



SPECIAL PAPERS IN INTERNATIONAL ECONOMICS

No. 8, JANUARY 1968

THE THEORY AND
PRACTICE OF
COMMERCIAL
POLICY:
DEPARTURES FROM
UNIFIED EXCHANGE
RATES

JAGDISH BHAGWATI

INTERNATIONAL FINANCE SECTION

DEPARTMENT OF ECONOMICS

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The author, Jagdish Bhagwati, is at the time of this publication Professor of Economics at the University of Delhi, but has accepted a new appointment as Professor of Economics at the Massachusetts Institute of Technology. This paper is a revised, enlarged version of the Frank D. Graham Memorial Lecture given at Princeton in the Spring of 1967, when the author was Visiting Professor at Columbia University.

Professor Bhagwati is best known for his comprehensive article on "The Pure Theory of International Trade: A Survey" in the Economic Journal (1964) and his book, The Economics of Underdeveloped Countries (1966).

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FRITZ MACHLUP, Director
International Finance Section

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PREFACE

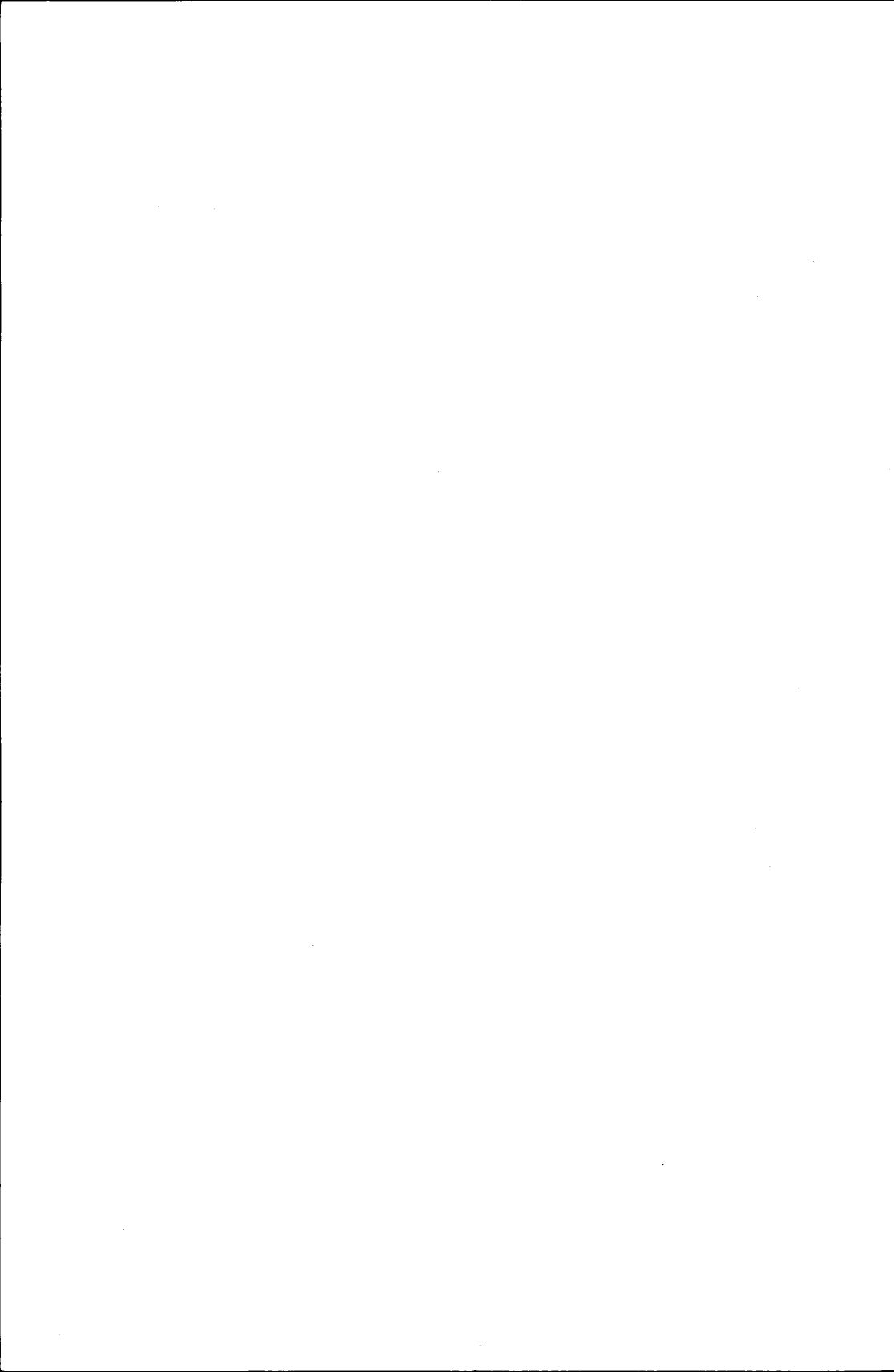
It is always an honor to be invited to lecture at Princeton. It is a yet greater honor to be asked to give the Graham Memorial Lecture. There is scarcely a major economist writing in the area of international economics today who has not come under the influence of Graham's writings. His interest spanned a wide field, from problems relating to the balance of payments to the theory of specialization in production and exchange; and he, with those whom he stimulated, managed to push the frontiers of the subject further at a number of points. But, to him, as well as to his great contemporaries, theory was no dry pursuit: it was the handmaiden to economic policy. Among the best-written works of Graham must be ranked his popular, but elegant and tightly argued work on *Protective Tariffs* (1934), in which he explored the issues relating to commercial policy with a dispassionate mastery of analysis.

Quite deliberately, therefore, I have decided to range over the issues raised by commercial policy, many of which were dealt with so well by Graham over three decades ago.

Needless to say, only parts of my study were actually read to the Seminar in Princeton. I wish to thank the International Finance Section for encouraging me to submit this complete version for publication. I gratefully acknowledge the editorial help given to me by the permanent staff of the International Finance Section and also, or perhaps especially, by Professor Stanley W. Black of Princeton University. Finally, I should like to record here my indebtedness to Paul Samuelson, Tibor Scitovsky, T. N. Srinivasan, and Harry Johnson for correspondence and conversations concerning some of the issues in this work.

Delhi, India
October 1967

J.B.



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The Theory and Practice of Commercial Policy: Departures from Unified Exchange Rates

In this study we shall consider the problems of commercial policy in its widest sense, exploring arguments that justify a departure from unified exchange rates in general. Unified exchange rates are defined to mean that (1) all exports occur at the same effective exchange rate as all imports (where the "effective rate" includes tariffs, trade subsidies and premia); and (2) the domestic incentives to produce and consume are not, in turn, distorted (by taxes and subsidies on domestic production, consumption and factor use) away from those provided by the structure of international prices. Thus the relative incentive to produce and consume tradable commodities, as provided by their domestic relative prices, is (identical or) unified with that obtaining internationally.

These questions have assumed considerable policy importance in recent years, especially in relation to the less developed countries. Although their economic performance can least afford to be guided by inefficient policies, it is increasingly becoming obvious that they have been severely impeded by a combination of trade and exchange-rate policies capable of inflicting serious losses from resulting misallocations of scarce resources. I shall thus go on to argue that, while a considerable body of argument can indeed be developed in defense of departures from unified exchange rates, the *de facto* operation of multiple effective rates by many developing countries today is incapable, in general, of rationalization on such grounds, and the likelihood of significant losses resulting from such policies can be empirically indicated. I shall also offer certain observations on the reasons for this state of affairs.

I. UNIFIED EXCHANGE RATES

At the heart of the welfare theory of trade are three basic propositions (see Bhagwati, 1967b):

Proposition (1) The trade situation (the opportunity to trade) is

superior to the no-trade situation (the absence of trade opportunity), from the viewpoint of efficient technical possibilities.

Proposition (2) Under perfect competition, free trade will enable the economy to operate with technical efficiency.

Proposition (3) Under perfect competition, free trade will enable the economy to maximize utility, subject to the given constraints, so that, from the viewpoint of utility-based rankings as well, free trade is optimal and superior to no trade.

For Proposition (1), remember that technical efficiency is defined in the usual Paretian sense. Hence Proposition (1) merely states that it is *possible* to get more of one good and no less of the other when the opportunity to trade is available than when it is not.

This is readily seen in Figure 1, similar to Samuelson's illustration, where the price line $CD = EF$ represents the international prices and OAB the production-possibility set for an individual country. If production is set at P and trade is undertaken (as it must be) at the stated international prices, OEF becomes the availability set and EF the availability frontier, the Pareto-efficient locus of available combinations of the two commodities. But if production is set instead at P^* , the availability set is the *largest* possible, at OCD , and CD represents the most efficient Pareto-optimal availability line subject to the domestic and foreign transformation constraints.¹ On the other hand, AB , the production-possibility frontier, represents the efficient availability line in the absence of trade opportunity.

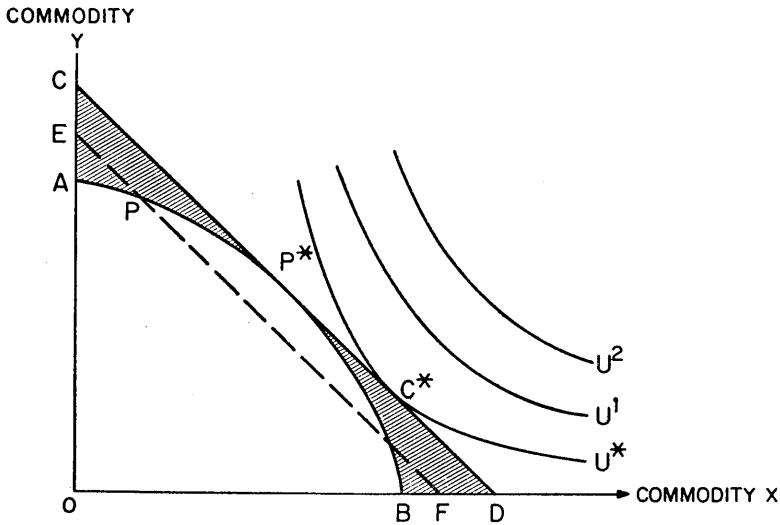
It is thus clear immediately, since CD lies uniformly outside AB (though touching it at P^*), that *any* bundle of commodities which is available by production alone (that is, in the no-trade situation) *can* be improved upon (with one borderline case at P^*) by production at P^* and trade therefrom.

Hence, the opportunity to trade represents for the economy a superior situation than the absence of trade. In other words, the trade situation is superior to the no-trade situation.

Note that this proposition merely states that it is *possible*, if the trade opportunity is exploited in a certain way, to have more of one good and no less of the other(s) under trade than under no trade. The

¹ Note that any shift of production from P^* , and trade therefrom, to production at another point (such as P) and trade from that new point will only *reduce* the availability set open to the economy. Hence, production at P^* represents the most efficient production point from which trade can be conducted.

Figure 1
Trade Situation versus Autarky



Without trade, APP^*B represents the production-possibility, and hence availability (or consumption-possibility) frontier for an individual country. If unlimited trade is possible at the world price ratio given by CD 's slope, the new availability frontier is given by CP^*D , the farthest-out line with slope CD that touches the domestic production-possibility frontier. Any domestic welfare function (of the standard static variety) will be maximized at a point such as C^* , which gives more welfare than any point within APP^*B (save in the singular case where C^* and P^* happen to coincide).

proposition does *not* assert anything as to whether a specific economic system will in fact manage to utilize the trade opportunity in this technically efficient manner. Of course, the proposition that trade could expand the economy's availabilities is hardly surprising once one realizes that the possibility of trade really adds yet another "technological" process of transforming exportables into importables, and this cannot but improve (or, at worst, leave unchanged) the availabilities defined by the *domestic* resource and technological constraints. The proposition is thus clearly not conditional on the properties of the domestic production-possibility set.

This is not the case with Proposition (2), which relates explicitly to whether an actual institutional system will operate with *technical* efficiency. It states that, for a competitive price system, free trade *will* in fact enable the economy to exploit the trade opportunity most effectively and thus operate efficiently (that is, bring production to P^* and

trade along CP^*D in Figure 1). The proof of this proposition is straightforward and rests on the fact that with (a) free trade defined as a policy constituting the equalization of foreign and domestic prices, and (b) perfect competition assuring the equalization of domestic prices with the marginal rate of transformation in production (on the production-possibility frontier), the economy must necessarily end up producing and trading efficiently, provided the production possibilities are a convex set. This rules out (as we shall see later) increasing returns leading to concavity. To illustrate: under free trade at price $CD = EF$, the economy *will* produce at P^* and trade along CD , thus operating with technical efficiency.

Note further that Proposition (2) can be readily adapted for institutional frameworks other than that of a competitive price system. Thus, for an economic system which does not use (domestic) prices to guide production, it is conceivable that an alternative way of operating with efficiency would be for planners to follow the rule of *equating foreign prices with the marginal rate of transformation of products in domestic production*.² This efficiency rule will ensure the operation of the economy at technical efficiency; in Figure 1, the planners will be guided by the rule to producing at P^* and thus trading along CP^*D . Free trade merely happens to be the policy that enables a competitive price system to implement this efficiency rule.³

It is now possible to go beyond questions of technical efficiency and raise the issue of utility-based ranking of free trade and no trade. If we take a well-ordered index of social utility, Proposition (3) follows immediately. Formally, we would be maximizing a function such as

² For a country, however, that enjoys monopoly power in trade, the rule modifies to the well-known prescription to equate the marginal terms of trade (that is, the marginal rate of transformation through foreign trade) with the marginal rate of transformation in domestic production. The rule can be obtained more directly by maximizing the availability of one commodity subject to specified level(s) of the other(s), subject further to the constraints imposed by the implicit domestic-transformation function and the foreign reciprocal-demand function. I shall return to this point later, in Chapter II.

³ Following on this, I have found it useful, in the classroom, to tell my Indian students that even a "Soviet-type" economic system, which may decide to avoid the use of prices to guide domestic allocation of resources, cannot afford to ignore *international* prices, the reason being that they really represent, from the welfare point of view, a "technological" datum. I may also add that the distinction between Propositions (2) and (3), based on the distinction between technical efficiency and utility maximization, is also very useful if one is teaching students living in a "planned" economy. Professor Bent Hansen, who has taught in Cairo for some years, told me some time ago that he has also found it useful to teach free-trade optimality in terms of Propositions (1) and (2) above.

$U = U(X, Y)$, where U stands for social welfare, X and Y for the available commodities, and the function has the standard properties (see Samuelson, 1956), such as

$$\frac{\partial U}{\partial X} > 0, \quad \frac{\partial U}{\partial Y} > 0, \quad \left| \frac{dX}{dY} \right| < 0 \quad \text{and} \quad \left| \frac{d^2 X}{dY^2} \right| < 0$$

$U = \text{constant} \qquad U = \text{constant}$

This function would be maximized subject to the implicit domestic-transformation function and the foreign-reciprocal-demand function. It would then be shown that, under free trade, a perfectly competitive system would satisfy the derived maximizing conditions.

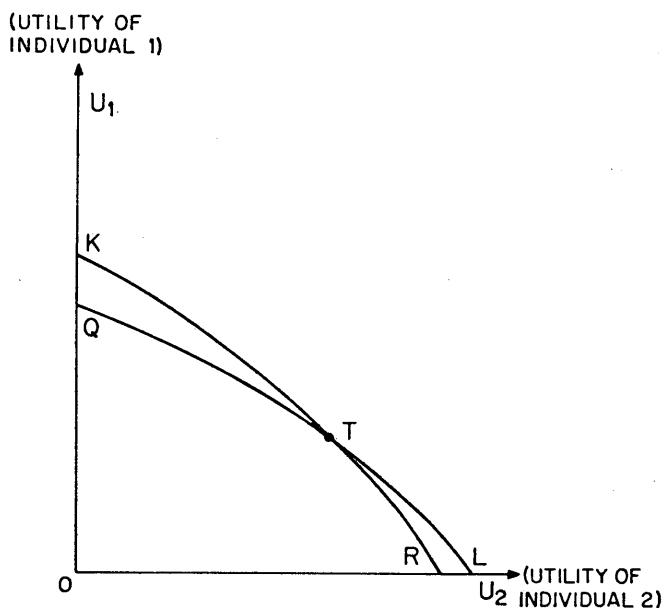
For those not anxious to raise questions about the incomparability of different persons' utilities and who are ready to accept a well-ordered index of social utility, this procedure would be entirely satisfactory.⁴ But those who, reluctant to go beyond consideration of utility for each (incomparable) individual, wish to base rankings by utility on the criterion of superiority for all income distributions may prefer the approach of comparing utility-possibility loci used by Samuelson [1962] and Kemp [1962]. They argue, quite correctly, that the fact that CD , the availability frontier under free trade, lies uniformly outside (though once touching) AB , the availability frontier under no trade, implies that the utility-possibility locus for the free-trade situation must also lie uniformly outside (though possibly touching) that for the no-trade situation, as illustrated in Figure 2 for a two-person economy. This implies that, under free trade, for *any* utility distribution (except at the point(s) where the two loci touch⁵) achieved under no trade, it is possible (via ideal lump-sum taxes and subsidies) to achieve a higher level for both individuals. And, similarly, under free trade, for *any* utility distribution achieved under restricted trade, it can be shown that it is possible (via ideal lump-sum taxes and subsidies) to achieve a higher level for both individuals. Hence free trade is the optimal policy (for all income distributions).⁶

⁴ For those unwilling to assume that *laissez-faire* can be counted on to provide the ethically proper income distribution and yet want to use a social-utility index, Samuelson's (1956) construction of "social-indifference curves" is the appropriate reference.

⁵ As Professor Samuelson has pointed out to me in correspondence, the utility-possibility locus under free trade may even *coincide* with the utility-possibility locus under no trade if all individuals are alike and have unitary income elasticities, and if C^* in Figure 1 coincides with P^* .

⁶ While the argument developed around the illustrations has assumed trade only in final products, absence of intermediates, and given endowments of primary

Figure 2
 Superiority of Free Trade over Autarky, Illustrated
 through Utility-Possibility Curves



QTR represents the utility-possibility curve, in a two-person economy, corresponding to the no-trade situation. *KTL* represents the utility-possibility curve corresponding to the free-trade situation. *KTL* lies uniformly outside *QTR* (though touching it at *T*), indicating that the free-trade situation is superior (or, at minimum, equivalent) to the no-trade situation from the viewpoint of social welfare.

It follows, from these fundamental insights of the theory of trade and welfare, that economic welfare, derived from the flow of currently available goods and services, will be maximized by the adoption of policies that unify the effective exchange rate, provided suitable monetary and fiscal policies are adopted to maintain Keynesian full employment. Any departures from such a policy would involve (1) trade tariffs, subsidies, and quantitative restrictions, (2) production and consumption taxes and subsidies, (3) taxes and subsidies on factor use, or (4) exchange control combined with overvaluation of the exchange rate, or undervaluation of the exchange rate, any of which policies will result in nonunified effective exchange rates and thus will pull the economy away from the optimal position.

factors, the theorem that free trade is the optimal policy is independent of these simplifying assumptions.

The conclusions are so impressive that Graham (1934) could write with eloquence:

. . . Whether a country is rich or poor, big or little, new or old, with or without high standards of living, agricultural, industrial, or mixed, makes no difference. It is a matter of mathematics, quite independent of environment, that there is an *inherent* gain in the specialization along the lines of *comparative* competence which unshackled trade tends to develop.

There is no possible refutation of this analysis. Advocates of a restrictive commercial policy must, in logic, accept it as a fact and attempt to show that the gain may be outweighed by economic or other considerations of superior importance. . . . The *presumption* is always in favor of free trade, since the gain therefrom is certain, and the loss, if any, dependent upon incidental circumstance. This presumption is rebuttable but it is ever present; and, in this sense, the classical economists were right in insisting that free trade is a ubiquitous and timeless principle. Other things being equal, it will enable people to have more goods of every kind than would otherwise be possible (pp. 58-59).

An economist writing today could not have put the essence of the problem better. But the fact is that the analytical writings since Graham's time have resulted in an overwhelming accumulation of arguments which indeed accept the basic efficiency of specialization in trade but demonstrate the advantages of departure therefrom for "economic or other considerations of superior importance." It is to these arguments, and some novel but (in my judgment) significant ones, that I now turn.

II. JUSTIFIABLE DEPARTURES FROM UNIFIED EXCHANGE RATES

The arguments for departing from unified exchange rates can, in general, be divided into two broad types: (1) those that accept the traditional adoption of the objective function which defines social welfare as a function of the currently available flow of goods and services but point to factors such as externalities, for example, to show that a departure from unified exchange rates is called for; and (2) those that modify the objective function, thereby resulting in different optimality conditions from those satisfied by unified exchange rates.

The former set of arguments can again be classified into (a) those resulting in optimal intervention in the form of tariffs, (b) those calling for optimal intervention in the form of export subsidies, and (c) those leading to optimal intervention in the form of *domestic* tax-cum-subsidies on consumption, production, or factor use. The latter set of arguments, depending on changes in the objective function, are broadly divisible into two classes: (a) those that involve essentially the notion of "dynamic comparative advantage," leading to a conflict between today and tomorrow; and (b) those that invoke objectives, many traditionally (though rather oddly) considered to be "non-economic," such as the collection of revenue, achievement of specified income distribution, maintenance of specified levels of production in industries of "strategic importance," and so on.⁷

A. TRADITIONAL OBJECTIVE FUNCTION

I shall deal successively with the arguments resulting in first-best cases for tariffs, trade subsidies, and domestic tax-cum-subsidies on production, consumption, and factor use. Where it seems useful, I shall also consider whether alternative forms of intervention, though sub-optimal, may still improve welfare over the level reached under unified rates.

⁷ Needless to say, some of the non-economic objectives are themselves treated best sometimes as essentially involving a conflict between today and tomorrow. For example, industrialization can be treated *either* as a non-economic objective *or* as an economic policy that is justified by externality arguments which may involve a conflict between income today and income tomorrow. Similarly, revenue collection may be required to raise the savings rate in the interest of growth but may involve loss of current income regardless of how revenue is raised (for, let it be admitted, revenue cannot in practice be raised by lump-sum taxes).

1. ARGUMENTS FOR TARIFFS AS FIRST-BEST POLICY

(1) The traditional argument for first-best tariffs relates to the presence of monopoly power in trade. Unified exchange rates, in such a situation, will not lead to a satisfaction of the first-order conditions for a Paretian optimum: the equalization of foreign and domestic prices will not equate the domestic marginal rate of transformation in production and the domestic marginal rate of substitution in consumption with the marginal rate of transformation through foreign trade. On the other hand, the adoption of a suitable tariff (or structure of tariffs) will permit these three marginal rates to be equated, thus leading to optimality. The first-best solution for utility maximization will therefore involve the levy of a suitable tariff (or structure of tariffs, if more than two goods are considered, in which case, because of cross-elasticity terms, some imports and exports may be subsidized).

The optimum tariff, when derived, will vary with the income distribution. Further, and more importantly, if the producers themselves combine to exercise the monopoly power, the need to impose the optimum tariff by policy will be avoided. However, the situation will turn into a sub-optimal one *if* the monopoly is extended also to domestic sales, as would seem natural. Further, these arguments for departing from a unified exchange rate are not to be dismissed as unimportant in practice: countries do possess such monopoly power, for certain lengths of time, although over protracted periods substitution possibilities tend to be considerable. Nor does the possibility of retaliation necessarily rule out the possibility of gain from the imposition of monopoly tariffs. Recent analyses (see Johnson, 1965b) of the question, using a Cournot-type reaction mechanism where countries retaliate on the principle of levying optimum tariffs, have shown that at the end of such a process a country may still be left better off than under a unified exchange rate.⁸

(2) An important variation of this argument, with rather more empirical relevance today, concerns the possibility of discrimination between alternative markets, as distinct from the exercise of monopoly power in a unified foreign market. Typically, trade opportunities present themselves discretely, among different trading blocs that are

⁸ If the possibility of tariff retaliation *decreases* when the monopoly power is exercised by a domestic production subsidy to the importable industry, then (even though this would be *ceteris paribus* an inefficient way of exercising the monopoly power in trade) the country might be left better off by levying such a production subsidy-cum-tax rather than by imposing tariffs.