imposed deflation and autonomous deflation, may have different effects on the monetary mechanism. As long as deflation is only imposed, the demand

⁸ The primary unemployed may hoard, but scarcely for a considerable time. On the contrary, they will solicit consumption credit, thus increasing the money flow. See the more detailed analysis in the last chapter.

for imported goods is checked exclusively by a reduction of the money *stock*, either by gold exports or by credit restriction. As soon as deflation becomes autonomous, not all available money funds would be used for purchasing goods or hiring factors of production. A part of these additional funds would be destroyed by debt payments, but since not all producers and certainly not all income-receivers are indebted, a large part would be hoarded. It follows that any definite decline in the velocity of circulation is indicative of deflation entering the autonomous phase. On the other hand, it must not be concluded that autonomous deflation always could be removed by reflation because any attempt in this direction might convert it into imposed deflation, if the country lacked the means of paying for additional imports of producers' goods, and were not assisted by capital imports or by a simultaneous revival of the world's trade.

This distinction permitted us to deny any autonomous deflation in Great Britain or Germany at least before the end of 1930.⁹ As to Great Britain, the velocity of circulation of current accounts showed, per annum, the following development during the five years 1927 to 1931: 60, 63, 66, 64, 57.¹⁰ For Germany reliable figures of velocity could not be computed because first, only clearing figures, not bank debits, are available; secondly, clearing figures include stock exchange operations which declined in 1930; and thirdly, the fluctuations in the share of foreign deposits and total deposits might distort any result. Since, however, in 1930, clearings fell only five per cent, while demand deposits remained nearly constant, the decline in velocity could not have gone very far. In 1931 the fall was unmistakable, clearings declining about 28 per cent, but demand deposits only 11 per cent.

3. *Resistance to Deflation*

The advantageous position of creditor countries as to the ability of importing during a depression does not require

⁹ Similar considerations would apply to the United States and France.

¹⁰ Cf. J. M. Keynes, *Treatise on Money*, Vol. II, p. 33; for 1930 and 1931 figures are supplemented by a computation on Keynes' lines.

further explanation. Since the real value of one unit of fixed income from abroad would rise, the creditor countries would be able, despite the fall in exports, to hold the quantity of imports on a higher level than the rest of the world, at least till the financial breakdown of the debtor; provided only that the domestic equilibrium was not shattered by considerable overproduction or autonomous deflation.¹¹ Usually a creditor country would be in the position of combining the advantages just mentioned with the advantages drawn by an industrial country from the changes in the ratio of the prices of raw materials and food to those of manufactured goods.

TERMS OF INTERNATIONAL TRADE
1930-1934
(1929 = 100)

Year	Food	Raw Materials and Partly Manufactured Goods	Manufactured Goods
1930	84.0	82.0	94.0
1931	64.5	59.0	77.5
1932	49.5	43.5	64.0
1933	43.5	40.0	56.0
1934	44.0	40.0	50.0

Source: German Institute for Business Research, *Weekly Report*, July 10, 1935. The League of Nations computations do not cover the years 1930 and 1931; for the rest, their figures are in close accordance. As is well known, foreign trade price indices understate the decline on account of the shift to poorer qualities.

What are the reasons for this divergence? Since, in fact, the price behavior of agriculturally produced raw materials was different from that of mining products (as may be seen in the table below, p. 124), the explanation is to be found in the structure of competition. In agriculture, competition is perfect insofar as the produce is destined for the world market. Here the producer offers the current output and accepts the price which would be realized, being willing to curtail for a long while cost prices, i.e., to a great extent his

¹¹ Gold reserves may perform the same service for a considerable while. The same is true of short-term claims to foreign countries if the holder, by taxation, public borrowing, or by a forced levy, could be induced to liquidate.

net income, while output is reduced only very slowly. Manufacturing industries, and to a certain extent also mining, fix a price and wait for the incoming orders; when they drop, prices will be reduced, but, despite the heavy fall in the raw-stuff prices during a depression, that reduction never suffices to restore the previous volume of output, because a new decline in demand would soon frustrate the attempt at adaptation; a lower limit for the reduction of prices is always given by the necessity of covering at least the cash costs of which the wage part proves much more rigid than the corresponding costs in agriculture.¹² Moreover, even internationally, the fact of established trade relations tends to diminish the intensity of competition for all commodities not completely standardized. Thus, while the export of raw materials and of certain foodstuffs meets the competition of the whole world and small price differentiations would be sufficient to undersell a competitor, increasing the export of manufactured goods would require a much greater lowering of the price in order to overcome established preferences and relations.¹³ The preceding remarks must not be interpreted as stating great differences between the actual variations of the raw-stuff output and of the output of manufactured goods. In the short run, such differences would be possible only to the relatively small degree in which raw material stocks would fluctuate. But the different attitudes of producers suffice to establish differences between the schedules of supply elasticity and, what is only another expression of the same fact, between the supply elasticity in the raw-stuff sphere and the degree in which the demand-functions in the same sphere are shifted by a decline in manufacturing activity. Thus

¹² This analysis owes much to a discussion with Dr. F. Lehmann, New York.

¹³ The imperfectness of competition considered in the text is not of the usual type discussed in recent literature. Monopoly proper seldom exists in the world market and in any case is no more frequent in manufacturing industries than in raw-stuff production. Neither would the semi-monopolistic attitude of the producers in certain industrial fields, though very important for the domestic situation during a depression, exercise a great influence on the price relations outside the national boundaries. Industrial entrepreneurs may hesitate to under-sell by utilizing their full capacity, since the fellow-entrepreneur might be able to follow suit; but such a regard is scarcely given to the foreign competitor.

small differences in output may be associated with great variations in the price relation.

Plainly, the change in the terms of trade, though favoring the industrial countries, does not imply a relatively small decline of employment in the latter. Only the standard of living here would be upheld better than in the non-industrial countries, especially for the employed part of the population. Industrial countries, too, are able to use domestically a greater part of the formerly-exported products. Despite the secular trend to industrialization, raw-stuff countries could not easily increase the manufacturing of their own produce in the short run. And the need for food in foodstuff countries usually is almost satisfied.

C. THE INTENSITY OF THE INTERNATIONAL DEPRESSION, 1930-1933

Despite the huge amount of stock exchange loans at the moment of the collapse, the American deflation was not brought about primarily by bank credit restriction or by net repayment of bank credit.

BANK CREDIT IN THE UNITED STATES 1929-1931 (Million Dollars)

A. Loans and Investment of All Banks at Certain Call Dates

Date	Loans	Loans and Investments
October 1, 1929	42,221	58,835
December 31, 1929	41,918	58,417
September 24, 1930	39,735	57,590
September 29, 1931	33,750	53,365

B. Brokers' Loans and Bank Debits

Date	Brokers' Loans		Bank Debits	
	To N. Y. Stock Exchange	From N. Y. Member Banks	Total	Outside New York City
Sept. 1929	8,549	7,077	77,617	27,274
Dec. 1929	3,990	3,370	66,752	26,902
Sept. 1930	3,481	3,057	48,636	21,253
Sept. 1931	1,044	932	36,700	16,627

Source: Reports of the Federal Reserve Board.

C. Adjusted Demand Deposits

Year	Demand Deposits
1929	22,744
1930	22,038
1931	20,118
1932	15,871

Source: Currie, *Supply and Control*, etc., p. 33.

During the year subsequent to the stock exchange crash the total volume of bank loans and investments declined very little.¹⁴ It is true that loans and investments could not be considered of equal weight in every respect because a reduction of the former might cause a fall in the prices of commodities or securities and create deflationary anticipations, even if immediately thereafter the banks would invest an amount equal to the reduction of loans. But as to the equation between savings and investments, loans and investments are of equal weight; and since, too, the decline in loans alone was relatively small—indeed much smaller than the reduction in brokers' loans—there cannot be any doubt that the actual deflation, as indicated by the figures of bank debits, was caused mainly by hoarding and liquidating processes of entrepreneurs and income-receivers who, in turn, acted under the impression of the oversaving situation. The further deflation grew by non-investment, the greater became the request for loan repayment from banks as well as the ability of some customers to fulfill these wishes. Slowly a new phase of deflation started in the fall of 1930.

A rough index of the deflationary pressure in the United States may be constructed by adding up the reduction in the

¹⁴ This fact militates against the explanation of the crisis and the depression brought forward by R. G. Hawtrey and Currie, laying the responsibility entirely on the credit policy of the Federal Reserve System. It may be noticed that Hawtrey neither here nor at any other place in his analysis of the post-war period, ever takes recourse to figures about the actual volume of money and the velocity of circulation though his analyses run entirely in terms of monetary contraction and expansion, allegedly brought about by the credit policy of the Central Banks. He cites figures only for the variation in the discount rates which do not mean much, because we cannot compare these rates with actual profit expectations.

volume of net demand deposits and the increase in the volume of idle deposits.¹⁵ The first can be taken from official statistics (we use again L. Currie's computation), the second series could be estimated by calculating the amount of demand deposits which would have sufficed to operate the actual turnover in each year as measured by bank debits outside New York City if the velocity of turnover here had kept its typical level in the years of moderate prosperity (34 per annum according to Snyder's statistics quoted above);¹⁶ the difference between actual and calculated volume represents the increase in idle deposits. If d_n denotes the volume of demand deposits and v_n the velocity of turnover outside New York City in the year n , then the increase in idle deposits, i_n , over the typical volume of the pre-depression years is given by the formula:

$$d_n v_n = (d_n - i_n) 34$$

In words: the turnover of total demand deposits at the actual velocity is equal to the turnover of the active deposits ($d_n - i_n$) at the typical velocity.

$$\therefore i_n = \frac{d_n(34 - v_n)}{34}.$$

Since in 1930 v_n kept still a little above the critical value of 34, the computation of i_n has to start with 1931.

In making the estimate we excluded velocity in New York City because it is mainly determined by the turnover of securities, but we did not exclude the volume of demand deposits in this city for the following reasons: first, the working capital of brokers in the form of demand deposits was very small and, secondly, the cancellation of "bear" deposits by paying off stock exchange loans (in a roundabout manner, as

¹⁵ The corresponding changes in cash hoards cannot be ascertained, but they are likely to be of only slight magnitude as far as drawn from the cash circulation previous to the deflation; cash hoarding by deposit withdrawal is included in the figures in the text.

¹⁶ For various reasons, Snyder's figures may be too high; they give, however, a more correct picture of the fluctuations in velocity: thus, the value of our series as an index of change is not seriously impaired.

DEFLATIONARY PRESSURE IN THE UNITED STATES
1930-1934
(Pressure Negative)
(Million Dollars)

Year	$d_n - d_{n-1}$	v_n	i_n	$i_{n-1} - i_n$	Total Deflationary Pressure
1930	- 706	34.9			- 706
1931	- 1920	28.8	3077	- 3077	- 4997
1932	- 4247	25.4	4014	- 937	- 5184
1933	- 708	24.9	4058	- 44	- 752
1934	3099	22.1	6392	- 2334	765

a "bear" may buy from a liquidating "bull") should be associated with a *rise* in average velocity; in fact, however, the rate of decline in velocity in New York City was, up to 1934, greater than outside. As to this point, we may, therefore, consider the rough index as not very far from the truth. It becomes, however, less reliable in the beginning of 1933 if not already in the second half of 1932. In 1932, cash in circulation for the first time rose above the level of 1928 (about \$1,000 million after taking account of cash in the vaults of banks). Without doubt this was partly due to hoarding tendencies, but it is not unlikely that to a certain extent checks were substituted as a means of payment by cash. Since both deposit volume and velocity remained about constant in the second half of 1932, the total volume of purchasing power seems to have taken a slight turn upwards in the same period during which production for the first time showed signs of recovery. During the first five months of 1933 the slight increase of cash in circulation, even if corrected for gold returned to the treasury from "circulation" (in fact, in this case from hoards) certainly did not suffice to make good the loss of purchasing power caused by the closing of banks. In June, however, velocity took a definite turn upwards marking, together with the cessation of the decline in volume of deposits, the end of deflation.

Internationally, the pressure of American deflation was spread, not by net capital imports which, despite reduction

of the acceptance credits did occur the first time in 1934, but by importing gold on income account. Capital import by liquidation of credit was accomplished by the second deflationary center—France—the gold imports of which already exceeded the surplus on income account in the balance of payment in 1929. The changes in the nature of international capital movements, which are largely responsible for the credit liquidation during the depression, do not need extensive discussion. While in pre-war times the international short-term indebtedness was primarily of a commercial character,¹⁷ the short-term capital movements in post-wartime, to a great extent, were dictated either by fear of depression or by the great need of the importing country for fixed capital. The enormous amount of German short-term indebtedness is well known. As to the French holdings of short-term assets abroad, it is not entirely clear whether their ultimate cause lay in the reparation payments to which the international commodity flow was not able to be adapted in time, or whether during the French inflation short-term funds abroad were acquired by selling long-term assets. Likewise, it cannot be made out with certainty whether the French deflation of 1929 was only the effect of the American collapse in the fall of that year or had started independently earlier in the year.¹⁸ But even if the French deflation were only the consequence of the American breakdown, it was not a pure economic link of rational character that connected the two events, because the American crisis could not have affected the standing of the debtors of France in a few weeks' time. In no case, however, could this pressure be considered as aggravating the depression in 1929 because for this year

¹⁷ This statement has to be taken *cum grano salis*. The financial crisis in the United States in 1907 or the financial pressure in Germany in 1912 was due to the trespassing of the borderlines of commercial credit proper. Too, the flow of international short-term capital, as far as it was directed by Paris and Amsterdam, was based not on commercial credit in the meaning of financing commodity trade but on stock exchange credit. Nevertheless, post-war movements are of a definitely different type and order of magnitude.

¹⁸ During the negotiations on the Young Plan in the spring of 1929, French funds were withdrawn from Germany, but were replaced by other countries.

it was fully offset by credit expansion of other creditor countries.

The third obscure point in the French development is the magnitude of the liquidation in 1930, since, while the gold loss occurred over the seas, French debtors mainly have to be sought in Europe besides in the United States which did not lose gold. Very likely the greatest part of French long-term and short-term assets in Germany were liquidated at this time and were replaced by foreign money from other sources. The liquidation of French funds in London is visible only to a very small degree in the figures for the British balance of payment as well as in the figures for London's international short-term position as presented by the Macmillan Report. Both sets of data, however, are incomplete and above all they show only *net* changes. A replacement of French funds, as in the case of Germany, is by no means improbable. Anyway, the possibility has to be taken into account that already in 1930 a considerable flight of capital into France had taken place which might be estimated at about one-quarter of the eleven billion franc influx of gold.

The considerations on which the table is based may be found in the first sub-section of section B of this chapter. It has to be remembered particularly that the effects of the various factors are of a different nature and that their arithmetic sum could be used only with great care as an index; the addition was made, however, not only because the reader is likely to make it anyway, but also because the results seem to agree with the general picture of the depression. Too, the difference in the periods 1930-1932 and 1930-1934 has to be borne in mind: during the second period any unit of pressure would be of a gradually lesser weight because of the breakdown of the gold standard and because of the magnitude of the expansionist tendencies in the creditor countries. This fact seems to be of greater importance than the incompleteness of the statistics. In the latter respect we have to mention, first, the absence of figures concerning foreign trade in gold and income accounts of some minor countries,

FACTORS IN WORLD'S DEFLATION
1929-1934
(Million Gold Marks)

Year	Net Gold Supply ^a (Negative)	Net Gold Absorption ^b			Increase in Debtor Countries' Central Reserves ^c (Negative)	Net Absorption on Income Account ^d			Net Deflationary Pressure (Positive)	World's Trade ^f (1913=100)	
		United States	France	World ^e		United States	France	Three Main Countries ^e		Prices	Quantity
1929	- 931	735	1,523	2,304		-1,176		-3,277	- 904	136.5	129.9
1930	-1,110	1,176	2,058	3,921		-1,247		-1,716	1,195 ^g	121.7	117.3
1931	-1,857	610	3,305	6,797		- 609	496	1,584	6,569	100.8	101.6
1932	-2,622	-1,897	3,474	3,144	-623	- 378	811	1,112	1,011	83.1	82.4
1933	-2,474	- 729	922	1,718	-873	- 886	487	- 379	-2,028 ^h	75.0	82.9
1934	-2,987	2,803	-1,010	3,440	-288		206	209	584	70.0	85.6

^a Supply from mines (outside of the United States) minus net consumption in arts & gold exports or imports from India and China (Source: Rapport Provisoire de la Delegation de l'Or, League of Nations; Annual Report of the Bank for International Settlements; Annual Reports of the United States Director of the Mint).

^b Absorption positive.

^c Creditor countries (United States, France, Great Britain, Switzerland, Belgium, Netherlands; for 1933 and 1934 also Sweden) plus Russia; for 1933 and 1934 also Germany's gold losses and the gold gains of Italy, South Africa, and Japan are taken account of. For Belgium and Russia only figures of the Central Bank's gold holdings are available. Great Britain's gold losses in 1931 are disregarded; the increase of the Bank of England's gold holdings in 1933 and 1934 is taken account of as negative value because of its expansionist nature. Gold imports of the United States in the same years are not deducted, despite the domestic expansion of purchasing power, because the undervaluation of the dollar prevented a partial transfer of this increment to the world market by means of increased imports.

^d After deducting net gold imports; deficit positive.

^e United States, France, Great Britain.

^f Source: *St. Jb.*, 1935, p. 118^g.

^g Since the visible monetary gold stock in 1930 increased about two billion gold marks, nine hundred million gold marks dishoarded gold may be subtracted.

^h Since in this year the short-term funds of the sterling bloc in London increased about one hundred million pounds (estimates of the Bank for International Settlements), a further amount of three hundred million marks not included in the Central Bank's *devisen* and gold holdings may be deducted.

secondly, the great incompleteness of the figures concerning *devisen* holdings, thirdly, the impossibility of estimating correctly the amount and time of gold dishoarding in the capitalistic countries.

The great significance of the year 1931 as the peak of deflation, likewise the decline in 1932, is conspicuous. From monthly trade statistics it can be seen that the deflationary pressure in the latter year was concentrated in the first half year. Thus the turning point in production coincides with the end of the world's deflation.

The renewed rise of deflation, shown by the table for 1934, is to a large extent of a spurious character, the great gold movements to the United States and Great Britain representing either a flight of capital, i.e., gold hoarded or neutralized in the preceding years, or gold swapped against *devisen*. According to the statistics of the visible monetary gold stock,¹⁹ if compared with the gold supply figures in the first column of the table (plus the output of the United States), about 400,000,000 marks of hoarded gold must have entered into international trade for the first time. There remains a real net pressure of only 200,000,000 marks from continued French deflation which, in a roundabout way, was rendered possible by the thawing out of credits in some debtor countries; the amount lies within the limits of errors of our calculations. The fact, however, remains important that the process of international re-expansion was stopped in 1934.

D. NATIONAL RESISTANCE TO THE DEFLATION, 1930-1933

It scarcely requires any explanation as to why the brunt of the depression fell on the non-industrial countries. In certain commodities like wool, overproduction developed after the spring of 1929; in others, like coffee and wheat, latent overproduction existed, fostered by monopoly; too, protectionist policies persistently enforced an adaptation of production in the food-producing countries. To these more accidental facts, the principal disadvantages of non-industrial

¹⁹ *St. Jb.*, 1935, p. 198.

countries on account of their debtor position and the advantages of the industrial countries on account of imperfect competition have to be added. We also mentioned above the intermediate position held by countries producing non-agricultural raw materials. A comparison of the export prices in Denmark and Sweden is especially informative.

EXPORT PRICES IN DENMARK AND SWEDEN
1929-1933
(In terms of the national currency)

Year	Export Prices (1928 = 100)		Exchange Rate (Gold parity = 100)	
	Sweden	Denmark	Sweden	Denmark
1929	98	107	100.0	100.0
1930	91	90	100.0	100.0
1931	80	68	94.5	93.6
1932	76	60	69.0	70.4
1933	71	71	64.5	55.8

Source: *St. Jb.*, 1935, p. 143*, p. 212*.

MAIN EXPORTS FROM DENMARK AND SWEDEN
1929
(Million Kroner)

Sweden		Denmark	
Total Exports	1,812	Total Exports	1,712
Timber	305	Dairy Products	611
Paper and Pulp	461	Meat and Bacon	513
Iron Ore	151	Other Food	190
		Hides	29
Total	927	Total	1,343

A second differentiation was due to the differences in the debtor position. The leading non-industrial countries outside of Europe were developed for many generations with the help of English and American capital and had accumulated a foreign debt the service of which usually exceeded the volume of current capital imports as shown in the surplus of the balance of trade (in the years 1925-1929 on the average 346

million marks per annum).²⁰ On the other hand, in European countries of a mainly non-industrial character, the capital investment process either had originated much later and was carried on at a slower tempo or it was financed by domestic savings. They mostly showed a deficit in the balance of trade.²¹

While these facts explain the comparatively small decline in the imports of the European countries concerned, the exports were favored by the geographical situation, namely close location to the leading European creditor countries. This fact, of course, always played an important rôle in the conditions of competition and thus may be supposed to have been absorbed by the price structure. An additional advantage, however, was created during the depression by a decline in shipping freight rates which was smaller than the decline of world market prices for food and raw materials.

SHIPPING RATES AND PRICES OF FOOD AND RAW MATERIALS
1929-1933

Year	<i>Economist's</i> Freight Rate Index* (1913=100)	World Market Prices of Food and Raw Materials (1925=100)	
		Agricultural Produce	Industrial Produce
1929	96.8	89.3	96.1
1930	79.1	67.4	81.0
1931	74.7	48.2	60.8
1932	54.3	37.4	49.4
1933	49.4	34.8	47.0

* Corrected for sterling depreciation.

Source: *St. Jb.*, 1935, p. 144*.

The geographical differentiation is also helpful in explaining certain differences in the development of the exports of the leading industrial countries. It has often been noticed

²⁰ Cf. *Dr. A.*, Vol. II, p. 470. Included are 16 non-industrial countries outside of Europe.

²¹ The figures in the publication mentioned in the preceding footnote are distorted by the inclusion of Russia and the Netherlands. A deficit was usually shown by Bulgaria, Denmark, Finland, Greece, Ireland, Jugoslavia, Latvia, Norway, Poland, Portugal, Roumania, Spain, and Hungary. Estonia, Lithuania, and Sweden showed usually a zero balance, Czechoslovakia a surplus.

that in the first years of the depression a country like Germany was in a preferential position as to exports because, to a large extent, they were directed to European countries while, for example, British exports largely went over the seas.

DIRECTION OF EXPORTS OF FOUR LEADING INDUSTRIAL COUNTRIES
1929
(Billion Marks)

Country	Total Exports	Exports to Europe
Germany	13.5	9.9
France	8.2	5.1
Great Britain	14.9	5.1
United States	22.0	9.8

In another place²² we showed that Germany's export of manufactured goods, which declined about 15.5 per cent from 1921 to 1931, would have fallen 30.4 per cent if they had been distributed regionally in the same way as the British exports.

The actual impact of the world's depression on the industrial countries, however, did not depend solely on the export conditions. We have to keep in mind not only the independent causes in the United States and in Germany generating a recession, but also the differences in the creditor-debtor position. Since the United States represents the main center of the world deflation, we restrict the following quantitative analysis to the three leading European industrial countries.

Unemployment figures are not a reliable index of the gravity of the recession. Too, the French unemployment is not correctly measured by the current unemployment statistics; the labor supply consists, to a large extent, of immigrants (1.38 millions in 1926, 1.5-1.6 millions five years later) a great part of whom would leave the country if opportunities for earning a living became fewer. Another part of the industrially unemployed, if provided with means, would voluntarily retire; a third part would be able to return from industry to the rural occupations they had left not long before.

²² Cf. *Di. A.*, Vol. II, p. 530.

According to the census of production of March 8, 1931 unemployment had increased to 453,000 persons, but even here the number of foreigners who had left the country in the meantime would not be included. For the end of 1932 the decline in employment may be estimated at 1.5 millions, for the end of 1934 at 1.8 millions.²³ This amount *exceeds* the simultaneous decline in British employment (1.172 million insured persons, age 16 to 64, from the top in September 1929 to the minimum in September 1932), despite the fact that the number of gainfully occupied in French industry and mining amounts to only 74 per cent of the corresponding British group, and the French population to only 91 per cent of the British population. In both countries an equivalent for short-time work would have to be added, which, for France may be estimated on the basis of statistics of weekly working time as equivalent to about 500,000 unemployed in 1932 and 400,000 in 1934; in Great Britain it was much higher but hardly great enough to offset the difference in number of fully unemployed.

A similar comparison with the development in Germany would not be of great value because in contrast to France and Great Britain, Germany was not only subjected to general deflationary pressure but also to a grave undersaving recession. In any case, the decline in German employment (5.4 millions, 1929-1932, 4 millions, 1930-1932) exceeded the French decline so much, even taking account of the differences in population and in the number occupied in mining and industry, that the great importance of the financial position for the bearing of the international cyclical factors could not reasonably be doubted.

Any quantitative analysis of the decline in production or employment during a recession requires an assumption about the average output per worker and about the share of foreign

²³ *Annuaire Statistique*, Vol. 50, 1934, p. 128. The French employment and short-time statistics are reproduced in the *Ministry of Labour Gazette*, London, December 1934 and March 1935. Since they refer only to industrial enterprises with 100 or more employed, an increase of 20 per cent to cover the whole range of industry seems appropriate.

raw materials embodied in export goods. Only approximate estimates are possible; first, averages taken from census data would not apply accurately to exports or imports which are differently composed, while the share of foreign raw-stuffs is not given for every single industry. Likewise, we have to make a very rough estimate for depreciation of the fixed capital which is included in the British figures of "net" output. Only with these reservations in mind should the following estimates be looked at. We estimated the first coefficient at about 2,300 marks (prices of 1929) for Germany; for the employee in British industry in 1929 it could be calculated at £242 (in prices of 1924 at which the volume calculations of the foreign trade were made until 1930);²⁴ for 1930 the census gives £211 (in prices of 1930). From each figure 10 per cent may be deducted for depreciation.²⁵

As for the second coefficient, we already have mentioned the semiofficial figure of 15.3 per cent for German manufactured goods—the share of foreign materials in exports of food and raw materials naturally being very small. For Great Britain the census shows for 1924 and 1930 the following figures (1930 figures in parentheses): 660 (483) million pounds imported raw materials, 2540 ± 19 (2286 ± 19) million pound value of industrial output;²⁶ the figures for 1930 are already distorted by the price fall in raw materials. The census data, however, contain not only raw materials for industrial manufacturing but also commodities usually included in the foodstuff bracket of the foreign trade statistics, namely, as far as to be subjected to domestic processes of manufacture. Retained imports of raw materials in the usual meaning of the term amounted in 1924 to only 323.8 million

²⁴ Industrial net output per worker in 1929 is estimated by the Macmillan Report (p. 311) at £206 in current prices, equivalent to £242 in terms of 1924 prices. The census of 1930 corroborates this estimate, since £211 in terms of 1930 prices is equivalent to £243 in terms of 1924 prices.

²⁵ A. W. Flux estimates (*Journal of the Royal Statistical Society*, 1929, Vol. 92, pp. 1 ff.) the allowance for depreciation at about 9 per cent of the net output; since his output figures include the agricultural production, it seemed proper to apply a 10 per cent figure to the industrial net output.

²⁶ *Final Report of the Census of 1930*, Vol. V, pp. 12 f.

pounds, or to 42 per cent of the census figure for utilized foreign raw materials; a German coefficient calculated on the lines of the British census figure would come closer to the latter (26 per cent for 1924) than the 15.3 per cent coefficient mentioned above.²⁷

It seems necessary, in computing the employing power of exports, to reckon with a slightly lower figure than the census coefficient; first, because also raw materials and food are exported, secondly, because the goods manufactured out of imported foodstuff, to the greatest extent destined for home consumption, embodied a relatively large share of imported material. Moreover, foodstuff imports *in toto* may show variations opposite to the amount of "raw foodstuff" contained in it; in fact, for Great Britain the volume of retained imports in this group increased in the years 1930-1931 on account of the higher purchasing power of wages. Thus we have to be satisfied with calculating available imports of raw materials in the meaning of the foreign trade statistics on the basis of a 13 per cent coefficient of exports of manufactured goods. For estimating the employing power of exports, we have, of course, to take into account *all* foreign materials embodied in the goods exported. Considering the qualifications mentioned above, we may use for Great Britain the average of the 13 per cent and the 26 per cent coefficient, and estimate the share of foreign raw materials in exports at 20 per cent, which would give an "export-output" per worker of £278 for 1929 (in terms of 1924 prices) and of £243 for 1930 (in terms of 1930 prices). For Germany the 15.3 per cent coefficient may be applied with greater confidence, which gives a "gross" output of 2,700 marks in terms of pre-depression prices. It can be easily seen that the results are not altered substantially by a change of a few per cent in the assumptions for the coefficient in question.

²⁷ German raw material imports in the Census meaning (excluding fodder) amounted to 6.7 billion marks in 1929 (cf. *Dt. A.*, Vol. II, p. 411), of which 1.7 billion was foodstuff, while the value of the net output in industry and mining around 1927-1928 (practically unchanged in 1929) amounted to 32-34 billion marks (*K. St. H.*, p. 35); that would point to an 18 per cent share.

ANALYSIS OF BRITISH UNEMPLOYMENT DURING THE DEPRESSION

	From 1929 to 1930	From 1930 to 1932
(1) Decline in Volume of Exports	155.9	145.9
(2) Decline in Employment on Account of (1)	560,000	600,000
(3) Decline in Volume of Available Imports of Raw Materials	20.0	-5.0
(4) Decline in Employment on Account of (3) ^a	550,000	-170,000
(5) (2)+(4)	1,100,000	430,000
(6) Decline in Actual Employment (Annual Average)	423,000	449,000

Exports and imports in million pounds sterling; for 1930 in terms of the prices of 1924, for 1932 in prices of 1930.

^a As pointed out above (pp. 111 f.) the decline in imports represents only a symptom, not the cause of unemployment; the cause lies in deflation, either autonomous or imposed.

The striking divergence between the actual and the computed figures in the decline in employment is to be attributed to three causes: first, to the incompleteness of the employment figures which include only insured persons aged 16 to 64 and do not take account of the shortening of working time which, on the basis of the German experience and the British material on the decline of output, may be supposed to have been equivalent to a decline of 400,000 for 1929 to 1930 and of 600,000 for 1930 to 1932;²⁸ secondly, to the fluctuations in stocks of foreign raw materials which are likely to have offset partly the decline in 1930 and even might have compensated for the increase in available imports in 1932; thirdly, to the absorption of labor by an increased stock of capital because during the whole depression investment was continued to a considerable extent.

Under no circumstances, however, did secondary unemployment reach in 1930 the amount indicated by the decline in employment attributable to the decline in imports of raw materials. We are inclined to estimate it for 1930 at 50-60 per cent and for 1932 at 75-100 per cent of the primary unem-

²⁸ These figures are compatible with the decline in industrial output: 8.6 per cent from 1929 to 1930, 9.6 per cent from 1930 to 1932, to be compared with 8.2 and 9.8 per cent respectively for the decline of employment *in toto* according to our estimates. Output per head is likely to rise a little during the later phases of the depression.

ployment. During the second period it would include not only the effects of imposed deflation but also of autonomous deflation.

It has to be borne in mind that the figures in (3) are used only as an index for the decline in employment due to the import deficit, not as representative of the deficit itself, which, in principle, would have to include also imports of manufactured goods and food no longer demanded by workers now unemployed, nor by capitalists now deprived of dividends. As to manufactured goods, there would arise a tendency to replace them by domestic products. As to food, the situation was most peculiar in Great Britain because, as pointed out before, the volume of food imports during the whole depression was kept above the level of 1929. It follows that the secondary unemployment was partly caused by the change in the distribution of income; the rising real income of laborers seems to have been spent mainly for imported food, where the same amount, if retained by the upper income classes, would have been devoted to the purchase of commodities (capital goods or consumers' goods) to the value of which foreign material contributed less.

ANALYSIS OF GERMAN UNEMPLOYMENT DURING THE DEPRESSION

	From 1929 to 1930	From 1930 to 1932
(1) Decline in Volume of Exports	711	4,835
(2) Decline in Employment on Account of (1)	260,000	1,790,000
(3) Decline in Volume of Available Imports of Raw Materials	609	6,075
(4) Decline in Employment on Account of (3)	1,520,000	1,690,000
(5) (2)+(4)	1,780,000	3,480,000
(6) Decline in Actual Employment		
(a) Fully unemployed	1,255,000	3,997,000
(b) Short-time equivalent ^a	ca. 700,000	ca. 1,000,000
Total	ca. 2,000,000	ca. 5,000,000

Exports and imports in million marks, in terms of the prices of 1928.

^a Estimated on the basis of the average daily working time.

In interpreting these figures we must first take notice of the fact that here a part of the primary causes of unemploy-

ment as defined in Chapter III appears in (3) and not in (1), namely, as far as the vanishing capital import is concerned; thus the ratio of primary to secondary unemployment could not be computed by simply comparing both rows. This is only a technical remark; of the greatest material weight, however, is the fact that the figure of actual unemployment was so much greater than the computed one. The explanation lies in the enormous decline of building activity to which the 15.3 per cent coefficient does not apply properly.²⁹ In the case of Great Britain the statistical error is slight, first because the foreign material coefficient for building is, there, much higher than in Germany on account of the lack of home-grown timber; secondly, because the building activities, there, were kept on a relatively high level during the depression, declining only about 14 per cent against about 63 per cent in Germany; the greater decline in the latter country is due to the difference in the magnitude of the national income which permitted Great Britain to keep up "gross" investment at about five-sixths and "net" investment to at least three-quarters, while in Germany the latter became negative in 1931.

Again it must not be concluded that a re-expansion in German building activity could have been achieved without a significant increase in imports; the rising demand of the re-employed would also have stimulated the imports of food and manufactured goods and the output of commodities of various kinds embodying foreign materials to the usual degree, although on the average the employing power of one unit of imports of raw materials would have been twice as great as indicated by the coefficient of 15 per cent. As long as a recovery of the world's trade did not improve the chances of German exports and the decisive step of lowering the standard of living during "recovery" by governmental inter-

²⁹ The number unemployed in the building industry and the industry of stones, bricks, and clay for 1932 amounted to more than 1,000,000; an appropriate share of unemployed clerks and technicians has to be added and due allowance has to be made for short-time work. Similar considerations as to unemployment in the building trades would apply to unemployment in agriculture and domestic services (each 220,000 persons).

vention was not yet taken, only by a heavy curtailment of the interest payments due on foreign loans would it have been possible to secure the financing of additional imports. But was that to be accomplished in a period of intensive deflation such as was caused by the debt collecting process which had started in the spring of 1931?

If we take account of the changes in available capital imports since 1929 (minus 2,700 million marks), we may estimate total primary unemployment proper at 3,000,000 for the whole period concerned and the ratio of primary to secondary unemployment at 3:4.

In the case of France, the analysis of unemployment must be based on even less reliable statistical estimates than in the instance of Germany and Great Britain. No figures for the average net output per worker being available, we used a figure corresponding to the German one, equal to 14,375 francs. The share of foreign raw-stuff seems to be rather high, since the raw-stuff imports per person industrially occupied reached in 1929 the British level and were only a few per cent less in the two preceding years. "Export gross output" could, therefore, be estimated at about 19,000 francs, 25 per cent of which represented foreign materials.

ANALYSIS OF FRENCH UNEMPLOYMENT DURING THE DEPRESSION

	From 1929 to 1930	From 1930 to 1932	From 1932 to 1934
(1) Decline in Volume of Exports	5,511	15,498	— 1,378
(2) Decline in Employment on Account of (1)	290,000	820,000	— 70,000
(3) Decline in Volume of Available Im- ports of Raw Materials	— 2,023	4,696	— 860
(4) Decline in Employment on Account of (3)	— 430,000	1,090,000	— 200,000
(5) (2)+(4)	— 140,000	1,910,000	— 270,000
(6) Decline in Actual Employment			
(a) Fully unemployed		1,450,000	300,000
(b) Short-time equivalent		500,000	— 100,000
Total		1,950,000	200,000

Exports and imports in million francs, in terms of the prices of 1913; 1929 = 100.

Source: *St. Hdb. D. Weltw.*, p. 93.

* The short-time equivalent is estimated on the basis of official figures of employees working less than 48 hours in enterprises with 100 or more employees.

We have no reliable estimates for French unemployment in 1930; but it could scarcely be doubted that France escaped the depression until the beginning of 1931; for during 1930 industrial output increased (from 139 to 140; 1913 = 100), and likewise the volume of clearings and security issues (in terms of francs).³⁰ The decline in output and employment due to the fall in exports was not so great that it could not have been offset by an increased permanent employing power of home industries, due to the rich flow of current investments (partly already carried through in the year 1929), which at other times attracted an influx of foreign labor. The intensified competition of foreign industrial countries in the French domestic market still could be met by price reductions without lowering prices below costs; it must be borne in mind that French costs, though they are likely to have caught up with prices at least in 1929, did not show signs of being over-increased as did the German or the British cost levels.

As to the development since 1930, it has already been pointed out that the French depression was not less grave than the British one. The ratio of secondary to primary unemployment (3:4) seems for the period 1930-1932 more favorable to France than for the same period in Great Britain or Germany. For the period 1932-1934 the development in actual employment was opposite to what would be expected from foreign trade figures. The explanation is likely to be found, besides the statistical inaccuracies or changes in commodity stocks, in the decline in building activity, as in the German case of 1930-1932. The process of autonomous deflation went on, at least no monetary re-expansion took place (after an interlude in 1933) which at the same time would have induced an ampler utilization of the vast gold reserve for re-increasing raw material imports and the volume of production. After the depletion of the public deposits in the Bank of France in 1932, the government rather pursued the opposite policy.

³⁰ The fall in the price index for common stocks is indicative only of the impending decline in profits on account of the price fall and not of an actual recession.

CHAPTER VII

SOME INTERNATIONAL ASPECTS OF RECOVERY

A. GENERAL CONDITIONS OF RECOVERY

ANY typical depression is a blend of deflationary pressure and of partial overproduction. In economic literature, the meaning of "recovery" is, therefore, ambiguous; does one look only for the end of the deflation, i.e., for the restoration of a closed circle of production and consumption in which receipts are covering costs, or for the removal also of latent overproduction, as far as exceeding the amount inevitable also in true prosperity? The re-birth of prosperity even might be denied as long as unemployment continued to keep above the old "Beveridge" minimum though, as sufficiently stated in the preceding chapters, unemployment is by no means restricted to the depression phase of the cycle. Therefore we shall proceed by discussing separately the overcoming of partial overproduction and of deflation, in other words, of general overproduction.

Since overproduction is defined as a situation in which for the quantity involved costs per unit are higher than the demand price, a reduction of costs corresponding to the elasticity of the demand may present a cure for partial overproduction. Only in exceptional cases, however, could the necessary cost reduction be accomplished solely on the basis of a lowering of real costs without any lowering of the income rates. On the other hand, income rates could be lowered only with difficulty in a single industry: this would be entirely impossible for interest rates and, for wage rates, could be accomplished only temporarily. Therefore a lowering of income rates would represent the appropriate and indispensable remedy only in case of a "deflationary" over-

production, which was due to the fact that the contractual income rates and the prices of other cost elements still are above their normal level. It must not be overlooked, however, that any considerable change in the income rates and thus in the income structure would affect the demand structure and render difficult again the adaptation of supply to demand. Nevertheless, lowering¹ of wages may prove wholesome, namely in case of undersaving, unless the breakdown in wage rates should take such dimensions that the point of equilibrium in the middle between oversaving and undersaving would be overshot.

The second classical remedy for partial overproduction consists in the transfer of vested resources from the disfavored industries to the favored ones. It is, however, not necessary to dwell on this possibility, the limits and difficulties of which are sufficiently discussed in economic literature. Closer attention has to be paid to the third remedy, accumulation of capital and investment of capital in the favored industries. It is, in fact, the natural road to recovery as well as to the wiping out of structural unemployment,² disregarding for the moment, interventionistic efforts of the government to lower the amount of capital per worker. It raises, however, problems only from the point of view of national differentiation to be discussed in the next section.

Since, as shown, partial overproduction in a few industries or even in the whole capital-goods sphere would not necessarily cause general deflation by itself, it was possible to state the preceding argument in non-monetary terms. Now we turn to the case of general overproduction, discussing first the end of absolute deflation. As already stated, reduction of net savings to zero is one way of terminating deflation either by annihilating gross savings or, what is more likely, by dis-saving. By this term we denote the

¹ In the case of considerable unemployment, normal wage rates would decline suddenly to the minimum of existence.

² We disregard the decline of population, i.e., of the supply of labor, which only very slowly would bring about harmony between the two structures, because of the repeated changes in the demand structure caused by the decline itself.

liquidation of private fortune (by borrowing or selling out, i.e., transferring economic ownership), which is not associated with an impairment of the invested capital stock. In both cases, however, the ultimate reason is to be found in the heavy curtailment of the national income. Moreover, even when the point of zero saving is reached, there might be further deflation by anticipation, especially by refraining from due replacement, involving negative saving for the system as a whole, i.e., physical capital consumption. Naturally, the question arises whether or not there are mechanisms stimulating investment before the tendencies to dis-saving would have grown so much that, by raising the demand for consumers' goods, they even would overcome the deflationary anticipations.

Undoubtedly the ground for re-expansion of bank credit would be prepared by the increasing liquidity of the banking system. At a given cash basis the cash reserve ratio would increase, bank debts being wiped out by payment and demand deposits being canceled. The cash basis itself would dwindle also as long as bank notes proper were canceled by debt payment, but would not fall below the minimum represented by coin, governmental paper money, and certificates (including bank notes covered at 100 per cent by irredeemable money) unless brought about by the public's hoarding of cash, which, however, easily could be offset by the issue of paper money.

After all, the process of liquidation creates only a *possibility* of re-expansion. As a mechanism stimulating the use of these additional funds we have to mention, first, the fall in the rate of interest which, contrary to a fall in wages, would stimulate the demand for goods or services supplied in industries using much capital per worker, e.g., for services of residential building; by the decline of the interest rate, the cost price of any such good would be lowered even more than the general price level. The shift of the supply function to the right would be greater than the shift of the demand function for the good concerned to the left, especially because the de-

flationary curtailment of income does not affect all strata equally. In other words, if deflation leaves unimpaired the nominal income of some classes or at least would enhance their real income, the demand for certain goods may exceed the actual supply and even the capacity of the consumers' goods industries concerned; by keeping the market price above the deflated cost price, investment might be stimulated.

It must not be overlooked, however, that we are describing here again a mere possibility, which seems to have been realized in pre-war cycles but depends for realization on definite conditions. Some of them were mentioned in the last paragraph. On the whole, however, the question needs close examination. The same problem arises for the second mechanism—the lowering of real costs by technical progress or by discovery of rich natural resources.³

Any investment activity of entrepreneurs requires a certain stimulus, the magnitude of which would be different for different types of entrepreneurs and would vary during the various phases of the cycle. But an initial stimulus would not be enough; in order to bring about recovery it must last: in other words, the repercussions caused by the stimulated investment activity of entrepreneurs must not destroy the very basis of the activity itself by altering the economic surroundings. This problem is largely identical with the problem of general latent overproduction we slipped over in the first chapter.

As to the problem of initial stimulus: we have to notice one fundamental difference between a decline in the rate of interest and a decline in real costs. In most cases the latter would benefit for a considerable while only a few dynamic entrepreneurs who, therefore, would proceed to invest regardless of the general situation in the industry concerned, provided the decline in real costs were great enough to allow

³ Chances for such discoveries are especially favorable in "colonial" countries. So far they present an outlet for the "capitalistic surplus product," a point stressed so much by the Neo-Marxian theory of "imperialism," which, however, overlooks the condition of a specific rise of favorable investment opportunities (cf. Appendix, section E, *infra*).

for an anticipated further fall in prices. Even if all entrepreneurs were able to carry through at once the new method of production, they could not afford to bother about an actual overproduction in the industry concerned, because entrepreneurs refraining from the application would be doomed. On the other hand, a fall in the rate of interest which is likely to benefit all entrepreneurs alike⁴ would not induce investment in an industry in which overproduction (latent or actual) still exists. Naturally there is a possibility that the fall in prices in itself would wipe out overproduction if the elasticity of demand were sufficiently great; but that would depend also on the magnitude of the overproduction, i.e., on the nature of the crisis and the intensity of the depression. Plainly an undersaving recession by itself could not have created an oversupply in building services. On the other hand, the situation would be distinctly unfavorable in an oversaving crisis, in fact during any kind of general overproduction, if driven far enough. Unless a considerable fall in real costs stimulates investment, no automatic mechanism would, in this case, terminate the deflation before the point of zero net hoarding would be reached.

But supposing, for a moment, the credit facilities would be used by one or the other dynamic entrepreneur, what is the outlook for the continuation of this process? Obviously, as long as there still exists a discrepancy between savings and investments the price fall would not cease and the investment activity would be endangered. But even if we assume that the new activity, stimulated by either one of the two mechanisms, would be great enough to absorb all current savings at the moment in which business takes the upturn, a new discrepancy might arise later, because net saving would increase again due to the rise in income, to the decline in dis-saving, and to the eagerness of the lower-income classes to restore the savings consumed. Surely the discontinuance of deflation would improve the outlook for investment of all

⁴ In the later stage of the depression even contractual interest payments may be supposed to become adjusted to the changed conditions of the capital market.

kinds thus supplementing the stimulating function of both main mechanisms. But at the end of a depression a mere restoration of the equilibrium between costs and receipts is not enough to stimulate investment. If, therefore, both main mechanisms (the fall in real costs and in the rate of interest) were not sufficient to absorb the rising flow of net savings, a new deflationary setback would be probable. Again, the difference in the nature of the crisis would play an important rôle. As long as the deflation were only the more accidental companion of an undersaving recession and did not exceed a certain degree of intensity, the chances are good that net savings would increase only slowly when recovery is setting in, and that the rising investment activity could absorb them. Indeed, whenever the point was reached from which undersaving started, the underproduction in important consumers' goods industries would provide ample opportunities for investment which would be absent in the instance of an oversaving crisis. The greater the depression, the greater capital consumption, the stronger also the tendencies for speeding up net savings again.

The specific functions of public spending in stimulating recovery by credit expansion now can be made clear easily by reference to the general theoretical framework set up in the last paragraphs. Public spending may first solve the problem of the beginning by creating an additional demand for consumers' goods without a corresponding increase in supply at the same time, thus coördinating the action of entrepreneurs who, by the rising demand, might be stimulated to invest. Thus, a third mechanism would come into existence either to bring about a revival when the point of zero net hoarding would be reached but no stimulus to private investment would be available, or even to stop deflation before this point was reached. It would be erroneous, however, to consider public spending as an indispensable factor for stimulating investment regardless of whether or not both formerly discussed mechanisms did exist. As already pointed out, a fall in real costs even if carried through only by the

leading entrepreneurs in industries showing overproduction would not necessarily grow futile, and though it might be associated with the ruin of some marginal producers, it might, in balance, bring about better utilization of savings, an increase in output, and a rise in the flow of purchasing power. As to the fall in the rate of interest there would be, in fact, an increase in demand for specific goods that would *precede* the action of the single entrepreneur, which, therefore, would prove successful even if he did not find immediate followers.

In its second function public spending indeed supplements the mechanisms of technical progress and interest-rate decline, by adjusting the structure of expenditure. Successive waves of public expenditure paid as a bonus or as wages to workers employed in "public works" producing non-marketable goods, would offset the loss of purchasing power caused by increasing net hoarding out of an increasing income. Thus, to a large extent, private debts would be paid by converting them into public debts; the general financial implications of this fact are not to be discussed here: however objectionable from this angle, this conversion would be clearly unassailable from the point of view of the economics of the business cycle.

We do not intend to discuss here thoroughly the problems of public spending.⁵ We mention it only because it helps to explain the particular problems of recovery concerning the end of deflation. Again we have to take account of the differentiation according to the forms of the crisis. After an undersaving recession followed by "financial" deflation, it must be possible to come back, by interventionistic credit expansion, to the undersaving situation itself, in which, to the greater part, consumers' goods industries were in a state of underproduction and of rising prices, offering stimulating opportunities for investment. Step by step, therefore, public spending could be diminished and eventually be discontinued

⁵ See in this respect my contribution to the *Essays in Honor of Gustav Cassel*, London (1933), and the article quoted above, Chapter III, footnote 7.

entirely without endangering the equilibrium between saving and investment.

But plainly the situation would be different in the instance of oversaving. It would be possible, though scarcely advisable from a financial standpoint, to drive credit expansion so far that a great number of consumers' goods industries would show signs of underproduction, but, unless fundamental changes in the structure of expenditure or the structure of production had occurred in the meantime, any cessation of public spending would reveal again the old discrepancy between the structures which proved so fatal for current investment. A change in the structure of *production* might be expected if marginal plants are physically destroyed during the depression; but why should this occur faster in consumers' goods industries than in capital-goods industries? As to a change in *expenditure*, a rigorous taxation of the higher-income strata might prove a means to redistribute income. Too, we may imagine a new state of equilibrium in which, by physical destruction, the sphere of consumers' goods industries and the profit sum is so much reduced that total consumption of the capitalistic class, despite higher profit rates, would claim a much higher share of their income than before, and, together with the consumption of workers and unemployed, would be equal to the cost value of consumers' goods output. No longer would new investment in the consumers' goods industries be prevented by latent overproduction and the accomplishment of this investment definitely would secure the equilibrium between costs and receipts. The paradox of poverty in the midst of plenty would be solved on strictly orthodox lines by removing the plenty.

The preceding analysis gives also a partial answer to the crucial question of general latent overproduction. An extensive mathematical analysis would be required to answer this question satisfactorily. Here it would not be possible to go into this detail. Under any circumstances, however, the impossibility of a general latent overproduction could be maintained only if two disturbing factors are excluded by the

premises of the argument: (1) an *irrational* behavior of entrepreneurs and lack of confidence in public policy and institutions; (2) a reluctance to invest for *rational* reasons. The first condition could be supposed to be fulfilled in the later phases of the deflation in which both public policy and institutions are likely to be reformed under the pressure of the emergency and in which entrepreneurs would have freed themselves from the shackles of panic emotions. The difficulty, however, of fulfilling the second condition is the main text we had to preach about in the last paragraphs. Partly at least the popular opinion is upheld against orthodox doctrines which, by confusing actual and latent overproduction, misjudged the bearing of the law of markets.

We here discontinue the discussion of the general theoretical conditions of recovery. What has been said hitherto must suffice for an analysis of the international complications.

B. NATIONAL RECOVERY VERSUS INTERNATIONAL DEFLATION

Any autonomous deflation proper could be stopped in a country by an autonomous national policy; it must be kept in mind, however, that an autonomous deflation may conceal an imposed one as in the case of Germany since 1931. Then all considerations for the latter case would apply.

As to the overcoming of overproduction by investment, we do not have to dwell on the fact that it would be rendered extremely difficult for a single country on account of the international division of labor. A few remarks, however, may be permitted. The difficulty would be by far greater for a non-industrial country than for an industrial one: for, in respect to raw materials, the situation of the former by no means would be simpler than that of the latter; one raw-stuff country usually produces only a few kinds of raw materials, while the average consumption schedule requires them all. Likewise, historical and cultural reasons as well as the impossibility of importing the necessary capital goods would prevent the non-industrial countries from speeding

up the secular process of industrialization. An industrial country, on the other hand, though in the same unfavorable position as to production of raw materials, would be much more fit to complete the structure of manufacturing industries and at the same time might increase, at rising costs per piece, the food production on their own soil. Most clearly this development is discernible in the figures for the volume of British imports of manufactured goods which remained low in a period in which the rest of the imports already had surpassed the 1929 level, announcing the new turn to prosperity.

VOLUME OF BRITISH IMPORTS*
1931-1934

Year	Food	Raw Materials	Manufactured Goods
1931	108	94	102
1932	105	96	65
1933	102	105	67
1934	103	112	78

* Price basis 1930. 1930=100. Retained imports.

Also in the case of national differentiation the main difficulty is to be found in the concurrence of partial overproduction and deflation expressing itself in the task of fighting off foreign competition while completing the domestic structure of production. It must be kept in mind, however, that this difficulty would refer only to industries the products of which enter into international trade. The interest-rate mechanism, specifically linked to the building industry which requires a relatively small amount of foreign raw stuffs, would, therefore, not be hindered from functioning even during an international deflation; in fact it would assist in overcoming or at least in mitigating this deflation. In a country like England, the building activity therefore preceded the general industrial activity, while in a country afflicted by a grave over-saving crisis, like the United States, the sequence was the other way around.

We do not have to repeat that, in our opinion, the building boom was not an isolated or an accidental event, after the lapse of which a general decline in industrial activity had to be expected. The usual estimates of the magnitude and of the imminent exhaustion of the demand for dwellings as, for example, made in England since 1935, overlook also the fact that with the rising income the consumption of building

BUILDING ACTIVITY AND INDUSTRIAL PRODUCTION DURING RECOVERY

	1932	1933	1934
U.S.A. ^a			
(a) Residential Building ^b	6.1	6.1	5.4
(b) Industrial Production ^c (1923-1925 = 100)	64	76	79
Great Britain			
(a) Building Plans ^d	66.3	83.7	95.7
(b) Industrial Production ^e (1930 = 100)	90.4	95.5	106.0

^a December 1929: (a) 17.8, (b) 96.

^b Construction contracts awarded: million square feet; monthly average. (*Survey of Current Business*, February 1936, p. 10.)

^c Index of the Federal Reserve Board.

^d Estimated value in million pounds (London and Cambridge Economic Service, Memorandum #52, p. 7). In 1932 the volume was about 10 per cent lower than in 1930.

^e Index of the Board of Trade.

services per head too would rise. In any case, by equalizing savings and investment, the building boom stops deflation and prepares the ground for further investment in other fields, provided only that the necessary stimulus is given either by a fall in real costs or by a slight inflationary rise in the commodity price level.

The difficulties of non-industrial countries are further enhanced by the fact that they are usually debtor countries; the typical gold migration to the creditor countries which characterized the pre-war depression, may be supposed to improve their liquidity without, however, necessarily enforcing a lasting recovery.

Turning now to the paramount problem, we may state

that the main task of any country striving for recovery would be represented by her fight against the deflationary pressure exercised by the surrounding world. The struggle would be almost hopeless for a single country unless it possesses the dimensions and the self-supporting facilities of Russia or the United States. Nevertheless, the attempt has been made by Germany since the spring of 1933. And though it is not our intention, neither here nor elsewhere, to give a complete analysis of a country's recovery, prosperity, or depression, which in the German case, too, would be rendered difficult by the lack of indispensable material, it seems to be worth while stating in brief the conditions under which an isolated recovery in a country so intimately interwoven into the world's trade could be achieved. We have to bear in mind that Germany was not only faced by international deflation but also affected by a heavy undersaving recession at home. Taking up first this side of the problem, one fundamental condition could be derived: by keeping down the spending power of the masses, the volume of "saving" had to be increased to the same amount as the volume of current output, the increment of which would consist of investment goods: buildings, construction work, and the products of heavy industry. Evidently credit expansion, associated with a slight price rise and directed by the government towards the specific industries in which latent overproduction existed, was a suitable means of bringing about a close harmony between the structure of expenditure and the structure of production, provided entrepreneurs could be prevented from re-investing their hugely swollen profits; as is well known, that was achieved by a system of semi-forced loans, by substituting labor creation bills for the commercial bills in the bank's portfolio and by direct investment control. On the whole, an additional employment, equivalent to at least nine million labor years (including an equivalent for the lengthening of working-time of at least two million) was created in the three years since the spring of 1933 which would amount to an increase in national income of 19-20

billion marks.⁶ Since, however, the wage bill per additional worker could be financed to about 50 per cent by saving on the dole, and since the total expenditure involved could be met to 15–20 per cent out of additional tax receipts, less than half of the total expenditure had to be financed by credit expansion. The official statistics allow for a credit expansion of at least 8 billion,⁷ only a few per cent, if any, less than would be necessary to finance the total amount of re-employment as *primary* employment. Secondary employment, therefore, was very small, confirming our analysis above, because it would depend on a chain of additional expenditure (i.e., on circulation of the newly created money) which had to be prevented under the peculiar circumstances concerned.

The actual level of real wages during the years of recovery cannot be made out with certainty. Official statistics admit only of a slight increase in the cost of living (4 per cent) and a slight decline in union wages⁸ per hour (2 per cent) since 1932, which would be offset by the increase in the average number of daily working hours. It might be doubted, however, that union wages were paid to all additional employed workers. In any case, the total volume of consumption increased less, not only than the number of employed, but also than the wage bill, on account of the saving on the dole and of the increasing taxes and contributions. The actual increase in spending was, though by no means exclusively, to a large extent devoted to the purchase of goods embodying very little foreign raw materials, e.g., spending more for rent and travel and taking in the slowly increasing supply of domestic food, while the utilization of substitute raw materials, especially in the textile trade, increased.⁹

⁶ This estimate is in accordance with the official computations of the national income, which, however, are not yet published for 1935.

⁷ Here, as in the following paragraph, we refer to the situation at the end of March 1936.

⁸ Because of the lack of a suitable English term we use the phrase "union wages" also for a period in which a governmental agency had superseded the labor unions in fixing the minimum wage rates for the whole range of the economic system.

⁹ Building and construction activity as a whole was, in 1935, close to the level of 1929 which represents the pre-depression maximum. The development is char-

The same facts also answer the question of how an increased output could be achieved without increasing the imports of foreign raw materials and food. Largely the additional primary output consisted of goods containing only to a very slight extent foreign raw materials, while the increase in spending power was very much limited and, through various means but particularly by a rigid import control, was diverted to home produce. There remains, however, the fact that German recovery was and is limited by the shortage of available raw material imports (about 800 million marks in terms of the 1928 price level; the deficit of all imports of raw stuffs amounted to about 1,300 million marks). The deficit in employment, however, was much smaller than is indicated by export and import figures which would account for about three million unemployed, while in fact, employment in February 1936 fell short of the 1928-1929 level only by about 1.8 million (including a short-time equivalent of 300,000).¹⁰ As mentioned before, the deficit in foreign trade was partly made good by a change in the composition of the domestic output.

acterized in brief by the following series of the German Institute for Business Research.

PRODUCTION ACTIVITY IN GERMANY
1932-1936

Date	Industrial Output (1928 = 100)			New Dwellings Started (Thousand)	Industrial Buildings Started (Cubic Meters)
	Producers' Goods	Consumers' Goods	Consumers' Goods With Elastic Demand		
August 1932	47.5	74.9	66.2	4,644	176
January 1933	53.1	77.6	71.5	1,153	138
Monthly Average 1933	58.5	84.8	80.1	3,447	289
August 1935	101.3	90.5	84.9	8,844	1,378
February 1936	99.0	96.1	92.2	4,895	953

¹⁰ In May 1936 the deficit was reduced to 1.3 million, while the daily working time almost reached the pre-depression level.

The future of this peculiar kind of recovery is a topic not belonging properly to the sphere of problems with which we are concerned. Suffice it to remark that the main economic problem lies in the future of German *exports*. Domestically the problem is much more a political, social, and psychological than an economic one; there is no theoretical answer to the question whether the German people would indefinitely stand the strain of slowly rising prices, inevitable because it would not prove possible to re-absorb entirely the newly created money, thus preventing any further increase of circulation; nor would it be easy to replace "forced saving" entirely by voluntary loans or new taxes. The greatest difficulty seems to lie in the necessity of changing, in due time, the utilization of the increased savings further, by directing them into the customary channels of industry and trade in general, without increasing the demand for foreign goods. Only a planned economic system proper could achieve this goal unless a great rise in the world's trade would permit an increase of German capital goods exports close to the level of 1929.¹¹

Dismissing, now, the case of an isolated recovery, we have to discuss the question whether or not the countries that were not affected by an autonomous deflation or already had overcome it, would be able to form a rather independent bloc within which the exchange of raw materials, food, and manufactured goods could be raised more nearly to the customary level, enabling at the same time the process of investment which would cure overproduction. In Chapter VI we mentioned the possibility that the production of certain indispensable raw materials and food might be restricted to one or a few countries outside the new bloc so that it would be impossible to close the economic circulation within the bloc. Here we shall disregard this limiting case and shall suppose

¹¹ In the year 1929 Germany had a zero net income account in the balance of payments, ruling out reparation payments and taking account of the changes in interest payment which have occurred since and in exports as far as represented by reparation payments in kind.

that the formation of the self-supporting bloc is not hampered by natural or technical causes.

There is, first, a problem of the "beginning." Some country must enable the rest of the bloc, by providing it with additional purchasing power, to import more either by increasing imports itself or by lending money. The function of an ample gold reserve as a basis for this monetary expansion becomes conspicuous. It may be noted that the temporary discrepancy between imports and exports supposed here as a vehicle for forming a separate bloc, might arise even when a country devalues only in order to get its share in a rising world trade; for, as mentioned above, the export prices of manufactured goods marketed under conditions of imperfect competition are determined by the temporary domestic cash cost level and thus might decline in terms of gold almost proportionately to the rise in the gold exchange rates; since, too, any increase in the volume of exports would be accomplished only slowly, even if the world market was not affected by deflation, the gold value of exports might decline while the gold value of imports would remain unchanged.

The main danger for countries which are able to solve the problem of the "beginning" is to be found in the possible interference from deflating competitors which might drain the flow of purchasing power from the bloc leader to the non-industrial countries (or *vice versa*) imposing deflation again on the bloc.

From this angle the complicated system of protectionist devices elaborated during the last year is important only as far as *bi-lateral* agreements (exchange quota, clearing agreements) are concluded or preferential duties are granted which practically would force a country to buy where it has sold before. There is no need to dwell on the frictions created by this trade system. Of greater theoretical interest is the problem of devaluation as a means of combating a deflationary pressure from the outside. The sterling devaluation and the rise of the sterling bloc is always considered from this particular point of view. British recovery seems to confirm the

efficacy of such a policy. In fact, however, it is not easy to establish clearly a chain of causation. Even in terms of sterling, British imports of raw materials did not increase before 1933 and exports of manufactured goods¹² rose even later; financial expansion in the first half of 1932 is visible only in the increase of London security issues on behalf of the Empire. On the whole, there is no sign that British recovery or

THE VOLUME OF FOREIGN TRADE IN THE GOLD BLOC,
THE STERLING BLOC, AND THE UNITED STATES
1931-1934
(1932 = 100)

Country	Imports			Exports		
	1931	1933	1934	1931	1933	1934
Gold Bloc	120.6	101.5	91.4	130.6	98.0	99.7
Sterling Bloc						
Industrial Countries ^a	115.1	102.5	109.5	100.2	104.1	113.7
Agricultural Countries ^b	116.9	99.8	115.4	102.6	112.1	106.3
Total	115.6	101.7	111.4	101.5	108.3	110.1
United States	123.1	108.1	106.5	128.2	98.7	108.1

^a Great Britain, Sweden, Norway, Finland.

^b Denmark, Egypt, India, four British Dominions.

Source: German Institute for Business Research, *Weekly Report*, July 24, 1935.

the business revival in the whole sterling bloc started before the second half of 1932, when also American deflation came to an end.¹³ Therefore, the following statistics show, at best, that the recovery of the sterling bloc during the recent revival in world trade was furthered by the pound devaluation.

¹² It is true that the depreciation of the sterling bloc currencies in terms of the British pound (above 4 per cent in 1932 and about 10 per cent in 1933, calculated as a simple average of the depreciation rates of the main 15 sterling bloc countries outside the United Kingdom) increased the value of the exports to Great Britain in terms of their domestic currency and might have had a stimulating effect on their domestic trade. It did not enable them, however, to increase their imports from the industrial center, Great Britain, though mutually from each other.

¹³ One might point out, too, that during the whole period before the devaluation of the dollar, the British pound never was "artificially" lowered by sterling sales of the British monetary authorities, but was expected to find its "natural" level, i.e., it was permitted to follow the deflationary decline in world market prices, but not to outrun the fall. It seems, however, as if long-term capital exports in 1932 took the place of anticipating sterling sales and brought about at least temporary under-valuation of the British pound.

EXPORTS OF THE STERLING BLOC AS A PERCENTAGE OF WORLD'S EXPORTS
1931 and 1934
(In Terms of Gold Value)

	1931	1934
Sterling Bloc ^a	30.75	34.98
Sterling Bloc Exclusive of United Kingdom Empire	21.12	24.11
	22.27	25.44

^a Including Great Britain, British Dominions, British India, the main British colonies and mandates, four Scandinavian countries, Portugal, Hungary, Egypt, Iraq, Siam, Argentine.

Source: *St. Jb.*, 1933, pp. 106* ff.; 1935, pp. 120* ff.

Since the relative increase outside the Empire is almost as great as within the Empire, it could not be attributed principally to the Ottawa Agreements.

A comparison with the share in the world trade in 1929 shows that the loss from 1929 to 1931 fully was made good; in fact, the 1929 level was surpassed. The following figures illuminate the situation from a slightly different angle.¹⁴

FOOD AND RAW MATERIAL EXPORTS OF THE MAIN NON-INDUSTRIAL
STERLING BLOC COUNTRIES^a
1929 and 1934
(In Per Cent of World's Exports)

Exports	1929	1934
Food	31.1	32.0
Raw Material	25.1	25.8

^a Three main Scandinavian countries, five main Dominions, India, Malaya, Egypt, Argentine.

BRITISH FOREIGN TRADE WITH THE MAIN COUNTRIES
OF THE STERLING BLOC^a
1929 and 1934
(In Per Cent of the Total British Foreign Trade)

	1929	1934
Imports	44.7	50.7
Exports	51.4	54.5

^a Including the same countries as the last table, plus British colonies and mandates in Africa.

Though wholesome for the devaluating bloc itself, the devaluation might prove a stumbling stone for the countries sticking to the old gold parity. Devaluation might be restricted to the amount just necessary for wiping out the price advantage of the deflating countries, especially if the exchange rate were allowed to find its own natural level; then commodity prices in terms of gold would not fall more than they would inevitably, on account of the deflation in the gold bloc. But in this case the devaluation would be useless for the particular purpose of forming an independent, more self-supporting trading bloc. As already pointed out, this would require a monetary expansion and therefore the picking of a new exchange rate below the purchasing power parity resulting from the price levels at the moment of devaluation. In fact, the monetary expansion, itself, is likely to bring about the temporary undervaluation of the devaluated currency because it would amount to an additional supply of the currency in question in the exchange market. In this case the rôles would be changed,¹⁵ the gold bloc would no longer drain the flow of purchasing power injected into the world market by the devaluating bloc, but the drain would be the other way around. Even if deflation in the gold bloc should cease, commodity prices in terms of gold now might continue declining, due to the pressure from the devaluing bloc; as long as the domestic flow of purchasing power were not increased exactly proportionately to the rate of devaluation, the demand and supply functions in the devaluing countries would suffer, in terms of gold, a commensurate shift

¹⁴ S. E. Harris (in the *Quarterly Journal of Economics*, May 1934, pp. 471 ff.) drew attention to the fact that in 1932 the export trade of countries favored by an export bounty following exchange depreciation, does not seem to improve relatively to that of the other countries, in the markets of countries that adhered to the gold standard. His figures, however, are not quite conclusive because, on the whole, the exports of the gold standard countries, representing the bulk of the industrial countries, were favored by the relatively well sustained price level of manufactured goods; nor must we make much of the more favorable development in exports to countries with depreciated standards than to gold standard countries, because, as Harris himself is aware, it is the very nature of deflation to lower imports.

¹⁵ We assume here that the possibilities of withdrawing credit from abroad are exhausted.

downwards, pressing down at the same time the schedules in the world market correspondingly to the weight of the devaluing country. This fall of gold prices would be of no consequence for the devaluing bloc itself, except in the stimulation of gold production.¹⁶ The gold bloc, however, would suffer from imposed deflation.

From the preceding remarks the elaborate set of conditions must have become clear which had to be fulfilled in order to promote recovery within the British economic system and, spreading from the center, within the whole sterling bloc. To repeat them in brief:

1. The improvement in international terms of trade in favor of Great Britain and her creditor position permitted the upholding of production for domestic use.
2. The devaluation restored the competitive power and permitted the gradual re-expansion of exports and imports.
3. By stimulating building activity the interest rate mechanism assisted in equalizing saving and investment.
4. The discontinuance of the deflation, lower rates of interest, and an ample supply of capital permitted the expansion of the field of investment into various new industrial activities, as appropriate in a country with a rising income during the epoch of late capitalism. The absolute increase of employment beyond the pre-depression level was due, exclusively, to this turn, while the old staple industries showed a decline in employment.

One implicit condition of this favorable development was the restoration of the profitableness of British industry, reduced so much by the stabilization of 1925. It is commonly accepted that, on the average, costs were about 10 per cent too high during the pre-depression period. Evidently the

¹⁶ This becomes evident if we consider the limiting case of a uniform international devaluation equivalent to a uniform variation in the gold purchase price of the Central Banks.

larger the share of raw materials and interest charges, the better also the profit outlook during the later phases of the depression, but it is very difficult to make any estimate for the manufacturing sphere as a whole. Assuming roughly that on the average wages and salaries claimed about 50 per cent of the cost bill, raw materials about 25 per cent, and capital charges another 25 per cent, of which the half would consist of profit and interest, we may tentatively set up the following scheme of cost reductions for the period 1929 to 1935.

	Percentage Decline	
	Cost Rate	Cost Bill
1. Wages and Salaries	4.0	2.0
2. Raw Materials	35.0	8.75
3. Capital Charges		
a. Decline in capital value (supposed to be equal to the price decline in manufactured goods)	20.0	5.0
b. Decline in the rate of interest	27.0	3.5
Total		19.25

Thus the decline in the cost bill approximately would be equal to the decline in the price of manufactured goods as measured by the export price index. But no margin would be left for making good the excess in the cost bill as existing in 1929.¹⁷ There is no indication of a 10 per cent decline of real costs per unit over the whole range of the old industries; it must not be overlooked that the statistics of industrial productivity per worker are not conclusive because this increase might have been achieved by investment of additional capital, i.e., by increasing capital charges.

Even in the old industries, however, a certain reduction of costs per unit is likely to have been accomplished on the average by the process of natural selection, sometimes supplemented by governmental intervention. The main reason, however, why lack of profitability does not seem to have

¹⁷ A change in the assumed distribution of costs by enhancing the share of capital charges and lowering the share of wages and salaries (to, say, 35 and 40 per cent respectively) would raise the rate of decline in the cost bill to only about 22 per cent.

hampered investment and recovery, might be sought in the greater efficiency of labor and capital in the new industries. In fact it is even doubtful whether any wage index would reflect accurately the wage rate variations in this sphere.¹⁸

In any case, British recovery would be endangered by a relative rise in the prices of raw materials which is to be expected when world revival takes a sharper upturn. She could evade the consequences by a corresponding increase in prices of manufactured goods and a corresponding lowering of the sterling rate, but despite the considerable rise of real wages per hour since 1929 it is doubtful whether money wages per hour would remain constant under these conditions; in fact, they already showed rising tendencies during 1935. If, however, wages could be kept constant, then the standard of living in the non-industrial countries would be raised at the expense of the British consumer, while the rising purchasing power over the seas, together with the sustained competitive power of British industry would preserve the equilibrium of the British balance of payments.¹⁹

We may discontinue the discussion of the British recovery situation. The particular national type represented by this country seems to be sufficiently elaborated. Again, the danger of any over-simplified explanation became abundantly clear and should be kept in mind if any business upswing in any particular country should attract the attention of economists. There is no common force called "depression" or "recovery" which could be expected to produce, mysteriously, the same changes and the same symptoms in all countries at the same time. From the outset each country should be supposed to be ruled by a particular complicated set of conditions. We have to differentiate carefully as to

¹⁸ The export price index as derived from the official volume calculations of exports on a fixed price basis (1924 and 1930 respectively) is an "aggregate" using the quantities exported in the respective *given* year (so-called "Paasche" index type) thus allowing for any changes in the composition of exports. It might, however, reflect inadequately the price situation of commodities consumed to a relatively great extent at home.

¹⁹ A rise in the interest rate level is not to be expected unless brought about by either an increasing marginal productivity of capital invested in business or by excessive public borrowing.

both the specific problems of "equilibrium" (employment, profit situation, standard of living, volume of production) and the specific mechanisms which in time might produce a specific "equilibrium." It could, for example, scarcely be doubted that even in a closed system, price stabilization²⁰ eulogized so much for Sweden, at best could keep production and employment at the level indicated by the law of markets, and would not, by itself, take care of the unemployment caused by partial overproduction, labor-saving devices, immigration, or a difference between the birth rate and mortality. For any country interwoven into international trade, we should have to find out which were the conditions, first, that improved exports during recovery, and, second, that allowed production for domestic use to take the place of the rest of the exports. In the case of Sweden, for example, the particularly favorable export price situation discussed above on page 123 and the proximity of a country needing big quantities of iron ore for non-economic reasons, easily might have contributed as much to the recovery as did a stabilizing monetary policy.

Considerations of this kind would also permit a more fruitful approach to the problem: stable exchange rates versus a stable domestic price level (or "income rate level"). It is obvious how a sudden devaluation assists in escaping some consequences of a world-wide deflation, especially in restoring the competitive power of export industries, in stopping

²⁰ The fluctuations of wholesale prices since 1931 were not smaller in Sweden than in Great Britain and even the differences in the fluctuations in the costs of living were not considerable.

Year	Wholesale Prices (1913=100)		Cost of Living (July 1914=100)	
	Great Britain (Board of Trade)	Sweden (Kommers- Kollegium)	Great Britain	Sweden
1931	104.1	111.0	148.0	158.0
1932	101.6	109.0	144.0	156.0
1933	100.9	107.0	140.0	153.0
1934	104.1	114.0	141.0	155.0
1935	105.0	116.0	143.0	157.0

domestic autonomous deflation, and in setting the interest-rate mechanism into motion. World-wide deflation, however, does not imply merely a fall in the commodity price level; it is also associated with a considerable decline in real income, which may curtail the demand for the devaluating country's exports at however low prices. How could devaluation and price stabilization by themselves restore prosperity in a country like Brazil? Only by joining a more "self-supporting" bloc might she somewhat compensate the disadvantage from the international division of labor which she would encounter during a world-wide depression. This act, however, is not merely a question of domestic monetary policy, and requires more than simple price-stabilization in the whole bloc.

On the other hand, the advantages of stable exchange rates seem likewise exaggerated. A rather strong case could be made from the point of view of long-term international capital movements, so indispensable for the development of the world's natural resources. It has never been proved, however, that the volume of these capital movements would be less, should the gold standard be abandoned. On the whole, the confidence of the creditor mostly depends upon the general business outlook and the political conditions. As to fluctuations in the debtor country's exchange rate, the creditor could protect himself by stipulating the loan in terms of his own currency; this device scarcely would reduce the debtor's ability to pay, prices for his exports mainly depending on the purchasing power of the creditor countries. A scheme like Keynes' (in *Monetary Reform*) providing a few independent blocks with adequate internal stability would be satisfying from this point of view.

It is a different question whether the restoration of capitalistic confidence, if once shattered by whatever events, could be achieved psychologically without formal return to the gold standard. Even if this question had to be answered in the negative it would not follow that, under more ordinary circumstances, a smooth transition to a managed paper standard would shatter capitalistic confidence again. Nor

does recovery itself, i.e., the utilization of the *existing* facilities for food and raw-stuff production depend on this return to stable exchange rates. This proposition needs somewhat more detailed elaboration.

As far as one can see, the international commodity trade is not much impaired by fluctuating exchange rates, provided the fluctuations are kept within certain limits; its volume has increased since 1932 and its value since 1934. Usually two reasons are brought forward: the possibility of hedging against exchange rate fluctuations, and the fact that commodity price fluctuations seem to be smaller in terms of sterling than in terms of gold. As to the first, the volume of speculative capital which would take over the exchange risk is, in fact, very much limited; neither are the Central Banks able to supplement a deficit because that would amount to stabilizing the domestic currency in terms of a foreign currency. As to the commodity price fluctuations in terms of sterling, we examined them for three commodities of different types—wheat (Plata ros.), copper (standard), and Danish butter—during the 18 months from October 1931 to March 1933²¹ calculating variation coefficients by dividing the average deviation by the arithmetic mean.

COMMODITY PRICE FLUCTUATIONS IN TERMS OF THE BRITISH POUND
AND IN TERMS OF GOLD
October 1931–March 1933
(Variation Coefficients)

Commodity	In Pounds Sterling	In Gold
Wheat	1.19	1.56
Copper	1.87	2.12
Butter	1.46	1.67

The results, statistically, verify the argument; the significance, however, of the proposition for the problem in question is not equally clear. The dealer who is forced to hold large stocks of foreign materials and is not able to protect himself by hedging transactions in the exchange market,

²¹ Prices taken from: *St. Jb.*, 1932, pp. 122* ff., 1933, pp. 144* ff.

indeed would be relieved by the fact that sterling prices fluctuate relatively little and would be enabled to carry through hedging transactions in the domestic commodity market. The producer, however, who manufactures foreign raw materials for home consumption, has no exchange risk even if he buys the materials in terms of a foreign currency, since he may immediately cover himself by purchasing the foreign exchange, while the exporter of the raw material who sells in terms of a foreign currency may sell the exchange at once. On the other hand, the producer who wants to export manufactured goods embodying foreign materials is not comforted by the fact that the prices of raw materials fluctuate less in terms of the domestic currency; he will have to take the risk of fluctuating exchange rates and of sudden devaluating actions, and the only conclusion warranted by experience is that he seems to be willing to take them.

While for international commodity movements the therapeutic function of the international gold standard could be doubted only on empirical grounds, a strictly theoretical argument can be brought forward in respect to the movements of international capital. Since the raw-stuff and food countries usually do not export capital, the utilization of their resources as far as developed before the crisis would depend only on the full utilization of the industrial capacity in the industrial countries which, however, could be accomplished just as well by domestic investment in the creditor country concerned as by investment abroad. The only exception is an industrial country like Germany that needs foreign capital for utilizing optimally her industrial capacity. But on the one hand, the restoration of the gold standard would not suffice to create a re-birth of capital imports into Germany, and on the other hand, if there should exist outside of Germany a relative shortage in the output of capital goods in comparison with the flow of savings, German exports of capital goods would under all circumstances have a good chance to supplement the deficit.

There is still left one argument for the gold standard: the fact that, paradoxically expressed, we never left it. For abandonment of the gold standard implies essentially discarding the monetary use of gold, while *auri sacra fames* has rather increased since 1931. Then, it was the gold standard countries which proved the most willing to part with gold. We do not intend to stress this argument too much; the phase of international deflation seems definitely over, and, therefore, the return to the international gold standard is not likely to exercise a marked effect on international recovery. There is no hope for simple remedies—as little as for simple explanations. Again, we cannot help feeling the need for more complicated economics.

GENERAL APPENDIX

THE NEO-MARXIST THEORY OF IMPERIALISM

THIS book has treated the international aspects of the business cycle mainly from the orthodox angle, considering foreign trade as a particular realization of the general principle of division of labor, and the expansion of the "high-capitalistic" countries as the utilization of relatively good opportunities for investment. The Neo-Marxist doctrine, on the other hand, attributes the fact that present capitalism has hitherto evaded the ultimately inevitable collapse, to the existence of "non-capitalistic" countries beside the capitalistic ones, and to the possibility, thus given to the latter, to sell their unavoidable surplus of commodities to the former; by their mere existence the "non-capitalistic" countries have saved capitalism and have permitted a new revival after every crisis, creating in this way the business cycle. There are valuable suggestions contained in this theory of imperialism, of which we tried to make use in expounding and revising the orthodox doctrine. As a whole, however, the Neo-Marxist theory lacks both cogency and consistency. Since the interest in this doctrine has grown considerably in recent times, a critical examination seems fruitful.

A. THE FIVE FUNDAMENTAL PROPOSITIONS

The Neo-Marxist theory of imperialism is based on the so-called underconsumption theory of crises. Rodbertus must be considered as the founder.¹ His ideas were renewed and expounded by Rosa Luxemburg in *Akkumulation des Kapitals*

¹ The theory of underconsumption (law of the declining wage-share) can be found above all in: the *Zweiter Sozialer Brief an Kirchmann* (1850) ¶30, 32; the theory of imperialism in *Die Handelskrisen und die Hypothekennot der Grundbesitzer* (1858), pp. 23 f.

(with an elaborate account of the discussion) and by Fr. Sternberg in *Imperialismus* (1928) and *Der Imperialismus und seine Kritiker* (1931).² Marx, himself, cannot be considered with certainty to have been an adherent of this doctrine. Surely, there is the famous passage in Book III, chapter XV, I, which might be quoted by the Neo-Marxist theorists of imperialism (we translate as literally as possible): "The conditions of the direct exploitation and the conditions of its realization are not identical. . . . The former are only limited by the productive forces of the society, the latter by the proportionality of the different branches of production and by the consumptive power of the society. This power is, however, determined neither by the absolute power of production nor by the absolute power of consumption; but by the power of consumption on the basis of an antagonistic structure of distribution, which reduces the consumption of the broad masses in the society to a minimum, variable only in rather narrow limits. It is, too, limited by the instinct of accumulation, the desire to increase the stock of capital and to produce surplus value on a rising scale. . . . The market has to be expanded continuously. . . ." But, on the other hand, we find in Vol. II of the *Kapital* (chapter XX, IV) some remarks which were interpreted by Engels (*op. cit.*, note 47 and preface, p. xxi) as a refutation of Rodbertus' theory of crises: "It is mere tautology to say that the crises are caused by a lack of consumption or of consumers able to pay. . . . But if one attempts to give a seemingly deeper justification to this tautology by maintaining that the working class get too small a share of their own produce, and that the difficulties would be removed by raising the workers' share and thus the wage rates, one must not overlook the fact that the crises are prepared in any instance by a period of rising wage rates and a rising workers' share in the consumable current output. . . . It seems, therefore, that capi-

² I have examined the Neo-Marxist doctrine in two articles in the *Koelner Sozialpolitische Vierteljahrsschrift* 1925 and 1927. The following criticism is partly based on these publications. A critical appraisal of the discussion is given in W. Alexander, *Der Kampf um Marx* (1932).

talistic production goes on under conditions, independent of good or bad will, which permit this relative prosperity of the working class only for a moment, and that always only as an announcement of a crisis." This passage, however, might be interpreted differently from what was thought by Engels: not as a refutation of the underconsumption theory, but of all proposals to raise the workers' share within the realm of capitalism by governmental intervention. More convincing, therefore, is the fact that Marx's positive theory of crises in Vol. III, chapter XV is built on a basis wholly different from the starting point of the underconsumption theory, namely on the law of the declining profit-rate and the durability of fixed capital.³ "Orthodox" Marxists like O. Bauer or, from the communistic side, Bukharin have, therefore, always opposed the Neo-Marxist theory of imperialism.⁴

We may restrict our examination to R. Luxemburg and Sternberg. Too, we shall disregard here the "bourgeois" adherents of the underconsumption theory like J. A. Hobson, H. Herkner, and the American "philosophy of high wages," because they have failed to develop a theory of international expansion on the basis of their business cycle theory.

The underconsumption theory of imperialism is based on a few seemingly simple propositions.

1. By accumulation of capital the output of consumable goods is steadily increased at a rate greater than the rate of increase of population.
2. The purchasing power of the masses, on the other hand, is always pressed down to a certain minimum standard of living by the forces of the capitalistic system, especially by the displacement of laborers by the machine.

³ Cf. E. Preiser, "Der Doppelbau der Marxschen Krisentheorie" in *Festgabe für Franz Oppenheimer*, (1924); H. Grossmann, *Das Akkumulations-und Zusammenbruchsgesetz des kapitalistischen Systems*, (1929); Grossmann also develops only one side of the Marxian theory, the criticism of which is to be found in my article "Die Unterkonsumtionstheorie als Krisen-und Imperialismustheorie" in *Gesellschaft*, 1930, pp. 72 ff.

⁴ Cf. the discussion of their opinions in R. Luxemburg's anti-critical appendix in the second edition of her book.

3. Neither are capitalists able to consume the inevitable surplus, the existence of which destroys the profitability of the system; because they have to save and re-invest a large part of their income in order to stand the competitive struggle for living.
4. Within the realm of capitalism there is no evasion of the definite breakdown, threatened by under-consumption.
5. This definite breakdown has hitherto been prevented only by selling out this surplus of commodities to *non-capitalistic* countries.

We shall examine these five propositions in the following sections. None of them will prove to be true without very important qualifications.

B. EXAMINATION OF THE FIRST PROPOSITION

Neo-Marxist theorists have attempted to corroborate the first proposition of the underconsumption theory by mathematical statements.

For this purpose the branches of production are grouped under two sections, consumers' goods (section II), and producers' goods (section I); the former kind of goods is bought out of net income (as far as the income is not saved), the latter is purchased by entrepreneurs for replacement or out of savings for additional investment.⁵ The difficulties of this classification are discussed above; without doubt the basic idea may be upheld. It is easy to ascertain that if losses are to be avoided the size of both sections must be fitted each to the other in a stationary state as well as in a progressive one. Marx and the Neo-Marxists use arithmetical examples to elucidate this relationship; they can, however, easily be expressed in algebraic terms.

If w_2 denotes the value of the output of consumers' goods (as defined above) in an arbitrarily chosen period of time, and w_1 , correspondingly, the value of the output of producers' goods, then in equilibrium each of these values must

⁵ The replacement of the capital invested in section I is a "domestic" matter of this section.

be equal to the amount of costs and profits incurred in their production. These items might be classified under three headings: c for costs represented by commodities, v for costs consisting of wages and salaries, m for profits ("Mehrwert" =surplus-value).⁶ Therefore:

$$c_1 + v_1 + m_1 = w_1 \quad (1)$$

$$c_2 + v_2 + m_2 = w_2. \quad (2)$$

In a stationary state, evidently the following equation exists:

$$v_1 + m_1 = c_2. \quad (3)$$

That means there is a surplus produce in section I not required to replace c_1 and representing the sum of wages and profits in section I, which make up a part of the value of the produce there. This surplus is required in section II to replace real capital and is exchanged for a corresponding surplus-produce of consumers' goods.⁷

In a progressive state we have:⁸

$$(v_1 + m_1) > c_2$$

because

$$w_1 > (c_1 + c_2).$$

A part of the output of producers' goods is now purchased out of savings. If these savings are reinvested in the same section from which the income is derived, obviously the produce of each section must increase, whereas the amount consumed is supposed to remain constant. That, in this way, the ex-

⁶ Marx and his school consider c and v as capital outlay ("constant" and "variable" capital). But since w has the dimension of time, whereas capital is a stock at any moment of time, the velocity of turnover of capital has to be taken account of on the left side of the equation, which leads to the interpretation of the terms given in the text. For the sake of simplicity we shall select the observation period so that the velocity of turnover of capital is equal to unity, and assume that it has the same length in both sections.

⁷ Marx (*Kapital*, Vol. II, Ch. XX, II) gives the following example:

4000 c + 1000 v + 1000 m = 6000 producers' goods
2000 c + 500 v + 500 m = 3000 consumers' goods

⁸ Since in reality capital increases faster than labor, we assume in the following analysis a stationary population.

change between both sections is definitely disturbed hardly needs the elaborate proof by arithmetic examples given by R. Luxemburg and Sternberg. For the sake of completeness, however, we might state algebraically:⁹

A. First Stage

$$c_1 + v_1 + m_1(1 - q) + m_1q = w_1 \quad (1a)$$

$$c_2 + v_2 + m_2(1 - q) + m_2q = w_2 \quad (2a)$$

$$v_1 + m_1(1 - q) = c_2 + m_2q. \quad (3a)$$

B. Second Stage (after the reinvestment of the savings m_1q and m_2q in the respective sections)¹⁰

$$(c_1 + m_1q) + v_1 + m_1(1 - q) + m_1q(1 + i) = w_1 \quad (1b)$$

$$(c_2 + m_2q) + v_2 + m_2(1 - q) + m_2q(1 + i) = w_2. \quad (2b)$$

The exchange of the surplus produce in section I against the surplus produce in section II would require the following equation, in analogy to (3a).¹¹

$$v_1 + m_1(1 - q) = (c_2 + m_2q) + m_2q(1 + i). \quad (3b)$$

But if equation 3a were fulfilled, 3b could not be fulfilled. Both equations, 3a and 3b, can be fulfilled only if we assume that in section I not the whole additional income would be saved, but a part of it, equal to $m_2q(1 + i)$, would be consumed; but no mechanism exists in the capitalistic system that would secure these artificial and fluctuating variations of the savings quota, which would imply different savings quotas in both sections. It is hardly necessary to point out that the result will be the same if one drops the simplifying assumptions (savings restricted to capitalists, population constant, $q_1 = q_2$, rate of turnover of capital = 1). These alterations would not remove the fundamental antagonism between the structure of production and the structure of demand pointed out by Rodbertus and the Neo-Marxists.

There remain, however, two important objections to the

⁹ Assuming the same saving quota (q) in both sections.

¹⁰ " i " denotes the productivity of these reinvestments.

¹¹ Assuming that the additional net output is entirely saved.

first proposition, especially to the Neo-Marxist derivation of the "antagonism" from the pattern of the two sections.

1. The equations are written in terms of labor value. Therefore, complications are inevitable, when they are used for the representation of a progressive state, in which the labor value of the physical unit is liable to decline because of technical progress or investment of capital. Whereas the equations are written in terms of labor value, the fundamental relations, i.e., the given, invariable standard of living and the need for replacement, are relations of physical volume, the variations of which are no longer identical with the variations of the labor value of the product. The consequences of this difference are treated in the first chapter. Here it suffices that the equations lose their stringency.
2. Even more important is the fact that all results of the Neo-Marxist theory of imperialism depend on the assumption that the amount saved in one section is re-invested in the *same* section and in this way enforces a continuous increase of the current output in this section. Clearly, if capitalists in section II would trade in, for the amount of their savings from section I, capital goods not fit for investment in section II but fit for investment in section I, the problem of the surplus of consumers' goods would vanish; for the current output in section II would remain constant, and capitalists in section II would become, too, capitalists in section I; in other words, they would give a part of the product of II in exchange, not against commodities but titles.

This argument does not claim to remove all difficulties that arise out of the investment process according to Neo-Marxist opinion. On the whole, it is rather doubtful that a permanent restriction of investments to section I is possible, and that a mechanism exists in capitalism that accomplishes this restriction; technical progress may, on the contrary, sometimes enforce a distribution of investment

quite inconsistent with the future demand for its product. Nevertheless the significance of the basic equations of the Neo-Marxist theory of underconsumption is definitely shattered by this simple statement; equations 1b, 2b, and 3b do not hold good any longer. Equation 1b is to be replaced by equation:

$$(c_1 + m_1q + m_2q) + v_1 + m_1(1 - q) + (m_1q + im_1q + im_2q) = w_1$$

equation 2b by equation 2a and, therefore, equation 3b by 3a.

The true kernel of the doctrine of underconsumption can only be revealed by a positive theory of investment, of its direction, of the mechanism by which it is directed, and of its influence on the price relations and the distribution of income. In the former study, "General Overproduction," we attempted to present the elements of this theory of investment; a summary is given in Chapter I.

C. EXAMINATION OF PROPOSITIONS 2 AND 3

Restriction of the amount spendable by wage- and salary-earners is based by Rodbertus on the so-called "iron law of wages," and by Neo-Marxists on Marx's theory of the displacement of laborers by the machine. We may confine our criticism to the latter doctrine, because the former can be considered as definitely discarded.

Displacement of laborers by machines is, without doubt, an outstanding characteristic of the capitalistic system. But, what Marx himself has stressed to the utmost, Neo-Marxists have steadily overlooked: accumulation of capital is not identical with technical progress; and even technical progress does not always cause displacement of workers. We discussed this fundamental distinction in Chapter I. Here it suffices to point out that accumulation of capital by itself attracts labor thus raising the wage bill,¹² and that it displaces labor only if it speeds up the realization of technical progress of a certain kind. As Marx points out, there is a steady alternation be-

¹² Cf. Marx, *Kapital*, Vol. I, Ch. VI, section C.

tween epochs of *attraction*—due to the preponderance of accumulation, in which the wage bill is increased absolutely and, also, the share of labor in the national net income might rise—and epochs of *displacement*. In Marx's opinion the former become shorter and shorter; but that cannot be theoretically deduced; it is an empirical observation of the events in the first half of the 19th century, which, however, was not confirmed by the subsequent development.

Since the publication of the first volume of the *Kapital*, not only the wage sum but very likely also the share of workers has increased. Neo-Marxists attribute this development to the very fact of the imperialistic expansion in the same period. This expansion, however, might be able to prevent the pressure on wage rates arising out of underconsumption crises, but could not compensate the effects of displacement, which, however, represent the only reason for the assumption of a definite wage-earners' standard.

Some brief remarks may suffice in respect to the third proposition. Competition might compel the entrepreneur to restrict his consumption in order to pile up the funds necessary for carrying through technical progress. But since only a part of the current supply of capital is used for this aim, the volume of capitalistic consumption cannot be said to be restricted by the necessities of technical progress; *voluntarily* capitalists save the vast sums invested in residential buildings, governmental loans, etc. And in fact, not only the absolute amount of spending but even the spending quota is rising in the later phases of capitalistic development.

We have not proved, of course, and cannot prove, that underconsumption cannot occur in the capitalistic system. It might be connected with technical progress, but it is not an inevitable fate of the ruling system.

D. EXAMINATION OF THE FOURTH PROPOSITION

In the foregoing sections we have shown the inadequacy of the Neo-Marxist analysis of a progressive state. We have not denied the possibility of an underconsumption crisis,

we have denied its inevitability. But suppose it should take place, is revival possible within the realm of pure capitalism? Or is a definite breakdown unavoidable?

According to the traditional theory of underconsumption, there is no way out. The crisis would stop investment, but even if capitalists now would be inclined to increase their personal consumption, it would be too late; on the one hand, the stopping of investment would cause unemployment in section I, and thus diminish *absolutely* the demand for consumers' goods; on the other hand, the profits of capitalists would vanish because of a lack of demand. It is not entirely clear whether this process of shrinkage is thought to go on indefinitely or to come to a standstill, when the production of consumers' goods just equals the consumption of capitalists (at its usual standard) plus the consumption of workers, necessary to produce the capitalists' sustaining fund (whereas the surplus-value-rate would have to be supposed to be at its maximum and the standard of living of the workers at its minimum). But that is not the main objection; more important is the consideration that this traditional theory entirely overlooks the *monetary* side of the process, and wrongly identifies the amount of purchasing power with the current net income in the bookkeeping sense of the term. Underconsumption theorists are misdirected in this respect by their assumption that with a varying net output the *value* of money is kept constant by corresponding variations of the stocks of money. In reality any decline of business activity increases either the idle money funds or the liquidity of the banking system. Moreover, the longer the depression lasts the more independent becomes current expenditure from current income, distress enforcing a use of the ample credit facilities for coining wealth. Could not new investment start in forms particularly favored by the low interest level as soon as the current volume of spending is stabilized and the cost level adapted to the lowered price level? The Neo-Marxian theory does not even attempt to answer the question.

E. EXAMINATION OF THE FIFTH PROPOSITION

The foregoing arguments show the defects of the Neo-Marxian theory but not the impossibility of an underconsumption crisis. The Neo-Marxian theory of imperialism is, therefore, not refuted. We have to examine whether or not, given an underconsumption crisis in the capitalistic countries, an export of the surplus produced would represent a way out of the crisis. Capitalism is not a geographical but a functional concept. The capitalistic entrepreneur does not lose his peculiarities when he sells abroad instead of at home; fundamentally the conditions of exchange and investment are the same in capitalistic and non-capitalistic countries. In other words, the capitalistic entrepreneur does not act charitably when he exports; he insists on getting a consideration for what he gives. But of what would the consideration consist? Not of other commodities—neither consumers' nor producers' goods—because there is already a surplus of the former in the exporting country and so long as this surplus exists there is no use of the investment of the latter.

There remain two possibilities: export against gold and export against titles. As to the first, one could argue that lack of money did not cause underconsumption, and that the modern credit system is able to provide the capitalistic countries amply with the necessary means of payment. Nevertheless, this argument, although correct, would miss the salient point, by analyzing the individualistic system of capitalism in terms of a communistic state, with its peculiar "needs" and "satisfactions." The exporting entrepreneur does not bother about a general lack or redundancy of money in his country; he is, of course, ready to take gold in exchange for his product, either to liquidate his capital or to continue production. In fact, as was pointed out in another place, the period after the crisis is usually the time in which the industrial countries increase their gold stocks at the expense of the non-industrial ones, and further in this way the liquidation of their credit system. As a solution, however, of the problem raised by the traditional underconsumption

theory, this explanation in terms of a gold movement cannot be accepted because the current output of gold as well as the available gold reserve of the non-capitalistic countries is much too small in relation to the current output of commodities in capitalistic countries to provide more than a short, temporary relief to the glut.

The Neo-Marxist theorists, like Sternberg, have not hesitated to admit that the exports of the capitalistic country after the crisis really represent investment; commodities are exchanged against titles. That would, indeed, solve the problem, of getting rid of the surplus and yet of trading in a value. But if the capitalistic entrepreneur could not invest at home, why would he do it abroad? Indeed, investment abroad might be very desirable for the producer; that is not a sufficient reason for the capitalist to take a risk that previously seemed unbearable and is scarcely lightened enough by the price fall in investment goods. Too, the period after a crisis is characterized by the tendency to *liquidate* on the part of both the banking system and the single entrepreneur.¹³ The very fact of underconsumption is based on the lack of profitableness of investments; again, why should they look more profitable abroad? We do not deny, of course, that better chances for investment might sometimes arise in non-capitalistic countries, but that is just the orthodox view on foreign investments. There is no reason, however, why the advantages should originate just after a capitalistic crisis and not in any other phase of the business cycle. The fact alone that in the non-capitalistic countries additional cheap labor is available does not improve the profit outlook from the standpoint of the underconsumption theory; for if even the relatively high wage rates in the capitalistic countries did not permit selling at cost prices, how could the lower wages abroad achieve this goal? Thus we had to discard the theory of *imperialism as a saviour* and to develop a more realistic and more elaborated theory of international business cycle relations.

¹³ Granting loans under the condition of using the proceeds to purchase in the lending countries is in fact the first step to "planning." But neither is it the rule, nor is it likely, that banks just after the crisis are particularly eager to promote such foreign loans.

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