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The Economic Role of International Monetary Blocs.

David Caldow Townsend

*Louisiana State University and Agricultural & Mechanical College*

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THE ECONOMIC ROLE OF INTERNATIONAL MONETARY BLOCKS

A Dissertation

Submitted to the Graduate Faculty of the Louisiana State University and Agricultural and Mechanical College in partial fulfillment of the requirements for the degree of Doctor of Philosophy in The Department of Economics

by

David Odum Townsend
B. A., Cornell College, 1948
M. A., University of Michigan, 1949
August, 1955
ACKNOWLEDGMENT

The author wishes to express his appreciation to Dr. W. M.

MANUSCRIPT THESSES

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The author wishes to express his appreciation to Dr. W. H. Faughn for stimulating the author's interest in this study, and for many helpful criticisms. Dr. H. L. McCracken and Dean J. B. Trent have frequently suggested better methods of presentation. Dr. W. D. Ross and Dr. K. M. Thompson generously supplied the author with criticisms and constructive suggestions.
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ABSTRACT

The central problem in the study of international monetary blocs is that of finding a realistic, theoretical framework for evaluating the bloc device. A major thesis of this study is that international economic theory must provide a valid (though simplified) explanation of the international economy if the theory is to be useful in evaluating contemporary policy decisions. Therefore, the primary task of the study is the development of theoretical criteria that the author believes are useful for evaluating contemporary international policies and arrangements such as the international monetary bloc.

Current examples of international monetary blocs are the Sterling Area and the European Payments Union. These two monetary arrangements are called international monetary blocs because they provide for multilateral settlement of current balances within the bloc while partially insulating the bloc members from the outside world.

The classical model of the international economy, characterized by resource mobility, competitive markets, and rapid adjustment to disturbances to equilibrium through the familiar gold flows and price changes, offers no economic justification for the existence of an international monetary bloc. The income theory of the adjustment mechanism, which
stems from Keynes' analysis of national income determination, provides a basic modification of the classical model. An optimistic interpretation of Keynesian thought finds the validity of the classical model restored if the trading nations maintain a full employment level of income. Failure to maintain full employment would create a temporary justification for a bloc arrangement until full employment could be restored. A pessimistic group of Keynesians finds the two goals of domestic full employment and free multilateral trade to be incompatible. The pessimists' analysis leads to the conclusion that the government that assumes responsibility for domestic full employment must control the international transactions of its citizens. This pessimistic view suggests a more permanent role for the international monetary bloc.

A second modification of the classical model goes beyond cyclical instability and investigates underlying causes of a secular tendency for international disequilibrium. The theory of secular international disequilibrium that is developed relies upon differential rates of growth of productivity as the primary disequilibrating force. The failure of international adjustments to restore equilibrium promptly is explained by less than competitive market structures, resistance to resource reallocation, and the necessity for governments to maintain full employment. When nations restrict imports to close balance of payments gaps the interdependent network of international trade contributes to
the cumulative growth of disequilibrium.

In sharp contrast with the classical model of international equilibrium and optimum resource allocation, the new theoretical framework for evaluating international monetary blocs is characterized by structural disequilibrium, government control of international trade, and a network of bilateral agreements. When the classical model serves as the basis for evaluation, the international monetary bloc is a restrictive device resulting in an uneconomic use of the world's resources. However, when more realistic theoretical criteria are used for testing, the international monetary bloc emerges as a workable device for freeing trade within the bloc and bringing about a more economical use of the world's resources.
Economic theorists have traditionally advocated international currency convertibility so that the trading nations could enjoy the advantages of free multilateral trade. The precision of the economists' logic and their happy conclusion that all will gain, easily convinces the student that any policy which falls short of unhampered multilateral trade is irrational, if not lunacy.

The proof that the doctrine of currency convertibility and multilateral trade has not dimmed with age is found in the fourth stated purpose of the International Monetary Fund which reads:

"To assist in the establishment of a multilateral system of payments in respect of current transactions between members and in the elimination of foreign exchange restrictions which hamper the growth of world trade."1

When the student of international economics turns from theory to a study of international relations during the last 20 years, he is understandably shocked. He finds that the trading nations have thrown logic to the winds and have deliberately entered into agreements amongst themselves designed to restrict multilateral trade. Bilateralism and barter were the vogue in the 1930's. Today,

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more sophisticated attempts to achieve some of the advantages of multilateralism without the alleged disadvantages are taking shape in the form of international monetary blocs or insulated monetary areas. The outstanding example today and for the last 13 years of such monetary cohesion is the Sterling Area. A newcomer that links together a very important group of trading nations is the European Payments Union.

As it is used in this study, the term international monetary bloc refers to a group of three or more political states which are bound together by the following monetary arrangements. A multilateral system of paying for trade among the states of the bloc must be possible. This means only that any country within the bloc can pay its deficit with any member country with its surplus with any other member. It is not necessary for each of the member countries to grant to individual traders freedom to buy and sell the currencies of the member nations. International trade between the bloc and the outside world is subject to discriminatory controls which may take the form of bilateral clearing agreements or, in general, less currency convertibility than exists within the bloc.

How important are the Sterling Area and the European Payments Union, and what are they? These questions are answered in more detail in Chapter VII, but a brief explanation here will help to introduce the international monetary bloc.
The oldest of the two monetary blocs is the Sterling Area. This grouping of nations had its beginnings in the chaotic period from 1931 to 1939. However, it was not until after the outbreak of World War II in 1939 that the smaller and tighter group that is known today as the Sterling Area came into being. It is this latter group which fits the definition of an international monetary bloc. A concise description of the war-time Sterling Area by the Economic Cooperation Administration confirms this conclusion.

"Within the Area, the movement of funds was practically unrestricted, while all around it there was a ring of controls which made it possible to screen external expenditures in accordance with priorities reflecting the overall importance of the needs to be met." 2

The Sterling Area had its beginnings in the prewar sterling bloc, which in turn grew out of a century of British dominance of international trade and finance. This dominance had made London a center of international commercial banking as well as a bankers' banking center. Therefore, in 1931 when the pound was cut loose from gold, countries with strong economic ties with Britain were faced with three alternatives: (1) keep their currencies linked with gold; (2) attach their currencies to the pound; (3) manage their currencies independently of gold or any other currency.

2The Sterling Area - An American Analysis, (London: Economic Cooperation Administration, Special Mission To The United Kingdom, 1951), p. 27.
Immediately the British colonies, dependencies, and dominions plus Egypt, Iraq, and Portugal adopted the inconvertible pound sterling as their international currency. This, of course, was simply a continuation of the situation that existed when the pound was convertible into gold at a fixed rate. Other countries becoming part of the sterling bloc in the 1930's were Norway, Sweden, Denmark, Iran, Japan, Argentina, Uruguay, Yugoslavia, and Greece.

Without formal agreement these countries voluntarily kept their currencies in a fixed relationship with the pound. This action brought about exchange stability within the bloc, as the cross rates of exchange among the sterling countries remained constant. However, the rates of exchange with currencies outside the bloc continued to fluctuate.

The prewar sterling bloc was a voluntary grouping of countries having no formal agreement but having strong economic ties in time of peace. The present day Sterling Area was officially and formally established in 1959, and is composed of those prewar bloc countries whose interests were the same in war as in peace. The purpose of the wartime Sterling Area was "... to operate a joint system of exchange assets ... for essential purposes during the war." The war-born trade and payments controls developed

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within the Sterling Area have been kept in operation since the war's end. In 1949 the Sterling Area included all the Commonwealth countries (except Canada) plus Ireland, Burma, Iraq, and Iceland. Most of these countries have their own currencies but in international trade they use the British pound sterling.

That the postwar Sterling Area countries are bound together through monetary cohesion and, therefore, form an international monetary bloc does not tell the whole story of the importance of the Sterling Area. What of the relative importance of the Area in world trade? The European Cooperation Administration's study of the Sterling Area shows that "A quarter of the world's population lives in the Area and between them its members carry on a quarter of the world's international trade."5

The European Payments Union (EFU), in effect at the present time, is an institutional arrangement "... designed to promote and free the flow of intra-European trade through a fully automatic multilateral system..."6

The EFU is part of an evolutionary development which started with a complex network of bilateral agreements

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4 Ibid., p. 23.
5 Ibid., p. 13.
that mushroomed in Europe after World War II. This network was modified by two intra-European payments schemes which immediately preceded the establishment of the EPU by the Organization for European Economic Cooperation (OEEC). All of the OEEC countries are members of the EPU. The EPU fits the definition of an international monetary bloc in that the multilateral requirement is met within the bloc and the controls of the member countries over exchange transactions with non-members are not affected by the EPU agreement.

There are two reasons for making a theoretical study of the economic role of international monetary blocs. The fact that many of the major trading nations are currently conducting their international transactions within the framework of an international monetary bloc provides a practical reason for such a study. Economic theory may be socially useful as model for evaluating and making public policy. Since the public policy of many important nations embraces the international monetary bloc, there appears to be a socially useful place for specific theoretical analysis of the bloc device.

There is still another reason for analyzing the bloc arrangement. This second reason is based on the wide discrepancy between what traditional theory indicates that

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public policy should be so that all may receive the maximum benefit from international trade, and what public policy has been for over 20 years. Tariffs, exchange controls, quotas, import licensing, and bilateralism have all been tested in the crucible of international trade theory. Academic consistency calls for the theoretical testing of this newest device for controlling international trade, i.e., the international monetary bloc.

The analysis of this study is divided into three parts or tasks. The first task is the construction of a workable theoretical framework which may serve as the crucible. The second is the testing of the bloc device, and finally the two existing blocs are examined to determine whether or not they offer verification of the analysis.

The task of building a theoretical framework for testing the economic justification of the bloc begins with a description of the classical model of the international economy (Chapter II). This classical model is then subjected to a series of modifications (Chapters III, IV, and V) which result in more realistic criteria for judging the international monetary bloc. Chapters III and IV are concerned with modifications of the classical model that stem from the "Keynesian" explanation of the determination of national income. Chapter V develops an explanation of underlying structural disequilibrium that is distinct from cyclical fluctuations. Chapters II through V constitute a unit which attempts the construction of theoretical criteria which may be used to determine the
economic role of the international monetary bloc.

Chapter VI develops the conditions which provide economic justification for the monetary bloc according to the analysis of the preceding chapters. Chapter VI also examines the nature and operation of an international monetary bloc in greater detail than in this introductory chapter. Chapter VII provides a description of the nature, organization, and operation of the Sterling Area and the European Payments Union.
CHAPTER II

AN INTERNATIONAL PRICE SYSTEM ALONG
CLASSICAL LINES

The theoretical model constructed in this chapter cannot be associated with a particular writer or a group of writers. The explanation for the anonymous character of the following pages has two parts. First, there is a lack of unanimity among writers who have been classified by historians as classicists. The practice of introducing qualifications and exceptions that are not analyzed in a setting provided by the other modifications, offers many pitfalls for a generalized restatement. Therefore, this chapter does not present the classical model (which probably does not exist). It does present a model along classical lines which serves as a starting point for the analysis of this study.\(^1\)

\(^1\)Specific reference is made to David Hume, *Essays, Moral, Political, and Literary*, (London: Longmans, Green, and Co., 1875) Ed., I, Vol., I, pp. 330-345. The writer was directed to Hume by Viner's comment that, "In so far as the classical theory of the mechanism of international trade had one definite originator, it was David Hume." This statement appears in Jacob Viner, *Studies In The Theory Of International Trade*, (New York: Harper and Brothers, 1937), p. 292. Another source that is relied on is F. "W. Taussig, *International Trade*, (New York: The Macmillan Co., 1929), especially Chapter 17. The choice of Hume and Taussig appears appropriate for if Hume is considered to be the originator, Taussig's *International Trade* may be considered the final restatement of the classical position.
In the following analysis the labor cost theory of value is not utilized although this was fundamental to traditional nineteenth century analysis. The multi-factor concept of cost and the Marshallian demand and supply determination of price are used in this model. These modernizations make the theory formally more correct but do not change the nature of the explanation or the conclusions. The integration of classical reasoning with the modern opportunity cost doctrine and general equilibrium theory has been done concisely by Ellsworth.

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3P. T. Ellsworth, "A Comparison Of International Trade Theories," *The American Economic Review,* (June, 1940), pp. 285-289. Ellsworth begins by listing the assumptions which form the basis for the modern approach:

(1) The price of each factor equals the value of its marginal product; (2) Under competition, all units of any factor have the same price in all uses; (3) The price of each commodity equals the sum of its marginal money costs which in turn is equal to the marginal factor payments.

"On the basis of these assumptions, it follows that the exchange ratio (in one country) between any two commodities is equal to the relative value of the productive agents required to produce a unit of each at the margin. This relative value of the requisite productive agents is the "opportunity cost" of a unit of each commodity, and replaces the relative amounts of labor in the classical theory of comparative cost.

"The transition from the older to the more modern comparison of costs is made: (1) by admitting the relevance of more than one productive agent (labor) to the problem of relative values; (2) by adopting a common denominator (money) to permit the summation of the contributions of
Two other general characteristics of the model are: (1) competitive market structures in both product and factor markets; and (2) the existence of a high degree of factor mobility within each national economy. Timeless mobility may be assumed but such perfection is not necessary to make the separate assumption that the factors will be fully employed. It is difficult to find this assumption stated explicitly in classical writing although modern writers sometimes imply that this was common practice. The two assumptions regarding market structure and resource mobility imply that a condition of equilibrium is full employment of the factors of production.

many factors; and (3) by assuming as known, the results of the pricing process which determines what these sums will be. Once the costs in two isolated countries have been expressed as values of the productive agents, it is possible to replace two separate series of relative labor costs by two similar series of relative prices which reflect the contributions of many factors (rather than merely labor) at the margin. By comparing the two series, it is obvious that the principle of comparative advantage, expressed in terms of relative prices, still holds. ... Thus this modern theory of international trade appears strikingly like the older theory, indeed, a mere extension of the same reasoning from a one-factor world to a multiple-factor world." (Ibid., pp. 286-287.)

The Concept of Equilibrium

Partial Equilibrium Theory

The nature of the classical model which this chapter constructs can be shown best by first describing the equilibrium position. With given economic, political and social institutions, a particular market situation is in equilibrium if there is no tendency for the money price of a particular commodity or service to change. The analysis of the equilibrium position of the single market situation is partial equilibrium theory.

The Price System Diagram (Illustration I) shows the equilibrium position in the markets for goods and for the factors of production. In figure 1, (one consumer and one good), where the price of the good plus the income and tastes of the consumer are given, the equilibrium for the consumer is at Qa. Assuming the consumer is rational, and rational behavior is to maximize net utility, equilibrium is where net utility is maximized. This maximum is at Qa since at any other quantity marginal utility is greater than the disutility of earning Pa, or marginal utility is less than the disutility of earning Pa. Therefore, the consumer will gain by buying more in the former and less in the latter case. In figures 2, 3, and 4 the reasoning is similar.

In figure 2 the consumer acts as a seller of a factor service seeking to minimize net disutility. Following the same reasoning used for the consumer as a buyer, net
4. For one firm and one good

- Goods sold so that
  - \( P_a \cdot Q_a = P_b \cdot Q_b = P_c \)

- Given for each firm
  1. Production functions
  2. \( P_a, P_b, P_c \)
  3. \( P_x, P_y, P_z \)

- To find for each firm
  1. \( Q_a, Q_b, Q_c \) sold
  2. \( Q_x, Q_y, Q_z \) bought

- Factors bought so that
  - \( P_x = P_y = P_z \)

5. For one firm and one factor

- Diminishing marginal productivity

MARKETS FOR GOODS

- Market cleared for each good
  - To find for each good
    1. Price
    2. Quantity

MARKETS FOR FACTORS

- Market cleared for each factor
  - To find for each factor
    1. Price
    2. Quantity

FACTORS SOLD SO THAT

\( P_x = P_y = P_z \)

FOR EACH GOOD

- Marginal cost

FOR EACH FACTOR

- Diminishing marginal utility

1. For one consumer and one good

- Goods bought so that
  - \( P_a = P_b = P_c \)

- Given for each consumer
  1. Income
  2. Tastes or utility functions
  3. \( P_a, P_b, P_c \)

- To find for each consumer
  1. \( Q_a, Q_b, Q_c \) bought

- Given for each productive factor
  1. Stock and ownership
  2. Disutility functions

- To find for each productive factor
  1. \( Q_x, Q_y, Q_z \)

- Factors sold so that
  - \( P_x = P_y = P_z \)

ILLUSTRATION 1.

THE PRICE SYSTEM
disutility is minimized and equilibrium is found at $Q_x$.

Figure 3 shows the equilibrium position of one firm as a purchaser of one factor. Assuming profit maximization to be the goal of the firm, $Q_x$, or the point at which marginal productivity and the price of the factor are equal, is the equilibrium position. At quantities greater or less than $Q_x$ the marginal value product of $x$ is less than or greater than the price of $x$. Therefore, a quantity greater than $Q_x$ will produce smaller profit than $Q_x$ and a quantity less than $Q_x$ will yield smaller profit than $Q_x$.

Following the profit maximization principle, the firm, as a seller of one good, (figure 4) reaches equilibrium at $Q_a$ where marginal cost equals price. At any other quantity marginal cost will be greater than or less than price and profit will be less than at $Q_a$.

Figures 5 and 6 show market equilibrium for goods and factors to be at the intersection of the demand and supply curves. At any other price or quantity both firms and consumers will gain by moving to the designated equilibrium price and quantity. A higher price causes the quantity offered to be greater than the quantity taken, a

---

5Marginal productivity is used here to mean marginal value productivity.
lower price reverses this. The prices indicated by the
intersection points Pa and Px equate the quantities
offered with the quantities taken — they achieve equi-
librium.

General Equilibrium

A more general approach to the concept of equilibrium
than the single firm—single consumer analysis is also shown
in the Price System Diagram. Let the economy consist of
many firms, many consumers, many goods and many factors with
a market for each good and each factor. Again each market
is assumed to be competitive, knowledge and mobility are
perfect, and therefore, resources are fully employed. As-
suming the same objectives of profit maximization and net
utility maximization on the part of firms and consumers
respectively, the economy is in equilibrium when the follow-
ing conditions prevail:

1. Goods are bought so that the price of good (a) is to the
marginal utility of (a) as the price of (b) is to the
marginal utility of (b) as the price of (c) is to the
marginal utility of c, et cetera.

(See equation 1 in the Price System Diagram; \( \frac{P_a}{MU_a} = \frac{P_b}{MU_b} = \frac{P_c}{MU_c} = \ldots = \frac{P_n}{MU_n} \))

2. Factors are sold so that, \( \frac{P_x}{MD_x} = \frac{P_y}{MD_y} = \frac{P_z}{MD_z} = \ldots = \frac{P_n}{MD_n} \).

3. Factors are bought so that, \( \frac{P_x}{MP_x} = \frac{P_y}{MP_y} = \frac{P_z}{MP_z} = \ldots = \frac{P_n}{MP_n} \).

4. Goods are sold so that, \( \frac{P_a}{MC_a} = \frac{P_b}{MC_b} = \frac{P_c}{MC_c} = \ldots = \frac{P_n}{MC_n} \).
In the case of consumers buying goods, if the price of (a) relative to the marginal utility of (a) is unequal to the price of (b) relative to the marginal utility of (b) then the last increment of expenditure on one of the goods yields a greater measure of utility than the last increment of expenditure on the other good. Hence, consumers may increase total net utility by buying more of one of the goods and less of the other. The position of maximum net utility (the equilibrium position) is, therefore, designated by equation 1.

In the case of factors being sold, if the price of factor (x) relative to the marginal disutility of (x) is unequal to the price of (y) relative to the marginal disutility of (y) then the last incremental receipt from the sale of one of the factors yields a greater amount of disutility than the last receipt from the other factor. Sellers may decrease total net disutility by selling more of one factor and less of the other. The position of minimum net disutility (the equilibrium position) is, therefore, designated by equation 2.

In the case of factors being bought, if the price of factor (x) relative to the marginal productivity of (x) is unequal to the price of (y) relative to the marginal productivity of (y) then the last increment of expenditure on one of the factors yields a greater amount of profit than the last increment of expenditure on the other factor. Hence, firms may increase profit by buying more of one of the factors
and less of the other until the inequality disappears.

In the case of goods being sold, if the price of good (a) relative to the marginal cost of (a) is unequal to the price of (b) relative to the marginal cost of (b) then the last incremental receipt from the sale of one of the goods yields a greater amount of profit than the last receipt from the other good. Sellers may increase total profit by selling more of one good and less of the other. The position of maximum profit (the equilibrium position) is, therefore, designated by equation 4.

The circular construction of the Price System Diagram attempts to show the mutual determination of equilibrium in all the markets of the system. For example, a change in consumer tastes will change prices and quantities in all markets and the equilibrating relationships for each market will be altered. Such mutual determination of equilibrium may be demonstrated by showing how prices in the goods markets influence the demand and supply schedules of the factor markets and vice versa. For example, factor prices influence firms' supply schedules as costs and consumers' demand schedules as income. Conversely, prices in the goods markets influence firms' demand schedules as income and consumers' income.

6For a similar analysis of the competitive price system see; Melvin W. Reder, Studies In The Theory of Welfare Economics, (New York: Columbia University Press, 1947), Chapters II and III.
supply schedules as costs (of living).

This analysis of mutual determination of equilibrium in many markets is called general equilibrium theory.

General equilibrium analysis is broadened by taking into account interregional or international trade. Special treatment of international equilibrium would not be necessary if factors and goods were perfectly mobile from one economy to the other and if knowledge were perfect. In short, there would be one world economy. However, assuming considerable immobility of resources across national boundaries, the equilibrium market relationships in the several world economies will tend to be different. Therefore, what is the nature of international equilibrium assuming the national economies do trade with one another? A simplified statement of international equilibrium in such a situation is:

"... the establishment of trading relations brings the demands of each region directly into contact with the price system of the other region. To the domestic demand for the products of the relatively cheap factors is added a 'foreign' demand, while the domestic demand for the products of the more costly factors is directed toward imports. As a consequence of the impact of these reciprocal demands upon each of the two price systems, the scale of factor and therefore of commodity prices established in isolation will be somewhat altered, with eventual equilibrium attained when an equal value of goods travels in both directions." 

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The Use of Money

Money is the common denominator which is used to express the prices of goods and factors. The relative money prices of goods and factors are determined by the working of the goods and factor markets as explained above. The absolute level of prices of goods and factors is dependent on the amount of money relative to the quantity of goods and factors flowing through the price system. Hence, the approximate validity of the quantity theory of money is accepted. 8

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8 Taussig, op. cit., pp. 198-199. In explaining the mechanism of international adjustment under gold standard conditions, Taussig states: "It is obvious that everything in the calculations rests on the assumption that the flow of specie affects the prices and money incomes of the trading countries. An inflow of specie causes prices and money wages to rise; an outflow causes them to fall. The whole train of reasoning rests, in this way, on the assumption of the quantity theory of money." Taussig goes on to say that he is not assuming a precise mathematical relationship between the quantity of money and prices. "It is not of importance for our inquiry whether there be adherence to the semi-mathematical and rigorously consistent formulation of the quantity doctrine. ....... What signifies is a more special and limited proposition, namely, that the specie constituent has a peculiar and determinative effect on the range of prices."

Hume, op. cit., p. 533. David Hume, writing in 1752, came to the same conclusion. "Suppose four-fifths of all the money in Great Britain to be annihilated in one night, .... what would be the consequence? Must not the price of all labour and commodities sink in proportion .... Again, suppose, that all the money of Great Britain were multiplied fivefold in a night, must not the contrary effect follow?"
The trading nations have different units of account, but all use the same commodity as the monetary standard — gold.\(^9\) Prices in the various countries cannot be immediately compared since each nation defines the monetary standard as a different amount of gold. Therefore, prices must be adjusted in relation to exchange rates (determined by relative gold contents of national monetary standards) in order to make international price comparisons. Although bank credit is used as money in the various economies, in each one the amount of bank credit is dominated by, and varies directly with, the quantity of gold reserves held by the respective banking systems.\(^10\)

The stock of money in the international system of trading nations has some of the properties of water in that it will bring itself to the same level in each country. Hauser's explanation of this fluid characteristic is simple and concise.

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\(^9\)The classical gold case is discussed here because the classical theory was primarily concerned with explaining international trade in a gold standard world.

\(^10\)This assumption is developed in detail by Taussig, \textit{op. cit.}, pp. 199-214.
"It must carefully be remarked, that throughout this discourse, wherever I speak of the level of money, I mean always its proportional level to the commodities, labour, industry, and skill which is in the several states. And I assert, that where these advantages are double, triple, quadruple, to what they are in neighboring states, the money infallibly will also be double, triple, quadruple."

The Conditions of International Equilibrium

The discussion of the use of money, above, indicates that the total stock of money will apportion itself among the national economies so that the relationship between money and goods (goods here includes factors of production) will be the same in each economy. Thus, the first condition of international equilibrium is the absence of net movements of money (gold) between nations.

The second condition of equilibrium is the equality of relative prices of goods in the markets of all the trading nations after allowance has been made for transportation costs. To be sure, nations trade because some goods are cheaper abroad than at home. And some goods are cheaper abroad than at home because the productive factors are unevenly distributed (relative to demand) among the nations and/or because the factors of production lack perfect divisibility. However, the identity of relative


12The uneven distribution of the factors causes commodity A to be cheap in the nation where the factors
prices does not mean the motivation for international trade has been eliminated. As long as relative price differences exist, the rate of flow of goods across national boundaries will be subject to change. Thus, when equality of relative prices is achieved the international flows of goods will be constant.

The third condition of international equilibrium is that each of the national economies be in equilibrium as described by the Price System Diagram (Illustration 1) (In particular, equations 1, 2, 3, and 4)

used in the production of A are abundant relative to the demand for these factors. This same uneven distribution causes commodity A to be expensive in the nation where the factors used in the production of A are scarce relative to the demand for these factors.

The lack of perfect divisibility of the factors forms a solid basis for trade even though the productive factors might be evenly distributed among the nations. The lack of divisibility gives rise to economies of large scale production for an international market which would not be forthcoming if the markets were restricted and production on a smaller scale. Thus, specialisation and the economies of scale can be a sufficient reason for international trade even though factor endowments among the trading nations are not uneven. See Ohlin, op. cit., p. 11.
The international equilibrium which these three conditions describe achieves an optimum use of international resources from the standpoint of maximizing the satisfaction of consumers' wants. The policy implication of this conclusion is that any nation should be able to pay for its import balances with some nations with its export balances with other nations. If this requirement is met, international payments are said to be freely multilateral. Clearly, there must be unrestricted international currency convertibility for a system of multilateral payments to operate.

Adjustments to Disequilibrium

The advantages of international specialization and exchange under a freely multilateral system of payments are widely accepted in orthodox international trade literature. The primary advantage is in terms of higher real incomes for the trading partners.

The next question to be answered in developing the case for the classical approach to international trade is: what are the consequences of a disturbance to the general equilibrium and the resulting adjustments which tend to restore a new equilibrium? It is not enough to prove the undoubted fact that the multilateral-equilibrium state is desirable from the level of living or income standpoint. The equilibrium position is a will-of-the-wisp that never
becomes reality. The typical situation is the perpetual process of adjustment of the economic variables toward a new equilibrium. Therefore, the real test of the classical model (and perhaps the neglected test) is its desirability during the adjustment period -- a period which is, in reality, of unlimited duration.

The disturbances or changes which set the adjustment process in motion are many and often complex. A few may be enumerated to advantage; the depletion of the supply of a particular resource, a change in consumer tastes, a new invention or technique of production, a change in the political climate which reduces the incentive to assume entrepreneurial risks, a crop failure, economic depression in a particular nation, war, et cetera. These changes in the economic environment alter the economic flows among the nations and set in motion adjustments toward a new equilibrium. These adjustments work toward the establishment of a new equilibrium pattern of international specialization and exchange that is consistent with the new economic environment.

The classical model depends primarily on flows of money between nations and the resulting price changes to effect the adjustment and establish a new equilibrium. In order for this adjustment mechanism to work properly, two assumptions concerning price-quantity relationships became fundamental to the classical analysis. From the standpoint of Nation A, one set of these relationships
is made up of Nation A's demand schedules for imported goods. The other set of relationships is composed of the demand schedules of the rest of the world for the exports of Nation A. The classical theory usually implies that the elasticities of these import and export demand schedules are greater than unity.¹³

The operation of this theoretical model may be demonstrated by assuming that a change in consumer taste in B decreases B's demand for one of A's exports. (A is one nation, B is the rest of the world.) This change promptly disturbs a prior state of equilibrium. A's international trade account experiences a temporary deficit and B's a temporary surplus. In order to close the payment gap, A transfers part of her international monetary reserves to B. The greater purchasing power in B increases B's demand for domestic and foreign goods. The opposite situation exists in A. Prices tend to rise in B and fall in A. A's elastic demand for imports means that A will now spend less on imports from B than before the price changes. B's elastic demand for exports from A means that B will now spend more on imports from A than before the price changes. This process will continue until the deficit is closed by

¹³If the elasticities were less than unity the specie flows and resulting price changes would not restore equilibrium but would magnify the disequilibrium.
trade and a new equilibrium is established. Thus, according to the classical analysis, disturbances to a condition of equilibrium present only a minor problem as gold movements and price changes quickly produce a new equilibrium.

The foregoing analysis merely represents an extension of the working of the familiar idealized price system under competitive conditions from a closed national economy to a world economy. In both cases prices respond to the forces of supply and demand and perform the function of allocating the factors in such a way that with given techniques and resources, the want satisfying power of the factors of production is maximized.

Summary. The classical system presented in this chapter has two main prongs. One, when the international system is in equilibrium, multilateralism allows the trading nations to benefit from the obvious advantages of specialization and exchange. Two, when equilibrium is disturbed, money flows and flexible prices determined in freely competitive markets, reallocate resources in order to establish a new equilibrium and to again maximize the want satisfying power of the given resources. This maximum represents the economic optimum from the world point of view. A restriction of international payments, which constitutes an impairment of free multilateralism, prevents the achievement of this long-run equilibrium or optimum
position. Therefore, free multilateral payments among trading nations is a condition of global economic well-being.
CHAPTER III

A CYCLICAL EXPLANATION OF INTERNATIONAL DISEQUILIBRIUM -
THE KEYNESIAN APPROACH

The classical approach of Chapter II has been modified by the theory of employment and income which is associated in economic writing with the name of John Maynard Keynes. The Keynesian modification of the classical world-structure has taken place primarily in the theory of the international adjustment mechanism. The classical analysis of the optimum allocation and use of resources when long run equilibrium is achieved, is accepted as the ideal by modern writers of the Keynesian school. Also the classical logic which supports the optimum label is not challenged. However, the classical description of the route that is followed to arrive at an equilibrium position from a state of disequilibrium has been fundamentally changed.

The classical approach, as presented in Chapter II, assumes conditions which preclude the possibility of equilibrium at less than full employment, namely, competitive market structures and their by-products -- freely flexible goods and factor prices, and mobility of resources. The Keynesian analysis assumes less than competitive market structures, specifically, price rigidity in both goods and factor markets and less resource mobility. These latter assumptions do permit a theoretical equilibrium at less than full employment of resources.
This chapter is divided into two sections. The first section presents the national income modification of the classical theory of the international adjustment mechanism. The second section describes a particular set of conclusions based on the theory of the first section that is peculiarly Keynesian. It is essential that a sharp distinction be made between the first and second parts of the chapter because of the differing allegiance of students of international economics to the analysis in each part. The theoretical analysis of the first section has become a standard section of international economics textbooks that are used in undergraduate classes.\(^1\) Such treatment of economic ideas is perhaps the only criterion that can be used for supporting the description of those ideas as being orthodox. The second half of the chapter, on the other hand, is composed of a set of conclusions that are not agreed to by all of the writers who use the theoretical analysis of the first section in their everyday "kit of tools."

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The National Income Theory of the Adjustment Process and Business Cycle Synchronization

The classical model described in Chapter II depicts international disequilibrium as arising primarily when the price-cost structure of one country is out of line with the price-cost structures of the rest of the world. The disequilibrium is manifested by a deficit in the current balance of country A and a surplus in the current balance of B (the rest of the world). The resulting flow of money from A to B decreases prices and costs in A and increases them in B. The elastic demand for imports of all countries quickly eliminates the deficit and surplus in the current accounts and international equilibrium is restored. The two main references for this model are Hume, writing in the eighteenth century, and Taussig, writing in the twentieth.

In his excellent article in the American Economic Association's, A Survey of Contemporary Economics, Metzler points out that Taussig himself had found empirical evidence which caused him to "doubt the adequacy of the classical theory."² The substance of Taussig's misgivings was the rapidity with which international adjustments took place — seemingly much faster, in fact, than the classical price-specie flow mechanism would permit.

According to Metzler, Taussig did not find that prices move in a manner inconsistent with the classical theory. In his study of Great Britain, Taussig did find that the current balance of imports and exports adjusts quickly to changed international conditions even though gold and price movements are small.3

"The actual merchandise movements seem to have been adjusted to the shifting balance of payments with surprising exactness and speed. The process which our theory contemplates - the initial flow of specie when there is a burst of loans; the fall in prices in the lending country, rise in the borrowing country, the eventual increased movement of merchandise out of one and into the other - all this can hardly be expected to take place smoothly and quickly. Yet no signs of disturbance are to be observed such as the theoretic analysis prescribes..."4

Taussig then admits that the classical explanation of the adjustment process might not be complete.5 Metzler concludes by stating that Taussig's failure to find a better explanation of the adjustment mechanism explains why Taussig did not discard the classical theory.6

It is tempting to say that Keynes discovered the explanation that Taussig was looking for. The General Theory did provide the framework for the modifications of the international adjustment mechanism that solved

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3Ibid., p. 214.
5Ibid., p. 239.
6Metzler, op. cit., p. 214.
Tausig's problem. However, the idea that shifts of purchasing power and changes in income are part of the adjustment process was not new with Keynes. In addition, the integration of Keynes' theory of income and employment with international adjustment theory was not done by Keynes, but by others. Nevertheless, there is ample justification for calling the modern theory of the international adjustment mechanism Keynesian, in that the writers who developed for the first time a comprehensive and consistent theory of adjustment depending on income changes, based their work on the analysis in the General Theory.

Keynes' analysis of income determination, although simple and capable of restatement in a few paragraphs, is too well-known to be discussed here. Assuming that "...all economics is international in the sense that every choice ultimately reacts on every other and there are no final boundaries either of land or sea." the discussion of Keynes' theory will be confined to its international applications.

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7Viner, op. cit., pp. 293-311.


One of the best and perhaps the most concise discussions of the Keynesian approach to international economics is found in an article by Hurekse in The New Economics. Such of the following discussion is based on this article.

There are three relationships between national income and foreign trade that are fundamental to the Keynesian analysis. First is the idea that an export surplus is part of investment expenditures in the national income equation. An export surplus represents a claim on future goods, and an export surplus represents expenditures on goods which are currently produced but are not currently sold and consumed in domestic markets. Both of these characteristics are true of investment. Hence, an increase in a nation's export surplus is identical with an increase in investment in the income equation. Conversely, a decrease in the export surplus is like a decrease in investment.

The second relationship follows from the last statement; that is, an export deficit or import surplus represents a subtraction from investment, and a decrease in the deficit in a nation's current balance has the same income effect as a decrease in investment. The third relationship is the tendency for a change in income to involve

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a change in the demand for imports in the same direction.

What is the effect of an increase in exports? First, there is an increase in income and employment in the export industries. Part of this additional income is spent on other domestically produced goods which leads to successive increases in income according to the multiplier analysis. The leakages to these successive spendings is that part of additional income that is spent on imports and that part which is saved.

If the increased spending in the domestic economy induces an increased rate of domestic investment spending sufficient to offset the additional saving, then the limit to the increase in income caused by the increase in exports is determined by the proportion of new income that is spent on imports. This proportion is called the marginal propensity to import. Whether the leakage is restricted to additional imports or, additional imports and additional savings, the size of the leakage bears an inverse relationship to the increase in income similar to the analysis of the domestic investment multiplier.

The important conclusion from this discussion is the revelation that the balance of payments tends to adjust to an increase in exports even in the absence of price changes. The increase in exports induces successive increases in income which cause equilibrating increases in imports. If the increase in exports of A was caused by a domestic expansion in B, then the balance of payments of
both A and B will tend to come back into equilibrium at higher levels of national income and higher levels of foreign trade.

A decrease in a country's exports reverses the multiplier mechanism. Total money income will fall, reducing imports, and causing the balance of payments to tend toward equilibrium at a reduced level of income and international trade.

The changes in income described above are changes in money income. The elasticity of the supply of productive resources determines whether or not the real volume of income changes. When resources are fully employed, the elasticity of supply will be small and money income changes will tend to cause price changes; whereas, below the level of full employment, changes in national money income, exports, and imports tend to reflect real changes in income.

The price changes that are part of this modern explanation of the adjustment process work in the right direction for bringing the balance of payments into equilibrium. When rising prices do accompany an increase in income, their effect is to cause an increase in imports which is needed to balance the increase in exports which initially caused the disturbance. The same is true of falling prices accompanying a decrease in income. The falling prices tend to cause an increase in exports which is needed to eliminate the import surplus. "But, insofar
as they (price changes) occur at all, they are essentially a by-product of the changes in the volume of employment and productive activity. These latter changes are therefore to be regarded as the primary equilibrating factors.\textsuperscript{11}

The income mechanism described above performs two theoretical tasks. It provides an explanation of the adjustment process, and at the same time it explains how business cycle changes in income are transmitted from one country to another.

Domestic expansion in A will result in additional imports into A which will tend to halt A's expansion but will spread the expansion process outward from A. Conversely, domestic contraction in A will induce a decrease of imports into A which will spread contraction abroad, but it will also tend to check the contraction in A. A League of Nations Report called this process "International Synchronization of Business Cycles."\textsuperscript{12}

The Synchronization must, of necessity, be characterized by lags. The main reason for this is that the successive spendings, which are the raison d'être of the multiplier, take time. These lags in business cycle fluctuations among the trading nations cause surpluses and deficits in the current balances. These are known as gaps


in the balance of payments. The gaps are temporarily closed by capital movements and/or gold flows until they are finally closed by changes in the level of domestic income.

Finally, it must be emphasized that the adjustment mechanism described above presupposes a world characterized by: (1) fixed exchange rates brought about by international adherence to the gold standard; and (2) strict observance of a laissez faire policy by national governments. Hence, the income theory of adjustment presented above attempts to perform the same function as the classical analysis of adjustment presented in Chapter IX.

The classical analysis viewed gold movements as the initiating factor in the adjustment process which causes price changes that restore equilibrium while national income remains constant. This explanation led inexorably to the conclusion that long run maximization of economic welfare requires the elimination of all restrictions on international trade and payments and international adherence to a common monetary standard which will result in fixed exchange rates.

The modern analysis views gold movements"...as stopgaps in the balance of payments, covering discrepancies in foreign receipts and expenditures which, in time, bring about their own adjustment through changes in domestic money incomes."13

The policy conclusions based on this modern theory (which is called Keynesian), that may be associated with Keynes, are presented in the next section of this chapter.
Keynes And The Optimistic Keynesians

Keynes

Keynes was most vocal in his dissatisfaction with the working of the international gold standard prior to the publication of the General Theory in 1936. In fact, this dissatisfaction is a dominant characteristic of his three major works on monetary theory, (i.e., Monetary Reform, 1923; A Treatise On Money, 1930; Essays In Persuasion, 1932).

Keynes saw a basic conflict between domestic economic stability and the workings of the international gold standard. In these early works domestic stability to Keynes meant stable prices. However, in all fairness, it is also clear that Keynes believed a direct relationship exists between price level changes and changes in employment. This is evident from his condemnation in 1925 of Britain's return to gold at the pre-war parity.

"This, in the circumstances, is the orthodox policy of the gold party; the adverse trade balance indicated that our prices are too high, and the way to bring them down is by dear money and the restriction of credit. When this medicine has done its work, there

will no longer be any need to restrict foreign loans or to borrow abroad.

Now what does this mean in plain language? Our problem is to reduce money wages and, through them, the cost of living, with the idea that, when the circle is complete, real wages will be high, or nearly as high, as before. By what modus operandi does credit restriction attain this result?

In no other way than by the deliberate intensification of unemployment. The object of credit restriction, in such a case, is to withdraw from employers the financial means to employ labour at the existing level of prices and wages. The policy can only attain its end by intensifying unemployment without limit, until the workers are ready to accept the necessary reduction of money wages under the pressure of hard facts. 15

Since domestic stability meant a stable price level, there was an obvious clash between the gold standard, which depends on adjustment through price level changes, and domestic stability. Keynes deemed the latter objective to be the proper object of monetary policy and went to great pains to direct central banks in the art of achieving this objective. 16

In his Monetary Reform, which was written before England returned to gold, Keynes made the most logical proposal for settling the clash between the requirements of the gold standard and his desired objective of a stable price level for the domestic economy. This proposal was a virtual abandonment of the gold standard and a freely

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16 Treatise, op. cit., Vol. II., Chs. 31-36.
flexible exchange rate which would allow the monetary authorities to pursue domestic stability unhindered by the gold standard requirements and "rules of the game." This proposal took the form of having the price of gold varied by the Bank of England in order to vary the exchange value of the pound if exchange stability under the international gold standard should conflict with the domestic objective of price stabilization.17

A less logical solution but a more expedient one at that time is found in the Treatise. This was written after Britain had returned to gold. Here Keynes made several proposals designed to increase central bank reserves so that larger movements of gold could take place without forcing contraction, deflation, and unemployment on gold losing countries.18 He also suggested widening of the gold points and granting authority to central banks to change the price of gold!...within the limits of the lawful gold points."19

In summary, Keynes' main concern prior to the General Theory was to insulate domestic economies from the price and income effects of gold movements. It is perhaps

18Treatise, op. cit., Vol. II., Ch. 36.
19Ibid., p. 327.
a tribute to the man's genius that his analysis of income
determination in the General Theory provided the ammunition
for destroying much of the efficacy of his proposals in
his Monetary Reform, Treatise, and Essays.

Keynes was acutely aware of the difficult problems
of adjustment after World War I. It is also clear from
his statements in passages quoted above that he was aware
that the adjustment mechanism under the international gold
standard involved severe fluctuations in national incomes
and employment. His training in the classical analysis of
the adjustment mechanism led him to focus his wrath on
gold movements and price level changes, and to conclude
that the magic alchemy of political economy is a stable
domestic price level.

According to the income theory of international
adjustment, a change in the current balances of trading
nations will cause their own equilibrating adjustment
through income changes regardless of what ingenious
monetary devices and/or policies are utilized by central
banks. This modern theory views income changes as the
modus operandi of the adjustment process and gold movements
as only one of several methods of balancing the balance of
payments while the multiplier does its work. 20 Hence, the

20 Other means of filling the "gap" are short and
long term capital movements and advances from inter-
national agencies such as the International Monetary
Fund.
income approach to the adjustment mechanism, which bears
the name of Keynes, demonstrates, to this writer at least,
that much of Keynes' early condemnation of the interna-
tional gold standard was wide of the mark.

In the General Theory Keynes devotes little space
to the international problems that dominated his earlier
works. However, his few remarks on international problems
are more consistent with the first part of this chapter
than with his analysis and proposals in Monetary Reform
and Treatise. For example:

"Thus, whilst economists were accustomed to
applaud the prevailing international system
as furnishing the fruits of the international
division of labour and harmonising at the same
time the interests of different nations, there
lay concealed a less benigne influence: ... But
if nations can learn to provide themselves with
full employment by their domestic policy (and,
we must add, if they can also attain equilibrium
in the trend of their population), there need
be no important economic forces calculated to
set the interest of one country against that of
its neighbours. There would still be room for
the international division of labour and for
international lending in appropriate conditions.
But there would no longer be a pressing motive
why one country need force its wares on another
or repulse the offerings of its neighbour,
not because this was necessary to enable it to
pay for what it wished to purchase, but with the
express object of upsetting the equilibrium of
payments so as to develop a balance of trade in
its own favour. International trade would cease
to be what it is, namely, a desperate expedient
to maintain employment at home by forcing sales
on foreign markets and restricting purchases,
which, if successful will merely shift the
problem of unemployment to the neighbour which
is worsted in the struggle, but a willing and
unimpeded exchange of goods and services in con-
ditions of mutual advantage."21

21 John Maynard Keynes, The General Theory of Employment,
Interest, and Money. (New York: Harcourt, Brace and Co.),
pp. 362-383.
In this passage there is no suggestion that central banking tricks with gold points and gold reserves can solve the international business cycle problem. There is the emphatic statement that the maximum benefit from the international division of labor can be obtained only if the trading nations keep their domestic expenditures at the full-employment level.

These remarks in the *General Theory* gave birth to a large and influential school of thought which may be called optimistic Keynesianism. The pessimistic Keynesians are the subject of Chapter IV. 22

The Optimistic Keynesians

The policy recommendations of the classical writers were free trade and adherence to the gold standard. Three possible positions in regard to domestic stability may be implied from these policies. (1) Domestic stability will be promoted by these international policies; (2) domestic stability is subordinate to these policies; or, (3) a stable level of real national income is a given. The discussion of Chapter II suggests alternative (3). Regardless of which interpretation most accurately describes what the classical writers had in mind, an influential

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22 Hogg, op. cit., Ch. I. In his case study of Britain's post-war experience, Hogg calls attention to this cleavage between the followers of Keynes who see harmony in the policies of full employment and multilateralism and those who see a necessity for, and advantage in, restricting foreign trade while pursuing domestic full employment. He calls this latter group, new mercantilists.
group of modern writers view domestic stability in an entirely different light. Taking their cue from Keynes, they maintain that stable national incomes at the full employment level constitute the basic requirement for achieving the ideal of free multilateral trade.

To these writers the major upsetting factor in the ideal classical system is the cyclical fluctuations in income that characterize modern industrial economies. This problem is magnified by the income mechanism of adjustment (described above) which keeps the network of trading partners in lagged step as they move through the prosperity and depression phases of the cycle.

In the era prior to World War I, governments were not strongly obligated to maintain full employment; hence, unemployment was endured without encroaching on the policies of free multilateral trade. However, in the interwar period political realities forced national governments to assume responsibility for the level of employment. The position of this group of writers (and many


24 Polanyi, op. cit., p. 113.
writers in all phases of economics) is that revolutionary upheaval will be the result of government failure to maintain a high level of employment.

Once it was established that government should assume responsibility for full employment, there remained the problem of how government should interfere with economic activity to accomplish this objective. Laissez-faire still carried much political force. However, one crack in the laissez-faire armor had a long and honored history. This was interference, through tariffs, with economic intercourse at political borders.

Since the precedent was established, why not impose further restrictions on foreign trade designed to decrease imports and increase exports? According to the analysis of the first part of this chapter, an increase in exports relative to imports has the same stimulating effect on income and employment as an increase in domestic investment expenditures. Thus, many modern writers explain the multiplication of restrictions on international trade in the interwar period as politically expedient means of exporting unemployment—as "beggar-thy-neighbor" policies.

Triffin dramatically demonstrates the futility of using trade restrictions to raise the level of employment by describing the analogous situation of a price war among oligopolists that are facing a relatively inelastic market demand.25

25Triffin, op. cit., pp. 57-58
The individual demand elasticity that each firm hopes to exploit by lowering price becomes a mirage as prices of all the firms are lowered and they all share, in the same proportions as before, a smaller revenue produced by a lower price and an inelastic demand. Even though one nation may increase domestic employment by restricting imports relative to exports, it is not true that many nations can simultaneously follow such restrictive policies and improve employment. Since imports to one nation are exports to others a widespread policy of import restriction results in lower levels of international trade without a beneficial stimulus to employment. The benefits from the international division of labor that existed before the restrictions were imposed are reduced and there is a possibility that total employment will be lower. To the extent that resources in the export industries cannot be immediately transferred to production for domestic consumption, the depression at home is intensified.

This reasoning leads to the conclusion that the business cycle is the obstacle to be overcome in achieving the economic optimum so ably described by the classical writers (see Chapter II). The logical implication of this reasoning is that domestic policies that promote full employment are compatible with, and necessary for, the achievement of the classical goal of free multilateral trade and the optimum allocation and use of world resources.
And so Keynes concludes: "...But if nations can learn to provide themselves with full employment by their domestic policy, ... there need be no important economic forces calculated to set the interest of one country against that of its neighbors."26 Maintain full employment at home and economic harmony and peace shall reign over the family of nations. Here lies the explanation of the classification of those who followed this particular facet of Keynes' work as "optimistic" Keynesians.

Absent from this analysis is the attack on the gold standard and stable exchange rates per se. In fact, some of these writers imply that a "modified" gold standard with partially stable exchange rates is desirable in a full-employment world.27 This implies that fulfilment of the full-employment condition will so balance world trade that sizable movements of gold will not be necessary. Seasonal and other temporary imbalances will be covered by national gold reserves which will be used exclusively to settle international balances. An insufficiency of national gold reserves for filling temporary gaps will be remedied

26Keynes, General Theory, op. cit., p. 392.

by advances from the international fund set up to meet such contingencies. A permanent change such as a change in taste, technique, or depletion of a natural resource which results in balance of payments deficits and surpluses, will call for a different solution. International reserves cannot permanently fill such gaps. Therefore, the imbalance can be called a "fundamental disequilibrium" and adjustment of exchange rates will be recommended.28

Failure of a country to maintain full employment is considered an infraction of the most important rule of the new "rules of the game." Depression in the offending country (A) reduces A's imports from the rest of the world (B). A then has a surplus in its balance of payments and B a deficit. International reserves are paid by B to A only until it is established that the fluctuation in A is truly a cyclical depression and not a disturbance of a temporary nature. When the fact of a depression in A is established, the remedial punishment imposed by B is not exchange rate adjustment, but rather the economic ostracism of A. Until A restores her national income to the full-employment level she will be treated as an outlaw among the family of nations. This punishment is effected by

imposing restrictions on A's trade with B. These restrictions are imposed against A alone in order to restore balance of payments equilibrium. 29

A theme which is common among the writers of this optimistic school is the conviction that the United States has been and will probably be the chief transgressor of the full-employment rule. This violation is stressed because of the dominant position of the United States in world trade. The United States is pictured as bulking so large in the world economy that less than full employment in the United States would cause disastrous depression in the economies abroad. The importance of the United States forbids the remedy of economic ostracism. Therefore, a United States-generated-world-depression would set off an international war of trade restrictions; each nation attempting to raise its level of employment by exporting unemployment to its trading partners. 30

29 Disequilibrium that is caused by the failure of one nation to maintain domestic full employment is to be corrected by invoking the scarce currency provisions contained in the Articles of Agreement of the International Monetary Fund. These provisions allow the Fund to ration the currency of a nation that is enjoying a persistent surplus in its current balance. The rationing is obviously designed to eliminate the surplus by reducing the exports of the surplus country. To make doubly sure the surplus is eliminated, the Fund allows the other member countries to impose discriminatory controls over purchases from the surplus country. International Monetary Fund, op. cit., p. 13-15.

These ideas lead to the conclusion that adherence to the new "rules of the game" by the rest of the world will all be for naught if the United States is unable to maintain a stable full-employment level of income. The opposite of this negative conclusion is that achievement of the full-employment goal in the United States will virtually assure success in the struggle for free multilateral world trade.

The Department of Commerce publication, *The United States In The World Economy*, provided the statistical evidence to support the contention that the level of income in the United States provides the key to international economic harmony or economic world war.31

The most logical statistical support of this view has three parts. They are: (1) the United States has a history of frequent and severe business fluctuations; (2) the United States' income elasticity of demand for imports is greater than unity; and (3) the United States has a dominant position in world trade.

The United States' record of frequent and severe business fluctuations can be easily verified by reference to the national income and product series in the *National Income Supplement to Survey of Current Business*, July 1947, (U.S. Dept. of Commerce), or to the chart of *American

Business Activity Since 1790, published by The Cleveland Trust Company.

Income elasticity of demand for imports is similar to the concept of price elasticity. If a given percentage change in income is accompanied by the same percentage change in imports the income elasticity is unity. If the import percentage change is greater or less than the percentage change in income, the relationship is relatively elastic or relatively inelastic respectively. Income elasticity greater than unity means that domestic income fluctuations have a relatively greater impact on foreign economies.

A recent period when the United States income elasticity of demand was of great concern to the rest of the world was 1929-1932. In 1929, United States payments to foreigners for current transactions were $6,361 million. In 1932 payments for current imports were $2,322 million. This represents a 63.6 per cent drop in imports. In the same period the gross national product of the United States dropped from $108,928 million to $86,340 million or a drop of 45.6 per cent. National income of

32The expression of income elasticity simply substitutes imports and income for price and quantity, hence, a change in imports divided by a change in income relative to income. Letting M stand for imports and I for income the mathematical expression is: $\frac{\Delta M}{M} = \frac{\Delta I}{I}$ or $\frac{\Delta M}{\Delta I} = \frac{M}{I}$.

the United States decreased 52.2 per cent from 1929 to 1932. Regarding whether national income figures are used or gross national product statistics, the income elasticity of demand for imports of the United States from 1929 to 1932 was greater than unity.35

Finally, it is not enough to prove that the United States economy is unstable and that domestic fluctuations have a relatively greater impact on foreign economies in order to support the conclusion that the United States represents the key to international stability. What is the absolute size of the impact on the rest of the world caused by United States instability? Is it like a ripple or a tidal wave? The Department of Commerce study likens our impact to that of a tidal wave.

"The dominant role of the United States in the world economy is suggested by the fact that it ranked as the premier exporting nation during the interwar period, accounting for 15.6 per cent of the world total in 1929. In the same year, its share of total imports was 12.2

\[ \text{34} \text{These percentages were derived from national income and product statistics of the National Income Supplement to Survey of Current Business, op. cit., p. 20.} \]

\[ \text{35} \text{The average per cent decline in the United States Gross National Product for three years of recession (1929 to 1930, 1937 to 1938, and 1948 to 1949) was 6 per cent. The average per cent decline in United States' commodity imports for the same three years was 24 per cent. The Sterling Area - An American Analysis, (London: Economic Cooperation Administration, 1951), p. 43.} \]
per cent, being exceeded only by that of the
United Kingdom. With respect to imports of raw
materials only, the United States was easily the
most important importer. 36

There is at least a trace of the suggestion in the
discussion above that all will be well for the world economy
if only the United States can learn to stabilize her national
income at or near the full-employment level.

In summary, the optimists' formula for restoring
free multilateral trade, which, in turn, will achieve the
maximum international division of labor, has three parts:
(1) full employment all around, especially in the large
industrial economies; (2) controlled flexibility of exchange
rates; and (3) temporary economic ostracism of any nation
violating the full employment rule.

36 Hal B. Lary, op. cit., p. 29.
CHAPTER IV
CRITICISM OF THE OPTIMISTIC KEYNESIAN SOLUTION

The point of view which is the subject of this chapter maintains that the three elements of the optimists' international economic formula are either impossible of attainment and/or they will not create the conditions necessary for the survival of free multilateral trade. The three elements are: (1) domestic full employment, especially in the large industrial countries; (2) controlled flexibility of exchange rates; and (3) temporary economic ostracism of any nation violating the full employment rule.

Three influential critics of the optimists' solution are the English economists, Balogh, Kalecki, and Beveridge.¹ All three of these writers are Keynesian in the sense that the income theory of the adjustment mechanism is a basic part of their analysis. That is, they embrace the concept of international business cycle synchronization through national income adjustments to changes in the

balance of payments. Their criticism of the optimistic Keynesian solution earns for them the title of pessimistic Keynesians.

The criticisms of the optimists' formula may be presented in four parts: (1) the difficulty of achieving any international full employment agreement; (2) the inappropriateness of varying exchange rates to restore balance of payments equilibrium; (3) the weakness of the Fund's scarce currency provisions; and (4) the unlikelihood that free multilateralism can survive, even though an international agreement to maintain full employment can be achieved.

The pessimist in regard to an international full employment agreement is based on what are considered to be the political realities of the post-war world. Beveridge names Russia and the United States as specific examples of important trading nations that will not desire or will not be able to become part of a full employment agreement. His conclusion is based on the assumption that Russia's managed economy will not be interested in promoting harmony in world trade and that post-war United States will return to greater economic freedom from government control. Thus, Beveridge rejects the optimists' number one condition for

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2Beveridge, op. cit., pp. 239-240.
free multilateral trade as being unlikely of attainment.3
This rejection naturally leads him to a preoccupation with
what he regards as workable alternatives to multilateralism,
namely, bilateralism and regionalism.

The pessimists attempt to destroy the second
cornerstone of the optimists' formula by questioning the
appropriateness of exchange rate adjustments to restore
balance of payments equilibrium. Their criticism is aimed
exclusively at the ineffectiveness of exchange rate deprecia-
tion. The direction of their attack follows logically from
the optimists' assumption that exchange rate depreciation
can be effective in eliminating a balance of payments
deficit.

The argument that varying the exchange rate is an
inappropriate method of restoring balance of payments equi-
librium has two parts. The first questions whether the
respective price elasticities of demand for imports among
the trading nations are sufficiently high to avoid a
worsening of a balance of payments deficit by exchange de-
preciation. The second part of the argument doubts that
resources do move in response to exchange rate adjustments
as theoretically envisaged.

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3 This position was taken by Beveridge in 1945.
His position certainly is weakened by the United States'
Full Employment Act of 1946, and the unliklihood of a
business cycle in communist Russia.
Both the classicalists (Chapter II) and the optimistic Keynesians (Chapter III) rely on high price elasticities of demand for imports in their theoretical models of the international adjustment mechanism. The classical model holds the exchange rate constant and relies on internal price changes to effect the adjustment and provide the mechanism for a continuing tendency toward balance of payments equilibrium. High elasticities are essential to this system since the deficit country (gold losing) which experiences a falling price level must import enough less and/or export enough more to close the balance of payment gap.

The main quarrel of the optimists with the classical analysis is that income changes rather than price changes are the primary means of adjustment in the classical system. Therefore, the optimists recommend that income be held constant and allow limited flexibility of exchange rates. The optimists rely on price changes in the currency markets, while the classicalists look to price changes in the domestic product and factor markets to effect the adjustment. Therefore, in both cases (falling internal prices and exchange rate depreciation) high elasticities of demand for imports are assumed, so that the deficit country can expand exports and contract imports enough to restore balance of payments equilibrium.
The pessimists challenge the assumption that the
demand elasticities — so essential to the classical and
optimist models — are sufficiently high, and they have
received statistical support of their belief in recent
years. 4

4The classical position on elasticity is clearly
stated by Alfred Marshall who emphatically denied that
a country's demand for imports might be price inelastic.
He wrote, "Nothing approaching to this has ever occurred
in the real world: it is not inconceivable, but it is
absolutely impossible." Alfred Marshall, Money Credit,
and Commerce, (London: Macmillan and Co., Ltd., 1924),
Appendix J, p. 354. Opposed to this classical view
are several recent studies. A Federal Reserve Board
study conducted by Randall Hinshaw concluded: "From
certain constants obtained in multiple correlation, it
is possible to derive estimates of the average price
elasticity of a country's demand for imports. For
the three countries here studied, the computed elastici-
ties, over the periods covered, are uniformly low. In
fact, in each case, the estimated average price elasticity
is below unity. For the United States, the figure is
.48; for the United Kingdom, it is .67; and for Sweden,
it is .61." Randall Hinshaw, "On The Elasticity of Import
Demand Schedules," Board of Governors, Federal Reserve
System, (August, 1946), Mimeographed, p. 9. In a
statistical study of demand for exports, T. C. Chang
states: "As a matter of fact, the price elasticity of world
demand for a single country's total exports tends in general
to be less than unity." T. C. Chang, "A Statistical Note On
World Demand For Exports," Review of Economics and Statistics,
(May, 1948), pp. 109-110. In another study Chang investi-
gates the elasticity of demand for imports. "Now let us turn
to discuss the size of the price-elasticity for different
types of countries. It seems that the difference in their
magnitude as shown in the table is random; and no general-
isation can therefore be made on them. But, with the
exception of the case of Canada, all the elasticities tend
to be less than unity." "International Comparison
of Demand for Imports," Review of Economic Studies, XIII,
(1945-46), p. 66. J. H. Adler estimated that, "The price
elasticity for duty-free imports is probably between .3
and .6." J. H. Adler, "United States Import Demand During
the Interwar Period," American Economic Review, (June,
However, even before much statistical evidence became available, the pessimists argued that low elasticities of demand for foreign goods are logically to be expected.5

Balogh stresses the idea that resistance to imports is deep rooted, especially among industrial competitors.6 This aversion to competing imports has been implemented over time by a myriad of subtle restrictions and obstacles to foreign trade. Although it is not stated, there is the implication that these barriers would be effective in reducing the response of buyers to foreign price changes, even though free multilateral trade should be restored.

Another facet of the argument examines the origin of the belief that the elasticities of foreign demand are high. The pessimists contend that this view developed as a by-product of the classical competitive model, since high elasticities are consistent with a model in which individual firms and nations are such small parts of the whole that they are unable to influence price. According to Lerner, the existence of monopoly and international economic empires destroys the basis for the original belief in high elasticities.7

6Balogh, op. cit., p. 142.
7Lerner, op. cit., p. 379.
The other major criticism of the optimists’ proposal for flexible exchange rates concerns the reallocation of resources that exchange depreciation is designed to achieve. Exchange rate depreciation causes prices of imported goods to be higher for the depreciating nation which tends to shift demand from import goods to import-competing domestic goods. Depreciation, which lowers prices to foreign buyers, causes an increase in output in the export industries, if the export elasticity of demand is, at a minimum, greater than zero. The reduction of the physical volume of imports and expansion of the physical volume of exports will tend to restore an export and import balance, if the relevant import and export elasticities are sufficiently high.

Therefore, the real adjustment that exchange depreciation is designed to achieve is an expansion of output and sales in domestic import-competing industries and/or export industries. The pessimism in this regard is that the depreciation will either be insufficient to induce the transfer of resources, or so great that losses attendant with depreciation will overshadow the achievement of balance of payments equilibrium.  

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8Balogh, *op. cit.*, pp. 142-146. The losses of depreciation are less advantageous terms of trade and the wastage of resources that accompanies the reallocation of resources.
First, it is argued that modest depreciation offers a negligible inducement for increased investment in home substitutes for imports and in the export industries. Because the terms of purchase and sale of goods in international trade are frequently changed on short notice, profit margins must be unusually large to induce changes in resource allocation in the import and export industries. Furthermore, profit possibilities that are based on exchange depreciation are considered to be of the tenuous and probably temporary variety, as they can be wiped out by government action as easily as they are created by government action. Pursuing this line of reasoning, the pessimists argue that depreciation, severe enough to induce the necessary real adjustments to restore balance of payments equilibrium, is undesirable because of the extreme worsening of the terms of trade. Such worsening of the terms of trade for a fully employed country means a decrease in real income.

The terms of trade pessimism is strengthened by the assumption that the price elasticity of home demand for imports is likely to be low, so long as domestic money incomes are maintained at the full employment level. Therefore, depreciation forces all of the real adjustment on the

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export industries, which means an even lower real income for the depreciating country through greater depreciation and still lower terms of trade in order to pay for a relatively stable volume of imports which include what the pessimists regard as undesirable luxuries.\(^\text{10}\) The conclusion from this reasoning fits in well with the general preoccupation of the pessimists with controlled international trade.

Exchange depreciation is a general, non-selective method of repressing domestic demand for foreign goods and increasing foreign demand for domestic goods. It is this non-selectivity which the pessimists criticize. As opposed to selective controls over imports, exchange depreciation involves unnecessary sacrifice in terms of real income in a situation where import demand is inelastic because of a high level of domestic money income. In order to understand what the pessimists mean by the unnecessary sacrifices of exchange depreciation, the depreciation method of achieving balance of payments equilibrium may be contrasted with selective control over luxury imports. In the former case less advantageous terms of trade, lower real incomes, and resource reallocation restore the balance between imports and exports. In the latter case selective controls over imports eliminate what are considered certain undesirable luxury imports and

\(^{10}\text{Paloch, op. cit., p. 144.}\)
quickly restore the import-export balance without the painful reduction in real income and resource reallocation.

Finally, the pessimists oppose deliberate changes in the exchange rate for balance of payments reasons because of the uncertainty of the cause of the disequilibrium that requires correcting. If a fully employed country experiences a balance of payments deficit because of cyclical fluctuations abroad, the disequilibrium is temporary and a reallocation of resources in response to such a disturbance would be economic waste. Therefore, they reject exchange flexibility as a tool for policy makers on the ground that in the short-run it is impossible to know the origin of a disturbance, and the likelihood is strong that the disturbance stems from cyclical variations abroad.

In summary, the pessimists reject exchange depreciation as it is found in the optimists' model because: (1) the relevant demand elasticities are not high enough and/or there is too much uncertainty concerning specific elasticities for exchange depreciation to be a useful tool of international adjustment; (2) the reallocation of resources which a large depreciation will induce involves unnecessary losses in real income; and (3) a real or resource adjustment to a temporary disturbance caused by cyclical fluctuations abroad constitutes economic waste.
The international Monetary Fund's scarce currency provisions are vigorously attacked by Kalecki and Beveridge. Both Kalecki and Beveridge criticize the scarce currency provisions in the sense that they are completely impractical as a means of resisting the spread of depression. Since the Fund recommends exchange rate adjustment to correct "fundamental disequilibrium," these writers are perhaps justified in assuming that the Fund's scarce currency provisions are designed to correct deficits caused by foreign depression.

The pessimists have three major objections to the scarce currency provisions as a means of isolating the depressed country and creating a new multilateral area that excludes the offender.

Kalecki is most concerned over the difficulties of quickly changing the structure of production in the new multilateral area. Such fundamental changes are deemed necessary in order to establish a new trading network among the member nations that excludes or partially excludes the depressed country. Therefore, to Kalecki, it is obvious that during the relatively long period of time that is necessary to effect this real adjustment many countries will experience severe shortages of important goods. In


12International Monetary Fund, op. cit., p. 5.

13Kalecki, op. cit., p. 325.
this connection, the more important the ostracized country
the greater the hardship on countries that formerly im-
ported from the surplus country. Although it is not
stated, there is the implication in this argument that the
economic costs of changing the structure of production
will be wasted when the depressed country enjoys a recovery
in business activity and is reinstated by the Fund to full
membership.

Beveridge also maintains that the Fund’s scarce
currency provisions allocate the burdens of isolating the
surplus country in an intolerable manner.14 Beveridge
points out that countries which export primarily to the
depressed country cannot escape sharp decreases in income
by any discrimination by the rest of the world against the
exports of the surplus country. Beveridge is also critical
of the Fund’s method of sharing the burden of reducing
imports from the depressed area.

Beveridge assumes that it is impractical to expect
that all the members will take common action in imposing
discriminatory controls.15 In fact, the Fund Agreement
virtually prohibits common action, as it directs the
members to restrict the use of the scarce currency "...no
more than necessary to limit the demand for the scarce
currency to the supply held by, or accruing to, the member in question;... This means that the burden of restricting imports from the isolated country is placed primarily on those countries that normally have import balances with the surplus country. These are the countries that must apply to the Fund for the scarce currency and, therefore, the countries that are subject to the Fund's rationing. Beveridge likens this to... rationing meat to the townsmen while leaving the countryman to eat as much as he likes,...

Finally, the pessimists doubt that free multilateralism can survive, even though an agreement to maintain domestic full employment all around does not guarantee that each nation will have a balanced international account. Full employment in the rest of the world does not necessarily mean that country A will be able to sell enough to pay for its own full employment imports.

Even though all nations maintain full employment levels of income, nation A may be forced to overcome an export deficit with domestic spending, while nation B finds that domestic spending is augmented by an export surplus. If this situation continues, A will eventually be forced to invoke restrictive exchange controls and depart from the

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17 Beveridge, op. cit., p. 223.
18 Kalecki, op. cit., pp. 322-323.
policy of free multilateral trade. Therefore, in the absence of international lending the international full employment agreement would have to include an agreement to balance imports with exports if balance of payments difficulties are to be avoided.

This extreme condition, which is probably impossible of attainment, and, in the interest of economic progress, undesirable, is unnecessary so long as no country has an export surplus not covered by international lending. If the surplus nations match their surpluses with international lending, the deficits will be automatically covered by international borrowing. Thus, the pessimists maintain that, in addition to the full employment agreement, international investment must conform to a very precise relationship if free multilateral trade is to succeed, and avoid degeneration to bilateralism and regional blocs. This relationship is: the net foreign lending of each nation must vary directly and in equal amount with the export surplus of the nation in question. The obverse of this rule is that the net foreign borrowing of each nation must vary directly and in equal amount with the export deficit of the nation in question.

There are a variety of reasons why the pessimists are skeptical that this international investment condition could be met, even if it were part of the optimists' formula, which it is not. Domestic investment is highly volatile and unpredictable and foreign investment appears
to be the most delicate flower of all. Furthermore, there is some justification for saying that international investment would have to be countercyclical to meet the condition stated above. If a downturn in business activity, prices, and income in country A relative to country B caused A to have an export surplus, A would be obliged to expand its lending to B. However, experience shows that A is likely to do precisely the opposite, that is, contract its lending to B. Therefore, the pessimists conclude that in the absence of an international authority that is empowered to control international lending there is little reason to believe, and every reason to doubt, that international investment could perform the role of exactly offsetting export surpluses and deficits.

\[19\text{Depression is usually accompanied by a collapse of confidence on the part of investors.}\]
The Incompatability of Full Employment and Free Multilateral Trade

The logical sequel to this discussion of pessimistic Keynesianism is an attempt to prove the thesis that full employment and free multilateral trade are incompatible. Although the writers discussed in this chapter do not advance this thesis, their objections to the optimist's formula for restoring free multilateral trade imply the validity of such a contention.

The incompatibility thesis may be defended by the use of the following syllogism.

The major premise. Free multilateral trade requires continual changes in the structure of production.

The minor premise. Changes in the structure of production necessarily involve income changes.

Conclusion. Therefore, free multilateral trade is not compatible with a fixed level of income and employment.

The contention that free multilateralism requires changes in the structure of production is perhaps the easiest to substantiate. Since demand and supply conditions are constantly changing, a given pattern of international trade cannot be permanent. These changes cause surpluses and deficits in the balance of payments of the trading nations which continually upset a prior state of equilibrium. Balance of payments deficits can be covered without forcing a basic reallocation of resources, so long as the deficit nation is able and willing to lose its
international reserves and/or borrow from abroad. However, neither of these expedients is of unlimited duration. Therefore, the deficit nation must eventually discard its policy of free multilateralism and impose discriminatory controls over its imports and exports, or make changes in its structure of production that will restore balance of payments equilibrium. The principle revealed by this analysis is that, in the absence of conscious control over imports and exports designed to make them balance, the domestic production pattern must constantly adjust to the changing international demand and supply conditions.

The minor premise, which states that changes in the structure of production involve changes in income, is slightly more obscure. To substantiate this premise it must be shown that the three methods of adjusting to a balance of payments deficit all involve income changes. Of the three methods, domestic price decreases, exchange rate depreciation, and reduced national income, the last method clearly is consistent with the premise. The two price methods of adjustment mean less advantageous terms of trade which necessarily involve lower real income for an economy enjoying full employment of resources. The new terms of trade mean that more must be exported to receive a given quantity of imports. It is, of course, possible for an economy that is suffering from unemployed resources to increase its real income even though its terms of trade
have decreased. This may be the case if enough of the formerly unemployed resources can be used in production of goods for export so that the total volume of imports is greater than before the terms of trade were changed. However, for a fully employed economy, lower terms of trade mean that imports must be reduced without a corresponding increase in domestic production or domestic production must be reduced in order to maintain the volume of imports. In both cases real income is reduced.

In addition to the lower real income that follows a worsening of the terms of trade, a balance of payments deficit is likely to involve unemployed resources in one or more of the export industries. This unemployment is usually called frictional unemployment for the period of time that it takes to reabsorb them in domestic import competing industries and other export industries. This period of time will be long if the relevant elasticities of demand and supply are low.

It has been shown above that adjustments which involve changes in real income and employment must be made as demand and supply conditions change if free multilateralism is to survive. Therefore, free multilateral trade

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20 Balogh, op. cit., p. 146. Balogh points out "...that any considerable and abrupt alteration of the effective foreign demand of a country is likely to necessitate re-adjustments abroad which are difficult to achieve without suffering unemployment. Even if the change is qualitative and not quantitative, serious problems arise."
is not compatible with a fixed level of income and employment.

A corollary of this conclusion is that a government policy of guaranteeing full employment is likely to magnify or perpetuate a balance of payments disequilibrium rather than restore a new equilibrium. If compensatory government spending is used to implement the full employment policy, injections of new government spending will be called for if an export deficit is accompanied by unemployment in the export industries. These injections could easily be inflationary if the unemployed resources cannot quickly be reabsorbed in domestic or other export industries. This consequence of government spending would tend to cause an increase in imports and further depress exports, thus magnifying the balance of payments deficit. Such a result would eventually force the full employment country to abandon free multilateralism in favor of discriminatory controls in the name of maintaining employment at home.

Another possibility is that the full employment government is susceptible to pressure from organized groups. This may result in the government being forced to underwrite a fixed pattern of employment, as well as a fixed level of income and employment. A fixed pattern of employment is, of course, a good thing for the individual factor groups which necessarily lose when the structure of production is

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21Hogg, op cit., Ch. I.
changed, however, it very effectively blocks the real adjustments that are necessary to close a balance of payments gap. The inflexibility that is achieved by a fixed pattern of employment causes the balance of payments disequilibrium to be perpetuated, which leads eventually to discriminatory government control of international trade.

The logical conclusion which stems from the pessimistic Keynesians' analysis is the existence of the conflict between the policy of government responsibility for full employment, and the policy of free multilateral trade. If the former policy takes precedence, the classical international model is modified again, as government control of international transactions becomes a characteristic of a more realistic theoretical model of the international economy.

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22 Infra, pp. 113, for an example of government support of a fixed pattern of employment. Also see J. A. Nordin and Virgil Salore, Elementary Economics, (New York: Prentice-Hall Inc., 1950), pp. 320-322, for evidence that the post World War II British government has supported a fixed pattern of employment.
CHAPTER V

UNDERLYING CAUSES OF INTERNATIONAL DISEQUILIBRIUM

The 1930's and 1940's found many writers building up and tearing down a straw man who was described as a classical economist. When the tormentors were pressed to identify their hapless classicist he usually turned out to be J. B. Say.1 The persecutors of the classical straw man were known far and near as Keynesians. Today (the 1950's) the Keynesian is becoming a target for some abuse.

The classicist emphasizes supply, and the Keynesian emphasizes demand. When contemporary problems are caused by unemployed resources, there is no dearth of economists who will come forth and proclaim that a failure of "effective demand" is the root of all economic evils. Contemporary problems (such as balance of payments disequilibrium) which are associated with full employment and inflation, are the cue for the theoreticians to change their tactics. Now the traditional themes of "structural maladjustments" and "misallocation of resources" are given a vigorous play.

The leading economists who are turning from a preoccupation with short-run fluctuations and measures for achieving full employment to the long-run problems of

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production and resource allocation include: C. P. Kindleberger, Colin Clark, Folke Hilgerdt, Gerhardt Lenschow, and K. E. Hansson. It is especially appropriate that Colin Clark’s name be associated with some of the ideas presented in this chapter. It was in the first edition (1940) of his, The Conditions of Economic Progress, that Clark made the now famous statement that "...there is room for two or three economic theorists in each generation, not more."3 In the second edition (1951) of the same book, while commenting that the main issue in the next decade will be the "...long-run problems of the production and distribution of real income," he reverses his earlier position on the need for theoretical studies as follows:

"Strange though it may seem to say so here, there is now even a danger that we may concentrate so much on factual economics that we

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may neglect necessary theoretical studies. At any rate this would seem to apply to
two important branches of economics which have been left badly neglected under the
prevailing fashions of thought in the 1930's and 1940's, namely International Trade and
Public Finance."4

Clark suggests that contemporary studies in International
Trade theory should be investigations of the circumstances
that justify restrictions on the free flow of international
trade by a nation or nations.4 Because of Clark's earlier
opposition to theoretical studies, it is doubly gratifying
to find him advocating the type of investigation that this
study of the role of international monetary blocs attempts.

Before discussing the specific approaches to the
problem of structural disequilibrium, it is essential that
the nature of the disequilibrium under discussion be
understood. The traditional theory of the international
adjustment mechanism assumes a more simplified disequilibrium
than will be considered in this chapter; namely, an absence
of international balance between one country (A) and the
rest of the world (B). The countries which make up B are
assumed to be in balance with each other and it is,
therefore, up to A to make the necessary adjustment. This
adjustment may take the form of price changes, income
changes, a different exchange rate or a combination of all
three. These adjustments will modify the structure of
production in A until balance has been restored. If A is

small relative to B, which is the usual assumption, the
effect of A's adjustment on B may legitimately be neglect-
ed.

The disequilibrium that many modern writers
believe to be the cause of present day currency and foreign
trade controls is a more general type of structural
imbalance. This general disequilibrium includes structural
imbalance in the countries which make up B (the rest of the
world) as well as in A -- i.e., disequilibrium all around.
The traditional adjustment mechanisms were not designed to
cure balance of payments difficulties of many trading
nations at the same time. Depreciation or deflation may
have certain equilibrating effects on A's balance of
payments situation, providing the nations of B are in
balance with each other and the necessary variables are
held constant. However, if the disequilibrium is not a
simple case of A being out of step with B, A's adjustment
may improve its balance of payments situation in some
directions and worsen it in others. The effects of
traditional adjustment techniques become even more
uncertain, and their use by individual countries of
doubtful value, when many trading partners use them at the
same time in order to get in step with a group that is out
of step and whose members are doing different things.

The purpose of this chapter is to determine the
nature of underlying causes of international disequilibrium
that are distinct from the cyclical explanation of
disequilibrium. The writers who emphasize general structural disequilibrium in their analysis of contemporary international problems may be divided into three groups on the basis of their answers to the question of why and how the structural difficulties arose. The first to be discussed here is the unique explanation of structural maladjustment provided by Folke Hilgerdt\textsuperscript{5} which is based on an exhaustive empirical study of the network of world trade.\textsuperscript{6} Hilgerdt's explanation is followed by an analysis of structural disequilibrium that is based on changes in the relative scarcities of the factors of production in the trading nations. Differential rates of growth of productivity is the underlying cause of disequilibrium according to the third analysis. The final section of this chapter synthesizes these three positions and formulates a theory of twentieth century international imbalance.

\textsuperscript{5}Hilgerdt, "International Trade Under Structural Disequilibrium", \textit{The Network of World Trade}, League of Nations, (Geneva, 1942).

Multilateralism: Precarious Balance

The study of the world system of trade (referred to above) was conducted by the League of Nations and much of the work was done by Hilgerdt. The League publication which presented the results of this study reported that 70 per cent of all merchandise trade is usually bilateral. Bilateral in this sense means that imports to nation X from Y are offset by exports from X to Y. They estimate that 5 per cent of merchandise trade represents imports paid for by the importer with the return from the importing nation's investment in the exporting country. Thus, the League report estimates that 25 per cent of merchandise transactions in the 1920's were triangular or multilateral.7

The next pertinent observation to Hilgerdt's explanation of a general structural imbalance is the discovery that the 25 per cent of trade that requires multilateral settlement is not taken care of by triangular or multilateral settlement by small groups of countries. On the contrary, the trading nations for the most part belong to a single world-wide system of trade.

The systematic integration of the world's trading partners in 1928 is demonstrated by dividing the world into six groups which account for 90 per cent of the merchandise

7The source of the factual material of this discussion is, The Network of World Trade, op. cit., pp. 76-88.
The League investigators then made the discovery that they could list these six groups in such a way that each has an import balance with every group that precedes it and an export balance with every group that follows it. The only exception is the export balance the last group has with the first on the list. This exception makes the integration more complete as it tends to close the circuit. Illustration 2 lists the six groups and shows the magnitude and direction of the merchandise trade balances in 1929.

Another element essential to Hilgerd's present day theory of international disequilibrium is the historical development of this complicated, yet systematic, network of trade that he found to exist in 1929. First, is the discovery by the League study that the world system of trade is not old — beginning to take its modern form in the 1870's.

The thesis of the League and of Hilgerd is that the transfer of interest and dividend payments from debtor to creditor, primarily from the rest of the world to the United Kingdom, provided the seed for the development of the modern (1929) system of multilateral trade. England's early industrial start led to large importation of industrial raw materials which was accompanied by British overseas investments. Prior to the 1870's, Britain's relations with her debtors were largely bilateral, and, as income from foreign investments grew, she developed an import balance from these countries.
ILLUSTRATION 2

THE SYSTEM OF MULTILATERAL TRADE, AS REFLECTED BY THE ORIENTATION OF BALANCES OF MERCHANDISE IN 1928


Balances in millions of dollars, calculated from adjusted frontier values of trade (imports valued c.i.f., exports f.o.b.). Both import and export balances are shown; the smaller of the two figures in each square represents the export balance of the group from which the arrows emerge, and the larger figure the import balance of the group to which the arrows point. The difference between the amounts in question is due largely to the inclusion in imports of transport costs between the frontiers of the exporting and importing countries.

The Tropics include: Central Africa, the mineral producing and tropical agricultural countries of Latin America, India, Burma, Ceylon, and South-East Asia.

The Regions of Recent Settlement include: Northern North America (Canada), South Africa, Non-tropical Agricultural countries of Latin America (Argentina), and Oceania (Australia and New Zealand).

Major Regions that are not included: North Africa, Japan, Korea, Formosa, China, U.S.S.R.
According to the League study, the bilateral nature of trade and debt payment between Britain and her debtors began to give way to triangular and multilateral settlement in the 1870's. Between 1870 and 1910, Table I indicates that the British import balance with the United States and Europe grew remarkably (19 to 111 million pounds sterling), while her import balance with the rest of the world fell from 40 million pounds sterling to 5 million. During this same period, Britain's income from investments in Europe remained small, the United States' interest and dividend payments to Britain are believed to have remained stable, while the investment income from the rest of the world increased. Thus, the income from British overseas investments began to be transferred to the United Kingdom via third countries. Table II shows how much Britain's nineteenth century pattern of investments and trade balances had shifted by 1938. The figures show that Britain had export balances where her investments were large and import balances where her investments were small. These figures demonstrate the necessity for the real transfer of interest and dividend payments to Britain to travel a multilateral route.

At first, bilateral trade was replaced with triangular settlement as industrialization in Europe and the United States meant import balances for these countries with the tropical debtors of the United Kingdom. Two of these triangles can be seen in Illustration 2. In one
### TABLE I

**UNITED KINGDOM: BALANCES OF GENERAL TRADE IN MERCHANDISE WITH THREE GROUPS OF COUNTRIES AND RE-EXPORTS**

ANNUAL AVERAGES IN (000,000's)

<table>
<thead>
<tr>
<th>Import (−) or Export (+) Balances in General Trade with:</th>
<th>1860/69</th>
<th>1870/79</th>
<th>1880/89</th>
<th>1890/99</th>
<th>1900/09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium, France, Germany, Netherlands,</td>
<td>0</td>
<td>-10</td>
<td>-35</td>
<td>-60</td>
<td>-72</td>
</tr>
<tr>
<td>Denmark, Norway, Spain, Sweden</td>
<td>-13</td>
<td>-42</td>
<td>-54</td>
<td>-68</td>
<td>-85</td>
</tr>
<tr>
<td>United States</td>
<td>-12</td>
<td>-35</td>
<td>-13</td>
<td>-11</td>
<td>-5</td>
</tr>
<tr>
<td>All Other Countries</td>
<td>-55</td>
<td>-87</td>
<td>-102</td>
<td>-139</td>
<td>-168</td>
</tr>
</tbody>
</table>


### TABLE II

**UNITED KINGDOM: DISTRIBUTION OF OVERSEA INVESTMENTS IN 1930 AND BALANCES IN MERCHANDISE TRADE IN 1928**

<table>
<thead>
<tr>
<th>United Kingdom Estimated Investments in 1930</th>
<th>United Kingdom Import (−) or Export (+) Merchandise Balance (as recorded) in 1928</th>
</tr>
</thead>
<tbody>
<tr>
<td>India, Burma, Ceylon, Other Tropical Countries</td>
<td>1200</td>
</tr>
<tr>
<td>Australia, New Zealand, British South Africa,</td>
<td></td>
</tr>
<tr>
<td>Canada, Newfoundland, Argentina</td>
<td>1850</td>
</tr>
<tr>
<td>United States</td>
<td>200</td>
</tr>
<tr>
<td>Europe</td>
<td>300</td>
</tr>
<tr>
<td>Rest of World</td>
<td>250</td>
</tr>
<tr>
<td>Total</td>
<td>3800</td>
</tr>
</tbody>
</table>

triangle the tropical debtors transfer interest and dividend payments to the United Kingdom via the United States, and in the other, via Continental Europe.

Germany's entry in the 1880's made the system truly multilateral. Germany's rise as an industrial power made her a net exporter to the rest of Continental Europe. These changes in Germany's trade balances during the last decade of the nineteenth and the first decade of the twentieth centuries are shown in Table III. Thus, in the real transfer of investment income to the United Kingdom, Germany becomes an extra link in either a four or five-cornered route if the groups in Illustration 2 are used.

Shortly after the turn of the century, the group of countries which the League study classifies as Regions of Recent Settlement entered the trading system between the United States and Germany. The common characteristics of this group are sparse populations, great plains, temperate climates, and recent settlement. The major countries of the group are Australia, New Zealand, Canada, Newfoundland, South Africa, and Argentina. These countries entered the multilateral system by becoming large net exporters of foodstuffs to Europe. They tended to replace the United States in this respect. The similar geographic characteristics of the United States kept these countries from becoming net exporters to the United States. However, the United States' lead in industrialization is responsible for the development of an export balance from the United States.
### TABLE III

**GERMANY: ACTIVE (+) OR PASSIVE (-) BALANCES OF TRADE, IN REICHMARKS (000,000's), WITH:**

<table>
<thead>
<tr>
<th>CERTAIN EUROPEAN COUNTRIES</th>
<th>1890</th>
<th>1900</th>
<th>1912</th>
<th>CERTAIN COUNTRIES IN OTHER CONTINENTS</th>
<th>1890</th>
<th>1900</th>
<th>1912</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>-16h</td>
<td>+38</td>
<td>+106</td>
<td>Argentina</td>
<td>-48</td>
<td>-169</td>
<td>-206</td>
</tr>
<tr>
<td>Denmark</td>
<td>+15</td>
<td>+64</td>
<td>+52</td>
<td>Australia, New Zealand</td>
<td>-28</td>
<td>-70</td>
<td>-194</td>
</tr>
<tr>
<td>France</td>
<td>-28</td>
<td>-26</td>
<td>+137</td>
<td>Brazil</td>
<td>-97</td>
<td>-66</td>
<td>-120</td>
</tr>
<tr>
<td>Netherlands</td>
<td>-49</td>
<td>+356</td>
<td>+26h</td>
<td>Egypt</td>
<td>+2</td>
<td>-26</td>
<td>-74</td>
</tr>
<tr>
<td>Norway</td>
<td>+18</td>
<td>+50</td>
<td>+61</td>
<td>India</td>
<td>+96</td>
<td>-155</td>
<td>-471</td>
</tr>
<tr>
<td>Switzerland</td>
<td>+2</td>
<td>+122</td>
<td>+72</td>
<td>Netherlands Indies</td>
<td>-10</td>
<td>-56</td>
<td>-140</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>+86</td>
<td>+153</td>
<td>+318</td>
<td>United States</td>
<td>+20</td>
<td>-56k</td>
<td>-888</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>-118</td>
<td>+557</td>
<td>+1273</td>
<td><strong>Total</strong></td>
<td>-65</td>
<td>-1106</td>
<td>-2093</td>
</tr>
</tbody>
</table>

**Source:** The Network of World Trade, League of Nations, (Geneva, 1942), p. 87.

### TABLE IV

**UNITED STATES: BALANCES OF MERCHANDISE TRADE WITH CERTAIN REGIONS OF RECENT SETTLEMENT AND TROPICS**

**ANNUAL AVERAGES IN $ (000,000's) AS RECORDED**

<table>
<thead>
<tr>
<th>PERIOD</th>
<th>NORTHERN</th>
<th>OCEANIA</th>
<th>ARGENTINE</th>
<th>TROPICS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NORTH AMERICA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1881-85</td>
<td>+1</td>
<td></td>
<td>+1</td>
<td>-1</td>
</tr>
<tr>
<td>1886-90</td>
<td>+2</td>
<td></td>
<td>-1</td>
<td>+1</td>
</tr>
<tr>
<td>1891-95</td>
<td>+13</td>
<td></td>
<td>-2</td>
<td>-2</td>
</tr>
<tr>
<td>1896-1900</td>
<td>+13</td>
<td></td>
<td>+4</td>
<td>-0.2</td>
</tr>
<tr>
<td>1901-05</td>
<td>+72</td>
<td></td>
<td>+21</td>
<td>+4</td>
</tr>
<tr>
<td>1906-10</td>
<td>+101</td>
<td></td>
<td>+16</td>
<td>+14</td>
</tr>
<tr>
<td>1921-25</td>
<td>+231</td>
<td></td>
<td>+87</td>
<td>+34</td>
</tr>
<tr>
<td>1926-30</td>
<td>+350</td>
<td></td>
<td>+124</td>
<td>+70</td>
</tr>
<tr>
<td>1928</td>
<td>-</td>
<td></td>
<td>-</td>
<td>-950</td>
</tr>
</tbody>
</table>

**Source:** The Network of World Trade, League of Nations, (Geneva, 1942), p. 86.
to the Regions of Recent Settlement in the form of iron and steel machinery. Table IV shows the United States' import balance with the Tropics in 1928, and the development of the export balance with the Regions of Recent Settlement.

Hilgerdt summarizes the system as it had developed by 1928 by going around the outer rim of the circular diagram (Illustration 2). The Tropics were not exporters of industrial raw materials to the United States and other industrial areas. These export surpluses were needed by the Tropics to make interest and dividend payments to their European creditors. The United States, with similar agricultural potential as the Regions of Recent Settlement, but with an industrial head start, was a net exporter of iron and steel equipment to these countries. The Regions of Recent Settlement paid for their import balance from the Tropics and the United States with exports of food and raw materials to Germany, the United Kingdom, and other industrial countries of Europe. Germany's import balances of raw materials from overseas were paid for by export balances composed of manufactures, 80 per cent of which were taken by Europe. The other European countries paid for import balances from Germany and overseas with their income from foreign investments and an export balance with the United Kingdom. Thus, the major international creditor, the United Kingdom, received payment on past investment and shipping

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services through triangular and many-sided multilateral transfer routes. The fact that the Tropics made up the only group that had a merchandise import surplus from the United Kingdom served to strengthen the integration of this 1928 network of world trade.

To Hilgerdt, it seems quite natural to state the conditions for international currency convertibility and absence of discriminatory trade controls in terms of the multilateral balancing or dovetailing of trade balances and capital accounts. He has the cause and effect relationship running from multilateral balance to currency convertibility and non-discriminatory trade rather than the other way around. Currency convertibility and the absence of trade controls are not sufficient conditions for multilateral trade according to this analysis. On the contrary, the nation's structures of production must permit dovetailing of trade balances before the policies of currency convertibility and absence of trade controls can be put into effect.

The world system of trade was not composed of several isolated triangular or multilateral areas such as the water tight compartments of a ship. Rather, the trading nations were, for the most part, members of one multilateral system whose equilibrium and very survival depended on the continuous, simultaneous, dovetailing of international

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accounts. Therefore, Gilgertit looks upon any balance of payments disturbance in an important country as a trigger that could set off a chain reaction that would destroy the multilateral system of trade as it existed in 1929.\(^{10}\)

Because of the integrated nature of the world system of multilateralism, Gilgertit implies that there will be a bias against using the traditional adjustments when a balance of payments deficit occurs. Non-discriminatory adjustments, such as exchange depreciation, deflation or lower income levels, tend to reduce imports from countries where the adjusting country has an export balance as well as with those countries where an import balance exists. Therefore, to avoid retaliation from her export markets, the adjusting country will find it less painful to impose discriminatory import restrictions in the direction of her import balances. The nations that are net sellers to the adjusting country are in no position to retaliate, while the adjusting nation reasons that the countries to which she is a net seller will have no reason to retaliate. Therefore, discriminatory restrictions on marginal imports are looked upon as a simple, painless adjustment device when compared to deflation, lower incomes, or less favorable terms of trade which are the by-products of the traditional non-discriminatory adjustment mechanisms.

\(^{10}\)Ibid., p. 525.
Here is perhaps another of the many macroeconomic paradoxes. The above reasoning ignores the chain reaction that discriminatory import controls set in motion as one country after another is forced to defend itself by discriminatory import restrictions. Free markets in foreign exchange are eliminated, exchange controls bring inconvertible currencies with them, and trade is eventually reduced to that volume which can be settled bilaterally. Thus, the highly integrated multilateral system which Hilgerdt describes, turns out to be a very delicate flower which contains the seeds of its own destruction.

The destruction of that part of trade which formerly was settled multilaterally changes the structure of trade and production in the countries involved until a general structural disequilibrium exists of the type discussed in the introduction to this chapter. After this stage has been reached the power to unravel the network of controls and change the structures of production in the trading nations is beyond the grasp of any single nation.

It is also noteworthy that the destruction of multilateralism, once it has begun, tends to be cumulative. This seems to be true after the stage of inconvertible currencies has been reached. Because of inconvertibility, a country cannot pay for its trade deficits with its surpluses. In this situation it would often necessitate an absurd amount of depreciation or depression to eliminate a deficit with a particular country which would normally be
a source of imports and not a market for exports. Therefore, 
discriminatory restriction of imports in the direction of 
the deficit becomes the only practical adjustment mechanism.\textsuperscript{11}

Finally, Hilgerdt implies that the restoration of 
the multilateral system requires simultaneous structural 
changes in the trading nations designed to achieve multi-
lateral dovetailing of trade, service, and capital accounts. 
Only when this Herculean task is achieved will free currency 
markets be possible, and will countries be able to pay for 
deficits in one direction with their surpluses in other 
directions. This is not a task that can be accomplished by 
unilateral action on the part of individual nations, neither 
is it certain that an international body would be wise 
(enough even if it had the power to enforce its will.

According to Hilgerdt, the monetary panic and the 
international "flights" of capital in the early 1930's 
upset the delicately balanced multilateral system and gave 
birth to the nationalistic controls which still shackle 
world trade,\textsuperscript{12} Since that time, continuation of the 
controls and World War II have intensified the international 
structural maladjustments. To Hilgerdt, full employment and 
high levels of trade do not alter the situation.\textsuperscript{13}

\textsuperscript{11} Ibid., p. 524.
\textsuperscript{12} Hilgerdt., "The Case For Multilateral Trade," p. 400.
\textsuperscript{13} Hilgerdt., "International Trade Under Structural 
Disequilibrium," p. 527.
The fact that many of the trading nations must exercise rigid controls over trade in order to maintain a balance, supports his thesis of general world-wide structural disequilibrium.

Why did not Hilgerdt's delicately balanced multilateral system destroy itself before the financial collapse of the 1930's? He does not give a definite answer but offers three suggestions. First, is the idea that the system was not old in 1930, and it had not yet received a destructive blow. Second, is the interesting thought that it took a modern war to teach the national states how to make use of exchange controls and discriminatory commercial policy. Finally, the downfall of the multilateral system coincided with the growing responsibility of national governments to maintain employment levels. The discussion in Chapter III (above) shows how the manipulation of foreign trade can be used to stimulate domestic employment.

Another explanation is implied in Hilgerdt's analysis. The main thesis of Hilgerdt's article seems to be the contention that the vulnerability of the multilateral system varies directly with its complexity. Since the system has a short history, it may be that the critical stage of complexity was not reached until the 1920's.
Multilateralism and Relative Factor Scarcity

A different approach to international structural disequilibrium might be called the Hansson-Ohlin-Hilgerdt theory of the "dollar shortage." K. E. Hansson has developed a logical explanation of the rise and fall of the multilateral system and of the present-day structural disequilibrium that is based on Hilgerdt's factual data and Ohlin's theory of why nations trade. The part of the Ohlin theory which Hansson uses is the thesis that nations trade because of unequal distribution of the factors of production. This thesis is followed by the corollary that each nation will import those goods that are produced by the factor that is scarce relative to the supply of the other factors, and export those goods produced by the factor that is relatively ample. Hansson uses this theory to explain Hilgerdt's data.

Hilgerdt's six groups are reduced to five as Germany is included in Continental Europe. Then the relative scarcities of the three factors of production (land, labor, and capital) are assigned to each group for different periods in history. This task is done by classifying the relative supply of each factor for each group as ample.

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15 Ohlin, op. cit., pp. 9-34.
moderate, or scarce. Hanson is now ready to explain Hilgerdt's data describing the network of world trade on the basis of relative factor scarcity.

Hilgerdt found that before 1870 the beginning of the modern system of multilateralism took the form of bilateral trade between the United Kingdom and Continental Europe, and the United Kingdom and the Tropics. Hanson explains this trade pattern by referring to the bilateral dovetailing of relative factor scarcities which he claims existed at that time. The relative abundance of labor and land in the Tropics and on Continental Europe match the relative scarcity of labor and land in the United Kingdom. The ample supply of capital in the United Kingdom and its scarcity in the other two areas explain the flow of trade from the United Kingdom to these two groups.

After the 1860's, the United States and the Great Plains (Hilgerdt's Regions of Recent Settlement) enter the system. These two found themselves in bilateral harmony with the United Kingdom in the 1870's as ample land in these new areas matched the relative scarcity of land in the United Kingdom, while the ample supply of capital in Britain matched the scarcity of capital in the United States and Great Plains.

By 1890 the reshuffling of the relative factor supplies made possible the modern form of world-wide multi-lateral trade that Hilgerdt found to exist in 1908. By the turn of the century capital had become more abundant in the
United States and labor became the relatively scarce factor. Thus, the mineral wealth, climate, and abundance of labor in the Tropics made this area a natural net exporter to the United States. The more abundant supply of capital made the United States a net exporter to the Great Plains, and the land-rich Great Plains remained a net exporter to land-poor Europe. The circuit was completed by net exports from the capital-rich United Kingdom to the capital-poor Tropics.

The life of this multilateral system was both short and war-interrupted, existing from approximately 1900 to 1930, according to Hansson. Almost as soon as it took its modern form (Hilgert's 1928 network of world trade), the continued reshuffling of relative factor scarcities produced the conditions which caused its disintegration.

High productivity, high income, and high saving resulted in capital accumulation which made capital the relatively abundant factor in the United States. The same process, but to a lesser extent, occurred in the Great Plains. Europe lost her selling advantage in the Tropics as the factor structures of the United States and the Tropics became complementary. That is, ample labor and scarce capital in the Tropics, and ample capital and scarce labor in the United States, led to bilateral trade between these two groups. Europe's problem was magnified by loss of overseas investments and the income therefrom in this period. Europe, including the United Kingdom, was then hard

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16 Hansson, op. cit., p. 67.
pressed to pay for its huge import surpluses from the
United States and the Great Plains. These surpluses existed
because of the scarcity of land in Europe and the relative
abundance of land in the Great Plains and to a lesser extent
in the United States. The crux of the problem for Europe
seemed to center around their loss of income from overseas
investments and the fact that the scarce factor, land, is
immovable.

The imbalance in the relative factor supply struc-
tures became a fact before 1930. However, the multilateral
system was kept alive through the 1920's by large new exports
of capital from France and the United States. The withdrawal
of this financial prop which accompanied the international
financial crisis of the late 1920's and early 1930's
touched off the dramatic collapse of the multilateral system.
Since the relative factor supply structures of the trading
nations were not suitable for multilateral settlement, the
introduction of national control of foreign exchange trans-
actions and bilateral trade agreements was inevitable. 17

The structural imbalance which made multilateral
trade impossible in the 1930's has continued until the present
time (1962), and has become even more severe because of the
effects of World War II. Thus, Hansson can easily explain
why the currency and trade restrictions of the depressed

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17 Ibid., p. 63.
1930's must still be used in the post-war era of full employment, record production, and high levels of foreign trade. His answer would be that the present international distribution of the factors of production does not permit multilateral settlement of import and export surpluses.

**A Statistical Verification of Hansson's Relative Factor Supply Structures**

Table V was constructed from Colin Clark's international data on standard farm land, size of work forces, and productivity per man-hour. Canada and Australia represent the Great Plains, and seven countries in Northern and Western Europe represent Continental Europe. Comparable data for the Tropics are not available. This omission is not considered serious in that the fact of ample labor and scarcity of capital is obvious in the regions which Hilgerdt includes under the Tropics classification.
<table>
<thead>
<tr>
<th>Country</th>
<th>Farm Land in '000 Sq. Kilometers (219-1937 Boundaries)</th>
<th>Standard Land (Approximately)</th>
<th>1970 (Approximately)</th>
<th>1900 (Approximately)</th>
<th>1920 (Approximately)</th>
<th>1930 (Approximately)</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>1,520</td>
<td>118.05</td>
<td>223</td>
<td>179.61</td>
<td>.663</td>
<td>109.05</td>
</tr>
<tr>
<td>Canada</td>
<td>2,309</td>
<td>668.95</td>
<td>.545</td>
<td>393.54</td>
<td>.113</td>
<td>353.78</td>
</tr>
<tr>
<td>Australia</td>
<td>1,630</td>
<td>986.66</td>
<td>.377</td>
<td>778.95</td>
<td>.147</td>
<td>708.76</td>
</tr>
<tr>
<td>Germany</td>
<td>425</td>
<td>32.19</td>
<td>.172</td>
<td>23.35</td>
<td>.259</td>
<td>15.29</td>
</tr>
<tr>
<td>France</td>
<td>511</td>
<td>35.24</td>
<td>.149</td>
<td>30.00</td>
<td>.197</td>
<td>20.39</td>
</tr>
<tr>
<td>Belgium</td>
<td>28</td>
<td>9.65</td>
<td>.113</td>
<td>9.33</td>
<td>.212</td>
<td>8.00</td>
</tr>
<tr>
<td>Netherlands</td>
<td>81</td>
<td>17.22</td>
<td>.259</td>
<td>11.92</td>
<td>.356</td>
<td>10.33</td>
</tr>
<tr>
<td>Italy</td>
<td>256</td>
<td>19.22</td>
<td>.135</td>
<td>15.97</td>
<td>.149</td>
<td>15.66</td>
</tr>
<tr>
<td>Denmark</td>
<td>39</td>
<td>35.45</td>
<td>.200</td>
<td>30.00</td>
<td>.353</td>
<td>27.35</td>
</tr>
<tr>
<td>Sweden</td>
<td>155</td>
<td>14.93</td>
<td>.116</td>
<td>17.57</td>
<td>.302</td>
<td>11.49</td>
</tr>
<tr>
<td>Great Britain</td>
<td>215</td>
<td>11.93</td>
<td>.229</td>
<td>12.57</td>
<td>.301</td>
<td>11.94</td>
</tr>
</tbody>
</table>

Sources:
2. Derived from data of Standard Farm Land and from Clark's figures for the size of the work force. Clark, op. cit., Chapter III
3. Clark, op. cit., Chapter III. The productivity per man-hour figures are expressed in Clark's International Units. An International unit equals the quantity of commodities exchangeable for $1.00 in the U.S. over the average of the period 1925-1934.
Hansson's relative factor supply structure for the 1870's is:

<table>
<thead>
<tr>
<th>Relative Supply</th>
<th>Tropics</th>
<th>United States</th>
<th>Great Plains</th>
<th>Europe</th>
<th>Continental</th>
<th>United Kingdom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ample</td>
<td>labour</td>
<td>land</td>
<td>land</td>
<td>labour</td>
<td>capital</td>
<td></td>
</tr>
<tr>
<td>Moderate</td>
<td>land</td>
<td>labour</td>
<td>labour</td>
<td>capital</td>
<td>labour</td>
<td></td>
</tr>
<tr>
<td>Scarce</td>
<td>capital</td>
<td>capital</td>
<td>capital land</td>
<td>land</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table V shows that man-hour productivity in the United States and the United Kingdom were approximately the same in 1870, while there was over 21 times as much standard farm land per man in the United States as in the United Kingdom. The land-man ratio supports the ample classification of land for the United States and the scarce classification in the United Kingdom. In view of the scarcity of land in the United Kingdom, the high man-hour productivity implies an ample supply of capital in the United Kingdom. Because of the relative abundance of land in the United States, the man-hour productivity figure, which is slightly lower than the United Kingdom's, implies a scarcity of capital in the United States. The low land-man ratio indicates a scarcity of land in Germany and France, and the low man-hour productivity figures indicate an ample supply of labor relative to land and capital.

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18 Ibid., p. 64.
Hansson's relative factor supply structure for the 1890's is: 19

<table>
<thead>
<tr>
<th>Relative Supply</th>
<th>Tropics</th>
<th>United States</th>
<th>Great Plains</th>
<th>Continental Europe</th>
<th>United Kingdom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ample</td>
<td>labour</td>
<td>land</td>
<td>land</td>
<td>capital</td>
<td>capital</td>
</tr>
<tr>
<td>Moderate</td>
<td>land</td>
<td>capital</td>
<td>labour</td>
<td>labour</td>
<td>labour</td>
</tr>
<tr>
<td>Scarse</td>
<td>capital</td>
<td>labour</td>
<td>capital land</td>
<td>land</td>
<td></td>
</tr>
</tbody>
</table>

The decrease in the land-man ratio in the United States, coupled with the doubling of man-hour productivity, appears to justify Hansson's shifting capital from the scarce classification to moderate for the United States. The land-man ratio in Canada was over three times as great, and in Australia over five times as great, as the land-man ratio in the United States for 1900. This data agrees with the ample classification of land in the Great Plains areas. Since the man-hour productivity figures in the Great Plains are similar to the United States, it seems logical to conclude that the abundance of standard farm land was offset by a scarcity of capital. The very low land-man ratios for Continental Europe and the United Kingdom explain the scarce classification of land. The growing and relatively high man-hour productivity figures for the United Kingdom, Denmark, and Germany support the ample classification of capital for these areas. Whether or not the supply of capital should be listed as ample or moderate for the rest of the European countries is not made evident by the figures in Table V.

19 Ibid., p. 65.
Hansson's relative factor supply structure for the end of the 1920's is:

<table>
<thead>
<tr>
<th>Relative Supply</th>
<th>Tropics</th>
<th>United States</th>
<th>Great Plains</th>
<th>United Kingdom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ample</td>
<td>labour</td>
<td>capital labour</td>
<td>land capital</td>
<td>labour land</td>
</tr>
<tr>
<td>Moderate</td>
<td>land</td>
<td>land capital</td>
<td>capital labour</td>
<td>labour</td>
</tr>
<tr>
<td>Scarce</td>
<td>capital</td>
<td>labour land</td>
<td>land</td>
<td></td>
</tr>
</tbody>
</table>

The above structure, which Hansson uses to explain the disintegration of the multilateral system of trade, is different in two respects from the structure of the 1930's. These differences are the increasing relative abundance of capital in the United States and in the Great Plains. The land-man ratio in the United States in 1930 was only one-half as large as it was in 1900, while the man-hour productivity figure increased 65 per cent over the same period. These facts are consistent with the new ample classification of capital for the United States. The decline of the land-man ratio and the increase in productivity in Canada and Australia explain the more abundant classification for capital in the Great Plains. The steady decrease in the land-man ratio and increase in man-hour productivity account for the absence of change in Europe's relative factor supply structure.

This historical verification of the factor supply structures which Hansson assumed, adds support to his explanation of general structural disequilibrium.

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20 Ibid., p. 67.
Differential Productivity

A third explanation of the problem of structural disequilibrium has been described as "... the differential rate of growth of productivity among the industrial countries, ..." Two writers who offer fairly complete explanations of the demise of the multilateral system of trade and the rise of exchange controls, quotas, bilateralism, et cetera, in terms of differential rates of growth of productivity are Gerhard Lenschow and C. P. Kindleberger. 22

Although Lenschow's discussion is general, it seems clear that his remarks are aimed specifically at Europe's problem of paying for imports especially from North America. The novelty of Lenschow's explanation is the similarity he finds between the position of an industry with an inelastic demand and the nation or nations whose rate of growth of man-hour productivity is relatively low.

The economic model which is in equilibrium does not penalize the industries that enjoy elastic demands. However, a dynamic model which is characterized by continuous technological progress means that industries with inelastic demands will be chronically unprofitable in a relative sense.

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As technical progress increases supply and depresses price, total revenue becomes smaller than before the introduction of the new technique because of the inelasticity of demand. The lower prices being paid to the factors of production in the depressed industries serve as an incentive for these resources to move to less essential industries that enjoy elastic demands. When and if these resources do move, the technological progress will have resulted in an increase in real income.

However, it is Lenschow’s point that resources in the depressed inelastic demand industries resist the pressure to move and finally do so only after considerable lag. The lag only serves to intensify the relative unprofitability of the industry as technical progress is assumed to be continuous, which means that resources must be constantly leaving the inelastic demand industries. Thus, Lenschow finds an explanation for the political pressure to protect these industries. If he were writing with the United States in mind he would probably cite the agricultural progress of the United States Government as an example of political protection of inelastic demand industries in a dynamic economy.

The logical plausibility of protection for inelastic demand industries is used to explain why nations suffering from relatively low rates of growth of man-hour productivity impose international currency and trade restrictions. The

countries enjoying the greatest gains in productivity will be able to encroach on the markets of the countries enjoying smaller gains. This will be true in the case of two countries competing for sale in a third country. Also, it will be true in the case of two countries with differential gains in productivity producing similar goods for sale in their own domestic markets. The country with the greatest productivity increase will be able to encroach on the domestic markets of the low productivity country.

In a smooth working, competitive world price system there would be a rapid and continuous reallocation of resources in both the high and low productivity countries so long as the technical progress continues. In the high productivity country resources would shift to those industries in which expansion of resource utilisation is permitted by the elasticity of demand. This movement is induced by the greater factor remuneration in the expanding industries and by the working of the law of comparative advantage which tends to make foreign goods cheaper in those domestic areas enjoying less rapid gains in productivity. In the low productivity country the same forces are at work moving resources in the opposite direction.

Lenschow concentrates entirely upon the adjustments of the low productivity country in his explanation of international currency and trade restrictions.24

24 Ibid., pp. 67-68.
His implication is that the industries that are being forced to decline because of foreign expansion will resist the shift in resources and will insist on and get political protection.

Next, he attempts to explain why national controls over foreign trade which make free multilateral trade impossible were not forthcoming until the interwar and post World War II periods. He recognizes that differential rates of growth of productivity among the trading nations were a fact in the period before 1914 when multilateral trade moved freely in the absence of exchange controls, quotas and their counterparts. However, he indicates the productivity differences were small enough and changes in productivity slow enough to permit a gradual adjustment of resources that was consistent with balance of payments equilibrium. It is the rapidity of changes in productivity in different nations in World Wars I and II that created general structural disequilibrium of a magnitude that forced the imposition of controls rather than the use of traditional adjustment mechanisms. This is Lenschow's thesis.

Another reason for trade and currency controls in the countries where productivity received a setback by the wars is the long period of time necessary for the fundamental changes to become apparent. Immediately after the wars, controls are necessary as attempts to import at the pre-war level cause severe balance of payments difficulties. Under the protection of controls the deficit country then devotes
its energies to restoring the pre-war production pattern and its former position in international markets. These measures will fail to accomplish their objectives since the changed position of the countries in question is caused by the advance in other countries as well as their own retardation. However, according to Lenschow, it takes a considerable period of time for the nation imposing the controls to realize that the pre-war levels of living were based on comparative advantages which no longer exist.25

Finally, he concludes that most currency and trade restrictions which come into being because of severe balance of payments difficulties are not accompanied by corrections of the structural disequilibrium that caused the balance of payments difficulties. One of the reasons for this omission is the absence of the same strong incentive to develop new production techniques in peacetime that exists in wartime. Another reason for the failure of the war depressed nations to make necessary structural adjustments, is that conditions which permit increases in productivity in new countries like the United States may not exist elsewhere. Specifically, he seems to be referring to the efficiencies of large scale production which are possible in countries with large undivided markets.

25Lenschow, loc. cit.
Kindleberger's analysis of international disequilibrium is directed specifically at the imbalance between the United States and the rest of the world. He recognizes the cyclical problem, which is the main concern of the optimistic Keynesians (discussed in Chapter III). The cyclical problem centers on the temporary decrease in the flow of dollars to the rest of the world caused by lower incomes and imports when the United States, in particular, suffers from depression. He also makes brief reference to the structural maladjustments which characterize the period following a major war. However, Kindleberger's work is primarily devoted to an explanation of what he calls a chronic or secular dollar shortage, which he suggests has been a characteristic of most of the twentieth century.

Kindleberger's explanation of imbalance between the United States and the rest of the world includes Lenschow's thesis of differential rates of growth of productivity. The difference is that Lenschow reduces his explanation to a single cause - the two world wars - while Kindleberger's explanation is much more comprehensive and

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Kindleberger begins his treatise by discussing the forces on the side of the United States which cause the United States to export large volumes of merchandise. His argument takes the technological leadership of the United States in the twentieth century for granted. He points to the importance of manufactured goods and especially capital equipment in United States exports.

He also cites a German study that found United States manufactured exports to be concentrated in those commodity groups that enjoyed the greatest growth in world commerce from 1913-1929.

The rapid technological progress in the United States causes United States exports in the areas of greater comparative advantage to increase. Kindleberger's explanation of the stumbling blocks which prevent the smooth working of the law of comparative advantage provides a unique support to his thesis that a secular dollar shortage exists. According to the law of comparative advantage, the expansion of United States exports in the areas of greatest technical advance will call forth a deflationary and/or depreciation adjustment in the importing areas. This should


cause a substitution abroad of domestic production for United States goods in those areas where the United States manufacturers now have a comparative disadvantage. In the labor-intensive primary industries (for example, agriculture and textiles), where the United States disadvantage is increased, United States imports should increase as resources abandon these areas for the more attractive remuneration in the areas of greater comparative advantage.

However, Kindleberger finds that the United States manufacturer with the comparative disadvantage is not easily dislodged from foreign markets because of lower prices abroad, nor are resources easily moved from labor-intensive primary industries in the United States.32

Kindleberger points out that goods manufactured in the United States are not always produced in markets characterized by competition, but rather they are often characterized by oligopoly and differentiated products. Under competition, many small firms operate in the area of increasing average and marginal costs with a single price for all firms in both foreign and domestic markets. A lower price caused by the foreign adjustment to an import surplus will cause marginal output and marginal producers to quickly drop out. This allows foreign substitution of domestic for United States goods and increased exports to the United States, both of which are necessary to offset the

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32Ibid., pp. 10-22, and pp. 52-55.
increase in United States exports in the areas of greatest technical advance.

However, if oligopolists with differentiated products replace the competitors the typical situation is high fixed costs, low marginal costs and a consequent tendency to operate short of the lowest average cost point. Therefore, from the cost side there is much to be gained by additional sales and much to be lost by lower sales. He then suggests that the United States oligopolist selling a differentiated product considers his foreign and domestic markets as being separated with different price and revenue schedules for each market. The domestic price being set to cover all the fixed costs while sales will be pushed in foreign markets so long as the foreign price covers the lower marginal costs. This is similar to the practice of manufacturers who sell part of their output under their own brand name at a price that covers the fixed costs plus variable costs of producing the branded product. The remainder of the output is then sold in bulk form to a distributor who taps a different market with his own brand and sells at a lower price. The producer looks upon this as profitable business if the price he receives for the bulk sales more than cover the variable costs of the additional output. Kindleberger supports this analysis by stating

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that what little evidence there is available suggests that United States "... export prices in differentiated products were below domestic prices in the 1930's; above in the recent postwar period, but tending to level off."\(^{34}\) A more conclusive bit of evidence is his statement that in 1949, after sterling devaluation, the United States Steel Corporation increased domestic prices but lowered their export prices.\(^{35}\)

He concludes that United States manufacturers cling tenaciously to their foreign markets even in the face of comparative disadvantages and lower prices. He buttresses this conclusion by recalling that capital equipment made up 82 per cent of United States exports in 1936.\(^{36}\) The differentiated character of these exports makes the foreign importer dependent on a continuous supply of such equipment even in the face of price differentials. The point here is that product differentiation successfully blocks changes in the source of supply of tools and machinery. In the manufacturing area then, oligopoly, differentiated products, and high fixed costs prove to be stumbling blocks to the working of the law of comparative advantage. This

\(^{34}\) Kindleberger, op. cit., p. 21.

\(^{35}\) Loc. cit.

\(^{36}\) Ibid., p. 14. Taken from _The United States in the World Economy_, op. cit., p. 58.
conclusion leads to an investigation of the working of the law of comparative advantage in the more competitive areas of primary production.

In the more competitive areas, immobility of resources is the key to the domestic opposition to imports and insistence on exports. For labor, the immobility may be partially explained by the fact that the industries enjoying expanding exports produce capital-intensive goods, while the industries that should contract to allow foreign imports, produce labor-intensive goods. There is, therefore, a tendency for unemployment to result from a rigid application of the law of comparative advantage. Unemployment results if the contracting labor-intensive industries release more labor than can be absorbed by the expanding capital-intensive industries. In any event the primary producers (for example, agriculture, textiles, coal) are unable to separate their foreign and domestic markets and practice price discrimination because of the homogeneous nature of the product and the proximity to the competitive number of producers. Therefore, they seek political protection for the whole industry in order to ward off unemployment of resources.

As illustrations of such protection of labor-intensive production, Kindleberger points to United States tariffs and quotas on cotton textile imports in the 1930's.

37Ibid., p. 34.
and attempts to have the United States military govern-
ments in Germany and Japan limit exports to the United
States of cotton textiles, knit gloves, rayon and silk
textiles, pottery, et cetera. Further evidence is sup-
plied by the protection afforded by the United States
Kindleberger lists as examples, the requirement that 50
per cent of all grant cargoes be shipped in United States
bottoms; the requirement that 25 per cent of all wheat
sent to participating countries be in the form of flour;
the provision that commodities classified as surplus by
the Secretary of Agriculture must be purchased in the
United States even if they are cheaper in foreign markets.
In the Spring of 1949 when the appropriations for the re-
covery program were renewed, Kindleberger describes the
descent on Washington by interested groups as an avalanche.
"... Insurance companies, freight forwarders, farm groups,
the fishing industry, and industrialists vied one with the
other to persuade Congress to include their goods or services
in the package to be delivered to Europe as aid from the

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38 loc. cit.
39 ibid., p. 32.
40 loc. cit.
41 ibid., p. 55.
United States,"42 The thesis that industry in the United States resists the dictates of the law of comparative advantage is supported by the fact that this pressure to find markets for surplus goods came at a time when Gross National Product was at boom and not depression levels.

Thus, Kindleberger builds his case that expanding United States exports in the technically advanced capital-intensive industries are not matched by greater imports in the areas of comparative disadvantage because of the immobility of resources in these areas and because of the insistence of United States exporters that their foreign markets be maintained.

In his Chapter 8, entitled "Dollar Shortage," Kindleberger suggests a broad theory of the secular imbalance between the United States and the rest of the world in terms of different stages of economic development.43 The United States is pictured as a young international creditor whose net claims against the rest of the world are increasing. Europe is a mature creditor whose level of living is geared to consuming income from investments which no longer exist. The undeveloped areas of the world are pictured as young debtors who are steadily increasing their

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42 Ibid., p. 34.
43 Ibid., pp. 170-192.
liabilities to foreigners as they strive for industrial development.

The greater productivity of the United States makes the National Income of the United States further above the subsistence level than in the other two areas. The United States is therefore a high savings economy with a strong tendency to produce more than it consumes and invests domestically. This underconsumption, underinvestment or oversaving tendency of the United States causes it to export more goods than are imported. Europe, as the high consuming mature creditor that has lost its foreign investments, is geared to consume and invest domestically more than it produces. Because of modern means of communication there is also a tendency for Europe to try to follow the level-of-living pace being set by the United States. Hence, the overconsumption, overinvestment or undersaving tendency of Europe causes it to import on balance. It should also be noted that these forces cause relative inflation in Europe when compared to the United States. The relative inflation in Europe or relative deflation in the United States tend to magnify the imbalance. In the undeveloped areas the combination of emulation of foreign living standards and attempts to industrialize explain the tendency to consume and invest more than current production. These forces mean inflation and import balances.
The ideal solution to the merchandise imbalance between the United States and the rest of the world may appear to be capital exports. The usual reaction to this is the argument that international political instability has dried up the export of private capital. Kindleberger sees other reasons why capital exports, whether private or governmental, will not cure the dollar shortage. He points out that direct investments by United States corporations in their foreign enterprises are likely to add to the foreign inflationary problem without supplying new dollars to cover the current import surplus. This is true to the extent that foreign currency earned by the United States corporations is used to finance the investments. He also maintains that governmental loans to undeveloped areas will probably make the dollar shortage more acute. This will be true to the extent the loans are used to undertake new development projects rather than serving as a reserve of dollars to pay for the current level of dollar imports. Loans to the mature creditor (Europe) are not likely to come from any source because of the small prospect that interest and principal payments could be met. Finally, as long as the United States remains a young creditor with an export surplus the prospect of interest and principal repayment from the world as a whole is remote. The pessimistic

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44 Ibid., pp. 243-254.
conclusion seems to be that United States investment abroad is not likely to be sufficient to cover the dollar gap, and much of the foreign investment that does occur will make the gap even larger.\textsuperscript{45}

In concluding his explanation of the dollar shortage, Kindleberger feels called upon to explain its existence in the twentieth century, while the nineteenth century was not characterized by a sterling shortage. He implies that the classical adjustments to differential rates of growth of productivity had a greater chance of taking place in the period before 1914 than in the period that has followed. He condenses this analysis to the statement that demand and supply were more elastic in the nineteenth century and more inelastic in the twentieth century.\textsuperscript{46} However, his explanation is primarily concerned with the elasticity and inelasticity of supply. In the nineteenth century he depicts supply as being generally sensitive to price in both directions. Because of the

\textsuperscript{45}This conclusion is tempered by the fact that it is not a proven fact that dollar loans to undeveloped areas will be used entirely to finance new development. Also, to the extent that European exports increase as a result of dollar loans to the undeveloped areas, the dollar shortage in Europe is eased.

\textsuperscript{46}Kindleberger, \textit{op. cit.}, p. 191.
tremendous expansion of output in new industries - the response to lower price was a quick exit of resources from the old to the new and growing industries. Supply was also sensitive to higher prices since production was relatively small scale providing relative freedom of entry. The flowering of large scale, highly capitalized production in the twentieth century limits entry and makes supply unresponsive to a higher price. Kindleberger has already shown how supply is unresponsive to a lower price in areas of capital-intensive manufacturing characterized by oligopoly. Large scale, highly capitalized production leads to greater productivity and levels of national income far above subsistence. The high levels of income eventually mean a slowing down of the rate of expansion which presents another reason for inelasticity of supply as prices are lowered. The point here is that resources become relatively immobile as opportunity to shift to new and expanding industries diminishes.

As far as the international imbalance is concerned, the inelasticity of supply is viewed to be more significant in the United States. By inelasticity of demand Kindleberger seems to be referring to the pressure in the mature creditor (Europe) and young debtor (undeveloped areas) countries to live beyond their means. Evidently this usage of elasticity means that the foreign demand for United States goods is unresponsive to higher prices.
The classical demand and supply adjustments to changes in comparative advantages work themselves out slowly, if at all in the twentieth century because: "...the world's success in getting rich..." has made supply inelastic, "...and its consciousness of its potentialities..." for getting rich have made demand inelastic.47

The next section of this chapter synthesizes the four approaches to international disequilibrium and attempts to formulate a general theory of international economic imbalance in the twentieth century.

A Theory of Twentieth Century Disequilibrium

A theory of twentieth century international imbalance, which is based on the four points of view presented in this chapter, may be divided into two parts. In synthesizing the four approaches it is possible to develop a single setting that explains the sensitivity of the international community to disequilibrating forces. It is then possible to show how differential rates of growth of productivity can upset a system of multilateral trade.

Hilgerdt's statistical description of the development of the network of world trade makes a fundamental contribution to the thesis that the international community has been susceptible to disequilibrating forces in the twentieth century.

Hilgerdt discovered that the multi-country balancing of international accounts is a phenomenon that matured in the first two decades of the present century. He also found that the new multilateral system of trading soon included almost all of the trading nations. Important too, is the discovery that multilateral balancing did not take place within several isolated groups of countries, but took place in a single world system to which almost all countries belonged.

The integration of all nations into one multilateral system helps to explain how balance of payments disequilibrium in one sector of the system spreads to other
sectors. Without repeating Hilgerdt's discussion of the spread of discriminatory trade controls, it can be said that his explanation certainly demonstrates the cumulative nature of the disintegration of multilateralism that follows an initial disturbance. Hence, the development of an intricate world wide system of multilateral trade in the twentieth century offers substantial support to the thesis of international susceptibility to disequilibrating forces.

According to Hansson, the underlying factor that explains the development of a multilateral system is the unequal relative supply of the factors of production in the different countries. The principles of multilateral trade are uniquely demonstrated by assuming a three country world with the following relative supplies of the factors:

<table>
<thead>
<tr>
<th>Relative Supply</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ample</td>
<td>labour</td>
<td>land</td>
<td>capital</td>
</tr>
<tr>
<td>Moderate</td>
<td>land</td>
<td>capital</td>
<td>labour</td>
</tr>
<tr>
<td>Scarcce</td>
<td>capital</td>
<td>labour</td>
<td>land</td>
</tr>
</tbody>
</table>

Each country will export commodities which are produced chiefly by the factor in ample supply, and import commodities which are produced chiefly by the factor which is relatively scarce. Thus, A will have an export surplus with B, B with C, and C with A. The multilateral circuit is closed and each country fits neatly into the pattern. According to Hansson, multilateralism breaks down when the multilateral circuit

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48Hansson, OP. cit., p. 61.
is broken by changes in the factor supply structures.

The major criticism of Hansson's explanation is the implication that bilateral or multilateral trade is not possible if the trading nations have similar factor supply structures. He overlooks the possibility of trade based on specialization of production of different commodities in the countries with equal relative supplies of the factors. Hansson's critics may argue that the multilateral system need not be destroyed simply because the relative supply pattern ceases to resemble the ideal A, B, C pattern, described above, so long as the nations with similar supply structures specialize in producing different commodities. However, if specialization and different techniques, and not factor distribution, are to form the basis for multilateral trade, there is strong reason for presuming that the system is built on a more precarious foundation. Presumably something as common as a change in technique and productivity could upset the system. By showing that the more stable foundation of multilateral trade has passed from the scene, Hansson makes his contribution to the contention that the international system has become over-sensitive to disequilibrating forces.

Kindleberger's contribution to the susceptibility thesis is his analysis of inelasticity of demand and supply

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in the twentieth century. The inelasticity of demand and supply prevent or slow down international adjustment, and magnify the seriousness of a disturbance to international equilibrium. On the supply side his case for inelasticity includes the development of levels of income far above the subsistence level, the slowing down of the rate of economic expansion, large scale capital-intensive production, oligopoly, and product differentiation. The desire for industrialization in the undeveloped areas and for full employment and high levels of consumption in the mature areas are used to explain inelasticity of demand.

The stage is now set for the introduction of a disturbance that will upset the system of trade that is in precarious balance. Lenschow and Kindleberger point to differential changes in productivity which rearrange the existing scale of comparative advantages. Hansson's disturbance, which is changing factor scarcity, does not contradict the differential productivity point of view. Throughout the historical development of the multilateral system, Hansson shows that the supply relationship of land and labor did not change for any area. That is, labor was always abundant relative to land or land was always abundant relative to labor. Capital is the factor that changed in relative supply. In all cases where he shows a change in the relative supply of capital - the change results in capital becoming more abundant relative to the other factors. If the movement of capital from the position of scarce supply
to moderate to ample supply in one country means that productivity is increasing at a more rapid rate in that country than in other countries, then the two statements of the nature of the disturbance amount to the same thing.

Whether the cause of differential productivity in the twentieth century is war (Lenachow), or whether it is a by-product of different stages of economic development and, therefore, a secular disturbance (Kindleberger), cannot be known at the present time. If war continues to be as chronic in the last half as in the first half of the present century, the answer to this question may never be known.

The theory of twentieth century international disequilibrium can be briefly restated. The two components of the theoretical explanation are an international economy that is sensitive to disequilibrating forces, and a dynamic process (advances in productivity) that continually disturbs the international system. This analysis provides an explanation of chronic international disequilibrium that is distinct from the problem of cyclical instability.

A Statistical Note on Differential Productivity

Table VI provides man-hour productivity data for major trading nations over the period of time that the world wide multilateral system developed and seemingly disintegrated. The Table was compiled from the data in Chapter 3 of Colin Clark's 1951 edition of The Conditions of Economic Progress. Man-hour
Productivity is measured in International Units (I. U.). An International Unit equals the quantity of commodities exchangeable for one dollar ($1.00) in the United States over the average of the period 1925-1934.

The productivity figures show that the United States and Canada are the only countries to double their man-hour productivity between the World War I period and the post World War II period. This fact tends to bear out the contention of a greater rate of growth of productivity in North America than in the rest of the world. The productivity figures certainly do not provide supporting evidence for Lenschow's thesis that uneven economic progress has resulted from the world wars. None of the countries listed in Table VI show a marked increase or decrease in man-hour productivity during or immediately following the war years. All of the countries except Denmark and Switzerland show a steady gain unmarred by sharp fluctuations. However, an inter-country comparison of the gains, both absolute and relative, does show a marked unevenness for the whole period (1870-1947).

Perhaps the most striking productivity comparison is the inter-country differences in absolute gains. In the United States and Great Plains (Canada, Australia and New Zealand) the absolute gains were much greater than in Europe. The following figures show the gains in man-hour productivity for selected countries between 1900 and 1947. (The last year
for Germany is 1944, France, 1938, and Netherlands, 1938.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>.820</td>
<td>Germany</td>
<td>.228</td>
</tr>
<tr>
<td>New Zealand</td>
<td>.346</td>
<td>Belgium</td>
<td>.203</td>
</tr>
<tr>
<td>Canada</td>
<td>.419</td>
<td>Netherlands</td>
<td>.186</td>
</tr>
<tr>
<td>Australia</td>
<td>.315</td>
<td>France</td>
<td>.165</td>
</tr>
<tr>
<td>Great Britain</td>
<td>.287</td>
<td>Italy</td>
<td>.007</td>
</tr>
</tbody>
</table>

A study by the National Bureau of Economic Research on United States production of industrial materials in World Wars I and II might be used as evidence to support Lenschow's war thesis. However, the importance of this data would be enhanced if it could be compared with similar data for other countries. Table VII does show a remarkable increase in production of industrial materials in the United States during the two world wars.

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<table>
<thead>
<tr>
<th>Year</th>
<th>United States</th>
<th>Canada</th>
<th>Australia</th>
<th>New Zealand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>produced per hour worked</td>
<td>Year</td>
<td>produced per person in work</td>
<td>Year</td>
</tr>
<tr>
<td>1860-75</td>
<td>0.023</td>
<td>1900</td>
<td>.515</td>
<td>1886</td>
</tr>
<tr>
<td>1876-86</td>
<td>0.340</td>
<td>1911</td>
<td>.512</td>
<td>1890</td>
</tr>
<tr>
<td>1886-96</td>
<td>0.366</td>
<td>1919</td>
<td>.413</td>
<td>1890-94</td>
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**TABLE VI (continued)**

**MAN- HOUR PRODUCTIVITY BY COUNTRIES**

<table>
<thead>
<tr>
<th>Year</th>
<th>France (p. 80)</th>
<th>Belgium (p. 84)</th>
<th>Netherlands (p. 85)</th>
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<tbody>
<tr>
<td></td>
<td>Product per Man-Hour</td>
<td>Real Product Year</td>
<td>Per Man-Hour Year</td>
<td>Average Product per Hour Year</td>
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<tr>
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1914 (pre. 13th war territory)
1914 (post. 13th war territory)

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<td>Product per Man-Hour</td>
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1944 (at 1939 prices)

1945 (at 1939 prices)

1946 (at 1939 prices)

1947 (at 1939 prices)
TABLE VI (continued)

MAN-HOUR PRODUCTIVITY BY COUNTRIES

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<thead>
<tr>
<th>DENMARK (p.106)</th>
<th>SWITZERLAND (p.87)</th>
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<th>GREAT BRITAIN</th>
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<td>Year</td>
<td>Real Product Per Man-Hour in I.U.</td>
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<td>1944</td>
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<td>Year</td>
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<td>Non-Durable Commodities</td>
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(1939=100)

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CHAPTER VI

The Economic Role of International Monetary Blocs

The international financial policy of the United States has traditionally supported free multilateral trade. The United States promotion of the European Payments Union, which involves discriminatory trade controls, may be construed as a temporary deviation from the traditional objective. In 1952 the Joint Committee on the Economic Report of the Congress stated:

"... It is a major aim of the international economic policy of the United States to promote the sound growth of multilateral trade and to discourage bilateral and discriminatory trade practices."¹

Supporting the United States policy is the conclusion of classical trade theory that free multilateral trade results in a more economical use of resources than any form of controlled trade.

The essential characteristic of an international monetary bloc is discrimination between members and non-members. In order to effect discriminatory treatment the

governments of the member nations must control the foreign monetary transactions of their citizens. Therefore, the existence of an international monetary bloc requires control of foreign exchange transactions by the member governments, and different treatment by the respective control authorities for members and non-members.

There are sharp differences between classical trade policy as exemplified by the United States, and the institutional arrangement defined here as an international monetary bloc. Therefore, the first and major task of this study of the economic role of international monetary blocs is to determine whether or not controlled trade and discrimination can be defended on economic grounds. Or, if an economic defense of the bloc device cannot be constructed, the major task becomes a search for evidence to determine whether or not discriminatory controls must be accepted by the economist as necessary conditions that cannot be altered.

It is probably true that factor mobility across national and regional boundaries will, ceteris paribus, cause a more economical use of resources than international immobility of resources. Yet, in constructing a theoretical model that could be used as a basis for policy, classical writers assumed international immobility of the factors of production in the interest of realism. Similarly, for the modern economic model builder, the discovery that the existence of discriminatory trade controls will be inevitable
in some circumstances serves as a substitute for an economic justification of discriminatory controls.

This study has attempted to construct a foundation for answering the question concerning the justification of discriminatory controls and/or the place such controls should have in trade theory and policy. As a starting point the classical model of an international price system has been briefly outlined. It is a model characterized by static equilibrium at the position of optimum resource allocation (i.e., optimum from the standpoint of want satisfaction). When the equilibrium is disturbed, the disturbance is not general but isolated. Disequilibrium is eliminated by the forces of competition and resource mobility which assure a timeless structural readjustment that does not permit unemployment.² In different words, the international price system works perfectly, and quickly reallocates resources to achieve a new optimum equilibrium. The supply of money and credit, like water, automatically seeks that level in each country which allows the price system to perform its task of maintaining equilibrium.

Finally, the classical model of an international system may be summarized by saying that it represents and extension of a perfectly competitive price system from a closed economy to a world economy.

²The failure to account for income effects in the adjustment mechanism indicates an implied assumption of timeless mobility of resources.
Clearly, there can be no economic justification for discriminatory controls in the classical world. Perfection results from the working of automatic forces and any possible function of an international monetary bloc is eliminated. Furthermore, the perfection of the classical model offers no apparent reason for assuming that government trade controls are unalterable conditions regardless of the economic justification for controls.

A major modification of the classical model, an international adjustment mechanism based on income changes, has been introduced. International adjustment through income changes replaces the price-specie flow adjustment mechanism in classical theory. The income modification cracks the classical armor of perfection and permits the development of a case for discriminatory controls.

Perhaps the most effective method of demonstrating the case for international trade controls when the international adjustment mechanism is based on income changes is to view international trade as participation in a system of international division of labor, and, as such, a device to save labor.3 Viewing international trade as a labor saver

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3E. F. Schumacher, Export Policy and Full Employment, (London: Fabian Publications Ltd., Research Series No. 77, 1943). Schumacher states that full employment at home is barren without participation in the international division of labor. But, participation in the international division of labor is nonsensical without full employment at home. The following statement demonstrates his point, "...participation in the international division of labour increases the efficiency of labour. It is more efficient to produce
casts doubt upon the rationality of uncontrolled international trade that causes domestic unemployment. The question arises if the labor saved, as a result of the international division of labor, will always more than offset that amount of labor wasted in domestic unemployment which results from free trade. Furthermore, if it can be shown that the volume of trade may be smaller in the absence of controls (because of the international spread of depression) than when controls are used (which may prevent the international spread of depression), the case for controls is greatly enhanced.

Taking full cognizance of the income and employment effects of participation in the international division of labor, many modern writers conclude that the classical model may be used as a theoretical basis for economic policy only if all nations maintain full employment in their domestic economies. These writers, referred to as optimistic Keynesians in Chapter III, look on the classical error as a failure to account for the business cycle. Therefore, elimination of the business cycle by utilizing compensatory monetary-fiscal measures to maintain full employment restores the validity of the classical system.

bananas 'indirectly' in cotton mills than to produce them 'directly' in glass houses. But the inefficiency of the latter course is only a relative inefficiency; whereas the inefficiency of letting available labour rot in frustration is an absolute one: worse than that, it is a crime."

page 6.
maintenance of domestic full employment becomes a necessary condition for achieving the classical objective of free multilateral trade, and failure to maintain full employment by a major trading nation or nations will cause the system of free multilateral trade to be discarded.

In order to achieve international perfection similar to that achieved by the classicalists, the optimistic Keynesians prescribe a formula of full employment and limited flexibility of exchange rates. If a trading nation should not make good on its obligation to maintain full employment, that nation would be isolated by controls which discriminate against it alone. These three provisions of the optimists' formula are reflected in the Articles of Agreement of the International Monetary Fund.

Despite the optimism of these writers, the scarce currency provisions of the Fund agreement do provide a monetary arrangement that bears a faint resemblance to an international monetary bloc. The scarce currency provisions demonstrate awareness of the income effects in the international adjustment mechanism, and of the economic logic of curtailing free multilateral trade when it causes domestic unemployment.

The main thesis of the pessimistic Keynesians is that government maintenance of domestic full employment is incompatible with free multilateral trade. The position of the pessimists implies that the optimists oversimplify when they attack the business cycle as the only cause of disturbance
to international equilibrium. The pessimists seem to recognize that in a dynamic world economy there is a constant bombardment of disturbances on the balance of payments of all nations. This study concludes that the adjustments to these disturbances, which are necessary for the survival of free multilateral trade, require income changes. The point is then made that national full employment policies prevent the income adjustments and thereby tend to magnify the balance of payments disequilibrium caused by the initial disturbances.

The pessimistic view presents an either-or approach to domestic employment, monetary, and credit policy. In the classical system the level of income and employment, and the supply of money and credit were allowed to fluctuate in accordance with the dictates of international equilibrium. This laissez-faire policy was designed to insure the achievement of the goal of free multilateral trade. The optimistic Keynesians propose that income, employment, monetary, and credit policies of national governments be directed toward maintaining domestic prosperity at the full employment level. The pessimists contend that if income, money, and credit become policy tools to maintain domestic prosperity they cannot at the same time be free to permit the adjustments which international equilibrium requires. And if international disequilibrium is chronic, or if equilibrium cannot be achieved, free multilateral trade cannot survive. The pessimists' position may be summarized thus: the levels
of income, money, and credit may be used either to maintain international equilibrium and free multilateral trade, or, they may be used to promote domestic full employment.

The type of international monetary bloc which one pessimistic writer proposes is quite different from the loose arrangement which the scarce currency provisions of the International Monetary Fund seem to imply. Thomas Balogh, like the optimists, sets up domestic full employment as the primary objective of national governments. He recognizes two principles: 1. full employment is a hollow victory if labor is unproductive; 2. the greater the participation in the international division of labor the greater is the productivity of labor. Therefore, he proposes a full employment bloc arrangement which will insure the advantages of domestic full employment plus the advantage of the greater international trade that stems from limited multilateral balancing instead of bilateral balancing.

In order to avoid the pessimists' conflict between domestic full employment and multilateral balancing, Balogh suggests a more complete integration of the economies of the member countries than would be provided by the Fund's scarce currency provisions. The integration would encompass a common monetary fund and investment board, plus joint multi-country determination of commercial policy (tariffs, quotas, etc.).

The validity of the classical model even under conditions of full employment has been re-examined. The writers referred to in Chapter V explain international disequilibrium of longer duration than the business cycle by modifying the classical international price system. Static equilibrium is abandoned for dynamic growth characterized by sharply different rates of growth of productivity among the trading countries. Thus, differential productivity disturbs a world economy which, in the twentieth century, is found to be highly susceptible to disequilibrating forces. The picture of secular disequilibrium is completed by a failure of the adjustment mechanisms. In general, this failure is explained by less than competitive market structures, resource immobility, and the inability of automatic adjustment devices to alleviate general (multi-country) structural disequilibrium. Nationalistic drives for full employment and industrial development also intensify the resistance to adjustment of balance of payments disequilibrium.

Finally, this conclusion would seem justified: because income changes constitute the major adjustment mechanism in a dynamic world system, and, because of the defects in the working of the international price system relative to the classical model, international trade will be subject to governmental control, and, from the standpoint of
resource utilization frequently should be controlled.\textsuperscript{5}

Clearly, the economic justification of international trade controls has not been proven conclusively.\textsuperscript{6} However, if it appears certain that international trade and payments will be subject to governmental control, then theoretical models which can be used as a basis for policy must assume such control to be a necessary condition of the real world.

There appear to be three good reasons for expecting most governments to exercise control over their balance of payments, even if such control cannot be justified on purely economic grounds of resource allocation. These reasons are: 1. concern over national security arising from the expectation of future wars; 2. the impact and obligations which stem from past wars; and 3. the political necessity for governments to be responsible for maintaining full employment levels of national income.

\textsuperscript{5}Jean Robinson bases her conclusion that international trade will be and should be controlled solely on the income modification of the classical model. See Robinson, "The Pure Theory of International Trade," The Review of Economic Studies, (Vol. XIV, No. 36, 1946-47), p. 118.

\textsuperscript{6}Government control over international transactions is suggested and accepted not as a desirable end in itself. Certain types of government control in the international sphere are advocated because they represent the best alternative means of achieving desirable economic results, such as a better use of the world's resources.
The author of a recent historical study of international adjustment theory stated that in the nineteenth century "... the expectation of peace did more to encourage the freedom of trade than the freedom of trade did to encourage peace." This is the same point that Professor Condliffe made when he stated that national security was ignored in the formulation of economic policy "... as long as the Pax Britannica of the nineteenth century lasted,..." It is clear that in the twentieth century when either hot war, or cold war, or both are in progress, national security and military strategy will overshadow purely economic considerations. The importance of national security considerations means that international trade in militarily strategic materials will be government directed and controlled. Likewise, all trade with enemies and/or potential enemies will be controlled. Finally, since non-economic considerations dominate international balances, national governments will be unwilling to allow balance of payments changes to serve as guides to changes in domestic production structures. If production structures are to be insulated from the effects of international balances, then

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the whole field of international trade and payments must be controlled.

The impact of past wars on current policy is tied up with the political obligation of most nations to maintain high and stable levels of income and employment. In many nations wars like World War II cause the depletion of gold reserves and foreign investments, the loss of foreign markets, and the demand for abnormally large imports for rehabilitation. Such developments add up to severe balance of payments deficits. The deficits could be eliminated and international balance of payments equilibrium restored if the deficit countries would become economic slums via the national income route of adjustment to the balance of payments gap. The method of allowing depression and worsened terms of trade to eliminate the war-generated deficits would be a poor economic remedy; however, the crucial point is that such a remedy would be a political impossibility. The evidence which supports this contention is the fact that the governments of many of the major trading nations are committed to the maintenance of high and stable levels of national income. Finally, to the extent that free

multilateral trade is incompatible with government supported full employment (discussed in Chapter IV), there will be pressure for the full employment governments to control international balances.

The conclusion that control over international trade and payments is a certainty in the foreseeable future serves as a bridge from the question -- should international trade be subject to controls -- to the question of what kind of controls. If international trade controls are likely to be the rule rather than the exception, then the latter question may be probed with profit even though the answer to the first question cannot be reached on purely economic grounds. An attempt to answer the question concerning the kind of controls is the subject of the remainder of this chapter.

The experience of the 1930's demonstrated that a balance of payments disequilibrium of the type which is general among the trading partners, causes an automatic replacement of free multilateral trade with a complex network of inter-government bilateral clearing agreements.10 The

rapid development of bilateral trade through inter-
government agreements after World War II further substantiates
this contention. 11

The balance of payments deficits caused by the
conditions of general disequilibrium force the deficit
countries to control the international financial trans-
actions of their respective citizens. Such control results
immediately in the virtual elimination of imports. This
impasse1 creates the situation from which bilateral exchange
clearing agreements automatically emerge. 12

The familiar bilateral agreements of the 1930's
and 1940's allow that amount of trade between the two
parties to the agreement that pays for itself. The balanc-
ing of trade that the two-country agreements achieve has
the advantage of eliminating the transfer of international
reserves. International trade that is controlled by
bilateral agreements also provides more stable trading re-
relationships and a greater volume of trade relative to the
situation of international anarchy that exists when most of
the countries prohibit imports out of fear of unemployment
and loss of international reserves.

11 Gardner Patterson and Judd Folk, "The Emerging
Pattern of Bilateralism," The Quarterly Journal of Economics,

12 Minzig, op. cit., pp. 55-56.
When bilateral clearing agreements are criticized, the critics often compare the economic results of bilateralism with the results of free multilateral trade under classical conditions. Such a comparison gives the impression that bilateralism is restrictive relative to the liberal system it replaces. Whereas, historically the system of bilateral trade that developed in the 1930’s and reappeared after World War II represented an attempt to liberalize stifling unilateral exchange controls.

Even through it is perhaps more accurate to compare bilateralism with unilateral exchange control and the tendency toward trade prohibition than with classical multilateralism, the losses of bilateralism relative to the multilateral ideal are important. An enumeration of the losses of bilateralism relative to multilateralism is the necessary first step in devising a better system of control.

The most important loss of bilateralism, and the one discussed here, stems from the necessity of bilateral balancing. It has been pointed out above (Chapter V) that most trading nations will not, in the absence of government control, maintain a bilateral balance with their trading partners. On the contrary, prior to 1930 the trading nations belonged to a single system of multilateral

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balancing. Therefore, enforced bilateralism means a distortion of trade, presumably from the most economical channels to less economical channels. In different words, bilateralism means that importers and exporters cannot always buy and sell in their best markets.

In addition to the distortion effects of two-country exchange clearing relative to multilateralism, there is a strong presumption that the volume of international trade under bilateralism will be smaller than under multilateral arrangements. This presumption is based on the League of Nation's estimate that 25 per cent of merchandise trade in 1929 required multilateral balancing.\(^{14}\) The conclusion that bilateral trade reduces the volume of trade is based on the assumption that all of the trade subject to multilateral balancing will not take place in the relatively unprofitable markets that bilateralism requires. This point can be demonstrated by using a three-country triangle. Multilateralism allows country A to pay for imports from B with exports to C. Bilateralism forces A to match imports and exports with both B and C. A wishes to buy from B, but B is a poor market for A's goods. Therefore, it is assumed that A's imports from B will be reduced under bilateralism as they must conform to A's exports to B. C is a good market for A's goods but A does not wish to buy very much from C. Therefore, it is assumed that A's exports to C

\(^{14}\)League of Nations, The Network of World Trade, \textit{op. cit.}, p. 87.
will be reduced in order to match the small volume of imports from C.
A Better Method of Trade Control:  
The International Monetary Bloc

The stage is now set for the construction of a better institutional arrangement than bilateralism.15 Any arrangement would be considered better than bilateralism if it allowed the same governmental control over international balances, yet caused less distortion of trade and allowed a greater volume of trade. International monetary blocs are proposed as preferred alternatives to bilateralism since they combine the required control with some of the gains of free multilateral trade.

The operation of a simplified bloc arrangement can be demonstrated by again making use of the three-country triangle (countries A, B, and C, above). In addition to A's export balance with C and import balance from B, C normally has an export balance with B in the absence of bilateral restrictions. (See Illustration 3) Under the bloc arrangement the exchange control authorities in each country discontinue their bilateral clearing agreements with the exchange control authorities of the other two countries. A

15 The above chapters and pages of this study have shown: 1. that frequently international trade control is either economically necessary, or politically inevitable, or both; 2. that government control of international trade and payments tends to result in the development of a network of bilateral clearing agreements; 3. that relative to multilateralism under ideal full employment conditions, bilateralism distorts and reduces the volume of international trade.
central three-country clearing agency is established that maintains a record of the transactions of the three countries with each other, as shown in Illustration 3. As long as each country’s exports with the other bloc members equal the imports from the other members, multilateral clearing is possible without the necessity of shifting international reserves. Country A can now maintain an export surplus with C and an import surplus with B. In short, all countries can buy and sell in more profitable markets than under the regime of bilateralism.

It is true that the export and import surpluses under the bloc arrangement will not be as large as they would be if classical multilateralism existed. The balances are smaller under the bloc arrangement because A’s export balance with C is limited by C’s export balance with B which is limited by B’s export balance with A. The size of the balances can be no larger than the smallest balance.\(^\text{16}\) Perhaps a clearer expression of this proposition is: the smallest bilateral balance of trade determines the magnitude of the bilateral balances on all three sides of the triangle.

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\(^\text{16}\) If an arrangement is made for transferring gold and other international reserves to cover uncleared balances, then perfect multilateral clearing is not necessary. Or, if surpluses are matched by loans to the deficit countries, perfect multilateral clearing is not necessary.
ILLUSTRATION 3

MULTILATERAL CLEARING
(Three Countries, A, B, and C)

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
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<tr>
<td>Exports</td>
<td>100(C)</td>
<td>50(B)</td>
<td></td>
</tr>
<tr>
<td>Imports</td>
<td>50(C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>150</td>
<td></td>
<td></td>
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</tbody>
</table>

Note: The arrows represent the direction of trade. Eg. the arrow emerging from A and pointing toward C represents exports from A and imports for C.

The Accounts of the Central Clearing Agency

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<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
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<tr>
<td>Exports</td>
<td>100(C)</td>
<td>100(A)</td>
<td>100(B)</td>
</tr>
<tr>
<td>Imports</td>
<td>100(B)</td>
<td>50(A)</td>
<td>50(B)</td>
</tr>
<tr>
<td>Total</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
</tbody>
</table>

ILLUSTRATION 4

BILATERAL CLEARING
(Three Countries, A, B, and C)
Illustration 4 demonstrates the trade of the same three countries under bilateral arrangements. The bilateral balancing in Illustration 4 demonstrates the distortion relative to the pattern in Illustration 3. The reduced volume of trade in Illustration 4 demonstrates the effect of making use of less desirable sources of supply, and selling in relatively unprofitable markets. The different reactions of the domestic economies to the distortion of bilateralism accounts for the different levels of bilateral trade shown in Illustration 4.

Finally, the control the member governments exercise over the foreign transactions of their respective economies is not necessarily less under the bloc arrangement than under bilateralism. The respective exchange control authorities may continue to control all transactions. The importers pay domestic currency to the exchange control agency and the proceeds of the collections from importers are used to pay domestic currency to the exporters. Foreign currency transactions may be eliminated just as under bilateral clearing. The main difference is that under the bloc the exchange control authorities are only concerned with an over-all balance with all the bloc members rather than a bilateral balance with each member.

The preliminary requirements for a better arrangement than bilateralism were that the alternative system must allow the same control as bilateralism and greater liberalization of trade. Since the international monetary
bloc meets these requirements the proposal of the bloc as a preferred arrangement is tentatively justified.
Three Different Bloc Situations

The analysis of preceding chapters serves as a basis for constructing three different situations which provide economic justification for using the international monetary bloc. The first bloc situation is created by the international spread and synchronization of the business cycle. The international monetary bloc constitutes a device which can isolate the unstable economies without forcing stable full employment economies to lose completely the advantages of multilateral trade. A bloc instituted to curtail the international spread of the business cycle might be called a full employment bloc or the Balogh-Fund bloc. The provisions of the International Monetary Fund which pertain to a bloc, and Balogh's proposals for a full employment bloc, are discussed above.

A second situation which justifies the use of the bloc device is the general structural disequilibrium that results from the cumulative disintegration of the complex multilateral network of trade. A powerful world governing body would be needed to reconstruct the national structures of production so that a world system of multilateralism could be restored. In the absence of an international government with sufficient power, small groups of three or more nations may establish multilateral clearing. The gains stemming from limited multilateralism among a group of countries will depend upon the amount of multilateral dovetailing that is possible within the bloc. A bloc which
is set up in a situation of general structural disequilibrium may be classified as the Hilgerdt general disequilibrium bloc, not because Hilgerdt recommended the bloc but because of his contribution to the concept of general structural disequilibrium.\footnote{Hilgerdt, \textit{op. cit}.}

The third situation which provides justification for a bloc is the split between surplus and deficit countries that was explained in terms of differential rates of growth of productivity. The chronic surpluses of some countries may force other countries to restrict imports and prohibit the convertibility of their currencies. Instead of resorting to bilateralism, the deficit countries may enjoy greater gains from trade by setting up multilateral clearing arrangements among themselves. The bloc would let the deficit countries (sometimes called soft-currency countries) eliminate unnecessary discrimination among themselves, while the members of the bloc would exercise discriminatory control over imports from the chronic surplus countries (sometimes called hard-currency countries). The discrimination against the surplus countries is similar to the isolation of the depressed country in the Balo\textsuperscript{g}h-Fund full employment bloc.

The international monetary bloc composed of the soft-currency countries may be classified as the Milesell-Kindleberger bloc. Milesell has been vigorous in his support of such a bloc arrangement among the soft-currency countries.
during the post World War II period. Kindleberger's analysis of the dollar shortage provides an explanation of the hard-currency, soft-currency dichotomy.

A special advantage of the bloc in the Mikosell-Kindleberger situation stems from the traditional increasing-returns case for discriminatory trade controls. Classical trade theory, which assumes optimum size for the industry (competitive assumptions), provides no justification for trade controls that would allow domestic industries to expand. However, a valid economic case for controls exists if expansion of industry size results in more efficient use of resources in the expanding industries. Frequently the


19Kindleberger, The Dollar Shortage, op. cit.

market of a single country is not wide enough for the individual country to expand the size of domestic industries by protective trade controls. A bloc of countries, on the other hand, may provide a market sufficiently large to allow significant expansion of industries within the bloc.

The major feature of the Mikesell-Kindleberger case for the bloc is differential rates of growth of productivity. The result is greater productive efficiency in the hard-currency countries than in the soft-currency countries. If the soft-currency bloc promotes increasing size of industry and plant which results in increasing returns per man-hour, the structural disequilibrium between the bloc members and non-members will be lessened. If the gains from larger scale production are great enough, it is conceivable that the international monetary bloc could provide the means for eliminating the long-run structural case for trade controls.
Objections to the Bloc Principle

There are two major objections to the bloc principle. One is economic and the other is political. On economic grounds the international monetary bloc may be criticized because it results in less than the full international division of labor. However, the use of the bloc arrangement is proposed for situations where classical multilateralism is not possible, and/or situations where relentless pursuit of classical trade policies will result in low levels of income, employment, and international trade. The economic objection, therefore, becomes an advantage if the bloc is used in situations where the result of its use is greater utilization and division of labor than would be the case in the absence of a bloc arrangement.

21 Raymond Mikesell, "Regional Multilateral Payments Arrangements," op. cit. Robert W. Bean, "European Multilateral Clearing," (Journal of Political Economy, October, 1949), pp. 403-15. The technical difficulties of setting up a bloc are discussed by Mikesell and Bean in the above articles. Both conclude that the technical problems are not insuperable. The functioning of the European Payments Union indicates that the technical operation of a bloc is quite possible.

22 The international monetary bloc is inconsistent with International Monetary Fund agreements since the Fund calls for free convertibility of currencies while the bloc necessarily places restrictions on convertibility.
The international monetary bloc may be criticized on political grounds because it helps to generate future wars. It may be argued that arrangements which bind nations together economically will tend to bind them together politically. The existence of political-economic blocs may cause inter-bloc friction and eventually war.

The political criticism may be countered in two ways. First, the United States sponsorship and financial support of the European Payments Union provides evidence that a bloc will not necessarily create friction between the members and the nations outside the bloc that are the object of the bloc's discriminatory controls.

The other answer to the political criticism is the recognition that two or more blocs in operation at the same time may have several common members. Common membership among the blocs would tend to counteract the tendency for inter-bloc friction and warfare. The membership of Great Britain and Iceland in both the Sterling Area and the European Payments Union is a case in point.
Long-Run Possibilities of International Monetary Blocs

The fact that several blocs may be bound together by common membership offers long-run possibilities for progressively increasing the extent of the international division of labor. The absence of common membership, or the existence of only one bloc means that the size of the bilateral deficits and surpluses within the bloc will be limited to the balances that can be cleared among the bloc members. For example, bloc member A may be able to achieve a $100 million export surplus with B, yet B's earnings from the other members may only justify a $50 million import balance from A. However, if A and B belong to a second bloc, B's earnings in the second bloc may justify greater imports from A. The balancing of A's export surplus with B would be facilitated if the central clearing agencies for each bloc kept a joint set of books so that part of A's export balance would be cleared in each bloc.

An international monetary bloc such as the Sterling Area, which is built around a common currency, offers many interesting ways of liberalising trade. An example is a bilateral agreement between a non-member and the country which uses the common currency of the bloc (Britain in the Sterling Area). Unlike the usual two-country clearing agreement, the non-member is able to spend its earnings of the common currency in any country of the bloc. If the common-currency country becomes a member of a second bloc,
the effect is to merge the two blocs into one large area of multilateral trade.

Chapter VII describes the development and operation of the Sterling Area and the European Payments Union, and pursues the subject of trade liberalization through international monetary blocs in greater detail. One of the objectives of Chapter VII is to test the thesis that the international monetary bloc can become a mechanism for achieving most of the economic advantages of a system of free multilateral trade under ideal conditions, while avoiding the international economic chaos that can result from a system of free multilateral trade under less than ideal conditions.
CHAPTER VII

THE STERLING AREA AND THE EUROPEAN PAYMENTS UNION

The Sterling Area

Historical Development

The Sterling Area is a group of independent countries and United Kingdom dependencies all with diverse monetary systems but with one major element in common. The Sterling Area countries keep all or part of their international monetary reserves in British pounds sterling. All or part of their international trade is done in terms of sterling, and, with minor exceptions, they freely accept payment in sterling from any source.

The monetary historian does not view this arrangement as being novel, for throughout much of the late nineteenth century and early twentieth century the description of a Sterling Area member fitted many of the trading nations. The first task in describing the Sterling Area is to show that it originated before the pound was cut loose from gold in 1931. The Sterling Area's historians trace its development from a British Treasury Minute of 1925.1 This Treasury Minute represented England's first attempt to provide British


161
currency to the colonies which prior to 1821 were obliged to find and use whatever money was available. The long-run objective of the 1821 policy was to put the whole empire on a sterling exchange standard.

The evolution of the Colonial Sterling Exchange Standard was slow and halting, and not until the twentieth century was it formalized by the establishment of colonial Currency Boards. The creation of dominion status for part of the empire did not diminish the historical Sterling Area as the Dominions voluntarily maintained sterling balances as the basis of their currency systems. Thus, prior to World War I, the ties which today connect the overseas Sterling Area with Britain were in existence.

The historical description presented above pictures the present day Sterling Area as originating early in the nineteenth century and existing in its modern form long before 1931. The breaking of the gold tie between sterling and other currencies in 1931 was the event which finally brought the century old Sterling Area into plain sight. This historical approach may be called the narrow view of Sterling Area development.

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A broader, more general historical treatment would include most of the world in the Sterling Area prior to 1951. This view is based on the familiar story of the central position in world commerce and finance that was achieved by Britain, and London in particular, during the nineteenth century. England's position as the world's leading international trader caused sterling to be the dominant currency in international transactions. The dominance of sterling extended its use even to transactions to which Britain was not a party. The broad historical approach leads to the conclusion that the whole world belonged to the Sterling Area and the Bank of England stood at the peak of this world currency system as the international central bank.

Since the transactions between the merchants of the world were often financed in the London money market in the three of four decades prior to World War I, the banks of the world became owners of London bills. The disposition of the bills resulted in the banks owning some bills plus deposits in London discount houses and/or London commercial banks. In this manner London became a "reservoir of cash" for the world's banks.

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As a central depository for the world's banks the London money market performed the function of an international central bank. The position of London as a debtor to the world's banks meant that the banks could replenish their cash (gold) by selling their London bills and drawing down their deposits in London banks and discount houses. Conversely, this dependence on London for gold meant that when the world's banks had surplus gold they would put the surplus to work in London by purchasing bills and loaning to the discount houses. If the London money market acted as a central bank for the world's banks then the Bank of England was the international central bank. The Bank of England held the reserves for the English banking system which was centered in London, and London was the "reservoir of cash" for the banks of the world which made up the base of the pyramid.

Prior to 1931 standard money for sterling was gold, and the international standard for the currencies of the world was sterling. In 1931, when gold ceased to be the standard on which sterling was based, some currencies remained on the international sterling standard and some left it. The nations which remained in the Sterling Area after 1931 probably did so because this tie with sterling was more important to their commercial prosperity in the pre-1931 arrangement than the fact that sterling was tied to gold.

After 1931, Britain and the group of nations which left the gold base and kept their currencies tied to sterling became known as the sterling bloc. In addition to Britain
and her colonies, dependencies, and dominions (Canada excepted), the independent countries which voluntarily became part of the sterling bloc were Denmark, Iran, Japan, Argentina, Uruguay, Yugoslavia, Greece, Egypt, Iraq, Portugal, Norway, and Sweden.6

The sterling bloc countries kept monetary reserves in sterling and maintained a fixed rate of exchange between their own currencies and sterling. The fixed sterling rates meant that all the cross rates of exchange within the sterling bloc were fixed. The absence of a gold base for sterling meant that the price of sterling in terms of non-bloc currencies fluctuated from day to day. The fluctuation of the dollar-sterling rate, for example, meant that the dollar rate for all of the bloc currencies would fluctuate. The sterling bloc was, therefore, a monetary area of stable exchange rates existing in an era of general exchange instability. The sterling bloc of the 1930's represented a form of monetary cohesion that was primarily voluntary and informal in origination and development.

The stable-exchange sterling bloc of the 1930's does not fit the definition of an international monetary bloc that is used in this study. The free convertibility of sterling into all other currencies and gold continued until

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6The Sterling Area - An American Analysis, Economic Cooperation Administration, op. cit., p. 27.
1939 and World War II. Thus, the existence of the sterling bloc did not restrict the world-wide multilateral settlement of import and export balances. Some restriction on multilateral settlement is an essential characteristic of an international monetary bloc. Bilateral balancing of trade between nations became common in the 1950's, but the cause of bilateralism was not the existence of the cohesive monetary group known as the sterling bloc.

Several reasons have been given for the attachment of many politically independent currencies to sterling in the 1930's. The political connections among the Commonwealth countries contributed to the development of economic connections that would benefit from monetary cohesion. Specifically, Britain was a creditor of most of the sterling bloc members. Attachment to sterling at a fixed rate of exchange allowed the debtor countries to predict with certainty the real burden of servicing the debt. Perhaps the most important reason was the fact that Britain was the largest market for the exports of the sterling bloc members. In the depressed and unstable 1930's Britain stood out as a large and stable market for foreign goods. The stability of British imports is explained by the small decline in Britain's industrial activity and the importance of foodstuffs as a major category of imports.


8Ibid., p. 419.
The present day international monetary bloc that is known as the Sterling Area came into existence in 1939 when a network of war-emergency exchange controls transformed the stable-exchange bloc of the 1930's into a discriminating multilateral bloc. Since 1939 the history of the modern Sterling Area is divided into two phases. The war-emergency phase extended from 1939 to 1946. In 1947 the discriminating bloc structure became a part of the permanent peacetime policy of the Sterling Area members. This second phase has continued to the present (1953). Most of the independent European members of the earlier sterling bloc were not members of the war-time Sterling Area. The Sterling Area from 1939 to 1946 included: the United Kingdom and the Isle of Man, all the Dominions, Colonies, dependencies and mandated territories (except Canada, Newfoundland and Hong Kong) and Egypt, the Anglo-Egyptian Sudan and Iraq.9

Except for the British dependencies, the Sterling Area has remained a voluntary association with each member operating its own exchange and commercial regulations. Exchange controls have been used by the Sterling Area members to regulate capital transactions, and import licensing is used to control all current international transactions. Three features identify a Sterling Area country since 1939.

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One is the traditional maintenance of international reserves in sterling and the use of sterling in international transactions. The second is exchange and commercial regulations similar to Britain's, and the third is official listing as a Sterling Area country in the United Kingdom's exchange control regulations.\textsuperscript{10}

The maintenance of reserves in sterling means that the gold, dollar, and other hard-currency resources of the Area are pooled in London. The United Kingdom serves as the banker, automatically releasing funds from the hard-currency pool when purchases are authorized by any of the member countries. The similar exchange and commercial regulations of the members allow the Area to function as a cohesive monetary bloc.

Two major objectives of the Sterling Area during the war and since have been multilateral settlement among the members and the conservation of the hard-currency resources of the Area for essential imports. The use of sterling in international transactions by the members, the uniform monetary and commercial regulations, and the hard-currency pool have combined to permit accomplishment of the objectives without a central controlling authority for the whole Sterling Area.

\textsuperscript{10}For a detailed description of the operation of the Sterling Area since 1939 see: \textit{Ibid.}, pp. 3-20, \textit{The Sterling Area - An American Analysis}, op. cit.
In March, 1947, the United Kingdom's Exchange Control Act made the war-emergency Sterling Area regulations an integral part of Britain's peacetime monetary machinery. Since this Act stipulates how sterling may be used in international transactions, its administration determines the nature and mode of operation of the Sterling Area. Under the 1947 Act five classifications of owners of sterling balances have been set up. The sterling holders are classified according to the countries in which they reside. Table VIII shows the names of the five types of sterling accounts and the countries included in each account. Table IX shows the types of sterling transfers that are freely permitted for any purpose without special authorization.

The American Account holders of sterling are allowed the greatest freedom in the use of sterling. In addition to the free transfer of sterling within and between all the accounts except the Bilateral Account, the American Account sterling holders can freely convert their sterling into dollars. The American Account countries include the United States and its dependencies plus other countries mainly in the Western Hemisphere that have close economic ties with the United States. Britain must pay in dollars or sterling convertible into dollars to buy from these countries.

Among the non-sterling area accounts the Bilateral Account countries are subject to the most restriction in their use of sterling. These bilateral holders of sterling may freely transfer sterling only within their own country.
### TABLE VIII

**UNIVERSAL KINGDONM EXCHANGE CONTROL CLASSIFICATIONS OF STERLING ACCOUNTS**

<table>
<thead>
<tr>
<th>AMERICAN ACCOUNT COUNTRIES</th>
<th>TRANSFERABLE ACCOUNT COUNTRIES</th>
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<td>Anglo-Egyptian</td>
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<td>Sudan</td>
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<td>Costa Rica</td>
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<tr>
<td>Ecuador</td>
<td>Denmark (including Greenland)</td>
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<td>Ethiopia</td>
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<td><strong>SCHEDULED TERRITORIES</strong></td>
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<td>Irish Republic</td>
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<td>British Protectorates and</td>
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<td>Protected States</td>
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<td>France and French Monetary Area</td>
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<td>French Somalil Coast</td>
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<td>Germany - Eastern Zone</td>
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<tr>
<td></td>
<td>Peru</td>
</tr>
<tr>
<td></td>
<td>Portuguese Monetary Area</td>
</tr>
<tr>
<td></td>
<td>Romania</td>
</tr>
<tr>
<td></td>
<td>Switzerland</td>
</tr>
<tr>
<td></td>
<td>Syria</td>
</tr>
<tr>
<td></td>
<td>Tangier</td>
</tr>
<tr>
<td></td>
<td>Turkey</td>
</tr>
<tr>
<td></td>
<td>Uruguay</td>
</tr>
<tr>
<td></td>
<td>Vatican City</td>
</tr>
<tr>
<td></td>
<td>Yugoslavia</td>
</tr>
</tbody>
</table>

### TABLE IX

**TRANSFERS FREELY PERMITTED BETWEEN DIFFERENT TYPES OF STERLING ACCOUNTS**

<table>
<thead>
<tr>
<th>In Payments</th>
<th>Account Controlled</th>
<th>Out Payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Transferable</td>
<td>American</td>
<td>American Transferable</td>
</tr>
<tr>
<td>Unclassified</td>
<td></td>
<td>Unclassified</td>
</tr>
<tr>
<td>Bilateral</td>
<td></td>
<td>Bilateral</td>
</tr>
<tr>
<td>Scheduled Territories</td>
<td></td>
<td>Scheduled Territories</td>
</tr>
</tbody>
</table>

| American Transferable       | Transferable       | American Transferable         |
| Unclassified                |                    | Unclassified                  |
| Bilateral                   |                    | Bilateral                     |
| Scheduled Territories       |                    | Scheduled Territories         |

| American Transferable       | Unclassified       | American Transferable         |
| Other Bilateral             |                    | Unclassified                  |
| Same Country                |                    | Other Bilateral               |
| Scheduled Territories       |                    | Same Country                  |
|                             |                    | Scheduled Territories         |

| American Transferable       | Unclassified       | American Transferable         |
| Unclassified                |                    | Unclassified                  |
| Bilateral                   |                    | Bilateral                     |
| Scheduled Territories       |                    | Scheduled Territories         |

| American Transferable       | Scheduled Territories | American Transferable         |
| Unclassified                |                      | Unclassified                  |
| Bilateral                   |                      | Bilateral                     |
| Scheduled Territories       |                      | Scheduled Territories         |

| American Transferable       | Scheduled Territories | American Transferable         |
| Unclassified                |                      | Unclassified                  |
| Bilateral                   |                      | Bilateral                     |
| Scheduled Territories       |                      | Scheduled Territories         |

**Source:** The *Sterling Area — An American Analysis*, Economic Cooperation Administration, (1951), p. 99.
and anywhere in the Sterling Area. Close observers of the
operation of British exchange control state that transfers
between the Bilateral countries and from Bilateral Account
countries to Transferable Account countries are often sanc-
tioned by the exchange control authorities.\footnote{11} Even though
administrative freedom may be forthcoming, the Sterling Area
has in the Bilateral Account countries a source of imports
that need not put pressure on the Area's hard-currency re-
erves. The restrictions may also be used to channel
Sterling Area exports to the Bilateral countries.

The Transferable Account countries are not allowed
the degree of freedom accorded to the American Account, but
they enjoy greater freedom than the Bilateral countries.
The importance of the Sterling Area as a market for the
exports of a country, and the importance of that country's
goods to the Sterling Area are probably major elements in
explaining the assignment of a country to a particular account.
Specifically, Transferable Account countries agree to accept
currently earned sterling without limit from all sources, and
to channel their purchases to the Sterling Area whenever
possible. The unclassified countries do not meet these re-
quirements for Transferable Account status, and are not parties
to bilateral agreements with Britain.

\footnote{11} Bareau, \OE cit., p. 18. \OE The Sterling Area -
An American Analysis, \OE cit., p. 99.\footnote
The Scheduled Territories Account is composed of the Sterling Area members. The freedom of transfer of sterling within the Area provides multilateral settlement of trade balances among the members since they all use sterling in international transactions. Table IX shows that capital transfers outside the Sterling Area are subject to regulation. The commercial system of import licensing governs the current imports of Sterling Area countries from non-sterling countries.

The modern Sterling Area is complicated from the standpoint of administrative detail, yet the explanation of its existence and voluntary, automatic character is quite simple. So long as the overseas sterling countries keep their reserves in sterling and use sterling in international trade, the United Kingdom's exchange control can determine whether or not an international monetary bloc shall exist. If, for example, all countries were shifted to the American Account, the Sterling Area would cease to be an international monetary bloc. Sterling could be used for multilateral settlement in the non-sterling world just as freely as in the Area. The member countries could use their sterling freely in all foreign transactions instead of only within the Area. The Sterling Area as an international monetary bloc would be submerged, but the monetary machinery for restoring and operating the bloc would remain intact.
Advantages of the Sterling Area for the Member Countries

The monetary arrangements that cause the Sterling Area to exist are simple and in a large measure they are voluntary. The specific reasons for the existence of the Sterling Area's monetary arrangements shed more light on the usefulness and possibilities of international monetary blocs than the description of the institutional framework.12

The outstanding reason for the Sterling Area's continued existence following World War II is the fact that the Sterling Area economies are complementary to a high degree. Historical ties unquestionably are a factor in the present day monetary cohesion and economic integration. However, the large amount of international trade within the Sterling Area indicates a natural dovetailing of resources and production structures among the members of the Area. Table X shows the relative importance of Sterling Area imports and exports to the 13 most important Sterling Area members in 1949.13 Sterling Area imports as a percentage of total imports range from a low of 37.5 per cent for the United Kingdom to a high of 81 per cent for Southern Rhodesia. All of the 13 members

12The general explanations of international disequilibrium that give rise to international trade controls and a possible role for international monetary blocs have been developed in earlier chapters of this study.

13The data for 1949 are considered the most representative of the post-war years since 1949 is the pre-Korean War year the furthest removed from World War II.
receive more than half of their imports from the Sterling Area except the United Kingdom (37.5 per cent), Indo-Pakistan Subcontinent (45 per cent), and British Malaya (42 per cent). Exports to the Sterling Area as a percentage of total exports range from a low of 31 per cent for British Malaya to a high of 82 per cent for Southern Rhodesia. Only two of the 13 members send less than 50 per cent of their exports to the Sterling Area; these are the Union of South Africa (48 per cent) and British Malaya (31 per cent).

The fact that the Sterling Area economies are complementary is perhaps sufficient reason for them to form a monetary bloc in a world of inconvertible currencies, bilateralism, and general structural disequilibrium. Some students of the exchange control policies within the Sterling Area see still another compelling reason for the existence of an insulated monetary bloc composed of the Sterling Area members. This reason is the fear of economic instability in the rest of the world (especially in the United States) and the desire for stability within the Sterling Area. In this respect an international monetary bloc is an excellent device for lessening the dependence of the members on the

<table>
<thead>
<tr>
<th>Selected Sterling Area Countries</th>
<th>Imports Distribution in Sterling Area as a percentage of total imports</th>
<th>Exports Distribution in Sterling Area as a percentage of total exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>United Kingdom 37.5, Rest of Sterling Area 37.5</td>
<td>United Kingdom 50.7, Rest of Sterling Area 50.7</td>
</tr>
<tr>
<td>Australia</td>
<td>51.6, 17.2, 68.8</td>
<td>42.1, 18.1, 60.2</td>
</tr>
<tr>
<td>New Zealand</td>
<td>55, 22, 77</td>
<td>73, 5, 78</td>
</tr>
<tr>
<td>Union of South Africa</td>
<td>43, 8, 51</td>
<td>28, 17, 45</td>
</tr>
<tr>
<td>Indo-Pakistan Subcontinent</td>
<td>29, 16, 45</td>
<td>25, 26, 45</td>
</tr>
<tr>
<td>Southern Rhodesia</td>
<td>52, 29, 81</td>
<td>40, 42, 82</td>
</tr>
<tr>
<td>Northern Rhodesia</td>
<td>31, 24, 74</td>
<td>34, 17, 73</td>
</tr>
<tr>
<td>British East Africa</td>
<td>52, 18, 70</td>
<td>34, 33, 67</td>
</tr>
<tr>
<td>British West Africa</td>
<td>55, 8, 63</td>
<td>66, 3, 69</td>
</tr>
<tr>
<td>Ceylon</td>
<td>18.0, 49.7, 67.7</td>
<td>33.5, 21.9, 55.6</td>
</tr>
<tr>
<td>Burma</td>
<td>28.1, 43.1, 71.2</td>
<td>8.3, 76.6, 81.7</td>
</tr>
<tr>
<td>British Malaya</td>
<td>18, 24, 42</td>
<td>21, 17, 31</td>
</tr>
<tr>
<td>Ireland</td>
<td>59, 5, 64</td>
<td>90, 90, 90</td>
</tr>
</tbody>
</table>

outside world and for forcing the members to rely heavily on trade with other members.  

Tables XI and XII attempt to show why the Sterling Area countries are fearful of economic instability, particularly in the United States. Table XI indicates that international trade is a major determinant of prosperity and depression in most Sterling Area countries. When external trade is expressed as a percentage of National Income the high percentages for the Sterling Area countries indicate a high degree of vulnerability to instability abroad. Table XII then shows how fluctuations in business activity in the United States have a more than proportionate effect on the Sterling Area's exports.

The wide use of sterling in international transactions provides still another reason why membership in the Sterling Area is attractive. The international use of sterling is partially explained by the very existence of the Sterling Area. Two sources, one unofficial and one official, have estimated that over 50 per cent of all

---

15 The system of preferential tariffs for fellow Sterling Area members tends to support the view that the Sterling Area has tried to concentrate more of its trade within the Area. See: "Tariffs and Preferences in Britain," British Information Services, TD 1078, (September, 1961), pp. 1-8.

16 Bureau, op. cit., p. 19.

### TABLE XI

**EXTERNAL TRADE AS A PERCENTAGE OF NATIONAL INCOME**

**SELECTED DOLLAR AND STERLING AREA COUNTRIES**

(Years 1949, 1950, 1951)

<table>
<thead>
<tr>
<th>Country</th>
<th>%</th>
<th>Country</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>4</td>
<td>Pakistan</td>
<td>7</td>
</tr>
<tr>
<td>Canada</td>
<td>23</td>
<td>Australia</td>
<td>25</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>18</td>
<td>New Zealand</td>
<td>29</td>
</tr>
<tr>
<td>Ireland</td>
<td>27</td>
<td>Southern Rhodesia</td>
<td>66</td>
</tr>
<tr>
<td>Ceylon</td>
<td>42</td>
<td>Union of South Africa</td>
<td>36</td>
</tr>
<tr>
<td>India</td>
<td>7</td>
<td>British Malaya</td>
<td>53</td>
</tr>
</tbody>
</table>


### TABLE XII

**U.S. CONSUMPTION, PRODUCTION AND IMPORTS IN PERIODS OF RECESSION**

(Recessions of 1929, 1937, 1948)

<table>
<thead>
<tr>
<th></th>
<th>% declines in value after three years of depression (1929-32)</th>
<th>Average % declines in value after one year of recession (all three periods)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Consumption</td>
<td>37</td>
<td>4</td>
</tr>
<tr>
<td>GNP</td>
<td>44</td>
<td>6</td>
</tr>
<tr>
<td>Factory Production</td>
<td>63</td>
<td>24</td>
</tr>
<tr>
<td>Imports:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Commodities All Sources</td>
<td>70</td>
<td>24</td>
</tr>
<tr>
<td>All Commodities United Kingdom</td>
<td>77</td>
<td>33</td>
</tr>
<tr>
<td>All Commodities Overseas Sterling Area</td>
<td>81</td>
<td>34</td>
</tr>
</tbody>
</table>

international transactions were conducted in sterling in 1948. The same sources estimate that 36 per cent of the world's merchandise trade was conducted in sterling in 1948. The wide use of sterling and the regulations governing its use make the Area in which sterling is used one of the most important areas (probably the largest) in which multilateral trade and payments exist. The Sterling Area members receive benefit from the wide multilateral use of sterling in two ways. Trade is not distorted by bilateralism within the bloc. Furthermore, when countries outside the Sterling Area acquire sterling, this sterling can be spent freely within the Sterling Area regardless of the source of the sterling balances. Therefore, the Sterling Area countries (other than Britain) never need to enter into bilateral agreements.
The European Payments Union

The European Payments Union (EPU) is an institutional arrangement which provides for multilateral settlement of the bilateral deficits and surpluses arising in trade among the 15 CEEC (Organisation for European Economic Cooperation) countries of Europe. These countries are listed in Table XIII. Conceived in time of peace, the EPU was designed to be part of the monetary machinery that would ultimately restore complete convertibility of European currencies in a peaceful future. The objectives of the Union have not been fully realized because the Union became effective in July, 1950, and, therefore, its short life has been entirely within a period of rearmament and war.

The short history of the EPU is in striking contrast with the evolutionary development of the Sterling Area. Another major difference between the two international monetary blocs is the nature of the tie that binds the members together. In the Sterling Area the use of a common currency by all the members eliminates the need for formal written agreements. The adhesive function of sterling in the Sterling Area is performed in the EPU by formal written agreement as the Union members do not use a common currency in international trade. Most of the technical and operational differences between the Sterling Area and the EPU stem from the use of a common currency in the former case and the absence of a common currency in the latter case.
A third major difference between the Sterling Area and the EPU is the part played by the United States (a non-member) in organizing the EPU. In contrast with the automatic or self-generating characteristics of the Sterling Area, the EPU exists largely because of the insistence, and financial support of the United States.

The forerunner of the EPU was the Intra-European Payments Scheme (IEPS) which operated from October, 1948 to June 30, 1950, when the EPU became effective. The IEPS made use of European Cooperation Administration (ECA) dollars (Marshall Plan aid) to liberalize the network of bilateralism that mushroomed in Europe immediately after World War II.

The IEPS called for bilateral creditors in intra-European trade to provide funds or drawing rights to their debtors in exchange for equivalent dollar aid from ECA. Thus, Europe's deficit with the dollar area and intra-European deficits were taken care of jointly. The IEPS eliminated the necessity of settling intra-European bilateral deficits with gold or dollars. This freedom from hard-currency settlement relieved much of the pressure on European countries to maintain strict bilateral balancing with their trading partners.

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The first intra-European payments agreement lasted from October, 1948 to June, 1949; the second agreement lasted from June, 1949 to June, 1950. After pressure from ECA for greater liberalization of trade and payments within Europe, the second agreement allowed intra-European debtors to freely transfer within Europe 25 per cent of the grants extended by their creditors.

The HIPS was clearly a stop-gap arrangement that would have to be replaced. One of the outstanding weaknesses was the reinforcement of bilateralism within Europe which was not consistent with the ECA's objective of inter-convertibility of OEEC currencies. Another weakness was the payment scheme's dependence on dollar aid. Creditors receiving dollar aid were not encouraged to reduce their surpluses, and debtors receiving drawing rights were not encouraged to reduce their deficits. Since the liberalization effected by HIPS depended upon dollar aid the system of trade was doomed to return to strict bilateral balancing when the dollar grants would be terminated.

The ECA's dissatisfaction with European economic integration was made apparent early in 1949. By October the American impatience was crystallized in a threatening speech by Mr. Hoffman to the OEEC Council in Paris.\(^\text{19}\) The gist of the speech was that freedom of trade and payments among the

\(^{19}\)Patterson, op. cit., p. 142.
OECD countries in the near future would be a requirement for continued Marshall Plan aid. Thus, ECA insistence led to the development of the EPU idea in the Spring of 1950. The Agreement for the Establishment of a European Payments Union was approved by the OECD Council July 7, 1950. (ratified later by the member nations) and its provisions made effective as of July 1, 1950.

The EPU agreement requires each member to freely accept the currency of any other member. The central clearing agency for the EPU is the Bank for International Settlements in Basle. At the end of each month the central banks of the member countries inform this clearing agency of their debit and credit balances with all the other central banks. The clearing agency then determines the cumulative net deficit or surplus of each member with the whole group.

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### TABLE XIII

**EUROPEAN PAYMENTS UNION QUOTAS**

<table>
<thead>
<tr>
<th>Country</th>
<th>Quote (In Millions of Dollars)</th>
<th>Individual Quotas as Percentages of Total Quotas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>70</td>
<td>1.8</td>
</tr>
<tr>
<td>Belgium/Luxembourg</td>
<td>360</td>
<td>9.1</td>
</tr>
<tr>
<td>Denmark</td>
<td>195</td>
<td>4.9</td>
</tr>
<tr>
<td>France</td>
<td>520</td>
<td>13.2</td>
</tr>
<tr>
<td>Germany</td>
<td>320</td>
<td>8.1</td>
</tr>
<tr>
<td>Greece</td>
<td>45</td>
<td>1.1</td>
</tr>
<tr>
<td>Iceland</td>
<td>15</td>
<td>0.4</td>
</tr>
<tr>
<td>Italy</td>
<td>205</td>
<td>5.2</td>
</tr>
<tr>
<td>Netherlands</td>
<td>330</td>
<td>8.3</td>
</tr>
<tr>
<td>Norway</td>
<td>200</td>
<td>5.0</td>
</tr>
<tr>
<td>Portugal</td>
<td>70</td>
<td>1.8</td>
</tr>
<tr>
<td>Sweden</td>
<td>260</td>
<td>6.6</td>
</tr>
<tr>
<td>Switzerland</td>
<td>250</td>
<td>6.3</td>
</tr>
<tr>
<td>Turkey</td>
<td>50</td>
<td>1.3</td>
</tr>
<tr>
<td>Sterling Area (Excluding Iceland)</td>
<td>1,060</td>
<td>26.9</td>
</tr>
</tbody>
</table>

| Source: The Economist, (July 15, 1950), p. 130 |

### TABLE XIV

**EUROPEAN PAYMENTS UNION USE OF CREDIT AND REQUIRED GOLD PAYMENTS**

<table>
<thead>
<tr>
<th>Percentage of Quota</th>
<th>Debtors Use of Credit</th>
<th>Debtors Use of Gold</th>
<th>Creditors Use of Credit</th>
<th>Creditors Use of Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>20</td>
<td>16</td>
<td>4</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>20</td>
<td>12</td>
<td>8</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>20</td>
<td>8</td>
<td>12</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>20</td>
<td>4</td>
<td>16</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>100</td>
<td>60</td>
<td>40</td>
<td>60</td>
<td>40</td>
</tr>
</tbody>
</table>

The unit of account which is used by the clearing agency is 0.888671 grams of fine gold which is equal to the present United States dollar. The cumulative net surpluses and deficits will exist as claims on or debts to the EFU until they are large enough to require settlement. The quota of each member is the basis for determining how large a country's surplus or deficit may become before partial gold settlement is required. Table XIII shows the members and their EFU quotas in dollars. Table XIV shows the manner in which a debtor can receive credit from the EFU up to 60 per cent of its quota while paying 40 per cent of the deficit in gold. A cumulative deficit greater than 100 per cent of the quota must be settled entirely in gold. A cumulative surplus equal to the member's quota means that the surplus country has extended credit to the EFU in the amount of 60 per cent of its quota and has received 40 per cent of the surplus from the EFU in gold.\footnote{Creditors of the EFU may be paid in gold, U. S. dollars, another currency acceptable to the creditor, or the currency of the creditor. A debtor may pay the EFU gold, U. S. dollars, or any currency which the EFU can use to pay creditors. \textit{Agreement for the Establishment of a European Payments Union}, op. cit., Article 14, p. 15.}

ECU dollars contribute to the operation of the EFU in two ways. A working capital of approximately $400 million was provided to cover the possibility of initial gold payments in excess of gold receipts. The United Kingdom agreed to let sterling balances of the EFU members that were acquired in the past be used to settle the current EFU deficits of the
members holding the old sterling balances. In exchange for this freeing of old sterling balances, the United Kingdom received a guarantee from ECA that Britain would receive a grant of dollars to repay her for gold lost to the EPU because of the freeing of old sterling balances. Both of these uses of dollars are temporary and, therefore, not necessary for the EPU to remain in existence. The EPU, unlike the EEC, was designed to be a monetary arrangement that would continue to function after the end of Marshall Plan aid.

The scope of the EPU as a multilateral bloc is much larger than the 15 OEEC economies of Western Europe. The membership of the United Kingdom in the EPU makes the whole Sterling Area part of the EPU because the Sterling Area is a common-currency monetary bloc.

The inter-convertibility of currencies within the EPU does not mean that individual traders in the member countries are free to conduct transactions in the foreign currencies of member countries. Exchange control, quotas, and import licensing are still permitted. The EPU does mean that the international trade authority within each member country need only be concerned with the balance of payments position of its country with the whole EPU and not with each member. The preceding statement does not mean that each member must balance its international account with the EPU. A member may continue to increase its cumulative deficit with the EPU if it maintains a surplus with the rest of the world sufficient to cover the amount of its EPU deficit.
that must be paid in gold, dollars, or other acceptable currencies. A deficit with the EPF that is not covered by a surplus with the rest of the world forces the member to rearrange its production structure and/or contract its imports. Thus, both of the shortcomings of the EMS are absent in the EPF. Multilateral settlement replaces the bilateralism of the EMS, and the gold settlement of the EPF provides the incentive for the member countries to keep their international accounts in equilibrium.

Table XV shows the importance of intra-European trade to the EPF members, and, therefore, serves as one measure of the importance of the EPF to the member countries. Table XVI shows the deficits and surpluses accumulated by the member countries during March, 1963. The assets of the EPF increased from $303.6 million to $302.8 million as a result of the gold settlements in March, 1963. 22

### TABLE XV

VALUE OF INTRA-EUROPEAN MERCHANDISE TRADE AS PERCENTAGE
OF MEMBERS' TOTAL TRADE, 1938, 1948-51

(Monthly averages)

<table>
<thead>
<tr>
<th>Year</th>
<th>Exports</th>
<th>Imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1938</td>
<td>50</td>
<td>39</td>
</tr>
<tr>
<td>1948</td>
<td>45</td>
<td>32</td>
</tr>
<tr>
<td>1949</td>
<td>46</td>
<td>35</td>
</tr>
<tr>
<td>1950</td>
<td>First half</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>third quarter</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>fourth quarter</td>
<td>49</td>
</tr>
<tr>
<td>1951</td>
<td>first quarter</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>second quarter</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>third quarter</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>fourth quarter</td>
<td>47</td>
</tr>
</tbody>
</table>


### TABLE XVI

EUROPEAN PAYMENTS UNION - SURPLUSES AND DEFICITS, MARCH, 1953

<table>
<thead>
<tr>
<th>Country</th>
<th>March Surplus</th>
<th>March Deficit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Expressed in Millions of Dollars</td>
<td>Expressed in Millions of Dollars</td>
</tr>
<tr>
<td>Austria</td>
<td>3.7</td>
<td></td>
</tr>
<tr>
<td>Belgium/Luxembourg</td>
<td>16.3</td>
<td></td>
</tr>
<tr>
<td>Denmark</td>
<td>2.3</td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>19.4</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>10.7</td>
<td>1.7</td>
</tr>
<tr>
<td>Greece</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Iceland</td>
<td>28.0</td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td></td>
<td>2.3</td>
</tr>
<tr>
<td>Netherlands</td>
<td>35.3</td>
<td>2.3</td>
</tr>
<tr>
<td>Norway</td>
<td>1.9</td>
<td>12.0</td>
</tr>
<tr>
<td>Portugal</td>
<td>23.1</td>
<td>5.5</td>
</tr>
<tr>
<td>Sweden</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switzerland</td>
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<tr>
<td>Turkey</td>
<td></td>
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</tr>
<tr>
<td>Sterling Area</td>
<td>22.0</td>
<td>92.2</td>
</tr>
</tbody>
</table>

Conclusions

The Sterling Area and European Payments Union differ in development and organization, yet the membership of the United Kingdom in both international monetary blocs merges the two blocs into one large multilateral payments area. The continued co-existence of these two blocs in the postwar years provides substantial evidence that the international monetary bloc is a workable device for achieving a greater international division of labor.

There is little need to repeat the detailed analysis of the disadvantages of the classical international model: a model of a global monetary bloc that uses a common currency (gold), and provides complete freedom for the individual trader. The point is that the classical model has proven unworkable in a world plagued by the business cycle, chronic structural disequilibrium, and war. These disturbances have resulted in widespread government control over international transactions, inconvertible currencies, and restrictive bilateralism.

This study concludes that the international monetary bloc is consistent with the realities of the times while allowing an approximation of the ideal classical pattern of international trade. The international monetary bloc permits the amount of control that governments find is necessary to meet their political commitments to maintain domestic full
employment and a balanced international account. The
bloc device also provides an institutional framework for
conducting multilateral trade which results in a greater
amount of international specialization and a greater volume
of international trade. In meeting the political require-
ments of national governments while encouraging the expansion
of multilateral trade, the international monetary bloc makes
possible an approach to the classical ideal that is both
possible and workable.
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BIOGRAPHY

David Townsend was born in Atlantic, Iowa in 1927. He was educated in the public schools of Clinton, Iowa, and enlisted in the United States Navy shortly after graduating from Clinton High School in 1944. Prior to his graduation from Cornell College in 1946, he attended Ohio Wesleyan University and the University of Virginia. In 1949 he was granted the Master of Arts degree from the University of Michigan. He received a Graduate Assistantship at Louisiana State University for the academic year 1951-1952, and during the academic years 1949-1950, 1950-1951, and 1952-1953 he served as an Instructor in Economics at the same institution. At the present time he is a candidate for the degree of Doctor of Philosophy at Louisiana State University. In 1951 he married Dorothy Trichel, an alumna of Louisiana State University. The Townsends have a daughter named Teresa.
EXAMINATION AND THESIS REPORT

Candidate: David Caldow Townsend

Major Field: Economics

Title of Thesis: The Economic Role of International Monetary Blocs

Approved:

[Signatures]

Major Professor and Chairman

Dean of the Graduate School

EXAMINING COMMITTEE:

[Signatures]

Date of Examination: June 8, 1953