TRADE, GROWTH, AND THE BALANCE OF PAYMENTS

NORTH-HOLLAND

TRADE, GROWTH, AND THE BALANCE OF PAYMENTS

ESSAYS IN HONOR OF GOTTFRIED HABERLER

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PREFACE

Few scholars have contributed more to the development of international economics in the twentieth century than Gottfried Haberler. The application to trade theory of the doctrine of opportunity cost, the synthesis of the "second best" aspects of trade policy – without such contributions as these we would be much the poorer. In his teaching and writing, Professor Haberler has always stressed the structure of international economic theory and the relations among its shards and fragments. By leading his students to a full understanding of the architecture of trade theory, he has saved them from giddy flights into ill-conceived theoretical novelty and headlong plunges into analytical error. He has taken a sternly unsentimental approach to questions of public policy that never neglects their analytical underpinnings, and those who have disagreed with him in the forum of policy have often gone away with a better understanding of the logical implications and weaknesses of their own positions.

While Professor Haberler's broad professional interests have always included the fields of business cycles and economic theory, international economics has occupied most of his attention in recent years. As his associates and former students in this field, we have chosen to honor him with a collection of essays on this subject that, we hope, will reflect the range and diversity of his own interests. Professor Haberler once wrote: "International trade theory has never been satisfied merely with explaining, but has always aimed at *evaluation* and policy recommendation. Quite frequently concern with problems of economic policy has given rise to innovation and improvement in the theory itself." The following essays reflect that interrelation of theory and policy. We have grouped them into three major areas of policy problems: trade and resource allocation; trade, growth, and development; and money, prices, and the balance of payments.

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November, 1964

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PART ONE

Trade and resource allocation

OPTIMAL TRADE INTERVENTION IN THE PRESENCE OF DOMESTIC DISTORTIONS[1]

Harry G. Johnson

I Introduction

In the period since the war, the concern of economists with the problems of the underdeveloped countries and the formulation of policies to stimulate economic development has led to renewed interest in the economic arguments for protection. I use the description "economic arguments" to distinguish arguments that recommend protection as a means of increasing real income or economic welfare from arguments that recommend protection as a means of achieving such essentially noneconomic objectives as increasing self-sufficiency for political and military reasons, diversifying the economy to provide a richer way of life for the citizenry and so strengthening national identity, or preserving a valued traditional way of life. In the first place, writers on economic development have taken over

[1] This paper originated as a guest lecture at the Claremont Colleges, California, delivered in March, 1963. It was originally scheduled for publication in the *Indian Economic Review*, but the editors of that journal have graciously released it for inclusion in this volume on the grounds that its contents bear witness to the depth and durability of Gottfried Haberler's contribution to the pure theory of international trade and economic welfare.

The paper represents a condensation of analysis developed in lectures and writings over a period of years. The organization of the argument around the two central propositions of the paper, however, is derived from discussion with Jagdish Bhagwati, and particularly from an early reading of his brilliant joint article with V. K. Ramaswami, "Domestic Distortions, Tariffs and the Theory of Optimum Subsidy", *Journal of Political Economy*, LXXI, No. 1 (February, 1963), 44-50. To these two authors belongs the credit for reducing a mass of *ad hoc* arguments concerning tariffs to a simple application of second-best welfare theory. The present paper extends their analysis to some arguments for protection not considered by them, elaborates more fully on the infant industry argument, and adds to their results two propositions about noneconomic arguments for protection. I should like also to acknowledge a debt to Erling Olsen, whose comments on an earlier draft prompted improvements in the presentation of the factor-price rigidity case.

and made considerable use of the theory of the optimum tariff, originated by Bickerdike and revived in the 1940's and early 1950's as a by-product of the contemporary debate over the legitimacy of welfare propositions in economics. Secondly, writers in the economic development area have laid considerable stress on the traditional "external economies" and "infant industry" arguments for protection; in recent years they have also developed new, or at least heretofore not much emphasized, arguments for protection based on the alleged fact that in underdeveloped countries wages in manufacturing exceed the opportunity cost of labor in the economy – the marginal productivity of labor in the agricultural sector. Two distinct reasons for the alleged discrepancy between industrial wage rates and the opportunity costs of labor are advanced, it not always being recognized that they are distinct. One, which can be associated with the name of Arthur Lewis,[2] is that industrial wages are related to earnings in the agricultural sector, and that these earnings are determined by the average product of labor, which exceeds the marginal product of labor because agricultural labor has familial or traditional claims on the rent of land. The other reason, associated with the name of Everett Hagen[3] but equally attributable to Lewis,[4] is that the industrial wage rate exceeds the agricultural wage rate by a margin larger than can be explained by the economic costs of urban life;[5] this difference Hagen associates with the dynamic need for a growing economy to transfer labor from agriculture to industry, although it can also be explained by social influences on industrial wage determination.

The theory of the optimum tariff rests on the proposition that if a country possesses monopolistic or monopsonistic power in world markets, world market prices for its exports and imports will not correspond to the marginal national revenue from exports or marginal national cost of its

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[2] W. Arthur Lewis, "Economic Development with Unlimited Supplies of Labour", *Manchester School of Economic and Social Studies*, XXII, No. 2 (May, 1954), 139-91, and "Unlimited Labour: Further Notes", *Manchester School of Economic and Social Studies*, XXVI, No. 1 (January, 1958), 1-32.

[3] Everett E. Hagen, "An Economic Justification of Protectionism", *Quarterly Journal of Economics*, LXXII, No. 4 (November, 1958), 496-514.

[4] "Economic Development...", pp. 150-51.

[5] Hagen (*op. cit.*, p. 496, n. 2) traces the origins of the argument to Jacob Viner's review of M. Manoilesco's *The Theory of Protection and International Trade* (London: P. S. King, 1931), in the *Journal of Political Economy*, XL, No. 1 (February, 1932), 121-25.

imports, and asserts that by appropriately chosen export and import duties – taxes on trade – the country can equate the relative prices of goods to domestic producers and consumers with their relative opportunity costs in international trade. In other words, the theory of the optimum tariff rests on the existence of a distortion in international markets, viewed from the national standpoint, such that market prices diverge from opportunity costs; and the optimum tariff is recommended as a means of offsetting this distortion. The other economic arguments for protection, with which this paper is concerned, rest on the presence of distortions in the domestic economy, which create a divergence between domestic prices and domestic opportunity costs; in these arguments, protection is recommended as a means of offsetting the distortions that prevent domestic prices from reflecting domestic opportunity costs.

The purpose of this paper is to explain and elaborate on two propositions concerning arguments for protection derived from the existence or alleged existence of domestic distortions. The first proposition is that such distortions do not logically lead to the recommendation of protection, in the sense of taxes on international trade; instead, they lead to the recommendation of other forms of government intervention which do not discriminate between domestic and international trade and which differ according to the nature of the distortion they are intended to correct. The second proposition is that if protection is adopted as a means of correcting domestic distortions, not only will the result be that economic welfare will fall short of the maximum obtainable, but economic welfare may even be reduced below what it would be under a policy of free trade. These two propositions can be combined in the proposition that the only valid argument for protection as a means of maximizing economic welfare is the optimum tariff argument; all other arguments for protection of this kind are in principle arguments for some form of government intervention in the domestic economy, and lead to the recommendation of protection only when supported both by practical considerations that render the appropriate form of intervention infeasible, and empirical evidence that protection will in fact increase economic welfare.

II Definitions and assumptions

As a preliminary to the development of the main theme, it is necessary to comment briefly on certain aspects of the setting of the problem and the definition of terms.

In the first place, it is necessary to define the word "protection". Economists generally use this word in a very loose sense, which carries the connotation of a tariff on imports but also lends itself to extension to any policy that raises the price received by domestic producers of an importable commodity above the world market price. Not only can the effect of a tariff be achieved in the modern world by other devices, such as import restrictions, exchange controls, and multiple exchange rates – devices which may achieve the effect of raising the domestic relative price of importable goods above their relative price in the world market by operating to restrict exports as well as to restrict imports – but the domestic relative price received by producers of importable goods can be raised above the world price by two quite different means – by raising the domestic price to both producers and consumers above the world price, through tariffs or equivalent devices, and by raising the domestic price to producers only above the world price, while leaving consumers free to buy at world prices, through subsidies on production or equivalent taxation of production of alternative products. These two means of raising prices to domestic producers above world prices differ sharply in their economic implications, as will appear from what follows, and the confusion of them in the loose usage of the term "protection" has been responsible for serious analytical errors in the literature. In this paper, I confine the term "protection" to policies that create a divergence between the relative prices of commodities to domestic consumers and producers, and their relative prices in world markets. This usage does not preclude anyone who wishes to describe policies of subsidizing domestic production by one means or another as protection from doing so, and interpreting my analysis as showing that protection by subsidies is economically desirable in certain cases of domestic distortion, provided that he clearly distinguishes protection by subsidy from protection by tariff. It is perhaps worth noting in passing – though this is not part of the subject of this paper – that the identification of protection with the tariff is a potent source of confusion in other contexts than the relation of protection to economic welfare; for example, the degree of protection afforded to a particular industry by a tariff structure depends not only on the tariff rate on its product but on the tariffs and other taxes levied or subsidies paid both on its inputs and on the other goods that could be produced by the resources it uses;[6] and these complications include the effects of overvaluation or undervaluation of the exchange rate.

Secondly, it is necessary to be precise about the meaning attached to an improvement or deterioration in economic welfare. Disagreement on this question was the foundation of the classic debate between Gottfried Haberler and Thomas Balogh that followed on Haberler's attempt to analyze the issues discussed in this paper with the assistance of a criterion of improvement in welfare that has subsequently been shown to be objectionable.[7] This paper employs the concept of welfare in the modern sense of potential welfare, and regards a change in the economic environment as producing a potential improvement in economic welfare if, in the new environment, everyone could be made better off – in the usual sense of enjoying a higher consumption of goods and services – than in the old environment, if income were distributed in accordance with any social welfare function applied consistently in the new and the old environment. This approach permits the use of community indifference curves to represent the potential welfare of the community. One might indeed go further and maintain that the assumption that some social welfare function exists and is implemented is essential to any rational discussion of national economic policy.

Thirdly, it is assumed in this paper, in accordance with the conventions of theoretical analysis of these problems, that government intervention is a costless operation: in other words, there is no cost attached to the choice between a tax and a subsidy. This assumption ignores the empirical consideration, frequently introduced into arguments about protection, that poor countries have considerably greater difficulty in levying taxes to finance subsidies than they have in levying tariffs on imports. This consideration is of practical rather than theoretical consequence, and to constitute a case for tariffs requires supplementation by empirical measurement of both the relative administrative costs and the economic effects of

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[6] For an analysis of the protective incidence of a particular tariff structure, see my "The Bladen Plan for Increased Protection of the Canadian Automotive Industry", *Canadian Journal of Economics and Political Science*, XXIX, No. 2 (May, 1963), 212-38.

[7] Haberler, "Some Problems in the Pure Theory of International Trade", *Economic Journal*, LX, No. 2 (June, 1950), 223-40; Balogh, "Welfare and Freer Trade – A Reply", *Economic Journal*, LXI, No. 241 (March, 1951), 72-82; Haberler, "Welfare and Freer Trade – A Rejoinder", *Economic Journal*, LXI, No. 244 (December, 1951), 777-84.

the alternative methods of promoting favored industries – as has already been mentioned. Its relevance to practical policy-making is probably less than is frequently assumed, since on the one hand the intent of a protective tariff is not to yield revenue, and on the other hand the effect of a subsidy on one type of production can be achieved by taxes levied on alternative lines of production. The assumption also ignores the possibility that the income or other taxes levied to finance subsidies to production may have a distorting effect on the supply or allocation of resources. Abandonment of this assumption would also lead to the necessity of empirical assessment of the relative economic costs of alternative methods of promoting favored industries.

Finally, something should be said about the bearing of theoretical analysis of the arguments for protection on practical policy-making and the assessment of actual tariff systems. The demonstration that in certain carefully defined circumstances a tariff levied at a theoretically specified rate would make a country better off than it would be under free trade is not – contrary to the implication of many economic writings on protection – equivalent to a demonstration that past or present tariffs have in fact made the nations imposing them better off than they would have been under free trade, or a justification of whatever tariffs legislators might choose to adopt. Modern economic analysis of the cases in which a tariff or other governmental intervention in the price system would improve economic welfare, in other words, does not constitute a defense of indiscriminate protectionism and a rejection of the market mechanism; rather, it points to a number of respects in which the market mechanism fails to work as it should, and indicates remedies designed to make the market function properly. The usefulness of the exercise depends precisely on the assumption that legislators do not normally know what makes for improvement of economic welfare, and would be prepared to act on better information if it could be provided. If economists did not customarily accept this assumption, their work on economic policy would have to be oriented entirely differently; in particular, research on commercial policy would – depending on the theory of government adopted – be concerned with inferring from actual tariff structures either the divergences between social and private costs and benefits discovered by the collective wisdom of the legislators to exist in the economy, or the political power of various economic groups in the community, as measured by their capacity to extort transfers of income from their fellow-citizens.

III The two propositions

With the preliminary definitions, assumptions, and observations established, I turn to the main theme of the paper, the two propositions concerning optimal government intervention in the presence of domestic distortions. The first proposition, that the correction of such distortions does not require intervention in the form of taxes on international trade (taxes here include negative taxes or subsidies), follows directly from the well-known first-order marginal conditions of Pareto optimality. These conditions specify that the marginal rate of substitution between goods in consumption should be equal to the marginal rate of transformation between goods in production, and in an open economy include transformation through international exchange as well as transformation through domestic production. It follows that any distortion that prevents market prices from corresponding to marginal social rates of substitution or transformation should be corrected by a tax, a subsidy, or a combination of taxes and subsidies that restores the necessary marginal equalities; for simplicity, it is convenient to consider the simplest remedy, a tax or subsidy imposed at the point where the distortion occurs. Where there is a distortion in foreign markets, owing to imperfectly elastic foreign demand or supply, Pareto optimality requires the imposition of taxes on trade designed to equate the domestic price ratios facing producers and consumers with the marginal rates of transformation between commodities in international trade – that is, the imposition of the optimum tariff structure.[8] In the case of domestic distortions, Pareto optimality requires the imposition of taxes or subsidies on consumption, production, or factor supply, as the situation requires.

Where externalities in consumption make social marginal rates of substitution diverge from private, taxes or subsidies on consumption are required; where external economies in production exist, or where monopolistic influences raise prices above marginal costs, marginal subsidies on

[8] It should perhaps be emphasized that the welfare being maximized is the national welfare, and the distortions in question are distortions only from the national point of view. Also, tariff retaliation by other countries does not necessarily prevent a country from gaining by the imposition of an optimum tariff structure; see my "Optimum Tariffs and Retaliation", *Review of Economic Studies*, XXII (2), No. 55 (1953-54), 142-53, reprinted in H. G. Johnson, *International Trade and Economic Growth* (London: George Allen & Unwin, 1958), chap. ii.

production are required, and where external diseconomies are present, marginal taxes on production are required; and where the price of a factor in a particular occupation exceeds its price in other occupations by more than can be accounted for by the nonpecuniary disadvantages of that occupation, a subsidy on the use of that factor in that occupation is required. The point of central importance is that the correction of domestic distortions requires a tax or subsidy on either domestic consumption or domestic production or domestic factor use, not on international trade.

The imposition of any tax or subsidy on international trade, other than what is indicated by the optimum tariff analysis, for the purpose of correcting a domestic distortion, itself introduces an inequality between either the marginal rate of substitution in domestic consumption or the marginal rate of transformation in domestic production and the marginal rate of transformation in foreign trade, and so constitutes a violation of Pareto optimality. A tax on luxury imports, for example, designed to discourage an undesirable demonstration effect and therefore to correct an external diseconomy of consumption, permits the marginal rate of transformation of domestic resources into the importable good in question to exceed the marginal rate of transformation through foreign trade. A tax on imports or subsidy to exports of goods subject to external economies or monopolistic pricing in domestic production, designed to offset these distortions, makes the relative marginal cost of these goods to consumers higher than their marginal cost to the economy. Since the offsetting of domestic distortions by taxes or subsidies on trade necessarily removes one distortion at the expense of introducing another, interventions in international trade introduced for this purpose cannot lead to a situation of Pareto optimality. Consequently, tariffs and other trade interventions justified on grounds of the existence of domestic distortions cannot lead to the maximization of real income. The only forms of intervention that can do so are interventions that offset the existing distortions without introducing new distortions; such interventions are confined to taxes and subsidies on domestic consumption, production, or factor use.

The second proposition, that taxes or subsidies on international trade designed to offset domestic distortions will not necessarily increase economic welfare by comparison with the free trade situation, is a direct application of the theory of second best developed by Meade, Lipsey and

Lancaster, and others.[9] One implication of that theory is that it is impossible to predict on *a priori* grounds – that is, without comprehensive empirical information on the tastes and technology of the economy – whether the substitution of one violation of the Pareto optimality conditions for another will worsen or improve economic welfare. Since the use of intervention in trade to offset domestic distortions necessarily involves precisely this kind of substitution, it is impossible to say whether the result will be an improvement in welfare or not. For example, in the consumption externality case mentioned above, free trade produces the result $MRT_d = MRT_f > MRS$; and an import tariff produces the result $MRT_d > MRT_f = MRS$. In the case of external economies in production or monopolistic pricing, free trade produces the result $MRT_d < MRT_f = MRS$, and an import tariff produces the result $MRT_d = MRT_f < MRS$. In the case of a distortion in the market for factors, there are additional violations of the Pareto optimality conditions in the factor markets under both free trade and protection.[10]

The remainder of the paper is concerned with illustrating these propositions by reference to various arguments for protection. For this purpose, it is convenient to follow the general outline of Haberler's classic article,[11] modified to include fuller treatment of the arguments emphasized in the recent literature on underdeveloped countries, and to divide the arguments for protection into four groups. These are: arguments derived from immobility of factors and downward rigidity of factor prices; arguments derived from distortions in commodity markets; arguments derived from distortions in factor markets; and the infant industry argument. The first class of argument, to which Haberler devoted considerable space, grew out of the unemployment problem of the 1930's and the associated revival of protectionism. The second includes both the classical problems of external economies and diseconomies, and the problem of monopolistic distortions to which considerable attention was

[9] See J. E. Meade, *Trade and Welfare* (London: Oxford University Press, 1955), and R. G. Lipsey and K. Lancaster, "The General Theory of the Second Best", *Review of Economic Studies*, XXIV, No. 63 (1956-57), 11-32.

[10] MRS symbolizes marginal rate of substitution in domestic consumption, MRT_d marginal rate of transformation in domestic production, MRT_f marginal rate of transformation in foreign trade; all of these are defined in terms of the amount of the export good given up in exchange for a unit increment of the import good.

[11] "Some Problems...", pp. 223-40.