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THE POLICY OF STATE INTERVENTION IN THE ESTABLISHMENT AND DEVELOPMENT OF MANUFACTURING INDUSTRY IN SOUTH AFRICA

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To my dear parents

ABSTRACT

Since the initial research was begun on this dissertation, the role of intervention by the State in the economic affairs of a country has assumed renewed topicality. While much of the impetus for this interest in the subject can be related to the bicentennial anniversary of the appearance of 'The Wealth of Nations', the emergence of certain political and economic problems in the South African context has been responsible for the increased controversy in this country. While recognising that the field of state intervention in the South African economy is so widespread and its effects, in many cases, so indirect that detailed and objective analysis of every avenue of intervention is impossible within the confines of the present study, the researcher has attempted to analyse the effects of the State's policy of intervention (in the form of industrial protection) on industrial growth in South Africa. This has been done in an endeavour to relate how some of the current economic problems faced by the country can possibly be attributed to such policy.

The method involved in the study consists initially of an attempt to justify economic intervention by the State. Applying this rationale to the policy of industrial protection in South Africa after the first quarter of this century, the conclusion that emerges, is that, although much of the initial arguments for protection were clouded by political considerations, there were several important economic arguments for industrial diversification that warranted the State protecting certain industries. It appears highly unlikely that secondary industry in South Africa would have grown to the extent that it did, after the first quarter of this century, in the absence of the tariff and other protective policies followed by the State. Similarly, it can be argued, that many of the problems that recently have manifested themselves would not have occurred

were it not for the persistence and continuation of such policies beyond the initial period.

Growth in secondary industry continued on a rapid basis until the nineteen sixties after which there was a levelling off and the economy began to suffer severe unemployment problems coupled with persistent deficits in the current account of the balance of payments. The study attempts to analyse these problems according to the type of protective policies pursued by the State during this period. The pattern of tariff protection in South Africa is analysed both on a historical basis, (according to various investigations into such policy over time) and on an effective basis (according to two recent attempts at this type of measurement that have recently become available). In addition, the study attempts to relate the predictions of some of the theoretical literature on effective protection and patterns of industrialization to the South African situation. The broad conclusion that emerges is that the nature of protective policies in South Africa appears to have been such as to have induced a specific type of import substitution which although initially responsible for high levels of growth is presently proving restrictive. In addition, one can attribute the importation of vast amounts of capital goods as well as the lack of exports of manufactured goods to such policies.

The major recommendation that emerges from the study is that, given the present situation in South Africa, a possible way for the country to recover from some of its present problems as regards unemployment and balance of payments difficulties is for the State to modify its protective policies. In addition, it is suggested that this modification be framed in such a way as to increase the level of tariff protection on more intermediate stages of the productive process. While this may encourage a greater amount of import substitution at these stages it may well induce

local producers to substitute labour for capital and thus reduce the heavy reliance on imported capital goods that appears to be characterising local production. By encouraging the use of one of the country's most abundant resources, viz. labour, the country may yet develop a considerable comparative advantage that may facilitate exports of manufactured goods.

DECLARATION

I herewith declare that this thesis is my own work and has never previously been submitted to any other university.

Harry Zarenda

University of the Witwatersrand
Johannesburg, May, 1977

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CHAPTER I

THE CONTRIBUTION OF ECONOMICS TO THE ANALYSIS OF POLICY IN FREE-ENTERPRISE ECONOMIES

1.1 The nature of Economics and a definition of economic policy

The economic analysis of policy has been a relatively new development in the subject matter of Economics. This may be explained by a number of reasons. The preoccupation with 'laissez-faire' philosophy, coupled with the Jevonsian positivist revolution, ensured that any discussion of the duties of the state tended to be left out of economic theory during the nineteenth century. In the twentieth century, as the nature and extent of state intervention in economic affairs has grown, particularly since the Great Depression, an increasing need arose to incorporate this aspect into economic theory. Although economic theorists in this period became aware of the importance of analysing policy measures, there was a tendency to concentrate their analysis on specific measures rather than examine policy in totality. This tendency can be attributed to the continual practice of various text books in the subject to analyse individual policy measures associated with specific problems, e.g. full employment, inflation, balance of payments problems etc. In addition, as Robbins so aptly pointed out, 'it follows from the very nature of a science that until it has reached a certain stage of development, definition of its scope is necessarily impossible'(1). This is true of the study of economic policy.

Pioneering work in the field of the theory of economic policy has been most comprehensively performed by several Dutch economists such as Tinbergen, Kirschen and others. In order to appreciate fully the role of an economist in analysing policy, one should start by describing the nature of economic

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(1) L. Robbins, The Nature and Significance of Economic Science, London: Mac Millan, 1935, p.2.

science. 'Economics is concerned with that aspect of behaviour which arises from the scarcity of means to achieve given ends'(2). Because the subject matter deals with the behaviour of animate objects, with humans having free wills and desires, one has to extract stable responses. The economist, in order to be scientific, ought to base his conclusions on factual evidence. Central to the economist's approach is a conceptual scheme, a hypothesis or preliminary conclusion. This is based on some ideology or on what Joan Robinson refers to as a 'metaphysical proposition'(3). The ideology itself is not scientific in that it is incapable of being tested, but provides a 'quarry from which hypotheses can be drawn'. They do not belong to the realm of science and yet they are necessary to it. Without them we would not know what it is we want to know(4). In other words ideology provides a foundation for establishing order for a vast array of facts. A theory is then used to impose order on observation, to explain how things are linked together.

Theory attempts to explain the relationship or regularity between two or more observations, and one of the important practical consequences is that it enables one to predict as yet unobserved events. It is essentially this predictive power that determines the success or otherwise of a theory. In the construction of a theory, economists should exercise extreme caution. They must, as best they can, allow the evidence to determine the validity of what they think may be true. They must not let their perceptions influence or manipulate the evidence, nor must they interpret the evidence in such a manner that value judgements influence their conclusions. In other words, economists should adopt a positive approach. Without the possibility of controlled experiment, economists have to rely on the interpretation of evidence in order to test a theory. There is the inherent danger that as a result of interpretation frequently

(2) L. Robbins, op. cit., p.3.
(3) J. Robinson, Economic Philosophy: Penguin 1973, p.9.
(4) J. Robinson, loc. cit.

involving judgement, judgement may in turn be coloured by prejudice. It is essentially in the relatively new field of the theory of state that one frequently finds this prejudice manifesting itself. Academics, determined to criticize or justify certain actions of State, often are guilty of allowing their passions or normative judgements to predominate.

In essence, Economics turns out to be 'the elucidation of the implications of the necessity of choice in various assumed circumstances'(5). Economic policy, in its broadest sense, can be said to refer to the whole subject matter of Economics. The term indicates certain acts of behaviour that are applicable to individuals, firms and certain institutions. It consists of 'the deliberate manipulation of a number of means in order to attain certain aims'(6). Thus the individual, in deciding or choosing how to allocate his income, in order to attain the greatest satisfaction, makes a policy decision. Similarly, a firm, in deciding on the use of factor inputs to maximize profit, makes a policy decision. The attainment of these aims is based on the maximization of an individual ophelimity function(7). In the same way, when economic policy is used in the context of certain organisational groups such as trade unions, agricultural or industrial organizations etc., there is indirect reference to a collective ophelimity function viz., the maximization of certain objectives pertaining to these organizations. In its narrowest sense, economic policy refers to Government and to actions in the economic field. Economic policy, therefore, is the economic aspect of Government policy in general: it is the intervention of Government in economic affairs in order to further its

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(5) L. Robbins, op. cit., p.83.,

(6) J. Tinbergen, Economic Policy, Principles and Design. Amsterdam: N.H.P.Co 1956

(7) The term 'ophelimity' was originally used by Pareto in his 'Principles', as a substitute for 'utility'. The purpose of the substitution was to avoid the metaphysical aura surrounding 'utility'.

aims. In pursuit of these aims, Governments have tended to set themselves certain specific objectives which can be stated in economic terms, and which, in principle, are capable of measurement (either ordinal or cardinal)[8].

Thus choice is involved in economic policy, in that a decision has to be made about ends or objectives and the means for attaining these. The logic of finding the best economic policy, that is, of finding the extent to which certain means should be used in order to achieve certain aims, is, in a sense, an inversion of the logic to which the economist is accustomed. The task of economic analysis is to consider the data (including the means of economic policy) as given or known, and the economic phenomena and variables (including the aims of ecomomic policy) as unknown[9]. In this, positive Economics has a distinct role to play. It has to remain neutral as between ends, but assuming neutrality, does not imply that economists should not deliver themselves on ethical questions any more (as Robbins expresses it) than botanists should not have views of their own on the lay out of gardens[10]. Even though Economics cannot help solve differences about the ends of policy, scientific analysis can help resolve differences about means to attain these ends. Economic analysis enables one to be aware of the implications of the alternatives. When one speaks of rationality in choice one must, in whatever sense the term "policy" is used, have complete awareness of the alternatives rejected. In other words, economic analysis can help judge the consistency of the aims assumed as well as the combination of aims and means. By detecting inconsistencies it may narrow down possibilities and thus contribute to a solution. Thus there is scope for the objective analysis of economic policy, despite the tendency of the nature of the science to be fraught with some of the difficulties mentioned above. It is possible, in other words, to conduct scientific enquiry into the nature of economic policy.

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(8) E.S. Kirschen, Economic Policy in our time . Amsterdam: N.H.P.Co. 1964

(9) J. Tinbergen, op. cit., pp.8 and 9.

(10) L. Robbins, op. cit., p.150.

1.2 The objectives of economic policy

The distinctive characteristic of economic policy, as defined in the most specific context, refers to action on the part of Government to attempt to improve the collective welfare of a community. Kirschen[11] divides these objectives into mainly short and long-term categories. It is obvious that these objectives change over time, and the classification does not imply any order of priority. Furthermore, there is no clear cut distinction between short and long-term objectives and, in fact, each of the "short term" objectives have implications for the longer time period. The short-term objectives include:

a) Full employment, i.e. the reduction of cyclical unemployment in the short-run, as well as a longer-term objective of reducing structural and frictional unemployment.

b) Price stability:- the longer-term implication of this policy objective is that if not held in check in the short-run, inflation introduces structural distortions in the economy.

c) The improvement in the balance of payments:- to protect gold and foreign exchange reserve in the short-run, while in the longer run to attempt to change the proportion of expenditure on exports and imports.

The longer-term objectives are:

d) A constantly rising output and income over time.

e) Better allocation of factors of production:- incorporating the promotion of competition and co-ordination, increasing mobility of labour and capital within countries and the promotion of internal division of labour.

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(11) E. Kirschen, op. cit., p.5. et seq.

f) The satisfaction of collective needs, including essentials such as general administration, the provision of defence, education and public health, and the carrying out of a policy of international affairs.

g) Improvement in the distribution of income and wealth:- implying better living conditions for the less privileged members of a community.

h) Protection and priorities to particular regions or industries:- this arises from the problems connected with over-concentration of industries on a geographical basis and the excessive reliance on a limited number of industries within a country.

i) Improvement in patterns of private consumption:- attempting to deter people away from excessive consumption of alcohol or tobacco.

j) Security of supply;- implying the safeguarding and provision of essential materials.

k) Improvement in the size and structure of the population:- guarding against overpopulation or having too large an unskilled working population.

l) Reduction in working hours:- this does not necessarily imply a lowering in productivity, but an increase in welfare, to the extent that the working population is more content and enjoys more leisure. Perhaps the qualification could be added that the community works harder but for a shorter period of time.

Kirschen emphasizes that the classification is arbitrary and the objectives are not independent of one another. The concept, 'improvement', is used from the point of view of Government. The characteristic feature of these objectives is that they are all framed in terms of improving the general welfare of the community.

1.3 The instruments of economic policy

In contrast to the choice of objectives which are characterized by their relationship to a general social welfare criterion, the choice of instruments ought to be selected on some rational criteria of efficiency and cost. Governments, in choosing instruments, ought to seek the optimum combination of maximum social return and minimum social cost. In spite of the authority of Government being centralised in carrying out these instruments (which is a decided advantage if one were to compare this to a situation where various separate institutions were to implement separate aspects of policy), it is essentially in this area that an economist discovers difficulties in analyzing policy. Firstly, utility and costs are not easy to measure within a national framework. Furthermore, one should realize that policies designed to fulfil one objective often have an effect on other objectives and one must bear this interdependence in mind when considering various aspects of policy. A further difficulty manifests itself when one realizes that the analysis of instruments frequently brings conflicting interests into the picture. Thus, while objectives are generally considered to be beneficial, the implementation of instruments often exhibits opposing effects on the interests of different social and economic groups in a country. Theoretically, the choice of instruments ought to be consistent with the need to distribute equitably the cost of these instruments between different economic and social groups. But each group, having their own self-interest in mind, will instinctively prefer certain instruments to others. This factor will not fail to influence the choice of instruments, while the need to maintain national cohesion will limit the use of certain instruments.

The role of the economist in such circumstances will be to attempt to analyze the effects of these instruments on the stated objectives and, with the aid of scientific analysis, the analyst has a definite function

to perform in advising whether one instrument is preferable to another in the attempt to achieve a particular objective, in spite of the difficulties mentioned above. Through the use of statistical method, economists can predict with a reasonable degree of accuracy the consequences likely to arise from implementing a particular policy measure. The economist is not in a position to say whether the Government is right or wrong in introducing a measure to achieve a stated objective, but can say that one measure may, in certain circumstances, be preferable to another in that its effects on the public at large are likely to be less harmful.

Kirschen[12] distinguishes between the following sets of instruments:

a) Public finance - including instruments such as the Government balance, Government expenditure and revenue and Government debt

b) Money and credit - including instruments such as interest rates, credit control measures etc.

c) Exchange rate - referring to devaluations and revaluations of currency.

d) Direct controls - dealing with import and exchange controls, immigration, trade and wage controls etc.

e) Institutional controls -involving instruments such as tariffs, subsidies taxes, selective credits etc.

Within this framework, one can distinguish numerous instruments and apply these to various objectives, in an endeavour to select the optimum combination of instruments to achieve a certain policy objective. In theory, one can, by looking at empirical studies on the effects of these instruments in various countries at different stages of development, assess which instruments are more successful than others, in attaining certain objectives. However, one also detects, in such analysis, that there exists a vast amount of interdependence between different policy instruments. A policy measure, designed to fulfil one policy objective, has a definite effect on other policy objectives, in that it either helps achieve or

(12) E.S. Kirschen, op. cit., p.3.

conflicts with other objectives. This important factor tends to make the analysis of policy instruments on specific objects a difficult exercise, and emphasizes that the approach to the study of economic policy be treated as a coherent entity and not, as is the tendency in many textbooks on the subject, as a study of specific components. Economists should take into account the totality of various measures and emphasize the conflicting nature inherent in the implementation of these measures.

Thus the economist can contribute to the analysis of policy in the following way: by studying the available evidence, the economist can possibly predict the outcome of various government actions. Equally important, while it is possible to quantify objectives, an economist can comment on the reality of these objectives, and the possible consequences of the instruments used to attain these objectives. The ability of the economist to assess this within a total framework, incorporating a more dynamic or general equilibrium approach, places the discipline ahead of other social sciences that attempt often to assess the merits of aspects of Government economic policy. In fact, several other social science have exhibited their shortcomings by attempting to isolate the effects of one policy measure on the social system(13).

Frequently, these social scientists oversimplify the complex issues at stake and allow value judgements to predominate their conclusions(14). By virtue of their limited knowledge of Economics and the scientific method involved in the subject, students of other disciplines simply try to relate the effects of, for example, tariffs on the political structure, thus neglecting to mention the possible side effects that tariffs exert on other objectives, or the way in which other instruments affect a particular objective.

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(13) Examples of this are evident when one considers the present debate on the validity of a Neo-marxist approach to economic development.

(14) This criticism of the revisionist school is well illustrated in an essay by Harrison M. Wright., The Burden of the Present: Liberal-radical controversy over Southern African History, Cape Town: David Phil'p, 1977, pp. 95, 96.

1.4 The justification for state intervention

Having demonstrated how economic theory can be used in analyzing public policy, one can now attempt to explain the economic justification for state intervention in a free enterprise economy. It should be realized that, when discussing policy, one implies that there exists an authority to carry out policy and in terms of the most specific definition of economic policy, the authority is the State or Government.

Over time, and during the past few decades in particular both the nature and extent of state intervention have increased considerably.

Partial evidence of this is presented by statistics on government expenditure in that country which is presumed to epitomise the free-enterprise economy, viz. the United States of America. As recently as the early 1930's, total US government expenditure barely amounted to 10 per cent of net national expenditure; by 1940 it had increased to 25 per cent; by 1950 to 29 per cent and by 1970 to 42 per cent[15]. Although these figures are important it should be pointed out that the size of the public sector does not by itself indicate the extent of state control of the economy. As Hayek maintains in referring to Germany in the late 1920's, once the state controls directly a certain proportion of activities (approximately 50 per cent of national income), indirect control of almost the whole economic life of the nation is exerted[16]. The fact of the matter is that statistics on expenditure do not take into account the vast amount of indirect controls exerted in many countries by governments.

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(15) E.J. Mishan, 'On the Road to Repression and Control', Encounter, July 1976. p.6.

(16) F.A. Hayek, The Road to Serfdom. London: George Routledge and Sons Ltd., 1945.p.45

Even during the period when writers on the subject were advocating a system of laissez-faire, reference was made to several duties of Government that were considered necessary and proper for a well-operated state. Despite these duties having increased vastly recently, many liberally-minded economists today regard some of the extended duties as essential. Milton Friedman comments on the changing nature of liberalism over the past few centuries[17]. During the early nineteenth century, liberalism emphasized freedom as the ultimate goal and the individual as the ultimate entity in society. The concept of laissez-faire was regarded as a means of reducing the role of the state and extending the role of the individual. During the late nineteenth century and early twentieth century liberalism came to be associated with a readiness to rely primarily on the state rather than on private arrangements to achieve desirable objectives. Thus the earlier liberal regarded an extension of freedom as the most effective way of promoting welfare and equality. The twentieth-century liberal regards welfare and equality as prerequisites, or alternatives, to freedom. 'In the name of welfare and equality, the twentieth-century liberal has come to favour a revival of the very policies of state intervention and paternalism against which classical liberalism fought'[18].

Before enquiring into the reasons why there has occurred a practically universal acceptance for intervention by the state in economic affairs, it is worthwhile citing some of the works of writers in the earlier period. These authors considered obvious items such as defence, police enforcement, postal services and education as the only areas for state intervention. The whole philosophy of the early laissez-faire advocates rests on the proviso that the activities of Government be drastically circumscribed. An example from the most influential of the advocates of laissez-faire,

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(17) Milton Friedman, Capitalism and Freedom, Chicago: Univ. of Chicago Press, 1962

(18) Milton Friedman, op. cit., p.5.

Adam Smith, is well-representative of this type of philosophy. Smith[19] argues that as long as there is no violation of the laws of justice, when individuals are left free to pursue their own interests in their own way, the state is discharged from a duty of controlling the industry of private people and directing it to those areas that would be of the greatest benefit to society. The state has neither the wisdom nor know-how to ensure this objective. In fact, according to Adam Smith, the only duties that should be ascribed to the state involve protecting the society from violence and invasion by other societies, protecting each member of a society from injustice and oppression, and thirdly, erecting and maintaining certain public works and institutions which individuals would not interest themselves in, because of the costs and limited profits involved.

Other early writers such as H. Storch and J.B. Say[20] refer in similar terms to the role of State but their arguments specifically refer to the divergence between private and social gains and as such can be considered to be precursors of welfare economics. J.S. Mill outlined this divergence forcibly when he wrote, 'It is greatly the interest of the community collectively and individually, not to rob or defraud one another; but there is not the less necessity for laws to punish robbery and fraud; because, though it is the interest of each that nobody should rob or cheat, it is not any one's interest to refrain from robbing and cheating others when all others are permitted to rob and cheat him. Penal laws exist ... chiefly for this reason, because even a unanimous opinion that a certain line of conduct is for the general interest, does not always make it people's individual interest to adhere to that line of conduct'[21].

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(19) Wealth of Nations. Book IV. Chp IX. Methuen & Co Ltd., 5th Ed., Edited by Edward Cannan, pp.184,185.

(20) See W.J. Baumol, Welfare Economics and the Theory of the State 2nd Ed., London: G. Bell & Sons Ltd: 1965: pp.186-188.

(21) J.S. Mill, Principles. Book V. Chp X. Section 12. Longmans Green and Co. 1926. pp. 966.

It was essentially through the writings of Fredrich List[22] in the mid-nineteenth century that the most forceful pleas for intervention of the State in the national interest were made. Implicit in List's arguments were the divergencies between individual and state interests. List, although agreeing with the broad laissez-faire philosophy, emphasized that this was valid only in the context of "equal" nations. List differed from Adam Smith in that the latter stressed the belief that what is best for all nations must be best for each nation, or alternatively phrased, cosmopolitical and national interests always should coincide. List strove to define a policy beneficial to a single nation viz. Germany, and so individual interests would best be served if the national interest was served. These two diverged as well on the concept of capital. Smith, in the 'Wealth of Nations', tended to narrow capital to a purely material form, whereas List's conception includes mental capital i.e. all the discoveries, improvements and perfections of those generations that had lived before. Using this idea of productive capital List expounded a theory of development. Society tends to pass through 'several degrees of culture' - savage, pastoral, agricultural, agricultural-manufacturing and finally a commercial stage. The latter stage referred to highly-developed countries. List argued that the way to attain the final stage was to establish manufacturers which, according to him, developed 'the moral forces of the nation', utilized a country's products to a better extent, provided an impetus for agriculture and created labour and capital. He concluded that it deserved introduction even at the expense of a temporary loss because of the impetus given to future production. List thus showed that intervention was justified on a rational basis, for, if there was no intervention, the degree of supremacy of powers like England in the early nineteenth century could only ensure that other nations e.g. Germany, would become mere providers of food.

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(22) F. List, The National System of Political Economy. Translated by S.S. Lloyd. London: Longmans and Co. 1904. The original was written in 1841.

The general effect of List's writings was to emphasize the importance of a national as opposed to an individual standpoint. The results of the positivist revolution in the late nineteenth century tended to direct various writers in Europe to shy away from ethically normative discussion, such as it was believed was necessarily evoked in discussion of the duties of the state, and it was left to followers of Welfare Economics to later take over to some extent the analysis of the economic functions of Government[23]. Baumol's work probably represents the most lucid discussion of Welfare Economics and the theory of the State. Perturbed by the fact that the writings of early authors (even though these showed an awareness of those functions that should not be entrusted to private enterprise)were arbitrary in the selection of these areas , Baumol attempts to define 'which .... are the circumstances in which the people composing an economy will find that a particular extension of the authority of their government is requisite for the most efficient [illegible] t of their own interests'[24].

Baumol's analysis is couched in terms of the formal welfare maximizing function, namely that if the activity of members of a group can be changed in such a way that it will further the economic well-being of some of its members, without at the same time adversely affecting any of them, then welfare maximization has not been achieved and the situation is capable of improvement. The question revolves around situations where individual and group interests diverge. In these instances there appears justification for intervention and thus improvement. Baumol cites an example of military training in this regard. From an individual point of view, failure to contribute may be rational. Coercion in such a situation

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(23) W. Baumol, op. cit., pp.194 and 195.

(24) W. Baumol, op. cit., p.51.

is in the national interest - thus it becomes the task of Government to override the decisions of the market. This is not due to the Government believing that people are not competent of judging, but rather that the market fails to provide machinery for these decisions to be given effect. In other words, any particular extension of the power of Government, although it presumably involves restriction of choice and decision, will not necessarily affect the persons governed disadvantageously. This is in spite of the possibility that in the absence of such restriction each person might have pursued the course most beneficial to himself under the circumstances. It is essentially in those cases where the welfare of the various members of a society is partly dependent on each others' activity that the possibility exists that persons in pursuit of their own interests will be led to act in a manner contrary to the interests of others. In this sense it may be to the advantage of a society to prevent this happening, and if society is unable to do so, there is a valid case for coercion.

This may well sound paradoxical, for one might argue that coercion by itself, or enforced modification of individual behaviour, must necessarily be disadvantageous. As Baumol argues, the dichotomy between restriction and non-restriction is misleading. The essence of restriction is that it be universally applied and no-one should be exempt. This is preferable to restriction on the activities of every individual, but one. In the choice between non-restriction and uniformed restriction, it may well pay a person to submit to a coercive arrangement which prevents him from harming the other members of a group, provided the others are also forced to desist. Thus, as Lombard states, the case for state intervention in modern times arises, not because of the rejection of individual liberty, but because there is no guarantee that the market mechanism will produce the kind of goods and services in the magnitudes thought possible and desirable by

the community. What is relevant, when an economist argues in favour or against state interference, is the economic norm that benefits exceed costs to the appropriate decision maker. If the decision maker be the state, the measurements and definition of benefits and costs should apply to the society as a whole and not to certain individuals within the society(25).

The list of objectives listed previously are characterized by the fact that each of these are related to some general community welfare function in the sense that the nation as a whole is better off if these are achieved, and also, there is no guarantee that the market mechanism, if left alone, if no coercion or intervention by the state were introduced, could possibly achieve these. Furthermore, as was unfortunately shown during the Great Depression, the needs of society are too important to be left to the workings of the market mechanism. Thus conscious decision appears preferable to blind reliance on automation and, as Van Biljon(26) forcibly argued in 1938, conscious decision should be used to supplement the forces behind supply and demand when these produce wrong results.

The Depression and the Keynesian revolution served to establish the justification for state intervention and as various countries throughout the world emerged and developed into more industrialized societies, while the Governments of more developed countries strove to satisfy their electorates, there arose increasing justification for State intervention to satisfy a newly-founded national desire. Indeed, the term 'political economy' has assumed a new meaning in the present time.

1.5 The protection of industries - economic arguments

The arguments for public policy in protecting industries are forceful and conform with the criteria for state intervention listed in the previous section. In the absence of deliberate policy, the market mechanism could not guarantee that diverse industrial expansion would occur in a country.

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(25) J.A. Lombard, 'Planning and the Market Mechanism: an assessment' S.A.J.E. 39(2); 112-122, June 1971

(26) F.J. Van Biljon, 'State interference in South Africa, London, P.S. King & Sons Ltd, 1939'

One should remember that as an economist one cannot, at this stage, conclude whether the goal of industrial expansion is in fact a desirable objective. One can analyse the motives for this expansion, whether expansion is feasible and whether the means used to achieve this expansion are consistent with other objectives of policy for each country. However, one cannot doubt the attraction for a policy of stimulating industrial growth in various countries. In listing these, one forms a first impression that several generally-accepted policy objectives appear to be fulfilled by the protection of industries, if protection is successful.

a) Industrial protection encourages diversification

Apart from the national pride engendered in a relative state of self-sufficiency, the diversification of industries diminishes the reliance of a country on the export of a few commodities. This reason underlies the attempts of many less developed countries to develop a broadly-based manufacturing sector. Once more, one may argue that the market mechanism of supply and demand on a world basis could severely reduce the prices of various commodities, and if a country is heavily reliant on a particular commodity, the price of which has shown a sharp decline, chaos may result. This was one of the factors influencing the decision of the Pact Government to pursue a policy of protection for industries in South Africa in 1924. Gold being a wasting asset, they argued, the future of the country rested on industrial diversification. More recently, much of the arguments for diversifying exports from South Africa to include beneficiated materials and manufactures, stressed e.g. in the Reynders Report on foreign trade in South Africa,

are framed in terms of the need to diversify and reduce dependence on one or two commodities(27).

b) Industrial protection stimulates growth

The process of industrialization and diversification frequently begins with the substitution of local for previously imported goods. Initially, goods at their final stages of production are manufactured locally, and over time, producers, aware of the backward and forward linkage effects induced, expand production to various intermediate processes. The overall effect of these induced effects is an increase in the growth rate in the country, if the policy is successful(28). The later chapters of this work deal with this aspect in detail.

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(27) In this connection see the Report of the Commission of Inquiry into the Export Trade of the Republic of South Africa, R.P. 69/72, Tables 2/11 and 2/12, p.46. In 1970 more than 60 per cent of the value of total merchandise exports (excluding gold) comprised exports of mining and agricultural products. The largest contributors were diamonds (16,7 per cent), wool (5,2 per cent), fruit (5,6 per cent), copper (8,1 per cent) and maize (2,8 per cent). Exports of raw materials amounted to approximately one-third of the value of total exports (excluding gold). While the proportion of exports of final manufactured goods to the total was approximately 20 per cent, a large amount of these was derived from agriculture and mining i.e. exports of gold coins, jewellery, canned fruit, beverages etc.

(28) For a detailed exposition of this see A. Hirschman, Strategy for Economic Development. New Haven and London, Yale Univ. Press. 1958. For a specific illustration of the relationship between import-substituting industrialization and growth in South Africa see T.A. du Plessis: 'The Industrial Growth Pattern and the Real Forces of Economic Expansion in South Africa, 1916/17-1956/57'. Doctoral thesis, Unisa, Pretoria 1965.

c) The promotion of industries increases employment opportunities

As industrial diversification expands, the population in any country will find ever-increasing employment opportunities. The working population can become skilled and specialist in various types of industry. Once more, one can relate this to conditions prevailing in South Africa prior to 1924. The emergence of the 'poor-white' problem encouraged the Pact Government to pursue an active policy of industrial expansion to offer these people opportunities for employment. Whether these measures proved successful in the context of South Africa is difficult to assess. One of the reasons for this is that it is not possible to gauge what the situation would have been in the absence of protection. Furthermore, as the Report of the Economic and Wage Commission pointed out at the time, protection, if it leads to the creation of new industries, tends to divert to those industries labour, capital and enterprise that would have been applied elsewhere and from industries which had already proved their efficiency(29). Industrial protection in South Africa during the early period was responsible for the emergence of a skilled White working population and this conformed with the Government's policy of solving the 'poor-White' problem. As the opportunities for acquiring skills are more prevalent in secondary industry compared to primary industry, this was undoubtedly a strong reason for the appeal that protection had during the early years of industrialization in South Africa.

The effects of depression served to emphasize the benefits of industrialization. Those countries that had been industrializing rapidly prior to the depression, were not as adversely affected as others.

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(29) Report of the Economic and Wage Commission (1925) U.G. -14-'26. pp. 79 and 80, par. 294. See also D.J.J. Botha 'On Tariff Policy: The Formative Years,' South African Journal of Economics, Vol. 41(4) Dec. 1973, pp. 339-342.

d) Industrial expansion can reduce imports and dependence on other countries

Apart from the national pride aspect, industrial expansion, it is generally held, helps improve the balance of payments in a country by reducing imports and encouraging inflows of capital. The argument in this connection is that measures designed to encourage industrial growth in a country, such as tariff protection or subsidization, may effectively reduce imports, and because of the stimulus to growth offered, may induce foreign-owned parent companies to produce goods locally that were previously imported into the country. In this way there is likely to be positive effect on the balance of payments in the protected country. Whether, in fact, there is this beneficial effect, will be debated later. As will be shown, the effects are complex.

As far as reducing the dependence of one country on other countries is concerned, the argument is more straight forward. The prevention or reduction in supply by a foreign supplier of an essential raw material or industrial good can have a deleterious effect on an economy.

1.6 Summary and outline of other chapters

The purpose of this chapter was two-fold. Firstly, to define the role that Economics can perform in interpreting economic policy in a free-enterprise economy. The conclusion reached in this regard was that the analysis of policy decisions should be discussed within a total framework. The subject contributes to assessing the consistency of various aims of state and helps make one aware of various alternatives for achieving these. Having listed and described the accepted aims and instruments available to achieve these aims, an attempt was made to show the rationale for intervention by the state (as compared with a situation of non-intervention). Earlier writers on the subject limited these to certain avenues only and believed

that the actions of Government be severely circumscribed in the economic field. With the advent and increased sophistication of Welfare Economics the case for state intervention was framed in terms of a general community welfare criterion, and state intervention became justified and related to those areas of economic activity for which the market mechanism does not provide any guarantee that various objectives will be achieved.

The protection of industries to encourage industrial expansion, on first impression, represents a powerful application of this principle particularly as it appears that many of the arguments used to justify protection include reference to the attainment of other objectives. In Chapter 2 the history of protective policy in South Africa is traced. Such policy in South Africa became formalized in 1924 and although initially framed in terms of political and social considerations other than pure economic considerations, the various measures influenced the productive structure and helped establish secondary industry on a relatively large scale. In addition to the tariff, other forms of protection came into significance, particularly after World War 2, as a result of changing domestic and international conditions.

Chapters 3 and 4 analyse the implications of various instruments used to promote industrialization. Because many of these measures affect a country's trade with the rest of the world, these chapters discuss various instruments in the context of trade policy - thus enabling a widespread analysis of intervention and its consequences. Chapter 3 focuses attention on choices between various policy measures designed to achieve industrial growth. These are discussed in terms of welfare criteria. In Chapter 4 a greatly-improved method of assessing the influences of trade policy in terms of effective protection is used. This measures the extent of protection in terms of the value added in the production process rather than the traditionally-used nominal rate of protection which applies only

to final stages.

The structure of protection in many developing countries has strongly influenced the pattern of production in these countries. With the aid of the concept of effective protection one can explain this influence to a far better extent. In Chapter 5 a comparison between import substitution and export promotion as strategies for development is presented. In addition, the pattern of development in South Africa is examined. Chapter 6 deals with the measurement of effective protection in South Africa. In Chapter 7, the conclusions regarding the effects and implications of the policy of industrial protection in this country are discussed. In addition, suggestions are made as regards future policy requirements for more rapid growth in South Africa. Thus in addition to presenting a critical analysis of protective policy in South Africa, the work attempts to offer suggestions regarding ways in which the country can recover from its present deeply-rooted problems.

CHAPTER 2

PROTECTIVE POLICY IN SOUTH AFRICA

2.1 Introduction

In Chapter 1 an attempt was made to justify intervention by the state in the economic affairs of a community. The rationale for such intervention is justified in those cases in which the workings of the market mechanism does not guarantee the attainment of certain objectives. One of the most powerful applications of this principle applies in the case of the protection of industries to encourage industrial expansion and diversification. In addition, because the effects of such a protective policy incorporate several economic objectives, the appeal of such a protective policy is widespread.

In this chapter an attempt is made to show the evolution and history of such policy in South Africa. The South African economy has gone through a vast process of structural change during the past 150 years. The transformation from a low-income-yielding, primary production-orientated economy to an economy characterized by highly diverse secondary and tertiary production can be divided into several distinct phases according to a combination of fortuitous events and deliberate policy measures. Throughout the period, the economic development of the country was heavily dependent on foreign trade. Initially this comprised of exports of precious metals and even while the economy was becoming more broadly based and inward looking, the exports of metals and minerals fulfilled a vitally important role. Apart from this, the growth in manufacturing industry, patterned as it was by protective policy, has been the most characteristic feature of the past fifty years.

The watershed in protective policy in South Africa is dated to 1924 when a decisive change occurred as a result of the coming to power of a newly-elected Pact government. This marked the start of an upsurge in industrial growth in South Africa and the beginnings of an inward-looking policy. Since this period tariff policy, combined with other protective measures, have had a decisive influence on the structure of production.

To try and determine the actual extent that protection contributed to this growth is impossible, for one cannot predict what type of growth would have ensued in the absence of protection. In a later chapter the pattern of growth within various sectors is looked at in view of the protective structure. For the moment it will suffice to say that during the era of protection in South Africa, over the past sixty years or so, manufacturing industry outstripped primary activities i.e. agriculture and mining, and has become the leading contributor to Gross Domestic Product in the country. Table 2.1 which shows the percentage contribution to Gross Domestic Product (at factor cost) at 5 year intervals, illustrates how the manufacturing sector, which contributed only 3,8 per cent in 1911, had grown rapidly and, by 1970, accounted for more than the combined contributions of both agriculture and mining.

2.2 Production and protective policy before Union

Prior to the discovery of diamonds in 1867, production in South Africa was almost entirely based on agriculture. The principle types of industry to be found in the various colonies included wine, mohair, wool and various sheltered industries such as bakeries, wagon-making etc. in the Cape, sugar and tea in Natal, tobacco in the Free State, while the South African Republic was predominantly a pastoral community. Most of the physical and infrastructural development occurred at the coastal areas and there was, as a result of poor transport facilities, little trade between colonies. Because of the more settled conditions in the Cape Colony during this period most of

TABLE 2.1

PERCENTAGE DISTRIBUTION OF GROSS DOMESTIC PRODUCT AT FACTOR COST BY KIND OF ECONOMIC ACTIVITY, 1911-1974 (AT CURRENT PRICES)

YEAR	AGRICULTURE, FORESTRY AND FISHING	MINING AND QUARRYING	MANUFACTURING	OTHER
1911	21,1	27,6	3,8	
1915	18,6	22,0	5,7	
1920	22,2	18,3	7,3	
1925	20,1	16,1	7,7	
1930	14,2	15,6	9,3	
1935	14,1	19,6	10,7	
1940	12,7	18,8	12,4	
1945	12,4	13,0	15,3	
1950	17,7	13,5	16,4	
1955	15,5	12,6	18,3	
1960	12,3	14,2	18,7	
1965	9,9	13,1	21,9	
1970	8,3	10,3	24,2	
1974	8,9	15,0	23,1	

Sources: Union Statistics for Fifty Years
South African Reserve Bank, Quarterly Bulletin, March 1976.

the country's economic development was concentrated there. The Cape Colony had developed an appreciable export trade in wool, wine, hides and skins and grain. The export trade increased in value from £370,000 in 1834 to £1,330,000 in 1856[1]. This provided farmers in the Colony with incomes and enabled the importation of textiles, agricultural implements and other necessities. In the Colony at this time the number of country banks increased and there was considerable extension in internal transportation. Prior to 1831 there was only one bank serving in the Cape Colony - the state-owned Lombard and Discount Bank that was established in 1793. Between 1831 and 1836 a further 18 banks were established in the Cape Colony[2].

As regards transportation, the early 1860's witnessed the beginnings of a railway network in the Colony. Private contractors completed the line from Cape Town to Stellenbosch and from Salt River down the Cape Peninsula to Wynberg. By 1870 approximately 70 miles of what was to be South Africa's future railway network had been completed[3]. In addition there was a weekly coach service from Wellington to the Transvaal - a journey lasting approximately 10 days.

At the time of the discovery of diamonds, conditions were relatively favourable for economic development. In spite of agricultural depression in the latter half of the eighteen-sixties, there was a certain amount of political stability in each of the colonies. While the Cape and Natal were granted fiscal autonomy, the Transvaal and Free State were independent.

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(1) M.H. De Kock, The Economic Development of South Africa, London, P.S. King & Son, 1936, p.36.

(2) M.H. De Kock, op. cit.,

(3) D. Hobart Houghton and J. Dagut, Source Material on the South African Economy, Vol. 1, 1860-1899, Cape Town, Oxford University Press, 1972 pp. 15 and 16.

De Kock, in summarizing conditions in the various territories of South Africa just prior to the discovery of diamonds writes, 'The way had thus been prepared for the development of the agricultural and pastoral resources - the mainstay of the country. Banking and transportation facilities had been improved, new and better methods of agriculture and stock farming had been adopted, the population had been increased not only by a large excess of births and deaths, but also by immigration, the territory under European occupation had been considerably expanded, the aboriginal tribes had been almost completely subdued and brought under control, and considerable progress had been made in the direction of self government' (4).

The beneficial side-effects of the discoveries of diamonds and gold were numerous. Apart from the export earnings and vast capital inflows that ensued, a communications network to the interior was extended, a highly-skilled immigrant population was attracted and several subsidiary industries, such as explosives, engineering, footwear and cables etc., immediately related to mining, were established. Furthermore, these discoveries gave rise to the establishment and growth of retail trading outlets. The vast movements of population in search of diamonds and gold brought about an increase in the demand for foodstuffs as well, and agricultural production was extended. According to De Kock, the development of the mining industry helped satisfy many of the needs of the various territories and lifted 'those struggling territories out of their comparative insignificance in 1870 to a position of undoubted commercial importance on their being united into one legislative union in 1910' (5).

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(4) M.H. De Kock, op. cit., p.43.

(5) M.H. De Kock, Economic History of South Africa, Cape Town, Juta & Son, 1924, p.238.

Some idea of the importance of mineral discoveries on economic activity in the various colonies over this period can be deduced from the following facts. By 1880 diamond production was valued at £3 mill[6]. Imports into the Cape amounted to £11 mill. compared to £2½ mill. before the diamond discoveries[7]. By 1882 exports from the Cape and Natal amounted to £9 mill. compared to £3 mill. in 1870[8]. The revenue of the Cape increased fourfold from £0,6 mill. in 1870 to £2,4 mill. in 1880[9]. By 1885 the railway link had been extended from Cape Town to Kimberley.

In the Transvaal, gold production increased to £16 mill. in 1898[10]. The revenue of the Transvaal which in 1885 amounted to £218,000 increased to £1½ mill. in 1889/90[11]. By 1890 there was a direct railway link between the Transvaal and the Cape. In 1894/5 the line between the Transvaal and Delagoa Bay was completed and a year later the Transvaal-Durban line became operative.

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(6) M.H. De Kock, The Economic Development of South Africa, op. cit., p.44

(7) Ibid., p.44

(8) Ibid., p.45

(9) Ibid., p.45

(10) Ibid., p.52

(11) Ibid., p.52

The tariff history of the various territories during this period was characterized by perpetual conflict and rivalry. In the early part of the period the Cape, despite having acquired a large measure fiscal autonomy during 1854, made little use of taking the opportunity of fostering the growth of local manufacture by means of high protective duties. There seemed little need for such action because of the overseas demand for diamonds, wool, hides, mohair etc. which were large earners of foreign exchange. In 1872, when responsible government was introduced in the Cape and the Colony acquired even greater financial freedom, there was still reluctance to foster the growth of local industry. The tariff was almost entirely a source of revenue, which fluctuated with the prosperity of the Colony(12). Perhaps a further explanation for the reluctance of the Cape government to impose protective tariffs is that several shipping agents held high positions in the government and were not favourably disposed to increasing trade restriction. Nevertheless, the revenue tariffs imposed on necessities had the effect of encouraging the establishment of several manufacturing industries such as cart- and wagon-making(13). In 1886 when the first discussion of protective duties was said to have taken place in the Cape Parliament a motion proposed by a Mr Douglass that every industry that could be successfully established be encouraged and protected from competition from abroad by customs duties on items such as candles, cigars and cigarettes, beer, butter, etc., was defeated by 21 votes to 18(14). This was indicative of the reluctance to impose protective duties at that stage.

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(12) M.H. De Kock, Economic History of South Africa, Cape Town, Juta & Son, 1924, p.305.

(13) Ibid., p.306.

(14) D.J.J. Botha, 'On Tariff Policy: the formative years', S.A.J.E. 41(4) Dec. 1973, pp. 327, fn. 25. Also A.J. Bruwer, Protection in South Africa, Stellenbosch 1923 pp. 86-108, for the broader aspects of this issue.

The tariff policy in Natal had an additional element associated with it. Apart from obtaining revenue, the Colony attempted to attract trade with the two inland Republics and in 1867 Natal followed a policy of levying lower duties on imported goods compared to those imposed in the Cape Colony, in order to compete more favourably with the Cape. Another reason for the low duties in Natal was that Delagoa Bay began to constitute a threat to the Colony. Thus tariffs were not protective in this territory and there was little development of industry. While tariffs in the Free State were subject to that of Natal and the Cape, the Transvaal was in a more favourable and independent position because of the proximity of Delagoa Bay. Before the discovery of gold in 1886 the Transvaal was entirely pastoral and agricultural. It was a relatively poor territory. With the discovery of gold and the subsequent migration into the territory the authorities applied revenue duties on a number of items and these, together with the duties imposed on goods in the Cape and Natal and the natural protection arising out of high transport costs to the interior, served to establish several industries in the Transvaal. Many of these were immediately related to the gold mining industry, such as explosives, cables, candles, boots, clothing and textiles. Others such as brickmaking, furniture and handicraft production, bakeries, jam and sweet factories started production.

Against this background of divergent interests within the various territories and various political factors, several unsuccessful attempts were made to bring about a customs union in South Africa[15]. Writing about the state of affairs at the end of the Pietermaritzburg Conference (1906), Botha summarizes the position of the various colonies in the following statement: 'The divergent interests and commercial rivalries between the four colonies were far from resolved; if anything, they had

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(15) D.J.J. Botha, op. cit., pp.325-331.

been exacerbated. It had become clear, especially after the granting of self-government to the old republics, that commercial interests and political expedience required a Union of the four states'[16].

2.3 The importance of Union and the beginnings of protective policy

The effects of Union in 1910 served to establish a uniform system of tariffs between the various territories and thus helped bridge some of the disparities in commercial policy that were evident in these territories. Bruwer writes of the other effects of Union. He argues that this could be regarded as the first step in the South Africanization of the people, for it helped people look upon themselves not as Transvalers, Free Staters and Colonials, but as South Africans[17]. In other words, localism, prejudice and interterritorial niggling was in theory replaced by a feeling of nationalism.

Despite the uniform tariff structure brought about by the customs union, there still existed divergent interests that were not predominantly politically motivated as was the case previously. Although the Transvaal exhibited a lot of anti-British sentiment and the former colonies still remained historically tied to the traditions of the colonial power, there was still the natural tendency for the Transvaal to prefer Delagoa Bay to the Cape and Natal as a source of exporting and importing. Apart from the tendency for the Transvaal wishing to secure an outlet that was independent of Great Britain, this preference for Delagoa Bay was based on sound economic reasoning for it was nearer in distance than Durban. Furthermore, there existed the divergent interests of different industries in the country. The mining industry obviously wanted low tariffs, so as not to be penalized as regards increasing costs, while the remainder of the country, more concerned about revenue and the protection of agriculture, desired high tariffs.

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(16) Ibid., p.331

(17) A.J. Bruwer, op. cit., p.86

In order to resolve these difficulties the Cullinan Commission was appointed in 1910 and reported in 1912. Its recommendations were implemented in the 1914 Customs Tariff Act. In general, the Commission recommended that agriculture and industry be accorded 'adequate protection' and that account be taken, in granting protection, that

(i) a fair proportion of raw materials be used or obtained in the country
(ii) the industry has a reasonable chance of becoming successful
(iii) a fair percentage of white labour be employed.

The Commission recommended prohibitive rates of duty on a number of articles. In spite of this, the bias in tariff policy was essentially revenual. Of the 190 items listed in the tariff schedule, 120 were allowed in free of duty or at low levels[18]. During the early stages of the 1914-18 War a dumping duty was levied. Because of World War I, it was impossible to establish how protective the measures were.

The effects of the War on the beginnings of manufacturing industry cannot be stressed too lightly. As De Kiewiet writes, 'The original stimulus to manufacture in South Africa was not given by tariff protection. It was the discovery of diamonds and gold that first created markets in which local producers had a natural advantage. Yet diamonds and gold did much to restrict industrial development. They absorbed skilled and unskilled labour alike. They paid such high wages that other employers could hardly compete with them for the services of skilled labour. They brought such an increase in prosperity to the land that the protection of local industries did not become an imperative issue. It was the Great War which

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(18) D.J.J. Botha, op. cit., footnote p.331

gave the greatest stimulus to manufacture'[19]. Van Biljon[20] also considers the first World War to have yielded enormous benefits to the emergence of manufacturing industry in South Africa. The protective influence of the war was reflected in the scarcity of shipping facilities, increased freight rates and soaring world prices. This latter factor was continued in the immediate post-war years. The effects of these measures were similar to protective tariffs in that the difficulties of importation stimulated a movement towards self-sufficiency. Moreover, the diminution in foreign competition and increased freight and insurance rates encouraged local production even further. By the end of the War South Africa had shown the first signs of industrial advance. Thus one can conclude that manufacturing industry began a period of rapid expansion only after the stimulus of the first World War. The slow growth prior to this period can inter alia be attributed to the phenomenal development of the mining industry since 1870. It was essentially the mines that had considerably widened the field of employment, attracted large amounts of capital and provided huge amounts of revenue for the state. Until 1914 there was little need and inducement to venture into large-scale manufacturing. Although, as has previously been mentioned, a number of branches of manufacturing industry did come into existence during the earlier period, either under the stimulus of the mining industry or the revenue and semi-protective duties or both, these were essentially small scale. According to Houghton, the fact that mining had developed so rapidly during the latter part of the nineteenth century, in that it absorbed most of the available capital, skilled manpower and entrepreneurship, accounted for the fact that the growth of large scale manufacturing was essentially a phenomenon of the twentieth century[21].

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(19) C.W. De Kiewiet, A History of South Africa, Social and Economic, Oxford, Clarendon Press 1941 p.263.

(20) F.J. Van Biljon, State Interference in South Africa, London, P.S. King & Son Ltd. 1939, p.91.

(21) D. Hobart Houghton, The South African Economy, Cape Town: Oxford University Press, 1964, p.114.

The type of manufacturing establishment that tended to arise during the war was concerned with the provision of final consumer goods. A problem usually associated with this type of development through deprivation is that once the war ends, importation becomes easier and the market tends to become flooded. After the establishment of a number of consumer-orientated industries during the war, there were increasing pleas for protection after 1918. Although during the immediate post-war period there were vast increases in the costs of living all over the world and it can be argued that these served to protect domestic industry even further, there was a reluctance on the part of the authorities to succumb to the pleas of increased protection. In 1918 the Board of Trade and Industries was established to keep an eye on the increase in prices and rejected many of the pleas for protection during this period.

At this time, the social 'poor-white' problem manifested itself and thousands of whites drifted into urban areas, jobless, poor and starving. In the general election of 1924, the Hertzog-Cresswell Pact government, appealing to the mass of unemployed Whites, emerged victorious and ushered in a new era of industrialization. According to Horwitz(22), the Pact, representing as it did a merging of the interests of Afrikaner nationalism and trade unionism and being devoted to safeguarding the interests of the 'poor-whites', laid the foundations to what was to become an era of increased intervention in the economic affairs of the country. In 1924 the Board of Trade and Industries was reconstituted against a background of important

(22) R. Horwitz, The Political Economy of South Africa, London, Weidenfeld & Nicolson, 1967, p.6.

international and domestic factors. Amongst these were: the effects of depression; increasing practices of dumping; the poor-white problem; drought conditions which tended to encourage migration to the cities; the increasing awareness of the fact that gold was a wasting asset; finally, the world movement to nationalism and a disillusionment with the imperial policy of the United Kingdom which had influenced South African tariff policy up to this time.

In 1925, with the passing of the Customs Tariff and Excise Duties Amendment Act, South Africa adopted a protective policy that was to have a profound influence on the future growth of manufacturing industry. The number of items in the tariff schedule was almost doubled in comparison to the number of items in the 1914 schedule[23]. Apart from the usual arguments to justify protection, De Kiewiet[24] states that the protection and employment of white labour represented an argument peculiar to the South African situation. The diverse and skilled operations of manufacturing

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(23) D.J.J. Botha, op. cit., p.337. The author indicates the progression of customs tariffs since the beginning of the century:

		General ad valorem rate	No of Tariff Classes	No of items in tariff
1.	1906	10	5	143
2.	1914	15	6	192
3.	1925	20	15	371

(24) C.W. De Kiewiet, op. cit., p.264

industries were particularly favourable to the employment of white labour. Prior to the passing of the 1925 Act, the Union had a single-column tariff with provision for preferential rebates. The 1925 Act brought about the introduction of a double-column tariff with maximum and minimum rates. The latter were applicable if a protected industry were found to be charging excessive prices, practising a monopoly or 'maintaining unsatisfactory labour conditions'.

Apart from the employment aspect inherent in the tariff structure, the other important factor relevant to the discussion includes the introduction of suspended duties, after investigation of the prospects and the desireability of developing the industry concerned. If the government felt that there was a need to establish a branch of manufacturing industry, tariffs were levied on certain goods in the hope that industry would respond positively to the stimulus.

Another aspect of the tariff that merits consideration was the policy of allowing the free admission of, or levying low duties on, raw materials for manufacturing purposes. This was implemented partly by adjusting the actual rates of duties or by granting rebates. The importance of this aspect of the tariff was that final consumption goods were granted high levels of protection, on an effective basis. The low duties on intermediate materials and machinery implied additional protection for consumer goods and no doubt encouraged and contributed much to the expansion in the production of these goods. This concept and its ramifications will be explained in detail in Chapters 4 and 5.

The effects of the revised tariff structure on economic growth in South Africa were analysed by a number of national commissions of enquiry and prominent economists and the tenor of scepticism implicit in these early commissions was to prove valid over time. In 1926 the Economic

and Wage Commission[25] argued that the high labour cost for work and restricted home market would present obstacles to the rapid development of manufacturing industry in South Africa[26]. Admitting that the development of manufacturing industry in South Africa was due to the effects of war and the policy of protective tariffs[27], the Commission stated forcibly that 'protection in its early stages ... does nothing to increase the resources or total wealth of a nation'[28]. Thus diversion occurred from mining and agriculture i.e. 'industries which have proved their efficiency in the face of world competition. Protection thus adversely exports'.[29]

According to the Commission, the justification for protective policy in South Africa rested on two incompatible grounds viz. the infant industry argument and the employment opportunities offered to White labour. Stating that the existing tariff was extended to many industries using imported raw materials, the Commission doubted the generative effects of protection[30]. But its major reservations concerned labour and the limited market brought about by a policy 'that restricts the native's opportunities of employment and so keeps down his wages'[31]. Furthermore, instead of relieving the poor white problem, 'so far as the protective-tariff has affected agriculture adversely it will have strengthened the

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(25) Report of the Economic and Wage Commission, 1925, U-G, 14 - 26

(26) Ibid., par. 292

(27) Ibid., par. 293

(28) Ibid., par. 294

(29) Ibid., par. 294

(30) Ibid., par. 298

(31) Ibid., par. 310

and Wage Commission[25] argued that the high labour cost for work and restricted home market would present obstacles to the rapid development of manufacturing industry in South Africa[26]. Admitting that the development of manufacturing industry in South Africa was due to the effects of war and the policy of protective tariffs[27], the Commission stated forcibly that 'protection in its early stages ... does nothing to increase the resources or total wealth of a nation'[28]. Thus diversion occurred from mining and agriculture i.e. 'industries which have proved their efficiency in the face of world competition. Protection thus adversely exports'.[29]

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(25) Report of the Economic and Wage Commission, 1925, U-G, 14-'26

(26) Ibid., par. 292

(27) Ibid., par. 293

(28) Ibid., par. 294

(29) Ibid., par. 294

(30) Ibid., par. 298

(31) Ibid., par. 310

influence tending to drive the poorer agriculturalist off the land; and by widening the gap between the level of earnings in agriculture and in urban industry, it has tended to attract more people off the land into the towns. But the poor white driven off the land is not suitable material out of which to build up an efficient industrial labour force; and we showed reason to believe that policy should be directed rather to keeping him on the land'[32].

Perhaps the most forceful criticism of tariff policy in South Africa at that time was sounded by Frankel during the early 'thirties[33]. Frankel argued tha. customs tariff as a means of diverting economic resources was not the only measure for a government to use in order to achieve certain aims. Apart from bounties and customs duties, practices such as special freight rates on locally-produced commodities, discriminatory rates on imported goods, special purchase tenders etc. all represented forms of protection[34]. As far as the 1924 tariff structure was concerned Frankel was concerned that the framing of tariffs did not take into account the diverse forms of assistance that already existed[35]. Even with protection, growth and development in protected industries was impossible without prior possession of natural resources, skill, initiative, experience and organization[36]. Tariff protection according to Frankel may encourage inefficiency and harm entrepreneural initiative[37]. It may result in

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(32) Ibid., par. 311

(33) S.H. Frankel, A National Economic Policy, in Coming of Age, Studies in South African Citizenship and Politics, J.H. Hofmeyr et al., Cape Town: Maskew Miller, 1930

(34) Ibid., p.300

(35) Ibid., p.201

(36) Ibid., pp.203/4

(37) Ibid., pp.207/8, 214

extravagance in government expenditure[38] and, being so indirect, may escape the criticism and notice accorded to more direct forms of protection[39]. In view of these possible harmful effects Frankel advocated that the application of tariff policy be kept under close scrutiny by independent authorities[40]. Protection can be disastrous unless the comparative disadvantage was slight[41]. Frankel compared the effects of tariff protection to a 'powerful drug' urging that machinery should exist to ensure that it be used as a 'tonic'[42].

The Holloway Commission in 1934-35[43] was limited by its terms of reference to secondary industries. The Commission stated at the outset that underlying the report was the view that the adoption of a practionist policy in South Africa was influenced by social rather than economic considerations. The Commission went to great lengths to show that much of the industrial development that took place after 1925 and the employment resulting therefrom was attributable to the direct stimulus given by the protectionist policy. Using statistics to prove that protected industries enjoyed a greater increase in employment than other industries[44], while admitting that protection had conferred several advantages to the economy in the form of better living standards, insurance against trade

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(38) Ibid., pp.210

(39) Ibid., pp.211

(40) Ibid., p.217

(41) Ibid., p.223

(42) Ibid., p.211

(43) Report of the Customs Tariff Commission 1934-35 dated 6th November, 1935, U.G. 5, '36.

(44) Ibid., pars. 60-67

cycles, increased diversification and stimulus to other industries[45], the Commission concluded that 'the evidence which we have received is nearly unanimous on the point that the wage rates payable to European labour in South Africa are much higher than those paid in countries which compete in the South African market, and that for this reason, protection is an essential condition for the continued existence of local industry'[46]. The Commission argued that the high cost of European labour represented the greatest competitive drawback of South African industry, and protection was to a large extent a protection of wage rates payable to Europeans[47]. On evidence presented to the Commission, the conclusion was reached that the major proportion of protected industries could not do with less protection[48] and unless some means could be found of reducing the cost disadvantage of high wage rates, the country must give up the hope of achieving economic soundness for its protected industries.

Another reservation expressed by the Holloway Commission was that protection appeared to have a weakening effect on initiative and risk-taking. This could be concluded from the flimsy arguments requesting tariff protection used by industrialists[49]. In general, the Holloway Commission's conclusion was that while evidence was not unfavourable to the maintenance of protection within reasonable limits, protection in South Africa appeared to have surpassed the limits that the country could reasonably bear. 'The

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(45) Ibid., par. 122

(46) Ibid., par. 126

(47) Ibid., par. 341

(48) Ibid., par. 373

(49) Ibid., pars. 233-248

only sort of protection which South Africa can afford is moderate protection'(50).

Schumann, in his review of the Holloway Commission(51), criticizes the report, in that many of its conclusions were regarded as not having been proved theoretically or statistically. Schumann argues that a far better case for protection could have been made out. In terms of a world that has generally adopted protection and in which many rigidities exist, as well as a world where periodic depressions, unemployment and disturbances of external trade are experienced, protection is necessary(52). In similar vein to Frankel, Schumann urges the creation of machinery to continuously and systematically analyse the industrial possibilities of the country and direct and encourage industrial development in conjunction with moderate protection(53).

Thus one can see that the application of tariff policy in South Africa during this period was not devoid of criticism. Even at that stage, several warnings were sounded as regards the possible harmful effects of such policy, if implemented in an incorrect manner. Much of the analysis of tariffs during this period was restricted to more practical issues. Indeed, as will be seen in the following chapter, the more rigid theoretical analysis of the effects of tariffs and the comparison between tariffs and other forms of trade control only came about after the Second World War.

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(50) Ibid., par. 257

(51) C.G.W. Schumann, 'Report of the Customs Tariff Commission 1934-35,' South African Journal of Economics, June 1936, Vol. 1. pp. 172-181

(52) Ibid., p.177

(53) Ibid., p.181

Unfortunately, many of the warnings referred to above went unheeded and the pattern of industrial development that was established at that time was further influenced by the advent of the Second World War. The natural protection accompanying the War, by virtue of the forced exclusion of competing imports, once more led to the rapid expansion of industrial production. The Iron and Steel Industry, which had been established in the late nineteen-twenties, proved to be strategic to national defence and the key supplier to the growing engineering industry. The food and clothing industries fed and clothed both those at home and those serving in the armed forces. In addition to this boost there was another aspect that Horwitz regards of extreme importance(54). The war years witnessed 'crucial institutional change'. As the whites went off to serve in the battlefields or factories, non-whites filled the void. Although he argues that the pre-war colour bar did not disintegrate, the gulf was definitely being bridged by the emergence of a new semi-skilled class comprising Coloureds, Indians and Africans.

In 1945 the Board of Trade and Industries Report No. 282(55) was issued. The terms of reference of the Report were designed to provide a guideline for post-war readjustment and to define longer term industrial policy. The Report included reference to protective policy. While agreeing in principle that the extent of protection ought to be reduced once industries became established on a firm footing, the Board stated that in view of the post-war situation, the possibility of dumping and the need for reconstruction, reduction of protection would not be wise at the time(56).

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(54) R. Horwitz, op. cit., p.262

(55) Board of Trade and Industries, Report No. 282, 'Investigation into Manufacturing Industries in the Union of South Africa', First Interim Report, 1945.

(56) Ibid., par. 340

2.4 Protective policy since World War II

'The most distinctive aspect of the commercial policy of South Africa over the past 25 years undoubtedly lies in its extreme reliance on import licensing'[57]. The nature of protective policy changed in South Africa after the Second World War, partly in response to a serious balance of payments crisis in 1948, and partly as a result of South Africa being restricted in its tariff policy on entering the Gatt negotiations in 1947. As was pointed out by the Viljoen Commission in 1958[58], while the initial purpose for introducing import controls was to protect the balance of payments, the system was evolved in such a way as to provide domestic industry with adequate protection. The system has primarily revolved around an import licencing scheme under which the number of licences were issued in a selective manner according to the availability and composition of foreign exchange reserves. Lachman concluded that the commercial policy of import licensing, which had provided substantial protection to domestic manufacturing industry by excluding a wide range of foreign goods from the domestic market and by favouring the importation of capital goods and raw materials, contributed vastly to the rapid transformation of the South African Economy during the 1960's. He raised doubts as to whether the inward-looking trade strategy will be beneficial in the future and forcibly presents a case for outward-looking policies by concentrating on the allocative inefficiencies resulting from a system of import licencing.[59]

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(57) D. Lachman, 'Import Restrictions and Exchange Rates', South African Journal of Economics, March 1974, Vol. 42, Number 1, p.25.

(58) Report of the Commission of Enquiry into Policy relating to the Protection of Industries, U.G. 36/1958, Par. 150-161.

(59) D. Lachman, op. cit., pp. 36-41.

The Viljoen Commission, in its investigation of the effects of tariff protection on manufacturing industry in South Africa, did not confirm the apprehensions voiced by earlier commissions on the issues of protective policy. While it emphatically rejected import control as a means of protection - its prime objection in this connection being that such control is temporary, fortuitous and distorting[60] - the Commission believed that industrial development was essential for affording suitable employment and improved living standards for the rapidly increasing population. The prosperity of the economy and welfare of its people were reliant on the fortunes of secondary industry, for this provided greater employment opportunities than either mining or agriculture[61]. By laying a firm foundation for the development of secondary industry, protection in South Africa benefited the farming community[62] as well as the mining industry for tariffs did not impose a heavy burden on these industries[63]. In terms of the low duties on machinery and raw materials this was true. Moreover the Commission argued that protective policy in favour of manufacturing industry was not labour-di erting, as the major part of mine-labour came from adjacent African territories[64]. The beneficial effects of the rise in industrialization was reflected in the increasing standard of living and real incomes of the population. The Commission admitted that for the mass of the population this was still low and, in order to improve this, further industrialization was required[65].

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(60) Op. cit., pars. 191 and 501

(61) Ibid., pp. 24 and 61 resp

(62) Ibid., p. 17

(63) Ibid., p. 19

(64) Ibid., p. 19

(65) Ibid., p. 61

The Viljoen Commission is interesting when compared to previous Commissions in that it was indicative of the change in thinking that had occurred among tariff-making authorities in South Africa. The need for protection in the 1950's no longer stemmed from protecting white workers, but from offering sufficient opportunities to provide employment for the mass of the population and ensuring increasing standards of living for the lower income groups. The Viljoen Commission found justification for tariff protection in this country in terms of the infant-industry argument. The Reynders Report(66) commenting on this aspect writes, 'Thus conceived, tariff protection has a strong dynamic flavour, and fits squarely into the sphere of economic development, provided, that the conditions for industrialization (generally the availability of the factors of production and a sufficiently large market to support economically viable plants) exist.' The findings of the Viljoen Commission are important in that it has been the foundation of much of protective policy in South Africa, throughout the 1960's and 1970's so far.

With regard to the protective effects of import controls, it has been previously mentioned that the extent of such controls were dependent on the condition of foreign exchange reserves in the country. While these reserves were low throughout the 1960's import controls were intensified and maintained. Undoubtedly this yielded a protective effect on many industries. In the early 1970's, following an improvement in the size of gold and foreign exchange reserves owing to the increased free market price of gold, import controls were liberalized and there was an increased resort to the tariff for protective purposes. This is exemplified by the fact that in 1972 the Board of Trade and Industries re-

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(66) Reynders Report, op. cit., p. 124

ceived 700 applications for tariff protection compared with 390 in 1971[67]. This illustrates the extent to which industries were influenced by import controls. The renewed shortage in foreign exchange, coupled with the dramatic fall in the price of gold, has once more brought about restrictions on imports and, as happened previously, it is probable that this will yield a protective effect on local industry.

2.5 Summary

The pattern of industrial protection in South Africa is unique compared to other developing countries in that its justification was initially founded on a racial basis. Prior to Union in 1910 the purpose of the customs tariff was essentially to earn revenue. The period was characterized by continual rivalry between the various territories. Initially diamonds and then gold laid the foundations for future economic expansion. It is argued that these tended to delay the establishment of large-scale secondary industry. One of the important effects of Union was the formation of a common customs union between the various territories. While the First World War provided a boost to local manufacturing production, the coming into power of a new government in 1924 marked the beginning of an era of industrial protection in this country. The ensuing protective policy, which initially was confined to the levying of tariffs on industries that could employ large numbers of white workers aroused criticism and scepticism from several sources. Although authorities attempted to justify the tariff structure economically, there was widespread agreement that the tariff as was implemented in South

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(67) Financial Mail: Supplement, A Guide to Investment in South Africa, February 14, 1975

Africa at that time had a political bias. Despite various practical warnings f·m prominent economists, tariffs became firmly embedded in the economy. That the policy could not be revised, once the poor-white problem was settled, can be attributed to the influence of various fortuitous events on both the local and international fronts. With the emergence of the era of trade liberalization after 1948 additional means of protection were levied, either deliberately or for other reasons.

In fact, since the Second World War, arguments in favour of industrial protection in South Africa have been revised to conform to the interests of the population as a whole and not just a section of it. The rationale for such protection appears to have been based on broad economic objectives. The importance of tariffs in establishing manufacturing industry on a large scale in South Africa can be assessed in broad terms by the relatively rapid growth in manufacturing industry since the era of protection was introduced in the mid-nineteen twenties. Thus tariffs and other forms of protection have proved an important factor in industrial development in South Africa.

CHAPTER 3

TARIFFS AND OTHER FORMS OF TRADE INTERVENTION - THEORIES OF NOMINAL PROTECTION

3.1 Introduction

For any government the pursuit of an active policy of industrial expansion encompasses a multiplicity of objectives such as the provision of employment opportunities for a rising population, the improvement in the foreign trade position of a country, an increase in economic growth, the assurance that certain strategic goods will be supplied and the political appeal surrounding a certain measure of economic independence in a country etc. The arguments for a deliberate policy of industrialization are related to the attainment of several objectives because of the wide-ranging benefits that may arise as industrial expansion proceeds, and this no doubt accounts for the preference that many governments in less developed countries have shown for industrial expansion as opposed to agricultural expansion. In Chapter 2 the history and rationale of such policy in the South African context was examined.

Because tariff protection and other forms of trade control have most frequently been used as measures to encourage industrialization, the issues of trade intervention and optimum protective policies must be analysed in greater detail. Corden[1] classifies the evolution of post-mercantilist economic thought into three stages. Firstly, arising out of the writings of Smith and Ricardo the gains from trade and, more specifically, the benefits from completely free trade came to be appreciated and the theory of compara-

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(1) W.M. Corden, Trade policy and Economic Welfare. Oxford: Clarendon Press, 1974 pp.2-5.

tive advantage dominated economic thought in Britain during the nineteenth century. The case for free trade was developed simultaneously with the case for laissez-faire and was regarded as a special case of the argument for laissez-faire. This argument, based on the assumptions of perfect competition domestically and internationally, of given factor supplies and technology, of externalities being absent and of free factor movement within countries, was appealing,for it predicted that if countries produced according to comparative advantage the result will be a maximization of the social product for the world as a whole.

Gradually it came to be realized how restrictive these assumptions were. Perfect competition does not necessarily rule, there may not be full employment, the income distribution yielded by the laissez-faire solution may not be just or desirable, necessary structural changes may not occur and so on. And so, in combination with the modifications to the laissez-faire model, more and more qualifications to the argument for free trade emerged. When any of these assumptions are relaxed or do not hold, numerous arguments arise in favour of individual nations intervening in their international trade. This represents the second stage in the development of economic thought with regard to protectionist philosophy and reached a climax during the post World-War II era with the emergence of concern expressed over the plight of the less developed countries. It was argued that laissez-faire had failed to develop these countries,hence free trade proved a failure. Stern[2] states that when the attainment of free trade is not possible the above assumptions become all the more significant. One should give up the ideal norm of first best and examine policies individually in terms of the relationships they are designed to rectify as well as their impact on world and national economic welfare. Thus in attempting this analysis, Stern argues that one enters a sub-optimal condition of the theory of the second best, which,although more complex, represents a more realistic approximation to conditions that actually exist.

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(2) Robert M. Stern, 'Tariffs and Other Measures of Trade Control: A survey of recent developments' Journ. Eco. Lit: xi(3), Sept 1973, p.858

Corden classifies the most recent stage as the one where the link between the case for free trade and that for laissez-faire has been severed. One can still hold the seemingly disparate views that there are valid reasons for government to intervene in an economy,viz. to maintain full employment, to bring about a desirable distribution of income, to adjust resource allocation and consumption patterns in the light of external economies and diseconomies, and at the same time one can believe that free trade is best. The reason for this is that intervention in trade may not be the best way of dealing with the various problems mentioned above since these are brought about by domestic distortions rather than trade distortions. The optimal way of correcting these distortions is by dealing with them directly, while at the same time allowing trade to flow freely. One of the important implications of the new approach is that while it restores the argument for free trade it focusses on the choices between different policies, for example, tariffs compared to subsidies as instruments for protection, rather than the question of trade intervention compared to non-intervention. In addition, within this framework, international trade and development theory has advanced to cater not only for the analysis of the effects of tariff barriers to trade but non tariff barriers as well. One can thus apply welfare criteria to any form of intervention in an endeavour to find the optimal form of intervention. Essentially the new approach and the techniques of analysis owe their origin and development to Meade, Hagen, Johnson and Bhagwati and Ramaswami. Much of the analysis of trade restricting measures in this chapter will be conducted in terms of partial equilibrium analysis under the assumption that tariffs and other measures are imposed only on final products being traded. The extension to the analysis of protection in terms of the trading of intermediate goods and the effects of protection on imported inputs will be presented in Chapter 4.

3.2 The modern theory of nominal tariffs

(i) The effects of tariffs

Tariffs are specific or ad valorem in form and in attempting to assess the effects of tariffs on a final product within a partial equilibrium framework in terms of price, output, consumption, imports and exports, these depend on the position and shape of both the home and foreign demand and supply schedules. In general, one can distinguish the following effects of a tariff imposed on an imported good:

a) The production or protection effect: Normally tariffs can be expected to increase domestic output to a certain extent by providing a stimulus to local producers and curtailing the extent of competition from foreign producers. This effect depends on the elasticities of both local and foreign supply schedules.

b) The consumption effect: As a result of the increased selling price brought about when the tariff is introduced, local consumption normally falls unless the slope of the demand curve is perfectly inelastic.

c) The import or balance of payments effect: Imports normally fall by the sum of the production and consumption effects.

d) The revenue effect: Customs revenue is raised as long as the tariff is not prohibitive. Once more, this effect is dependent on the respective elasticities of demand and supply. As tariffs tend to become restrictive, revenue falls.

e) Redistribution effect: Since the price to domestic producers is increased at the expense of domestic consumers, there is a redistribution of income in favour of producers resulting from consumers subsidizing the output of this product by a certain amount. This effect also depends on the restrictiveness of the tariff and the extent to which local consumers substitute the local for the imported product.

f) The employment effect: This depends on the absolute magnitude of the changes in trade brought about by the tariff in relation to the initial position of the level of employment at home and abroad and the effect on the balance of payments of a country. Domestically, a tariff can increase employment in certain sectors if it provides incentives for local production of goods that previously were imported. Conversely, employment in certain export orientated sectors may fall particularly if there is a transfer of resources to the protected sectors. Alternatively, the imposition of tariffs may induce retaliatory action on the part of overseas exporters and so affect adversely employment in the tariff-imposing country.

A priori, because of the enormous range of possibilities, alternatives and qualifications that one can make in assessing the effects of a tariff, there is nothing definite that can be said about the abovenamed effects of tariffs. The traditional emphasis of tariff theory until recently concentrated on these various effects, comparing tariffs to a free trade situation. More detailed and specific work concerning the effects of tariffs was undertaken by Stolper and Samuelson[3] who attempted to show how the imposition of a tariff affected absolute and relative factor rewards, and, under the assumptions of a small country and substitution of local for previously imported products, could increase the return to the scarce factor. Metzler[4] showed that when these assumptions are relaxed the Stolper-Samuelson conclusion is dependent on the relationship between the foreign price elasticity of demand for a country's exportables and the marginal propensity to import in the country.

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(3) W. Stolper and P.A. Samuelson, 'Protection and Real Wages', Review of Economic Studies, Nov. 1941, pp. 58-73.

(4) L.A. Metzler, 'Tariffs, the Terms of Trade and the Distribution of National Income'. J. Political Economy, Feb. 1949, 57(1) pp. 1-29.

Another specific area of research concerning tariffs during the 'forties and 'fifties dealt with the optimum tariff argument as an exception to a free trade situation. Briefly stated, this argument attempted to prove that a country can conceivably improve the welfare of its citizens by imposing an optimum tariff, provided that it exercised monopoly power in foreign trade and there was no foreign retaliation. This latter assumption was in turn relaxed and the argument was phrased in terms of the necessity to specify the nature of retaliation. Johnson[5] and Bhagwati[6], showed the possible consequences concerning the nature of retaliation. If a country threatens retaliation but does not perforce carry it out, this conclusion appears to be valid. In addition the conclusions concerning the optimum tariff, if valid, have far-reaching implications for those less developed countries that enjoy a monopoly position in their export trade.

(ii) The theory of domestic distortions

Since the nineteen-fifties, the theory of nominal tariffs developed in a new direction. Instead of being concerned with violations of first-best Paretian optima there was a basic questioning of the effectiveness of tariffs and other measures dealing directly with foreign trade as optimal forms of protection. Domestic measures may be more or less preferable to trade intervention. The issue, at present, revolves around

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(5) H.G. Johnson, 'Optimum Tariffs and Retaliation', Rev. Econ. Stud., No. 55, 1953-54, 21(2), pp. 142-153.

(6) J. Bhagwati, 'The Pure Theory of International Trade: A Survey' Economic Journal, March 1964.

those situations and conditions for certain policy measures being preferable to others in dealing with distortions from the free trade situation. The literature on this subject is prolific and prominent contributors have included Haberler[7], Meade[8], Hagen[9] Bhagwati and Ramaswami[10] and Johnson[11]. The analysis has followed the lines of comparing tariff and subsidies as forms of protection.

The most lucid statement of the argument has recently been made by Corden[12]. The analysis is conducted in a partial equilibrium framework. The introduction of a marginal divergence between private and social cost brings into operation some form of government intervention designed to either increase output or protect an industry. The essential point of the analysis is that ideally such intervention should not alter the level of consumption. He assumes that:

a) The act of financing a subsidy through taxation does not upset any marginal conditions.

b) There are no collective taxes.

c) There are no disbursement costs involved with the subsidy.

d) The redistribution of income in favour of those factors that produce the protected output can be neglected.

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(7) G. Haberler, 'Some Problems in the Pure Theory of International Trade' Econ. J., 60, June 1950, pp.223-60.

(8) J.E. Meade, Trade and Welfare. London, Oxford Press 1955

(9) E. Hagen, 'An Economic Justification for Protectionism' Quarterly J. Econ. 72, (4), pp.496-514, November 1958.

(10) J. Bhagwati and V.K. Ramaswami, 'Domestic Distortions, Tariffs and the Theory of the Optimum Subsidy', J. Polit. Econ., 71(1) 44-50, Feb. 1963

(11) H. Johnson, 'Optimal Trade Intervention in the Presence of Domestic Distortions' in R.E. Baldwin et al. Trade, Growth and the Balance of Payments

(12) W.M. Corden, Trade Policy and Economic Welfare op. cit., pp.17-27

Corden argues that both the tariff and subsidy would generate the same production effect but the two would differ in respect of the consumption effect to the extent that the tariff introduces and creates a by-product distortion on the consumption side. Corden then applies the comparison to various cases such as governments pursuing non-economic objectives, e.g. the local production of military goods, and once more he shows that a consumption tax or subsidy will be first best, for a tariff introduces a by-product distortion(13). Furthermore, Corden argues that tariffs introduce a home-market bias into production whereas subsidies tend to promote production beyond the local market(14). The analysis can be conducted in terms of general equilibrium. Corden's conclusion in this regard is:'In general, one can say that the first-best package of corrective policies will consist of policies that get as close as possible to the sources of the various marginal divergences, and hence that minimize the by-product distortions that are created'(15). In the real world in which there are many commodities and factors the whole analysis becomes more complex. But the optimal correction for a particular divergence depends on whether another divergence has been corrected. Indeed an inferior policy implemented to correct one divergence and creating a by-product distortion introduces the need to correct the newly-created distortion. Tariffs, by their nature, create by-product distortions in comparison with subsidies.

Corden later relaxes some of the assumptions underlying the theory of domestic divergences. The only assumption seriously affecting

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(13) W.M. Corden, op. cit., p.17

(14) W.M. Corden, op. cit., pp. 25-27

(15) W.M. Corden, op. cit., p. 23.

the conclusion is that concerning the costs of disbursement. In many less developed countries the question of how to finance subsidies is particularly relevant. Just as there exist untaxable sectors in several of these countries due to the prominence of subsistence production and the low levels of income, so there are unsubsidizable sectors. In many of these countries it is insufficient to finance subsidies by tax redistributions for the level of taxes is normally low. Thus in such circumstances it is easier to protect through a system of tariffs or any other policy designed to affect trading relationships, such as a system of import quotas, rather than attempt to rectify domestic distortions at their source. In this situation tariffs would probably prove a better alternative.

But this argument is not sufficient to explain the preponderance, universality and popularity of tariffs as a means of protection in many developing countries. It is all very well proving in a static situation that subsidies are preferable to tariffs, for these deal directly with domestic distortions without bringing about any by-product distortions, but, in order to gain a better understanding of the theory of nominal tariffs, one should enquire as to why in many countries heavily reliant on this form of protection, it is inconceivablethat tariffs be substituted for by measures designed to rectify domestic distortions directly i.e. subsidies. As Corden writes, 'the whole 'subsidy-biased' approach seems to have a great air of unreality about it. How does it come about that tariffs and import restrictions are used all round the world when their use for what are often the professed purposes of the restrictions can be so broadly condemned? Surely one can hardly conceive of a country such as India, for example, replacing its regime of tariffs and import controls with a mass of subsidies to producers' (16).

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(16) W.M. Corden, op. cit., p.54.

The practical appeal for government preference for the tariff as a form of protection dominates over the theoretical objections. Politically, governments may find an increase in tax rates to finance subsidization difficult to implement. There exists no similar resistance in respect f tariffs for these do not involve increasing taxation. Furthermore, governments may be influenced by the revenue aspect implicit in the tariff while a subsidy involves expenditure. Individuals and government frequently suffer illusions in assessing the merits of tariffs compared with subsidies. Explicit taxation in the form of income tax, sales tax or production taxes impose some form of psychic cost and involve the government in a loss of popularity. This is not noticeable in a tariff, especially if the tariff is prohibitive. Apart from the psychic cost involved, a subsidy financed by tax revenue represents a more obvious form of protection than tariffs. Subsidies and tax increases are presented in government budgets and are annually renewable and closely scrutinized. Tariffs and quotas, on the other hand, tend to obscure the reality. Few people are aware of the level of tariffs and of the industries that benefit from this form of protection. Corden points out that for this reason those free-trade minded economists showed a preference for subsidies over tariffs long before the theory of domestic distortions was introduced. The chances of sustained protection are far less with a subsidy than a tariff. This argument is most aptly described by the statement, "protection unnoticed is protection more secure"(17).

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(17) W.M. Corden, op. cit., p.56.

In this connection the point made by Professor Botha in discussing the recommendations of the Social and Economic Planning Council (1945) of substituting subsidies for tariff protection appears valid, Botha[18] argues that under a system of bounties the firms concerned realize that they are working on borrowed time. A subsidy could be revoked at uncomfortably short notice. This indicates the preference that producers exhibit for tariff protection.

In addition, because the tariff does not require political sanction as is the case with a subsidy, its application in times of crisis may be more speedily implemented. It can be applied more readily than a subsidy. Thus if an important industry in a country suddenly finds itself confronted by competition as a result of dumping practices from an overseas competitor and parliament is in recess, tariffs are more practical as a means to combat this type of competition.

(iii) The Infant-Industry argument for tariff protection

Up to this point the analysis of tariffs has been conducted almost entirely within a static framework. In a dynamic context, the infant-industry argument represents one of the most powerful statements for the restriction of trade. The argument has a long tradition even though it has changed in emphasis and application over time. 'Of all the arguments that are normally advanced in defence of a national protective tariff only the infant-industry argument can be shown to be in the interest of a more efficient allocation of resources in the world as a whole. As such the argument has great intellectual appeal[19]'. The fact that the argument has recently even extended to the realm of economic development has added to its intellectual respectability.

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(18) D.J.J. Botha, 'On Tariff Policy the Formative Years' South African Journal of Economics, Vol. 41(4), Dec. 1973, p.354.

(19) H. Grub , 'The natomy of Classical and Modern Infant Industry Arguments', Weltwirsch. Arch, 97(2), 1966, p.325

Various authors[20] have voiced concern over the acceptance of the theoretical arguments set forth for infant-industry protection. Grubel, for example, questions the conditions for which the argument can be said to be valid. In the 'broad classical' argument as expounded by List, Bastable and Mill the reasons advocated for insufficient resource investment in an industry showing no comparative advantage, were that the private rate of return fell below the social rate. Tariffs in this situation were justifiable if these succeeded in increasing the private rate until it corresponded with the socially optimal relationship. According to Grubel the validity of this argument for tariff protection depends on the nature of the causes underlying this divergence. If it is assumed that industry improves the sociological, political and cultural characteristics of a country's population, tariff protection is justified only to the extent that these characteristics make the population more productive and ultimately allow for the removal of the tariff. Furthermore, these changes must be irreversible and non appropriable by individual investors i.e. they must be truly external economies.

A narrower interpretation of the classical argument can be phrased in terms of declining costs and prices in the domestic market over time. Initially, costs and prices in the domestic economy are higher than world costs and prices. Protection in this situation is justified under the proviso that a domestic firm can lower prices to at least the level of world market prices and that these cost reductions arise due to a learning process that must be freely available to all firms entering the industry, otherwise existing firms internalize the returns from the acquired skills. More recently, UNCTAD has qualified this argument to incorporate the size of the domestic market reaching a certain level to enable external economies

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(20) H. Grubel, ibid.,
See also: R.E. Baldwin, 'The Case against Infant-Industry Tariff Protection', J. Polit. Econ 77(3), 295-305 1969.

of scale to be realized[21].

The true dynamic elements of the infant-industry argument have only recently been expounded. Chenery[22] for example argues that in a dynamic growth context, external economies refer to the effects that one investment project has on the profitability of another and he advocates the use of temporary tariff protection to pattern investment in order to attract desired resources into an industry with the maximum external economies being generated. Protection can later be removed without any efficiency distorting effe ts.

Another type of argument justifying infant-industry protection is that related to the dual economy. This can be thought of as a development tariff. It is argued that tariff protection helps bridge the gap between the social alternative costs of labour in agriculture and industry and enables the industrial sector to offer a higher wage rate than the value of labour in agriculture.

Grubel's criticisms of these conventional arguments in favour of infant-industry protection are that there has been no empirical verification, (indeed it is nigh impossible to obtain any empirical measurement of the magnitude of such external effects) and also these arguments disregard the possibility of other policy measures to achieve the desired objectives.[23] Baldwin contends that no clear analytical case can be made for tariff protection regarding infant industries. He questions the ability of duties to correct for externalities and achieve an optimum learning level.[24] In other words, tariffs do not provide any guarantee that socially-

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(21) U.N.C.T.A.D. Towards a New Trade Policy for Development. Geneva 1964, p.80.

(22) H.B. Chenery, 'The Interdependence of Investment Decisions', in: The allocation of economic resources, essays in honour of Francis Bernard Haley, by Moses Abramowitz et al., Standford Studies in History. [illegible] and Political Science, Standford, 1959.

(23) H. Grubel, loc. cit.

(24) R.E Baldwin, op. cit., p.298 and p.303.

desirable expenditures will be made. Myint[25] has distinguished two elements in the arguments for infant-industry protection. Infant industries can compete on domestic and world markets through either increased efficiency which arises through learning experience and skill acquisition or a lowering in costs arising through large scale production (with the same level of skill and experience). Myint classifies the former case as the genuine infant-industry argument whereas the latter applies to an import-substitution approach. Protection for import substitution purposes is based on the capacity of various protected industries to satisfy the existing pattern of domestic demand for manufactured goods and as the overall size of the domestic market increases, each industry obtains a proportionate share of the market according to the given income elasticity of demand for its product. In the genuine infant-industry approach, as an industry becomes more efficient and lowers costs, it obtains a larger share of the market according to the price elasticity of demand for its product. The distinction in these approaches is carried further. The import-substitution tariff is based on the principle of promoting economic growth through diversification of resources to cater for the domestic market, whereas the genuine infant-industry tariff is based on the principle of promoting growth through the specialization of resources if a protected industry can specialise along the lines of its potential comparative advantage as indicated by the development of its skills. Despite this distinction the general criticisms of Grubel and Baldwin remain. Moreover, the probability that a tariff introduces a by-product distortion as far as consumption is concerned, as well as the practical difficulties involved in governments initially earmarking those industries than can be regarded as genuine infants, casts doubt on the validity and use of infant-industry tariffs in a dynamic context.

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(25) H. Myint, 'International Trade and Developing Countries', in International Economic Relations, ed. P. Samuelson, Mac Millan, 1969, p. 29

3.3 Other trade distorting measures

Thus far in the chapter the analysis of protection has been conducted in terms of a comparison between tariffs and subsidies, i.e. it has been limited to price mechanism devices only. Because of the proliferation in other trade distorting measures which have increased in significance since the years of the Depression, any theory of nominal protection must incorporate the effects of these other non-tariff barriers[26]. Initially, quantitative import restrictions and exchange controls were the major instruments of NTB's, while more recently other non-tariff barriers have risen to prominence.

(i) Import Quotas

The appeal of these during and after the Depression was to be found in the convenient manner these could be implemented and the fact that nations imposing these restrictions could indirectly sever the most-favoured-nation obligations existing between various countries. Import quotas are widely used today in many less developed countries and are particularly important in India and Pakistan. Their importance has declined among some of the more developed countries today. Frequently quotas are applied for balance of payments reasons rather than as a measure of protection for industries, but these can have a protective effect[27].

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(26) These are referred to as NTB's hereafter.

(27) See previous chapter on protective policy in South Africa.

Import quotas are normally designated in terms of a physical quantity of goods being permitted into a country over a particular time period. Alternatively, these may be designated in terms of value whereby a certain amount of money is allocated to the importation of goods over the specified time period. In contrast to tariffs, Stern[28] describes a quota as severing the price connection between countries. Once the physical quota has been attained no more imports are permitted, and, under the assumptions of partial equilibrium analysis and a perfectly competitive framework, the supply curve becomes perfectly inelastic at the point of the quota maxima. Consumers pay an increased price for the reduced volume of imports, foreign suppliers receive reduced incomes, and a quota profit accrues to the trader or importer who holds a licence. The tariff in turn yields a customs revenue. As was the case with the analysis of customs tariffs the effects of import quotas are manifold and depend on the qualifications and possibilities that may arise. For example, one would normally expect under a quota system that imports fall to the level set by the quota. This is not necessarily the case. As a result of the quota restriction the average costs of traders, exporters or users may increase, in which case imports may fall below the quota level. Alternatively, a monopoly of traders, exporters or users may arise and, if the profit maximizing import volume is below the quota volume, the deliberate curtailment of imports below the amount permitted will be easy to implement.

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(28) R. Stern, op. cit., p.868.

Another effect, one assumes, which occurs with a quota is that a price margin develops between the domestic price and the import price. The domestic price is expected to rise while the import price will fall. However, if the profits from licensing accrue to the exporters of the product, or the users of the product are importers who have been granted licences to import the product, or if there is a price control in the quota-imposing country, there will not be any margin between the import supply price and the domestic price. In addition, the expectation that a volume quota brings about a fall in the value of imports need not materialize. If licences are granted to exporters or/and if the price elasticity of demand for the product is below unity, the opposite might well occur(29). Conventional quota theory predicts that when a quota is imposed in a country, the output of domestic import-competing production would tend to increase. This may not occur if a monopoly in the domestic import-competing sector emerges.

Thus it is difficult to make any a priori statements as regards quota protection. In comparing tariffs and quotas one should do so in terms of an implicit tariff rate. This refers to the single tariff rate which would have the same effect as an import quota on the volume and value of imports, on domestic and foreign price and on the volume of domestic output. The idea of a single rate which would generate only normal profits does not exist, for different tariffs are required to achieve the same results. Other non-equivalences may arise in respect of profits of traders under varying assumptions of monopoly or the non-transferability of import licences. There exists a vast literature on the equivalence of tariffs and quotas(30)

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(29) For a detailed account of this situation see W.M. Corden, 'The Theory of Protection, Oxford: Clarendon Press, 1971, pp. 199-200

(30) See W.M. Corden, The Theory of Protection pp. 212-215.
J. Bhagwati, 'On the Equivalence of Tariffs and Quotas'
C.P. Kindleberger, International Economics pp. 566-568
M.E. Krenin, 'More on the Equivalence of Tariffs and Quotas'
Kyklos Vol XXIII 1970
L.J. Mauer and A.J.W. van de Gevel, 'Non-Tariff Distortions in International Trade; A Methodological Review' pp. 55-57

but the debate has not yet yielded any concrete evidence that tariffs are preferable to quotas as far as welfare effects are concerned. The conclusions depend on the assumptions and qualifications. In terms of administration, quotas are easier to introduce than are tariffs. However, the possibility of Kindleberger's conclusion that a quota may convert a potential monopolist into an actual one, being valid, as well as the Krenin argument that a quota brings about market equilibrium essentially through the price mechanism, rather than through an import effect (as is the case under tariffs) suggests that, in terms of welfare, tariffs appear less harmful. As far as the comparison between tariffs and quotas on the one hand and subsidies on the other are concerned, while the former both involve consumption distortions, (even though the causes of these may differ), and are thus less preferable to subsidies from the point of view of the welfare of the consumer, the fact that from a practical and political viewpoint they are easier to implement than a subsidy, accounts for their relative popularity as has been mentioned previously.

(ii) Other non-tariff barriers

Although successful efforts have been made to eliminate quotas and, more recently, tariffs with the implementation of the Kennedy round of tariff reductions, interest has now shifted to analyzing other N.T.B.'s. Baldwin(31) writes that the tariff cuts brought about by the Kennedy Round of negotiations have been responsible for the increased attention regarding NTB's. Many of these were either not apparent, or of little consequence when tariff rates were high. Scaperlanda(32) believes that the importance

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(31) R.E. Baldwin, Non tariff distortions in international trade Washington, The Brookings Institute, 1970, Chp. 1.

(32) A. Scaperlanda, Prospects for eliminating non-tariff distortions, Leiden, A.W. Sijthoff 1973, p.18.

of the distortive effects of these measures has fluctuated as perceptions of the national interest have changed in various countries. The emphasis among the different measures has shown a secular variation, reaching a peak in importance after the Kennedy Round reductions. In fact, Scaperlanda voices concern at the tendency to substitute NTB's for tariffs as the latter were reduced. Mauer and Van de Gevel[33] liken the relationship between tariffs and NTB's to the clearance of a swamp. NTB's refer to the stumps that remain once the swamp has been cleared.

Baldwin[34] and Mauer and Van de Gevel[35] define non-tariff trade distorting policies in terms of measures that cause internationally-traded goods and services or resources devoted to the production of these goods and services to be allocated in such a way as to reduce potential real world income. This level of income refers to that attainable under a resource allocation under which no individual can be better off without anyone being worse off, in the event of a redistribution.

Rather than examine the different ways of classifying NTB's one can attempt to assess them by virtue of their effects. The definition of NTB's was phrased in traditional welfare terms with its focus on world as opposed to national well-being. In addition it implies the unrealistic assumptions of perfect competition. A study of these however can be undertaken by distinguishing tariff-like from quota-like NTB's and analyzing these in terms of the general analysis presented earlier in terms of tariffs and quotas[36]. A non-tariff trade obstacle that shifts relative prices and

(33) Mauer and Van de Gevel, op. cit., p.48.

(34) R.E. Baldwin, op. cit., p.5.

(35) Mauer and Van de Gevel, op. cit., p.50.

(36) This is an approach used by H. Gröner in 'Problems of Non-Tariff Obstacles to Trade', Economics, 10, 32-48, 1974

costs through price burdens and reliefs can be regarded as a tariff-like trade barrier. Alternatively, those distortions applicable to sales volume and which restrict imports or exports are quota-like in their effect. Thus, according to how close these distortions resemble tariffs or quotas, they will be similar in their effect to tariffs and quotas. Appendix 1 adapts some of the more important distortions to tariff- and quota-like barriers. As an example of a perfect tariff substitute one can consider an administrative charge levied over and above the clearance costs of customs authorities, while anti-dumping restrictions or voluntary export restraints from a foreign producer acts as perfect quota substitutes. Non-perfect tariff and quota substitutes, although they differ markedly in effect to the more perfect substitutes, exhibit characteristics according to their proximity to tariffs and quotas.

Apart from the general effects of non-tariff distortions in terms of tariffs and quota, the specific effects are considered harmful. Gröner[37] stresses that in contrast with trade restrictions which refer to customs tariffs on import or export lists, non-tariff protection burdens producers with additional uncertainties. These are not subject to international agreement nor negotiation thus they tend to be rigid. The protective effects behind many of these are subtle. Apart from this, different instruments of trade policy can exist in different combinations. Quotas can exist together with quota-like or tariff-like non-tariff distortions or tariffs can exist with different non-tariff obstacles. This accounts for the fact mentioned earlier in this section that trade liberalization in terms of reductions in visible tariffs did not achieve the success hoped for. It is obvious that in many countries non-tariff trade obstacles were left or introduced as residual protection. Much of the literature on NTB's has tended to focus on the deleterious effects that

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(37) H. Gröner, op. cit., p.35.

these have on LDC's[38]. These countries seem particularly hard hit for they are less able to adapt to new requirements imposed by NTB's; the production-possibilities frontiers of these countries are more restricted and thus these countries frequently cannot conform to the rigorous standards required when these are insisted upon Various studies have also tended to suggest that the export products of LDC's in particular, are discriminated against. These factors could help explain the tendency among LDC's to implement an inward-looking trade strategy as a policy for development.

3.4 Summary

Until recently the arguments in favour of protection compared to a free trade situation were based on the unreality of the assumptions of perfect competition which pervaded the theory of comparative advantage. Tariff protection was thought of as a justifiable intervention because the effects of such protection were regarded as a means of increasing welfare in the light of second best conditions. It is however not possible to make any generalized a priori statements concerning the various effects of protection on the levels of consumption, production revenue and foreign trade in a country. There are too many imponderables and possibilities that must be accounted for relating to the nature of the product and the reaction to this protection. In terms of the theory of domestic distortions the emphasis in evaluating nominal protection was shifted towards assessing the effects of alternate forms of intervention and the broad conclusion emerging from the vast amount of literature in this connection is that divergencies from the ideal of perfect competition are in essence a domestic phenomenon and any measures designed to rectify these should be directed at the sources of

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(38) H. Gröner, Ibid.
See also:
I. Walter. 'Non-Tariff Barriers and the Export Performance of Developing Economies.' Amer. Econ. Review, Papers and Proc. May 1971, pp.195-205.

these diversions rather than attempts to correct these divergencies through intervention in international trade. Even with the optimum tariff concept and the infant-industry argument, doubts arise as to whether these can be considered as exceptions to the pursuit of free trade.

Despite this, tariffs are regarded by government as the optimum form of intervention and the reason for the popularity of this form of control results more from political appeal than from any theoretical arguments to justify this form of protection. During the 'sixties institutional arrangements succeeded to a certain extent in bringing about tariff liberalization and reductions in the use of quotas as instruments of control. But this served to highlight the use of other trade distorting devices, many of which can be regarded as substitutes for tariffs and quotas according to whether these affect prices and costs, or sales volumes.

Appendix 1 (1)

Tariff-like, non tariff distortions

Advance deposits
Border tax adjustments
Credit insurance
Customs valuation
Exchange restrictions
Import surcharges
Internal transport charges
Minimum import prices
Social charges variation
Variable levies

Quota-like non tariff distortions

Administrative regulations
Anti-dumping measures
Buy domestic policies
Customs classification
Environmental policies
Exchange restrictions
Health requirements
Import calendars
Immigration policies
Investment controls
Licensing
Marketing standards
Patents
Safety requirements
Technical regulations

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(1) This list is arbitrary and does not claim to be exhaustive. It is based on some of the more common non-tariff distortions as discussed in I. Walter, 'Non-Tariff Barriers and the Free-Trade Area Option' Banca Nazionale del Lavoro: Quarterly Review. March 1969, pp.16-45 and R.E. Baldwin, Non-Tariff Distortions in International Trade, Washington, The Brookings Institution, 1970.

CHAPTER 4

THE THEORY OF EFFECTIVE PROTECTION

4.1 Introduction

The discussion of protective measures presented in Chapter 3 was based on the broad assumptions that there exists vertical integration in any production function in a country and that tariffs and other measures are imposed only on tradeable final products. This state represents an over-simplification. In reality, one finds that production activities do not conform to a pattern of vertical integration and, more important, a substantial part of international trade consists of intermediate goods that are used as inputs in the production of final products. In a broad sense, one can define industries as processes that add value to the output of previous activities. If there are tariffs or other controls on inputs, the industry using these inputs will be at a cost disadvantage compared to a free trade situation. As Stern writes, 'once it is realized that tariffs are imposed at differential rates on inputs and final products, the protection or anti-protection of a tariff structure has to be analysed in terms of the effects on the value added by domestic factors of production in the various producing activities' (1).

The concept of effective tariff protection is designed to cope with these difficulties. Although economists and tariff-making authorities have for long been aware of the implications of tariffs on intermediate

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(1) R. Stern, 'Tariffs and Other Measures of Trade Control: A Survey of recent developments' J.E.L. Sept 1973. p.873.

inputs, the formal analysis, quantification and ramifications of the concept has only emerged recently. Until the concept began to be employed, the analysis of tariff protection in various countries proceeded along the lines of investigating the levels of nominal tariffs imposed in various goods in different countries. Thus, for example, in order to quantify the level of protection in various countries, each published tariff was weighted by the value of imports in question. Apart from the obvious shortcoming in this method of the value of imports itself being affected by the tariff, so that, at the extreme, a tariff of such magnitude so as to shut out imports entirely, would result in an understatement of the size of this tariff, there was no attempt at assessing the effects of tariffs imposed on intermediate inputs. For any proper understanding of the theory of protection a discussion of the effective protective rate is essential. The rate of effective protection thus depends 'not only on the tariff on the commodity produced by the activity, but also on the input coefficients and the tariffs on inputs' (3).

4.2 Early references to the concept

The first real reference to the idea of tariffs on intermediate goods affecting levels of protection can be traced to Taussig (4). Writing with amazing foresight, he describes the effect of the tariff structure existing in the United Stated in 1824 concerning the production of woollen goods for example. The 1824 tariff increased the duties on woollen goods from 25 to 33 1/3 per cent while the duty on wool was raised from 15 to 30 per cent. His conclusion in this regard was that manufacturers of woollen goods were in about the same position as before (5). In a footnote he set out to demonstrate

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(3) W.M. Corden, "The Structure of a Tariff System and the Effective Protective Rate", J. Polit. Econ 74(3), June 1966, p.222

(4) F.W. Taussig, The Tariff History of the United States New York, Putman, 1914

(5) F.W. Taussig, op. cit.,

this. On the assumption that the cost of wool represents approximately one half of the cost of making woollengoods he compares the 1824 increases in duties imposed on these goods with the tariff levels existing prior to the increase in terms of a concept of 'net protection'.

Prior to 1824:	Per cent
Duty on woollen goods	25
Deduct duty on wool, (one-half of 15 per cent)	7½
net protection	17½

1824 tariff:	
Duty on woollen goods	33½
Deduct duty on wool (one half of 30 per cent)	15
net protection	18 1/3

Thus Taussig attempted to take into account the importance of intermediate stages of production and to show how tariffs imposed on intermediate goods could affect the level of protection on the final good. In both cases, nominal protection on woollen goods did not reflect a true level of the protection accorded the industry as a whole.

Another early reference to the basic ideas of what is today known as effective protection can be found in Haberler[6]. This distinguished trade theorist in a section discussing the effects of import duties on the means of production stresses the complementarity inherent in any productive process. 'One means of production is always used in conjunction with other means, the whole making a productive combination of factors. When the price of one means, or factor, is raised by an import duty there is a danger that the

(6) G. Haberler, The theory of international trade with its applications to commercial policy, London: William Hodge and Co., 1937

demand for other means, with which it is complementary, may fall off also, the previous combinations being broken up'[7]. Haberler continues by stating that any tariff on a means of production increases the price of this productive source and raises the cost of the production process, in which it is employed. Relating this to the balance of payments effect of a tariff, Haberler argues that if the affected industry is an export industry, the effects of cost increases may well diminish exports. It may nappen that the decline in exports matches that in imports and thus the balance of payments is not affected. Alternatively, a tariff imposed on a raw material only i.e. with no tariff imposed on a final good, may even increase imports of the final good, in which event the original aim of the tariff, viz. to increase the local production of the raw material or to curb the general level of imports, will not be realized. For example, if a tariff is imposed on yarns and not on cloth, the imports of cloth may increase.

Corden[8] argues that these earlier writers did not really discuss the concept of effective protection in its true form as it was expressed in later years, for the references did not consider the possibility of a protective rate being negative, i.e. actually taxing a particular activity, nor did they allude to a free trade effective price - rather a free trade nominal price. Thus the concept involved was an adjusted nominal rate.

The first real statement about effective protection was made by Barber. In his article concerning tariff policy in Canada[9], Barber implies that any discussion concerned with the merits of tariff reduction must take into account the effective level of a tariff rate. This level may vary widely,

(7) G. Haberler, op. cit., p.235.

(8) W.M. Corden, The Theory of Protection pp. 245-249

(9) C.L. Barber, 'Canadian Tariff Policy' Can. Journal Econ. and Pol. Sci., 12, pp.513-530, November 1955

depending on the proportion of the final value of an industry's product that consists of raw materials and supplies, and on the terms on which these can be purchased.

The example used by Barber illustrates well the meaning of the concept of an effective protective rate. If there exists an ad valorem rate or duty of 20 per cent on the finished product and raw materials are purchased at world market prices and account for one half of the value of a process, the 20 per cent duty provides the activity with a 40 per cent amount of protection on the value added by manufacturing. As long as raw materials can be purchased at world market prices, the higher the ratio of material costs to the value of the final product, the higher is the effective level of protection provided by a tariff rate. If the cost of materials in this example amounted to three quarters of the final selling price, under the assumption of the same rate of duty the effective protective rate will now be increased to 80 per cent. If raw materials are protected by a tariff the degree to which an industry's level of protection exceeds the formal tariff rate becomes reduced. In fact, if the tariff rate on intermediate goods is greater than that on the finalized product, the effective rate of protection is less than the ad valorem tariff on the final product.

One can illustrate the relationship between tariffs on inputs and on final goods in the following way:

Assume that:

(i) The production of a particular good consists only of the transformation of imported intermediate goods into final goods for sale in the domestic market. Thus there are only two stages of production.

(ii) The selling price of the final good is 100 units without any duty imposed on the good.

(iii) Intermediate goods account for one-half of the value of the process. Thus the value added of the final stage at world market prices is 50 per cent.

Let T_f represent the tariff on the final good or the nominal tariff and T_i the tariff on the intermediate good. Furthermore, let V_1 and V_o represent the value added on the final stage under protection and free trade conditions, respectively.

The effective rate of protection$^{(E)}$ can be calculated by taking into account the change in domestic value added brought about by protection as compared to a free trade situation.

Expressed simply $E = \frac{V_1 - V_o}{V_o}$

T_f%	T_i%	P	V_1	V_o	E%	Relationship between E and T_f
0	0	100	50	50	0	equal
10	0	110	60	50	20	greater
20	10	120	65	50	30	greater
30	30	130	65	50	30	equal
10	10	110	55	50	10	equal
10	20	110	50	50	0	smaller
0	10	100	45	50	-10	smaller

As is shown in this example, as long as the nominal tariff on final goods exceeds the tariff levied on intermediate goods, the effective rate will be greater than the nominal rate. If the tariff on intermediate goods exceeds that on final goods, the effective rate will be less than the nominal rate. In the event of the same rate applied to both, the effective and nominal rates will be equal.

On relaxing the assumption of a 50 per cent value added in the final stage of manufacturing, one gets a different set of results that will vary markedly according to the proportion of value added by this stage.

Assuming that the value added in the final stage is 80 per cent, one arrives at the following results:

T_f%	T_i%	P	V_1	V_o	E%
10	0	110	90	80	12,5
20	10	120	98	80	22,5
30	30	130	104	80	30,0
10	20	110	86	80	7,5
10	10	110	88	80	10,0
0	10	100	78	80	-2,5

Thus for the same levels of nominal protection as in the previous example, effective rates are lower in this case, where the value added of the final stage accounts for a larger proportion of production.

Similarly, assuming that the value added in the final stage represents only 20 per cent of the value of production the following results are attained:

T_f%	T_i%	P	V_1	V_o	E%
10	0	110	30	20	50
20	10	120	32	20	60
30	30	130	26	20	30
10	20	110	14	20	-35
0	10	100	12	20	-40

The interesting aspect of these examples is that in addition to showing the relationship between tariffs levied on intermediate goods and final products, the smaller the value added by the final stage of production, the higher will the level of effective protection be. Under the assumption of a 50 per cent value added, a tariff on final output of 10 per cent and no tariff levied on intermediate production yields an effective level of 20 per cent. If the final stage process accounts for 80 per cent, the effective rate falls to 12 per cent under the same conditions, while a 20 per cent value added for final production yields a 50 per cent rate of effective protection. Thus it could be argued that those local producers who enjoy a high rate of effective protection may be reluctant to increase the value added of the final stage of production, for this would entail a reduction in the level of effective protection.

Barber[10] applied the nominal-effective distinction to Canada's tariff policy The relationship between effective and apparent levels partly explains the practice, common among tariff-making authorities all over the world and implied by the earlier writers on the subject, of placing comparatively low rates of duty on raw or partially-processed materials, somewhat higher rates on semi-finished goods and still higher rates on the finished product.

An interesting point made by Barber in a footnote[11] concerns the effect that fluctuations in raw material prices over a business cycle exert on the level of effective protection, when tariffs are expressed in ad valorem terms, rather than by specific duties. During a period of prosperity the ratio of the cost of materials to the value of the product may be significantly higher than during a period of depression, and in order to maintain the same level of effective protection, duties will have to be changed accordingly. In addition to stressing the obvious need to take into account effective rates rather than nominal rates in any tariff negotiations or tariff liberal-

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(10) Barber, op. cit.,

(11) Barber, op. cit., p.524.

isation programme, Barber also discusses how effective protective rates influence the pattern of development in a country. High rates of protection on final goods induce 'a wide range of assembly operations' rather than integrated operations for manufacturing in various stages. Because of the relationship between value added at various stages and levels of effective protection, high effective rates induce producers to produce only the final processes and discourage taking production further back along a process because of the reduction in effective protection that would arise. For example, in the assembly of motor cars, if parts and components are not subject to duty, the effective protection derived from a given tariff on motor cars will be higher, the larger the proportion of parts and components that are imported or produced domestically on an unprotected basis. Placing a tariff only on final goods will encourage mainly the production of those goods.

At about the same time as Barber's article appeared, James Meade made reference to a similar concept in his important work written during the fifties[12]. Meade, however, did not develop the concept, nor did he feel that it justified mention elsewhere in his work. What Meade did was to reduce the concept to an arithmetic calculation. Using the example of the production of shirts, Meade shows that imposing a $2 duty on a shirt the world price of which is $10 and the raw material content amounts to $4 (assuming this is admitted free of duty) does not represent an effective rate of 20 per cent (i.e. $\frac{2}{12.2}$) but a rate protecting the manufacture of shirts (i.e. the value of the shirt less the raw cotton content) amounting to 33 1/3 per cent (i.e. $\frac{2}{8.2}$).

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(12) J.E. Meade, Trade and Welfare, p.157, pp.162-163.

With the main ideas involved becoming increasingly accepted, the theory of effective protection became a much-discussed and researched topic during the nineteen sixties. Notable contributors to the theory included Johnson[13], Basevi[14], Balassa[15] and Corden[16]. The work of these contributors included formulating the concept and applying measures of effective protection to various countries. As the measure became increasingly studied and applied, several limitations of the measure became apparent and more recent work on effective protection has tended to concentrate on these limitations.

4.3 The recent formulation of effective protection

There are several reasons for effective protection emerging as a quantifiable and usable tool of analysis only during the past decade, in spite of several earlier aversions to aspects of the concept. One of the reasons mentioned in the previous chapter was that, until recently, many of the issues involved in tariff theory simply implied comparing tariffs with a free trade situation rather than accepting tariffs and protection as a second best alternative. This type of analysis invited the use of nominal rather than effective protection. Another factor is that until recently, much of international trade theory concentrated on developed countries and neglected the role of trade policy in LDC's. Many industrializing countries recently experienced enormous problems in formulating a trade strategy for development and in this more dynamic context concentrating on nominal tariffs was a pointless exercise. It is significant

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(13) H.G. Johnson, 'The Theory of the Tariff Structure with Special Reference to World Trade and Development', in Aspects of the Theory of Tariffs, 1971

(14) G. Basevi, 'The U.S. Tariff Structure: Estimates of Effective Rates of Protection of U.S. Industries and Industrial Labour', Rev. Ec. and Stats 48(2) pp.47-160, May 1966.

(15) B. Balassa, 'Tariff Protection in Industrial Countries: An Evaluation'. J. Polit. Econ 73(6) pp.573-94, December 1965

(16) W.M. Corden, 'The Tariff', in Alex Hunter (ed.) The Economics of Australian Industry

that much of the work on effective rates of protection was performed in countries such as Israel, Canada, Australia, Latin America, India and Pakistan where many of these problems were prevalent. But perhaps the most important factor was the recent emergence of a sophisticated tool of inter-industry economics viz. input-output analysis, provided by Wassily Leontief during the fifties. The application of this type of analysis to effective protection presented economists with an ideal instrument of assessing value added and applying tariff rates to various stages of any productive process. This meant that trade theory could now be extended beyond the partial equilibrium - two-good type of model.

(i) The Corden formulation for effective protection

The most frequently-used formulation is that of Corden's and the notation used here will follow his conventional notation. Corden[17] presents an algebraic formulation based on the following assumptions:

a) the physical input-output coefficients are all fixed for all firms in an industry.

b) the elasticities of demand for all exports and supply of all imports are infinite - the small country assumption.

c) all tradeable goods remain traded even after tariffs have been imposed so that the internal price of each importable is given by the foreign price plus the tariff.

Consider the case of an importable product, j, which has only a single input that is also importable, i. On the assumption that there are no taxes and subsidies affecting j and i other than an import tariff, Corden derives the effective protective rate for the activity producing j. Let

v_j = value added per unit of j in activity j in the absence of tariffs;

v_j' = value added per unit of j in activity j made possible by the tariff structure;

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(17) W.M. Corden, 'The Structure of a Tariff System and the Effective Protective Rate' J. Polit. Econ., 74(3) pp.221-37, June 1966.

g_j = effective protective rate for activity j;

p_j = price of a unit of j in the absence of tariffs;

a_{ij} = share of i in cost of j in absence of tariffs;

t_j = tariff rate on j;

t_i = tariff rate on i.

The value added per unit of j in activity j in the absence and presence of tariffs is then

(1) $$v_j = p_j(1-a_{ij})$$

(2) $$v_j' = p_j'(1+t_j)-a_{ij}(1+t_i)$$

(3) $$g_j \equiv \frac{v_j'-v_j}{v_j}$$

(4) $$g_j \equiv \frac{t_j-a_{ij}t_i}{1-a_{ij}}$$ from equations (1)(2) and (3)

Formula (4) can be extended into any number of importable inputs into the i^{th} product as follows:

(5) $$g_j = \frac{t_j-\sum_{i=1}^{n} a_{ij}t_i}{1-\sum_{i=1}^{n} a_{ij}}$$

or

(5.1) $$g_j = \frac{t_j-\sum_{i=1}^{n} a_{ij}t_i}{v_j}$$

Expressed verbally, Corden defines the effective protective rate as the 'percentage increase in value added per unit in an economic activity which is made possible by the tariff structure relative to the

situation in the absence of tariffs'[18]. It measures the percentage by which the domestic value added in an industry in question exceeds the value added in that industry when all inputs and outputs are valued at free trade world prices. Looking at the more simplified expression:

$$(3) \qquad g_j = \frac{v_j' - v_j}{v_j}$$

where g_j represents the effective rate of protection, v_j' the value added in industry j at domestic market prices and v_j the value added at world prices, one can on this basis interpret the effective rate of protection in a number of different ways[19]. If v_j refers to the value added per unit of output under free trade and v_j' the value under tariffs of the primary inputs used per unit of output in the free trade situation and if only one primary input is used, this interpretation refers to the proportional change in the price of that input resulting from the imposition of tariffs. More generally, it measures the stimulus to growth in industry j stemming from the tariff system, without incorporating any reactions to that stimulus . Alternatively if v_j' refers to the value added per unit after substitution between primary and secondary factors it takes into account the reaction to the growth stimulus. In addition, v_j and v_j' may be interpreted as the total value added before and after the imposition of tariffs, respectively, in which case it represents a more dynamic indication of the resultant growth in value added in the industry concerned.

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(18) W.M. Corden, Ibid., p. 222.

(19) S.P.J. du Plessis, 'Effective Tariff Protection in South Africa', SAJE 44(2) pp.158-170, June 1976

'It is essentially in terms of the second and third interpretations that the most accurate depiction of the effective rate of protection is most commonly alluded to. The essence of the definition attempts to phrase protection in such a way as to refer to the shift in domestic resources arising out of a certain tariff structure. Balassa, perhaps provides the most acceptable description of the effective rate of protection. 'The effective rate of protection expresses the margin of protection on value added in the production process rather than on the product price. It is defined as the percentage excess of domestic value added, obtainable by reason of the imposition of tariffs and other protective measures on the product and its inputs, over foreign or world market value-added. Thus, while the nominal rate of protection pertains to the product and affects decisions taken by consumers, the effective rate of protection indicates the joint effects on the processing activity of tariffs on the product itself and on its inputs and it influences the producer's choice' (20).

(ii) The appeal of the concept

Several empirical studies have been performed attempting to measure effective rates of protection for various countries (21). These results have indicated that tariff structures in many developed countries show certain common characteristics that have helped explain some of the common features resulting from a tariff structure. The application of the measures to developing countries have yielded even more interesting results. These findings have led to a widespread appeal for the use of effective protective rates as an important tool in international trade and economic development.

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(20) B. Balassa, 'The Structure of Protection in Developing Countries', Baltimore, John Hopkins Press, 1971, p.4.

(21) See, for example, B. Balassa, op. cit., I. Little et al. Industry and trade in developing countries, R.E. Baldwin Non-tariff distortions in international trade.

The patterns of effective protection offer explanations for the universal tendency of escalation or cascading in tariff structures. Tariffs on final goods tend to be far higher than on intermediate goods and raw materials. All the various studies show that effective rates are lowest on primary commodities, followed by intermediate goods at lower, then higher stages of fabrication, and finally are highest for consumer goods. Thus, for most products, the effective rate exceeds the nominal rate in many countries both developed and less developed.

Related to the above, one can trace the impact of escalation on the commodity composition of international trade. The existing tariff structure in advanced countries, which is characterized by low protective levels for raw materials and high rates of duty on finished products has tended to bias imports from less developed countries towards unprocessed primary products rather than manufactured goods. Thus one can partially attribute the general heavy concentration in exports of primary products from less developed countries to this factor.

The concept of effective protection has also helped explain why several attempts at tariff liberalization have failed. Merely reducing nominal rates of protection on various goods is insufficient to bring about true tariff liberalization. Depending on what goods tariffs are reduced, and depending on the inputs and productive activities involved, one could find that tariff reductions could well increase the level of protection in a particular activity.

In addition, the ideas inherent in the concept of effective protection can possibly account for the similarity in many of the patterns of industrialization followed by less developed countries. Many of these countries tend to follow a strategy for industrialization that begins with the substitution of domestically-produced goods for goods that were previously imported. The type of goods frequently produced are consumer goods.

Once the initial phases of the import replacement boom are completed many countries find it increasingly difficult to capitalise on further opportunities for growth, for seldom do import-replacement industries convert themselves into export-oriented industries. Furthermore, many countries experience severe difficulties in extending import substitution beyond the initial stages. More will be said about this at a later stage, but for the present both these tendencies can be explained in terms of the type of protection policies followed by LDC's that are conducive to this type of development.

As regards the characteristic that LDC's find it increasingly difficult to extend the import-substituting process to more intermediate stages of production, it is unlikely that the authorities in these countries will attempt to encourage this type of production by increasing duties on intermediate goods thus reducing the protection accorded to producers of final goods.

Another oft-cited tendency regarding production trends in industrializing countries is the adoption of a capital-intensive technology rather than making use of the vast pools of labour that are prevalent in many of these countries. Once more, the policies of attempting to protect final stages of manufacturing and providing high levels of effective protection for consumer goods, for example, by levying low duties on capital equipment, encourage the use of capital equipment in the production process and so a capital-intensive bias with capital equipment being relatively undervalued.

The introduction of analysis of tariff policy in terms of effective rates rather than nominal rates and the numerical measures of such protection in various countries has elevated the concept of effective protection to a new status. In terms of effective protection many of the problems of international trade are better understood. Moreover, because of the emphasis on production activities rather than consumption, its application to the relationship between international trade and economic development has resulted in the intellectual acceptance of the concept as a useful instrument in studying the problems of less developed countries in particular. Through studying tariff protection in this light one can better appreciate the many problems faced by countries striving to industrialize. The similarity in the results attained in various empirical studies of levels of effective protection in different countries tend to refute the suggestions of Marxist-oriented theorists who ascribe the plight of LDC's solely to exploitation by various colonial powers. Many of the problems encountered in these countries can be attributed to the domestic policies followed by governments in these countries in their attempts to encourage industrialization. The analysis of protection in terms of various stages of industrialization processes is a useful instrument in relating international trade and economic development and for this reason the concept of effective protection has widespread appeal.

(iii) Difficulties in measurement and conceptual problems

Lest it be thought that effective protective measures, such as have been devised by Corden, represent an ideal measure with which to analyse policy, it is worthwhile analysing some of the problems associated with it, for indeed there has been a proliferation of literature on the subject.

Firstly there are numerous practical difficulties involved. Input-output analysis has only been used over the past twenty years or so

and it is virtually impossible to calculate effective protective rates for various countries over a time span beyond this period. Furthermore, the difficulties in comparing effective rates between different years within this time span for a single country according to different input-output tables are subject to the same difficulties involved in inter-censal comparison. A different value added can arise as a result of improved statistical technique rather than the result of a resource flow. Also the production of input-output tables in a country is infrequent because of the difficulties involved in compiling such tables, so that one cannot frequently compare effective rates over time. In South Africa over the past 20 years there have been three such tables produced for 1956-57, 1963-64 and 1967. Each of these tables has a different classification for various sectors. In the 1956/7 table there were 48 sectors while in 1963/4 and 1967 there were 36 and 52 sectors, respectively.

In addition, the use of these tables are limited to those countries where there exists some sophistication of technique as far as the collection and collation of statistics are concerned. It is highly unlikely that many of the LDC's have available such statistics and, if they do, whether these are in fact accurate. As far as inter-country comparisons of effective rates of protection are concerned the fact that many countries have different classifications of various industries in their input-output tables render such comparisons pointless.

Apart from the statistical difficulties involved in computing and constructing input-output tables there are several problems involved in assessing nominal rates of protection, which enter the calculation of effective rates. Several studies have simply calculated these by dividing the duties by the total imports for a sector which implies an unweighted average of duties and disregards those duties that are totally restrictive.

In addition, one has to assess nominal rates for sectors which conform to the input-output classification and as the classifications included in tariff schedules are vastly different to the classification according to the input-output table some adjustments have to be made. The broad levels of aggregation frequently encountered in input-output tables render many of the conclusions invalid. Many sectors produce goods for both intermediate and final uses and to separate out the protected activities and to attempt to assign values of protection to these according to a nominal tariff schedule is a difficult exercise.

Apart from these practical difficulties, there exist several theoretical shortcomings in the calculation of effective rates of protection. One of the most debated aspects in the literature of effective protection revolves around the problem of how to deal with non-traded inputs in calculating effective protection. In the Corden method cited above, non-traded inputs are considered as being affected or protected in the same way as primary inputs and these are included in the calculation of the value added. Corden then assumes that while traded goods are infinitely elastic, the supply of non-traded inputs is not likely to be so elastic as that of traded goods, and prices of non-traded inputs tend to rise as production expands in response to greater protection. Even though it is impossible to separate the price gains to these inputs from those of primary factors, Corden's ERP measure is calculated on the value added by primary factors plus the value added by non-traded inputs.

Balassa[23] assumes that non-traded inputs are in infinitely elastic supply and the prices of these vary by the amount by which protection raises or reduces the cost of material inputs used in their production. Thus Balassa omits these from the value added. This accounts for the tendency in the results for effective protection calculated by the Corden

(23) B. Balassa, op. cit., pp.17-18.

method being lower than those using the Balassa method. Corden includes non-traded inputs in both the denominator and numerator, while Balassa excludes non-traded inputs from the denominator.

Another conceptual difficulty concerns the partial-equilibrium assumption of the linear and homogeneous production function incorporated in a_{ij} between the domestic and world situation. This necessarily assumes that the input coefficients remain unchanged. Protection may in fact induce changes in these coefficients so that the ERP measure will not be able to predict the domestic resource shift consequent on the change in tariff structure. Anderson and Naya[24] state that the assumption that input/output relationships remain the same before and after the imposition of tariffs is convenient and necessary, since information is only available for a protected state. Any change in domestic price relationships could bring about substitution between primary and intermediate inputs and so alter the input coefficients. The observation that effective rates tend to exceed nominal rates has been attributed to tariff escalation but it may just as well be attributable to an overstatement of the effective rate. The problem arises from an inability to use the input-output table for a country in a free trade situation - only a post tariff situation.

A similar problem arises when one considers the effects of economies of scale. Such economies could well affect the share of inputs and remuneration to various factors. But these are necessarily assumed not to be relevant. If one allows for variable factor proportions and general equilibrium repercussions Tan argues that rankings of effective protection do not necessarily provide any index of economic efficiency even i . the presence of negative value added, that effective protection rates do not measure the maximum proportionate increase in factor rewards and the rankings of effective

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(24) J. Anderson and S. Naya, 'Substitution and Two Concepts of Effective Rate of Protection', American Econ. Review, 59, Sept 1969, p.607

protection do not unambiguously indicate the direction of resource flows[25].

Another fundamental problem in connection with the conventional formulation of the effective rate of protection measure is that its relationship to welfare analysis tends to be obscure. Ruffin[26] has shown that under the assumption that imported intermediate goods are not produced domestically, the effective tariff concept has a strong theoretical foundation. However, he argues, the application of the effective tariff concept to a multi-commodity world brings about the difficulty that effective protection of one industry can only be measured relative to some base industry to which the industry in question is compared. ..Thus two different base industries may lead to entirely different results. Apart from this, Ruffin proves that when imported intermediate goods <u>are</u> produced at home the welfare foundations of the effective tariff disappear completely. Under this condition the effective rate tends to be biased (in the sense that an industry may still be protected or injured as compared to free trade output even when the effective rate is zero) and inefficient (implying that a higher rate of effective protection may be better than a lower rate).

The analysis thus far regarding the concept of effective protection has concentrated only on tariff protection. All that has been considered is the difference in value added contributed by domestic primary resources with and without a tariff structure. As was pointed out in the previous chapter, non-tariff barriers exist and can be regarded as an important form of protection. The existence of non-tariff barriers causes divergence between domestic and foreign prices, hence a difference in domestic value added from what would be in a world without these barriers.

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(25) A.H.H. Tan, 'Differential Tariffs, Negative Value Added and the Theory of Effective Protection', <u>Amer. Econ. Rev.</u>, 60, pp.107-116, 1970.

(26) R. Ruffin, 'Tariffs, Intermediate Goods, and Domestic Protection', <u>Amer. Econ. Rev.</u>, 59, pp.261-269, June 1969

Various authors have attempted to include the protective effect of these other distortions using the ERP formulation. Waters, for example, in his study of the effects of transportation costs on the level of protection in the United States, finds that excluding transport costs from consideration not only understates the level of protection for domestic vis-a-vis foreign resources, but also significantly alters the pattern of protection among industries in the sense that the escalation in tariff structures appears to be partially offset by de-escalation in freight factors(27).

The most comprehensive attempt to assess non-tariff barriers empirically was undertaken by Baldwin(28). He argues that:

'An important feature of the effective protection concept is that any measure whose effect on input or output prices can be expressed in per-unit terms can be introduced into the formula. It is possible, therefore, to estimate net rates of effective protection that take into account many non-tariff distortions as well as tariffs. For example, quotas - like tariffs - raise the effective rate of protection on final products but decrease the protection for those items that use the products as intermediate inputs. An export subsidy causes the domestic price of a subsidized product to rise as producers shift their sales to international markets; it therefore increases the effective rate of protection.....on value added just as a tariff does(29)'.

Baldwin attempts to calculate effective protection arising from tariff and non-tariff measures together and non-tariff measures separately. His findings suggest that the most important distortions are domestic price-increasing measures in the agricultural sector, quotas in other sectors, the American selling price system for chemical products, federal exercise taxes the federal transport tax, state and local retail

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(27) W.G. Waters, 'Transport Costs, Tariffs and the Pattern of Industrial Protection', Amer. Econ. Rev. 60, 1970, pp.1013-1020.

(28) R.E. Baldwin, Non tariff distortions of international trade

(29) R.E. Baldwin, op. cit., p.151.

taxes, and the federal subsidy to highway transportation. His calculations include use of both the Balassa and Corden methods. He estimates that the relative magnitude of effecti.. protection due to NTB's was 19 per cent in 1958, 15 per cent in 1964 and he anticipated that these would increase as a response to tariff reductions.

Mauer and Van de Gevel voice doubt regarding Baldwin's apprcach(30). Baldwin attempts to translate various distortions into price equivalents but does not indicate how these are arrived at. In addition there are several non-tariff barriers that are initially impossible to include in this type of measure by converting them into a price effect. Barriers such as administrative hindrances or delays, and quantitative import restrictions can be cited in this regard. Baldwin himself acknowledges that he has chosen a limited number of categories in his study and one of the conclusions reached by Mauer and Van de Gevel in this connection is that Baldwin's estimates should be considered as underestimates. In addition to these specific criticisms on Baldwin's results, there is in his study no refinement nor attempt to take into account some of the more fundamental criticisms voiced previously concerning the theoretical validity of the effective protective measure.

4.4 Summary

In contributions to the theory of international trade, economists have for long concentrated on trade in final commodities. The traditional theory of comparative advantage and the analysis of various trade-distorting measures were both undertaken under this framework. While this simplification may have been appropriate at the time the original theory of comparative advantage was formulated, its usefulness in a world where production and trade relationships have become increasingly complex is limited. At present,

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(30) W.J. Mauer and A.J.W. Van de Gevel, 'Non-Tariff Distortions in International Trade: A Methodological Review', pp. 63 and 64.

any study of protection is insufficient if it is framed according to the traditional assumption that domestic producers and consumers respond to the price-raising effects of tariffs and other protective measures by expanding production and reducing consumption of that commodity which is being protected. While the introduction of raw material and intermediate inputs in the production process does not affect the decisions of consumers, they will continue to react in the way indicated to changes in price - it is for the producer that tariffs on final output as well as on raw materials and intermediate inputs become relevant. This is what the theory of effective protection attempts to study. The effective rate of protection expresses the margin of protection on value added in the production process rather than on the product price. It is defined as the percentage excess of domestic value added, that arises as a result of the imposition of tariffs and other protective measures on the product as well as its inputs, over the free trade or world market value added. Effective protection thus influences producers' decisions and the allocation of resources among industries.

As a result of these ramifications the concept of effective protection appears to be a far more promising analytical tool than nominal protection, in assessing the effects of a protective policy and, more specifically, how a protective policy has influenced the pattern of economic development in a country. However, it must be emphasized that this conceptual tool is still in an early stage of development. There are numerous theoretical conceptual and practical problems associated with it, and this has accounted for the vast amount of literature that has arisen over the past few years attempting to improve and provide a better understanding of the concept. Judging from various debates on the issue much work still requires to be done.

In spite of the many limitations of the concept one cannot dismiss the value of this type of analysis. In the conclusion to Corden's book[31], the author implies an interesting parallel between effective protective rates and the theory of consumer surplus. Referring to the theory of consumer surplus, Corden writes that this simple intuitively appealing idea on careful examination turned out to require many assumptions for its validity and as a result purists tended to dismiss it as 'a totally useless theoretical toy'. But he argues that it has such strong intuitive appeal and there is nothing better available, so people keep on using it. 'Theorists' Corden writes, 'should provide some useful concepts that their practical colleagues or they themselves, can test and use. They should certainly help explain the limitations and necessary qualifications of the concepts. But theory does not have to be contrary to common-sense and the qualifications to a theory need not necessarily overwhelm. Its simple message, rather, they should be regarded as signposts to further development'[31].

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(31) W.M. Corden. The Theory of Protection. p.243.

CHAPTER 5

TARIFF PROTECTION AND THE PATTERN OF ECONOMIC GROWTH IN DEVELOPING COUNTRIES

5.1 Introduction

The application of a policy of protection in any country is not only based on a consistent and deliberate plan of action, but in addition can be considered to be a historical result of decisions taken at different times and for various reasons. These are the product of particular circumstances and situations. In some countries the influence and demands of special pressure groups may have influenced policy. Frequently, tariff-making authorities have yielded to requests for protection, without enquiring adequately, if at all, into the impact of these measures on other industries, the allocation of resources and the pattern of economic growth.

Until the introduction of the concept of effective protection, any such study was necessarily restricted to the effects of tariffs on final output. With the development and improved understanding of the concept of effective protection it is possible to gain a better appreciation of the effects of protective policy by relating such effects not only to the objective actually pursued but according to the multiplicity of interests and objectives in a country. Thus the nature of the effective protection concept, in that it indicates the extent of protection on various activities rather than solely on final products, enables one to evaluate better how the protective structure influences productive activities. The emphasis is shifted from the price effect (which is of relevance to consumers) to the productive effect. In general, a high level of protection on an effective

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basis indicates the stimulus given to producers in any particular activity, and if there exists a small element of consistency in the patterns of protection in various countries these will have a decisive influence in the development pattern in these countries.

The various empirical studies of effective protection in many countries have shown a certain uniformity in their results. Effective protection is, on average, higher than nominal protection in the industrial sector, both in rich countries and poor, because of the phenomenon of tariff cascading or escalation, i.e. the practice of levying higher import duties the higher is the degree of fabricat The structure of effective protection in developing countries is such as to favour import-substituting industries relative to export processing or otherwise outward-oriented industries. One can argue that a part of this bias is intensified by the industrial protection offered to their own processors by the developed nations, but as will be shown later, high levels of effective protection contain an inherent bias towards import substitution to the detriment of exporters. Another characteristic feature of the structure of protection is that consumer goods have received relatively far more protection than either intermediate products or capital goods in less developed countries.

This chapter attempts to show the usefulness of the concept of effective rates of protection in analysing the pattern of economic growth in a country. In addition, import substitution and export expansion are compared as development strategies and the pattern of growth in the South African economy over the past 50 years is examined. By stimulating import substitution at the expense of export production, various countries have experienced severe problems in the later stages of the process. This appears true for South Africa as well. The patterns of protection and the type of import substitution that these have given rise to, are offered as explanations of the apparent failure of a development strategy such as

import substitution as a continuing growth process. The question is thus posed as to whether the experiences of several countries that have, via their protective policies, implemented import substituting industrialization in a particular way should constitute an indictment of the process as a whole. Finally an attempt will be made to offer an optimal tariff policy that may increase the rate of growth in lesser developed countries.

5.2 The influence of tariffs on the productive structure

By definition, the motive behind tariff protection in any particular country is to restrict foreign competition and, thus, either directly or indirectly provide an incentive for firms to produce for the domestic market. In addition, tariffs contain a bias against exporting. The general line of reasoning is that in the domestic market, producers obtain the tariff-inclusive domestic price while (in the absence of export subsidies) export sales receive the world market price. Furthermore, unless the firm is somehow compensated for tariffs paid on imported materials, it has to pay the same price on material inputs, whether these are used for domestic production or for exports.

The following numerical example adopted from Balassa[1] illustrates the bias.

Assume that the free market price of an item of clothing is R100 and the cost of material inputs is R60. The world market value added in clothing is thus R40. A 20 per cent tariff on clothing raises the domestic price to R120 while a 10 per cent duty on textiles increases the material costs to the domestic producer to R66. Protection thus enables firms to operate with a value added of R54 - the difference between the domestic price of clothing and the cost of materials - compared with a free market value added of R40. If the producer were to produce for export, in order to compete successfully in the export market, he would have to sell clothing

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(1) B. Balassa, The Structure of Protection in Developing Countries, p.5 and p.9.

at the world market price of R100. With inputs costing R66 the value added in exporting would only be R34 compared to the value added of R54 when producing for the domestic market.

For any given industry, the extent of the bias against exporting can be expressed by calculating the percentage excess of domestic value added in import substitution over that obtainable in exporting. One can express the bias according to the following:

$$X_i = \frac{W_i - Y_i}{Y_i}$$

where X_i refers to the bias in favour of an industry producing for the domestic market.

W_i refers to the domestic value added

Y_i refers to the value added obtainable in exporting

Apart from the bias expressed by the above example, there are several other ways by which high levels of effective protection adversely affect exports from a country. As regards the exports of primary products, there exists the possibility that the protection of inputs used by these industries is so high as to adversely affect these industries, resulting in negative protective rates. Primary exporters could thus be taxed by such a protective structure. As an example one can look at agriculture. Since increasing productivity in agriculture depends on increasing use of manufactured inputs, if duties were levied on such inputs, protection could be considered to deter agricultural progress and exports of agricultural goods. Johnson raises an interesting issue in this connection(2). He argues that protection may produce a vicious circle of self-justifying policy measures, in which tariff authorities, starting from the assumption that agriculture

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(2) H.G. Johnson, Aspects of the Theory of Tariffs, London, Allen and Unwin, 1971, p.105

offers little scope for growth, adopt a policy of heavy industrial protectionism to promote development. By doing so they further retard the development of agriculture. The effect on the exports and output of mining can also be similarly analysed(3).

As far as the effects on manufactured exports are concerned, the above example illustrates the bias against these. High levels of tariffs together with overvalued currency rates largely explain why in many countries that exhibit high rates of protection, exports of manufactured goods fare badly.

Thus it appears that the rationale for tariff protection in many less developed countries appears to have been primarily to encourage the establishment of domestic production of substitutes for imports, thus inducing a particular type of industrialization in these countries.

5.3 Import substitution and export promotion as development strategies

The debate concerning import substitution and export promotion as alternative strategies for economic development has dominated much of the literature on the economies of development, as well as the decisions of policy makers in less developed countries. During the nineteenth and earlier part of the twentieth century, international trade had proved a major source of economic growth in many countries. The pattern of trade during this period was influenced by Adam Smith's extolment of the benefits of specialization. The international division of labour and international trade were considered mechanisms that enabled each country to specialize and to export those goods and services that it could produce cheaper in exchange for what others could provide at a lower cost. Thus economic wellbeing was promoted, national income was increased and the advance in economic growth was regarded as a way of

(3) For a discussion on the effects of tariff protection on the gold mining industry in South Africa see A.B. Lumby, Tariffs and Gold in South Africa 1886-1939, South African Journal of Economics, 44(2), June 1976

escaping the barriers of poverty. Trade was thus thought of as an engine of growth; enabling countries to exhibit surplus resources of land and labour that had hitherto no economic outlet. It was believed that trade facilitated an improvement in skills and education through the employment of workers in trade-oriented sectors. Furthermore, trade was said to stimulate invention and discovery and provide material means and capital for expansion and development. Post-depression economics emphasized the need for countries to diversify their production beyond that of supplying primary commodities as a means of achieving increased development. These export-led theories with their free trade assumptions were rejected after the depression for a number of reasons. Firstly, the predictions inherent in these theories, that primary export production automatically enhances and ensures development, did not materialize. If anything, these led to suggestions that more developed countries were able to develop at the expense of primary producing countries. Furthermore, as prices on international commodity markets dropped sharply, owing to the slowdown in the growth in output in more developed countries or to the development of synthetic or substitute products, the development of primary producing countries was retarded.

Another important reason for the strong appeal of import substitution for developing countries was that it was associated with industrialization and modernization, thus the generative effects on employment were thought to be far greater than was the case with primary production. The fact that employment opportunities were severely limited in agriculture and mining, when compared to secondary industry, served as a stimulus to governments committed to policies of rapid economic growth and full employment to follow a path of industrialization through import replacement. It was against this background that import-substituting industrialization was almost universally adopted as the easiest, most logical and politically feasible way of developing. As far as the decision as to what goods to produce, such a form of industrialization offered a ready-made solution - simply produce those goods that are imported in large amounts. Governments could ensure that local production could be diverted to the substitution of previously imported goods, by applying selective controls in the form of tariffs, import controls, quotas etc. on imports. By reducing competition and assuring a local market, governments provided a positive inducement for domestic producers to manufacture these products locally. As the first stages of the process simply involve the local assembly and finishing of final consumer goods, it was firmly believed that this process was highly labour intensive and would not require vast amounts of capital - a scarce factor in less developed countries; hence the conclusion about the labour-generating effects. It was also believed that the replacement of imports would improve the balance of payments deficit in these countries, by reducing the volume of imported goods. In addition, arguments in favour of import substitution stressed the reduced dependence on more developed countries that would accompany increasing import substitution. It was thus considered to be a vehicle fostering the economic independence in these countries.

As a result of these factors, import substitution was to become a widely-accepted and universally-implemented development strategy, thought suitable to overcome the problems of less developed countries. After about thirty years of this type of industrialization, many countries began to experience severe disillusionment with the policy. A reconsideration of the merits of import substitution and analysis of the causes of failure occurred. The role of tariff protection that was implemented to encourage this pattern of industrialization played a large part in the failure in many of these countries. The trends in thinking that emerged in the late sixties re-emphasized the important role of comparative advantage and modified the arguments in terms of export-based industrialization as a olution to the problems.

Much of the literature concerning the trends in import substitution has focussed on the Latin American experience but studies of import substitution in other countries yield similar conclusions. In the early phases of the process, with markets guaranteed as a result of the reduction in competition there was exuberance and incentive to partake in the process. Manufacturers are guaranteed relatively easy opportunities for growth. Once the initial stage was completed, and final goods production had almost entirely substituted for imports of these goods, problems began to emerge as growth rates in these industries tapered off and increases in output were conditioned by the growth in domestic incomes. In other words, it appears virtu.lly impossible to sustain the initial impetus and high growth rates. As far as continuing the process further (to the replacement of intermediate

products) is concerned, this would involve increasing the rates of protection on these goods in an effort to stimulate their production. This, of course, means that the levels of effective protection levied on final goods would be reduced, and their costs of production increased.

Several other effects can be mentioned on the type of import substitution that was adopted in various Latin American countries and that apply to other countries as well. The encouragement given by governments with regard to their protective policies frequently sulted in inefficient or inferior quality production and fragmentation of industries. These tendencies are not at all conducive to domestic manufacturing industries being able to compete in international markets. Another effect of the type of import replacement followed in various countries was that protection tended to be self-defeating. Whereas the purpose of protection is to promote the development of locally-owned and operated enterprises, it tended instead to encourage the establishment of subsidiaries or affiliates of foreign enterprises, generally the large international companies with headquarters in the United States or Europe, and so give rise to political anxieties about foreign control and domination of the economy. Rather than develop a technology suited to the needs of the less developed country, these companies frequently duplicated the techniques used in more developed countries which tended to be capital-intensive. The use of capital-intensive techniques was further encouraged by the high levels of effective protection accorded to final stages of production. This involved low rates of duty on capital equipment and hence there was a bias towards the importation of capital goods.

Furthermore, the establishment of multinational companies in the field of manufacturing production can be considered a response to fill the vacuum that arises, as far as local needs are concerned. The im-

position of protective policies to encourage local production stimulated foreign companies to establish branches previously exporting these goods in the industrializing country, so that these companies would not suffer unduly from protection. These companies for obvious reasons did not prove to be exporters.

Thus the question of what follows once the initial stages of import substitution have been completed, is important to the development efforts of various countries that have adopted this type of industrialization. strategy. The options that are open include proceeding with the import-substituting process and replacing intermediate products and capital equipment (which in the case of many less developed countries would be difficult to implement as the success of this is dependent on large markets and economies of scale) or alternatively, attempting to increase the exports of manufacturing industries by exporting those previously imported products that have been successfully replaced domestically, or those products that require the further processing of these raw materials which a particular country is well endowed with. The creation of larger markets for products would supposedly shift the emphasis in production away from the limited local market towards the international market.

The latter arguments advocating increased export orientation have gained universal acceptance by economists and policy-making authorities, as a way of overcoming the impasse brought about by import-substituting industrialization. These arguments, obviously influenced by the successes of countries such as Japan, Taiwan, Korea and Singapore, appear to be theoretically sound. Many of these arguments are well-summarized by Gerald Meier[4]. In addition to the argument mentioned above concerning the advantage that exports are not subject to the constraints of the local market, production for export is, to a far greater extent than is

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(4) Gerald Meier, Leading Issues in Economic Development, New York, Oxford University Press, 1976, pp. 671-677. See also pp. 753-771.

the case with imports, influenced by efficiency considerations. Such production guarant s growth by competition rather than exclusion. In addition, export production, particularly of manufactured goods, can provide several industries with economies of scale and thus enable unit cos'.s and domestic prices to be lowered.

The kind of products that are liable to prove sources for export from l. ss developed countries .re likely to be those goods requiring a relatively large labour intensity and goods that are not produced in more developed countries. It is pointless for a less developed country to attempt to export to a c'.untry such as the United States those goods that can be produced efficientl' in the United States. Thus some exploitation of the comparative advantage as regards factor endowments will prove the basis for trade from the less developed country. Thus export expansion is said to benefit labour and curb unemployment in that such a policy would stimulate a labour-intensive technology.

As regards the relaxation of a country's foreign exchange constraint a unit of foreign exchange saved by import substitution is equivalent to a unit of foreign exchange earned by exporting. But one can argue that the domestic resource cost of earning a unit of foreign exchange tends to be less than the domestic resource cost of saving a unit of foreign exchange. This argument is based on the fact that import substitution is reliant on high rates of effective protection that involve a cost to society. Furthermore, if resources were to be diverted from import-substituting industries to export-producing industries, where presumably some comparative advantage exists, more foreign exchange would be earned than would be saved if import substitution would be continued.

Another importan factor in comparing import substitution with export promotion as a strategy for development involves a comparison of the type of protection required for these to be successful. Bhagwati and Krueger argue that export promotion would require subsidization rather than tariff imposition, and because the costs of such are more visible and require relatively greater use of indirect intervention, the economic costs of intervention are smaller in respect of export promotion(5).

The renewed export expansion thesis could be subjected to more rigorous analysis. This exercise was the main theme of a conference on development problems held at Cambridge in September 1972(6). Paul Streeten's introductory article in this volume places a new perspective on the limitations of exporting manufactured goods from less developed countries(7). He argues that the problems of such an export drive that will manifest themselves include the probability of a disruption in the markets of more developed countries for similar types of goods, such as textiles, clothing etc. that are produced by many of these countries similarly endowed with raw materials and productive factors. One can possibly attribute much of the success achieved by countries in the Far East during the sixties to the fact that these countries were isolated as far as their export drives were concerned. Associated with this was the fact that many of these countries were too small to disturb the market

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(5) Jagdish N. Bhagwati and Anne O. Krueger, 'Exchange Control, Liberalization and Economic Development,' American Economic Review, Papers and Proceedings, May 1973, pp. 420-421.

(6) Paul Streeten (ed), Trade Strategies for Development. Papers of the 9th Cambridge conference on development problems. September 1972.

(7) Paul Streeten, op. cit., pp. 1-22.

as a whole[8]. If many other developing countries launched similar export drives it seems unlikely that the successes achieved by some of these countries would have materialized.

Another factor to be considered is that in order for manufactured exports from less-developed countries to be successful in world markets these will have to overcome the numerous tariffs and non-tariff barriers that are imposed in more developed countries. As has been mentioned previously, cascading represents a characteristic feature of protective policy in both advanced and less developed countries. In many of the more developed countries, the very industries that are protected are those which the lesser developedcountries would hope to compete with. In other words, where are the markets for these goods going to emanate from, if the industrialized countries continually deny admission of these goods? Another reason for the successes of the Far East, in this respect, was that these countries did not solely rely on exporting manufactured goods to large industrialized countries, but to lesser developed countries as well.

It ought, also, to be realized that any vigorous export campaign would require a fundamental change in the protective and institutional framework, that may be far beyond the capabilities of less developed countries to implement. As far as the protective framework is concerned,one must take into account many of the practical problems and effects of import substitution, as well as the policy of encouraging such industrialization. Each one of these can in turn be considered to have a harmful effect on manufactured exports. Perhaps the most adverse effect is the shortage of enterpreneurial ability. The requirement for successful export promotion in the face of massive competition would involve highly efficient and organizational

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(8) In this connection see A. Maddison, Economic Progress and Policy in Developing Countries, London: George Allen and Unwin Ltd., 1970, p.206.

techniques. Maddison makes the valid point that the sale of manufactured goods is quite different from selling foodstuffs and raw materials which go to well-organized produce markets(9). The latter requires inter alia market research, strong foreign commercial representation, quality control, the provision of export credit and insurance etc. Do the countries in question have such capable and efficient management? Domestically, this appears unlikely for high levels of protection would not encourage this, whereas the enterprise occasioned by multi-nationals will hardly prove a viable source of exports. In political terms the possibility of tariff reductions appears unlikely in that governments in these countries are seldom in a position to incur the wrath of producers.

Apart from the side effect that the protective structure implemented to encourage import-substituting industrialization does not appear compatible with increasing exports of manufactured goods, there exists the possibility that governments may over subsidize exports. Bhagwati and Krueger point out that in several countries, governments have been so preoccupied with export-oriented development that they have intervened as much and as chaotically on the side of promoting new exports as other countries have on the side of import substitution(10). Similarly, Stern while agreeing that the efforts of several countries to promote exports were successful in that gross foreign exchange receipts were increased and the composition of exports was diversified, questions the cost of domestic resources per unit of foreign exchange that was required to achieve these results. He points out that frequently a relatively large subsidy is needed to generate exports out of an inefficient manufacturing sector(11). The danger therefore exists that countries may seek indis-

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(9) A. Maddison, loc. cit.,

(10) J. Bhagwati and A. Krueger, op. cit.,

(11) R. Stern, 'Tariffs and Other Measures of Trade Control' Journ. Eco. Lit: xi(3), Sept 1973, p.867.

criminately to expand exports and fail to pay sufficient attention to the real costs involved in the products and industries that are subsidized. Moreover, one can question how the subsidy is to be financed. Individual incomes in many of the less developed countries are too low to provide a substantial source of revenue for such subsidization.

Finally, the institutional limitations in many of these countries as regards the financing of production and transportation infrastructure cast additional doubts as regards the capabilities of these countries being able to carry out a substantial export effort.

5.4 The growth pattern in the South African economy

Thus far in this chapter it has been shown how the tariff structure imposed in a country influences the productive structure in that country, by encouraging import-substituting industrialization. Because of the limitations of this type of industrialization there has been a trend recently for many countries to pursue a deliberate policy of export production particularly as regards the manufacturing sector. It is apparent from various statistical trends in the South African economy that protective policy has induced a similar pattern of development, in that initially import replacement provided the major stimulus to industrial growth. More recently, as a result of increasing problems in the implementation of import replacement in this country, growth in the manufacturing sector has tended to level off. In 1972, the Commission of Inquiry into exports from South Africa[12] concluded that the long term solution to future growth rested in increasing the exports of manufactured goods.

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(12) Commission of Inquiry into the Export Trade of the Republic of South Africa (Reynders Report) R.P. 69-72.

Table 5.1 shows the levels of employment and output for the various branches of manufacturing industry at 5-year intervals since 1918/19 to 1954/55. The importance of this Table rests in the depiction of periods during which these industries grew rapidly with regard to both employment and output. The general conclusion that can be arrived at from the Table is that those sectors of industry concerned with production for final demand, i.e. foodstuffs, beverages, tobacco, clothing and footwear exhibited steady increments in demand throughout the period. It was only during and after the Second World War that other sectors such as transport equipment, electrical machinery, machinery, metal products, base metals, chemicals and textiles began producing and employing on any significant scale. In other words it could possibly be argued that the tariff protection, introduced on such a large scale during the 1920's with its emphasis on the protection of final consumer goods and employment, was particularly successful in bringing about steady and substantial increases in the production of these goods throughout the 1920's, 1930's and 1940's. The production of intermediate goods was started only in the late forties.

In Table 5.2the long term average annual rates of growth for the various sectors of manufacturing industries are calculated and tabulated according to performance. This Table traces the growth since 1956/57 and shows that those sectors predominantly producing for final demand (foodstuffs, tobacco, clothing, furniture, leather, etc) increased at a rate that was well below the average of 6,3 percent per annum. The production of intermediate goods and raw materials in general increased at rates above the average, with the exception of the production of machinery. Particularly significant is the increase of 8,4 percent per annum in the production of transport equipment - the direct result of the implementation of a local content programme in the motor car industry.

TABLE 5.1

LEVELS OF EMPLOYMENT AND OUTPUT FOR VARIOUS SECTORS OF MANUFACTURING INDUSTRY 1918/19 - 1954/55.

	1918/19	1924/25	1929/30	1934/35	1939/40	1944/45	1949/50	1954/55
Food								
Empl ('000)	23	27	30	33	42	61	73	93
Output (£ Mill)	23	22	27	29	43	85	139	231
Beverages								
Empl	4	3	3,3	4,0	5,3	8,1	9,5	11,5
Output	3	2	3,3	3,1	5,2	10,5	17,4	30,3
Tobacco								
Empl	2,6	2,7	3,5	3,3	4,3	4,8	6,3	6,9
Output	1,5	2,2	2,8	2,6	4,2	6,3	11,3	16,2
Textiles								
Empl	2,2	1,6	2,0	4,1	5,2	7,3	16,2	32,9
Output	0,3	0,3	0,7	1,5	2,8	6,3	15,8	42,2
Clothing								
Empl	10,7	11,4	16,7	29,5	34,8	48,8	6 ,8	76,3
Output	4,0	4,3	6,6	9,5	14,5	36,1	64 8	98,0
Wood-products								
Empl	5,1	4,4	4,8	6,3	11,3	22,6	24,9	30,9
Output	2,4	1,8	1,9	2,3	4,5	10,0	15,4	27,2
Furniture								
Empl	3,2	4,9	6,4	6,5	7,9	11,3	15,4	20,7
Output	1,2	1,3	2,6	2,9	4,0	8,1	15,2	26,7
Paper-products								
Empl	0,4	0,5	1,0	1,5	3,2	4,2	7,6	14,0
Output	0,1	0,2	0,4	0,7	2,0	3,5	10,4	26,8
Printing & Publ								
Empl	6,1	7,3	8,4	8,9	10,6	10,9	17,1	27,4
Output	2,6	3,8	5,1	5,0	6,8	9,3	20,5	28,8
Leather-prods								
Empl	2,8	2,7	2,6	2,7	3,2	5,9	5,3	5,4
Output	2,0	1,8	1,7	1,6	2,9	6,1	8,9	8,5
Rubber								
Empl	-	0,4	0,6	1,2	2,7	5,0	6,8	10,9
Output	-	-	0,2	0,6	3,4	7,6	15,8	30,5
Chemicals								
Empl	9,0	9,5	9,9	10,4	15,3	23,2	28,3	33,8
Output	5,5	6,2	7,6	8,0	15,3	26,8	51,7	92,6
Petroleum								
Empl	0,3	0,8	0,6	1,0	2,1	3,4	4,2	8,8
Output	0,4	0,6	0,3	0,8	2,1	3,6	5,8	24,1
Non Met Ming								
Empl	10,0	14,9	18,2	23,0	27,6	34,1	46,2	60,7
Output	1,7	2,7	3,7	4,7	7,1	11,7	23,3	50,8
Base Metals								
Empl	16,2	20,1	10,8	20,1	33,9	59,1	83,6	29,5
Output	7,2	10,7	4,5	10,2	20,4	42,5	85,9	64,3
Metal Prods								
Empl	2,2	3,6	4,4	5,2	7,0	9,4	12,8	65,2
Output	0,7	1,2	1,5	1,7	3,2	5,7	12,5	101,0
Machinery								
Empl	-	-	-	-	-	0,3	0,6	12,8
Output	-	-	-	-	-	0,1	0,4	42,3
Elect Mach.								
Empl	0,9	1,5	1,1	2,0	3,9	7,7	14,1	23,1
Output	0,4	0,4	0,3	1,0	2,5	5,3	17,2	40,3
Transport Equip								
Empl.	7,6	9,9	11,8	13,4	17,4	20,6	39,3	56,5
Output	2,0	2,3	4,8	7,1	13,9	10,5	47,9	101,2

Source: Union Statistics for 50 years.

TABLE 5.2

ANNUAL RATES OF GROWTH IN THE PHYSICAL VOLUME OF MANUFACTURING PRODUCTION

1956/57 - 1975

	% p.a.
Total	6,3
Food	4,7
Beverages	8,6
Tobacco	3,0
Textiles	7,2
Clothing	4,7
Wood and products	4,0
Furniture	5,2
Paper and products	7,2
Printing and Publishing	8,6
Leather	2,9
Rubber	5,9
Chemicals	7,2
Non Metallic Minerals	5,4
Base Metals	7,6
Metal Products	4,7
Machinery	4,0
Electrical Machinery	6,2
Transport Equipment	8,4

Sources: Union Statistics for 50 years

Quarterly Bulletin of Statistics., June 1976 , Dept of Statistics

While the long term growth pattern on first impression appears encouraging, the shorter term growth in manufacturing industry over the past five years is disturbing. Table 5.3 shows the percentage change in output over the period 1970 to 1975. The average total rate of growth was reduced to 4,1 percent per annum - a figure well below the longer term rate and lower than the estimates of the past few Economic Development Programmes. Of particular importance is the further levelling off in growth in many of the consumer-oriented industries, as well as in some of the intermediate industries.

It is apparent from this discussion and from the empirical evidence presented, that the pattern of growth in manufacturing industry has undergone a substantial change since the 1920's. Whereas until the Second World War manufacturing industry was concentrated on the production of consumer goods there has, since that period, been a reduction in the importance of these. The most rapidly growing sectors in the more recent period since the 1940's appear to be the production of capital equipment, intermediate goods and the processing of raw materials. It ought to be pointed out that the rates of increase shown by the tables depend on the base that is used. Because several of the industries were established and operating on a large scale during the mid-fifties, their rate of increase is implicitly lower than the industries that were only just starting. In addition, these changes in growth rates do not take into account the relative importance of the various sectors in the total figure. The weighting of the Bureau of Statistics for each of these sectors is reproduced in Table 5.4. On a weighted basis the most important sectors are food (12,6%), textiles (4,9%), clothing and footwear (7,7%), chemical products (9,3%), non-metallic mineral products (6,4%), metal products (10,3%), basic metals

TABLE 5.3

ANNUAL RATES OF GROWTH IN THE PHYSICAL VOLUME OF MANUFACTURING PRODUCTION

1970 - 1975

	% p.a.
Total	4,1
Food	3,8
Beverages	10,9
Tobacco	5,4
Textiles	-0,3
Clothing	3,0
Wood	1,0
Furniture	7,9
Paper and products	4,0
Printing	10,9
Leather	7,2
Rubber	6,4
Chemicals	6,9
Non Metallic Minerals	3,8
Basic Metals	6,9
Metal Products	1,6
Machinery	5,7
Electrical Machinery	3,5
Transport Equipment	3,3

Source: Quarterly Bulletin of Statistics, Dept of Statistics

TABLE 5.4

WEIGHTING OF RESPECTIVE SECTORS OF MANUFACTURING INDUSTRY 1963 - 64

	Per Cent
Food	12,6
Beverages	2,8
Tobacco	1,3
Textiles	4,9
Wearing Apparel	7,7
Wood and Wood Products	2,1
Furniture	2,1
Paper and Paper Products	4,1
Printing and Publishing	4,2
Leatner and leather products	0,5
Rubber products	2,6
Chemicals and chemical products	9,3
Non-metallic mineral products	6,4
Basic metal industries	9,2
Metal products	10,3
Machinery	5,8
Electrical Machinery	3,8
Transport Equipment	5,3
Miscellaneous industries	5,0
Total Manufacturing	100

Source: Department of Statistics, South African Statistics 1974.

(9,2%), machinery (5,8%) and transport equipment (5,3%)[13]. It is obvious that the slowing down in production in several of the consumer-oriented industries, particularly during the most recent period influenced the levelling off in the rate of growth of the total for manufacturing industries.

Various studies undertaken on the role of import substitution in the growth of manufacturing industry in South Africa, conclude that it was the main growth stimulus to production up to 1956/57[14]. At this time, the country was practically self-sufficient in respect of the provision of final consumer goods. Thereafter, as the process was extended to the provision of capital goods and intermediate products, import replacement slowed down as a stimulant to industrial development. In discussing the quantitative aspects of the contribution of import substitution to industrial development in South Africa, the Reynders Commission summarizes the conclusions reached by Scheepers. "By the end of the fifties, in fact, South Africa reached an important milestone in its industrialization process when the contribution of secondary industry towards G.D.P. (in real terms) equalled that of the primary sector for the first time. After the middle of the fifties, however, import replacement as the dominant growth force declined, as illustrated by the fact that during the period 1956/7 to 1963/4 import replacement contributed only 16 percent to the growth in manufacturing production, as against 52 percent during the period 1926/7 to 1956/7. Although a relatively substantial import replacement potential still remained, this was confined largely to the heavy intermediate and capital goods industries which are very dependent on large markets and

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(13) Weights obtained from South African Statistics 1974 p.12.45

(14) See for example, C.F. Scheepers, "The Effect of Import Substitution on the Volume and Structure of South Africa's Imports, 1926/27-1963/64, Volkskas Finance and Trade Review, Vol VIII No. 4, December 1969 pp. 258-271 and G. Marais, 'Import Replacement and the Development of Intermediate Industries in the Republic of South Africa', Volkskas Finance and Trade Review, March/June 1966, pp.1-24.

economies of scale for their economic viability'[15]. The Commission adds that during the period 1926/7 to 1956/7 the proportion of imports to Gross Domestic Product (expressed at constant prices) having initially risen to 42 percent in 1936/7, declined to 25 percent in 1963/4 and then levelled out[16].

As shown in Table 5.5(reproduced by the Reynders Report from Scheepers' original data[17]), the opportunities for import substitution had appeared to be largely exhausted during the 1960's. Despite the considerable amount of import replacement that had taken place in the intermediate and capital goods industries, it became apparent that by the early sixties the character of import substitution had changed. In terms of time, it seemed more difficult for import substitution to have any significant effect on total supply. As many of the opportunities for further import substitution on an extensive basis seemed to be exhausted, according to the various studies, the argument proceeded that industrial growth in the later sixties was conditioned by a new factor - the emergence of a large non-white market resulting from the relatively rapid increase in non-white incomes during this period. Concern was expressed by the Reynders Commission that the growth of manufacturing industry (which it classifies as being a net loser of foreign exchange) will impose increased pressure on the balance of payments[18]. A structural problem is apparent in South Africa reflected by the increasing disparity between imports and exports. This

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(15) Reynders Report, op. cit., p.29

(16) Ibid.

(17) C.F. Scheepers, Die invloed van invoerveranging op die omvang van Suid Afrika se invoere, 1926/27-1963/64, unpublished doctoral thesis, U. O.F.S. Bloemfontein, 1969, p.64

(18) Reynders Commission, op. cit., para. 37

TABLE 5.5

IMPORTS PER SECTOR AS A PERCENTAGE OF TOTAL SUPPLY IN SOUTH AFRICA (1956/57 PRICES)

	1926/27	1963/64
Agriculture, forestry and fishing	8	6
Gold mines	–	–
Coal mining	1	–
Other mines	2	18
Foodstuffs, beverages and tobacco	15	5
Textiles	89	43
Clothing	76	8
Footwear	40	3
Wood	74	27
Furniture	15	1
Paper and products	91	23
Printing and publishing	17	9
Leather and leather products	37	30
Rubber products	88	9
Basic chemicals	40	34
Miscellaneous chemicals	43	23
Petroleum and coal	87	32
Non-metallic minerals	42	11
Basic metals	92	22
Metal products	67	12
Machinery	96	62
Electrical machinery	90	37
Transport equipment	73	37
Motor vehicles and repairs	83	36
Misc. manufacturers	74	40
Electricity gas and water	31	19
Commerce	–	–
Transport and communications	–	–
Misc. services	–	–

Source: Reynders Commission p.35 and also C.F. Scheepers p.64.

involves inter alia the increasing difficulty and declining influence of import substitution[19] (whereby merchandise imports of the country consist almost entirely of expensive capital and intermediate goods, and raw materials to the extent of 80 percent of total imports)[20] while exports, characterized by a heavy reliance on the primary sector and limited in so far as trading partners are concerned, have not kept pace with the increase in imports[21]. Thus 'an enhanced export effort should ... be regarded as an inherent part of the stage of economic development into which South Africa is now progressing'[22].

The concern expressed by the Reynders Commission is shown clearly in Tables 5.6 to 5.8. In Table 5.6, which shows the proportions of each category to total imports and exports according to various sections of the Standard International Trade Classification over the period 1946 to 1970, the trend evident in the behaviour of imports is as follows:

1. Imports of manufactured goods and foodstuffs have shown a noticeable continual downward trend;

2. Imports of intermediate goods such as mineral fuels, chemicals and of machinery and transport equipment have in general shown an upward tendency. Of particular significance is the fact that imports of machinery and transport equipment have more than doubled over the period under consideration. This trend is confirmed by import statistics for the

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(19) Ibid pp. 8-10, para. 25

(20) Ibid p. 10. para. 27

(21) Ibid p. 57, para. 78

(22) Ibid p. 57. para. 80

calendar year 1975 shown in Table 5.7. Machinery, transport equipment and intermediate products accounted for approximately 80 percent of the total import bill. While the 1975 classification (according to the Brussels Trade Nomenclature) is not comparable with the previous classification, the trends in imports are still well illustrated.

The export trend shown in Table 5.7 shows a heavy reliance on food, crude materials and manufactured goods[23]. The high proportion of manufactured exports is misleading, for included in this category are exports of jewellery, polished/refined diamonds, Kruger rands, processed wool, and refined sugar. In fact, the vast proportion of manufactured exports includes processed agricultural and mining commodities. Furthermore, the relatively sharp increase in exports of manufactured goods experienced after 1965 was influenced by increased manufactured exports to Rhodesia, after that country declared independence. This is particularly true in the case of exports of machinery and transport equipment. With the heavy reliance in exports on raw materials and agricultural, it is hardly surprising that export values for South Africa are subject to such enormous fluctuation. A significant factor, apart from the low levels of other manufactured exports, is the low proportion of intermediate goods and capital equipment in the export bill. Figures for 1975 (shown in Table 5.7) oncemore illustrate the continuation of these trends. As far as the direction of exports from South Africa is concerned (Table 5.8) there has been a noticeable levelling off in trade with the rest of Africa, while trade with America and Asia has been increasing. Trade with Europe has remained relatively constant.

The conclusions of the Reynders Commission focussed on suggesting means for improving exports. It regards the increasing of exports as the only possible strategy for growth in the South African context. Its

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(23) Export figures do not include gold.

recommendations for the short term involve concentration on the further processing of mining and agricultural materials for export purposes, while the longer term solution would require an increase in the export of manufactured goods other than processed mining and agricultural materials. Its rationale for this conclusion is that manufacturing is regarded as the key to the creation of employment opportunities for the growing population; for providing a stimulus for growth of the other sectors of the economy; for ensuring balanced economic development and for playing a leading role in the development of the African continent(24).

Unfortunately, the Reynders Commission did not go into sufficient analytical detail in prescribing the methods whereby a country can switch from a production pattern which is designed to cater almost entirely for the local market, to one in which those protected industries in the country can be expected to enter the highly competitive export field. As was discussed in the previous section, the problem of converting from a policy of import substitution to one of export promotion is one of the most complex in the field of international trade and economic development. It is apparent from these trends that South Africa is not unique in its structural problem.

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(24) Reynders Commission, op. cit., p. 112, para. 57

TABLE 5.6

PROPORTIONS OF TOTAL IMPORTS AND EXPORTS BY VARIOUS CATEGORIES 1946 - 1970
(FIGURES ARE IN PERCENTAGES AND REFER TO SITC)

IMPORTS	1946	1950	1955	1960	1965	1970
Food	12,3	7,0	4,4	4,4	3,6	4,0
Beverages	1,1	0,4	0,9	0,7	0,7	1,0
Crude Materials	6,8	9,4	7,3	6,7	7,5	4,7
Mineral fuels	3,6	8,8	7,6	6,8	5,3	5,0
Animal+ vegetable prods.	0,8	1,3	0,9	0,8	0,6	0,4
Chemicals	4,6	4,4	6,8	7,0	7,1	7,8
Manufactured goods	35,1	36,4	31,0	28,6	24,3	19,5
Machinery + Transport Equip.	19,7	25,5	31,8	36,9	42,1	46,7
Miscellaneous	15,5	5,9	7,8	7,4	7,0	8,9
EXPORTS						
Food	10,1	11,6	21,2	21,4	21,3	19,7
Beverages	2,5	1,1	0,7	0,7	1,1	0,9
Crude Materials	43,8	37,8	43,2	41,9	34,8	23,2
Mineral fuels	5,6	2,5	1,6	1,7	2,9	5,2
Animal+ vegetable prods.	0,5	1,3	0,8	0,1	0,9	0,6
Chemicals	4,7	4,7	4,4	4,4	3,4	4,5
Manufacture goods	23,2	19,8	20,0	22,8	26,7	28,1
Machinery + Transport Equip.	1,6	2,9	4,3	4,5	4,5	1,4
Miscellaneous	6,1	2,8	3,5	2,6	8,6	1,3

Source: Union Statistics for Fifty Years
South African Statistics 1974

TABLE 5.7

STRUCTURE OF IMPORTS AND EXPORTS ACCORDING TO SECTIONS OF BTN
1974 AND 1975

SECTIONS OF B.T.N.

		IMPORTS				EXPORTS			
		Propn	1975 Rm	1974 Rm	% Change	Propn	1975 Rm	1974 Rm	% Change
I	Live animals, animal products	1,0	54,2	60,5	-10,5	1,7	68,1	54,1	26,0
II	Vegetable products	1,9	108,4	101,0	7,3	12,5	491,8	403,1	22,0
III	Animal + vegetable fats, oils and wax	0,6	30,8	40,6	-24,2	6,8	26,9	24,2	11,2
IV	Prepared foodstuffs, beverages, spirits + tobacco	2,1	116,9	84,4	38,5	13,0	512,7	446,4	14,9
V	Mineral products	1,4	77,5	95,7	-19,0	9,6	379,5	286,2	32,6
VI	Chemical products	6,4	356,4	448,3	-20,5	3,4	135,1	116,0	116,5
VII	Resins, plastic, rubber etc	3,6	200,1	278,0	-28,1	0,5	19,6	21,5	-8,4
VIII	Articles of fur, leather, raw hides + skins	0,4	22,2	23,6	- 6,0	1,3	49,2	55,3	-11,1
IX	Wood, cork, straw and products	1,0	55,1	63,8	-13,7	0,1	4,8	5,8	-17,3
X	Paper and materials	2,8	159,4	203,7	-21,8	2,0	77,7	96,1	-19,2
XI	Textiles and products	6,3	352,1	464,9	-24,3	4,2	164,5	152,3	8,0
XII	Footwear, headgear etc	0,5	29,1	23,9	121,8	-	1,6	1,6	-
XIII	Articles of stone, glass, ceramics	1,2	68,9	61,0	12,9	0,5	18,8	14,2	32,4
XIV	Pearls, precious stones, jewellery	1,2	67,9	42,9	158,3	25,1	988,8	710,5	39,2
XV	Base metals and articles	10,2	573,5	507,9	12,9	12,6	495,6	488,8	1,4
XVI	Machinery and equipment	32,7	1832,2	1320,6	38,7	3,8	149,5	129,3	15,6
XVII	Vehicles, aircraft etc	19,4	1084,3	789,4	37,4	1,3	52,9	45,3	16,8
XVIII	Optical, photographic, medical musical instruments	3,7	206,6	179,4	15,2	0,4	14,0	11,1	26,1
XX	Misc. Mfg.	0,8	45,8	42,1	8,8	-	2,8	2,6	7,6
XXI	Works of Art, Antiques	0,7	41,9	16,8	149,4	0,3	13,5	14,6	-7,5
	Other	2,1				6,7	265,3		
	GRAND TOTAL		5599,7	4898,0	14,3		3932,7	3339,5	17,8

Source: Dept. of Customs & Excise, Foreign Trade Statistics 1975

TABLE 5.8

DESTINATION OF IMPORTS AND EXPORTS 1958 - 1975 (PERCENTAGES)

IMPORTS

	1958	1966	1969	1975
Africa	6,8	11,0	5,2	4,9
Europe	57,5	51,3	53,7	58,7
America	21,9	22,1	21,0	20,0
Asia	12,9	12,5	17,2	14,2
Oceania	0,9	1,9	1,9	1,7
Other	-	1,2	1,2	0,5

EXPORTS

Africa	18,6	16,3	14,7	11,4
Europe	50,0	58,5	56,1	54,8
America	8,6	13,6	9,5	15,1
Asia	4,9	8,9	12,3	17,0
Oceania	1,4	1,0	1,0	0,9
Other				

Source: Reynders Commission, op. cit.,
Dept of Customs and Excise, Foreign Trade Statistics, 1975

5.5 More detailed consideration of the import substitution process

From the preceding analysis it is apparent at first glance, that the efforts of developing countries to devise a strategy for industrialization appear doomed to failure, irrespective of whether the emphasis be placed on import substitution or export promotion. Because import substitution has universally been regarded as a failure in so many countries, the question is raised whether this should serve as a general indictment of the strategy at large or merely a criticism of the type of import substitution that has been implemented in these countries. Most of the criticisms raised previously apply to a specific type - a badly-conceived import substitution - rather than the concept in general. The dominant feature of the type of strategy that has been unsuccessfully implemented in many countries is that it does not provide incentives to explore backward linkage towards intermediate and capital goods.

One should, perhaps, look at the concept in more detail. Many would regard import substitution as applying only to industry. This is incorrect, and, if anything, an extremely narrow interpretation of the concept. Import substitution can be applied to agriculture and services as well as to manufactures. Many critics of import substitution automatically overlook th(possibilities of domestic agricultural production replacing food imports, and the local training of manpower replacing foreign-skilled workers, managers and consultants(25).

The conventional and most widely used measure of import substitution refers to assessing the behaviour of imports in a country in relation to total supply. Hollis Chenery introduced this measure, defining import substitution as occurring when there is a decline in the ratio of imports to total supply(26). The magnitude of import substitution, IS, between 2 periods of time-0 and t-is

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(25) This point is raised by Mahbub el Haq., Director of policy and planning, at the World Bank, in a paper entitled, 'Developing policy alternatives', in P. Streeten, op. cit., p.93.

(26) H.B. Chenery, 'Patterns of Industrial Growth', American Economic Review 50, Sept 1960, pp. 624-54.

given by $IS_i = (m_i^o/z_i^o - m_i^t/z_i^t)\ Z_i t$

where m_i = imports, Z_i = total supply of the products of sector i. $Z_i = X_i + M_i$ (X_i = domestic production in i.) By dividing this number by the increase in domestic production one can attain the percentage of growth in a sector that can be accounted for by import substitution.

But the Chenery definition is essentially narrow in that it tends to neglect the inter-industry relationships concerning productive activity. Morley and Smith write that 'an import ultimately substitutes for or supplements the output of many domestic sectors. If an import is to be replaced without induced rises in imported inputs or reductions in the supplies available for final demand in other sectors, production must be increased not only in the industry finally processing the good, but also in its supplier industries and in their supplier industries and so forth'[27]. In effect, what is implied here is that the newly required intermediate output was previously supplied by the import of the final product, e.g. a suit of clothing that is produced in its entirety domestically instead of being imported. According to the conventional Chenery measure the final value of the suit of clothing will be counted as import replacement. But the local production of this suit of clothing has induced the local usage of wool and cloth that was previously imported with the suit. Any accurate assessment of the total supply of each sector's products should therefore include the implicit elements of imports and will yield a better measure of the process. Implicit imports are excluded from conventional definitions, nor is their displacement by local production counted as substitution. The local production of wool and yarn should also be incorporated in the measure.

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(27) Samuel A. Morley and Gordon W. Smith, 'On the Measurement of Import Substitution', American Economic Review: 60, Dec 1970, p. 279.

With the use of input-output tables one can readily show the relationships between intermediate production to the final product. In this way one can redefine the import vector m^* as the domestic production that is required to substitute entirely for imports (incorporating both intermediate and final usage) and so reach a new supply vector Z^*.

$Z^* = X + M^*$ where X is equivalent to gross production

Thus one can redefine import substitution, $IS_i^* = (m_i^{o*}/z_i^{c*} - m_i^{t*}/Z_i^{t*}.)\ Z_i^{t*}$
In this way, implicit imports are incorporated.

The advantages of the redefined measure, when compared to the conventional one, reflect themselves in a number of ways. Firstly, as far as the quantification of import substitution over a period of time is concerned, Morley and Smith prove that the Chenery definitions are likely to yield underestimates for most semi-industrialized countries in recent decades(28).

The process of import substitution in less developed countries passes through a sequence of stages:

1) light consumer goods based on raw materials;
2) consumer durables;
3) some intermediates and capital goods.

For those sectors that produce exclusively for final demand the two measures ought to yield identical results since indirect imports are always zero. In the same way, if a sector produces little for intermediate use, the relative differences will be small. Thus industries such as clothing, transport equipment, food processing etc. should indicate small differences.

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(28) S.A. Morley and G.W. Smith, op. cit., p. 731.

As far as pure intermediate industries are concerned, 'total direct supply is a unique function of the production of the user sectors, while indirect supply is a linear function of imports. If import substitution in the traditional sense is occurring in the major uses of such an intermediate product then $IS_i^* > IS_i'$ (29). The results that Morley and Smith attain show that for a country like Brazil the Chenery measure tends to underestimate import substitution in intermediate industries in particular (30). The traditional definition which ignores linkages misses import substitution in intermediate goods industries.

In addition to measuring the extent of import substitution over a period of time, one can, with the use of an input-output table, work out the $\frac{M^*}{\Sigma^*}$ component for a particular moment from the data presented in an input-output table and compare this with the conventional measure of imports and output for each of the various sectors. The implications of this comparison are such that differences in the two measurements could indicate better the extent of import substitution still possible under the redefined concepts of imports and total supply. If an industry demonstrates that, according to the conventional measure, there is relatively little scope for further import substitution this could be a false assertion. If by increasing the process in other sectors, a greater demand for this industry's output is generated which is used as an input in the process, intermediate import replacements may be extended considerably.

The results of measuring import substitution over time and for two separate years for South Africa are presented in a later chapter. The conclusions will also be discussed later. Suffice to say that the differences in these results for the different measures are significant.

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(29) S.A. Morley and G.W. Smith, op. cit., p. 731

(30) op. cit., p. 733

The relevance of this type of analysis to the discussion of import substitution is such that the 'exhaustion' thesis that has characterized . ch of the import substitution in various countries is open to question, if such substitution is defined in a wider context. There may be considerable facility for increased import substitution in intermediate goods for longer production runs and economies of scale at this level, which could stimulate growth and development in many countries. The linkages induced by such industrialization could stimulate growth in various industries.

5.6 A discussion of alternative protective policies to stimulate growth in industrializing countries

The foregoing analysis showed how tariff protection tends to structure patterns of production in many countries. Tariff protection contains a definite bias in favour of import substitution and it appears from the way that many countries have implemented protective policies, import substitution has been badly conceived. Moreover, in recent times, tariff-making authorities have shown themselves inflexible in adopting to changed requirements - whether these involved pursuing import substitution more vigorously or expanding exports of manufactured goods. Thomas Lowinger in his study of the Brazilian economy arrived at a conclusion that appears to have validity in several other countries that have followed similar patterns of industrialization[31]. He attempts to show that the structure (and level) of inter-industry protection in Brazil had an unfavourable effect on the country's import-substituting process and was inappropriate for the future expansion of manufactured exports[32].

Assuming that a policy of deepening the import substitution process is followed (a policy which for reasons mentioned above may be the only

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(31) T.C. Lowinger, 'Import Substitution, Export Promotion and the Structure of Brazil's Protection'. Journal of Development Studies, Vol. 10, 1974, pp. 430-444.

(32) op. cit., p. 439

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(32) op. cit., p. 439

one available to some countries) a possible type of protective policy involving tariffs would perhaps require that the protection accorded to raw materials and intermediate products be increased, thus reducing effective levels of tariff protection on final consumer goods. While one may argue that this would result in an increase in the prices of final goods (owing to an increase in costs), the advantages of such a policy measure, in terms of rationalization of some industries and increased efficiency that producers may be forced to strive for, may outweigh the increase in costs. Tariff-making authorities in many countries appear to have overlooked the tendency for tariffs to stimulate production for domestic markets only. The greater the difference between the level of protection accorded an import-substituting industry and that applying to imported inputs, the more will the profit margin depend on preventing the domestic production of inputs. This is an explanation for the fact that rather than reducing a country's dependence on imports, the import substituting process results frequently in increased reliance on imports. Hirschman suggests that the same industrialist/ producer who makes the final good should perhaps attempt to effect the backward linkage himself[33]. What the producer loses on the one, he makes on the other, and for certain industries such as metalworking and chemicals, such vertical linkage is possible.

The other advantage of this type of policy is that such reductions in effective protection could well force producers to look beyond local markets. If producers could prove successful in the replacement of intermediate goods and if some advantage could be established in the production of these goods, they could prove valuable exports, particularly to countries that have not yet evolved these processes. Thus the function of exports would be to enable countries to overcome obstacles of market size and, by competing in world markets, industrialists would be forced to attain and maintain high standards. The reduction in protection and the possible

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(33) A.O. Hirschman, A Bias for Hope, New Haven and London, Yale Univ. Press 1971

forcing of manufacturers to be more outward-looking would result in growth through promotion rather than protection. The stimulus provided by increased exports of final products may well provide incentives for manufacturers to pursue backward linkage to the intermediate stages. Alternatively, authorities could offer rebates on tariffs on intermediate goods if producers could prove that they are bona fide exporters.

The other possibility of combining and converting import substitution and export expansion would involve a drastic revision of the existing tariff system in many countries and a constant surveillance of protected industries to ensure that these do not become inefficient and sheltered by tariff protection. Although, politically, governments would find this difficult to implement, the revised system would have considerable advantages.

The basic rationale for tariff protection, as explained previously, is that protection to an industry be levied temporarily during the initial period of high costs, on the understanding that the infant would eventually be able to compete on equal terms with established foreign producers on the home market, as the size of the market increases. The distinction made by Myint[34] and mentioned previously, concerning the different ways in which this can come about is illuminating in this respect. The true infant industry, in which efficiency is increased through learning and experience, differs markedly from the import-substituting industry in which a lowering of costs comes about as a result of the increase in market size or large scale production, with the same level of skill and experience. The implications of these differences are enormous with regard to the pattern of industrial development in a country. On the home front, as genuine infants approach maturity they can afford to have levels of competition increased through tariff reductions, whereas those import-competing industries that are dependent on income elasticities of demand will tend to become reliant

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(34) H. Myint, International Trade and Developing Countries, in International Economic Relations ed. P. Samuelson, MacMillan 1969, p.29. See Chp 3. Fn 25.

on tariff protection. In other words, tariff protection tends to become a permanent feature in these latter industries.

As far as exports of locally substituted products are concerned, the above-mentioned distinction is also important. The genuine infant will be able to survive and prosper in international competition by virtue of the fact that it will have developed some advantage in production, whereas the import-substituting industry, unable to compete on the home front with reduced protection, will not be able to enter world markets, unless it is provided with some form of favourable treatment. The mere enlargement in the size of the protected domestic market and the potential economies of large scale production are not sufficient to ensure that an individual industry will be able to lower costs without an improvement in its own capacity to specialise enabling it to take advantage of these opportunities (35).

In other words, Myint implies that an optimum tariff policy requires some stimulus for producers to lower costs by increasing efficiency. This will shift the emphasis of production away from income elasticity of demand to price elasticity of demand, and in this way more efficient local producers will eventually be able to compete to a greater extent on both home and overseas markets. In practice, however, it is virtually impossible for tariff authorities to foresee the long term effects of selecting certain industries for protection. Once industries have been selected, constant surveillance is requiredto ensure that they do not become inefficient behind a tariff shelter. Frequent downward revisions in tariffs, either directly or indirectly (through increasing tariffs on intermediate goods), can act as a stimulus for producers to reduce costs and shift the emphasis in production away from the home market to the international market. The enlargement of a protected home market is by itself not sufficient to ensure an industry's capacity to lower its costs and compete in both local and export markets.

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(35) Ibid.,

The idea behind such an 'optimal' tariff policy is that industrial growth will be promoted rather than protected. Countries adopting such a policy will be able to enjoy the benefits of extended import substitution, while, at the same time, industries are provided with an opportunity for increasing efficiency and possibly acquiring comparative advantage in certain activities which could serve as a basis for the export of manufactured goods. Instead of pursuing a policy to export all types of manufactures, which is implicit in many of the outward-looking policies advocated during the sixties, countries can still enjoy the benefits of import substitution without suffering from a reduction in exports.

5.7 Summary

In this chapter an attempt was made to show how the type of tariff protection practised in many countries influences the pattern of growth in these countries. The concept of effective protection provides an aid in explaining this relation hip. High levels of effective protection on final consumer goods encourage inward-looking policies and these are detrimental to exports, whether these exports refer to manufactured goods or primary products. While in its early stages, import substitution offers exciting growth possibilities, various countries have experienced enormous problems in the later stages of the process. This appears to be the case in South Africa as well. While the debate over inward- and outward-looking policies is by no means resolved and while, with changing circumstances, the arguments in favour of the one outweigh the arguments in favour of the other, the ideas expressed in this chapter have questioned the meaning of the concept of import substitution and suggested a possible tariff policy that could possibly better affect the pattern of growth in less developed countries. The next chapter looks at levels of effective protection in the South African economy.

CHAPTER 6

THE LEVEL OF EFFECTIVE PROTECTION IN SOUTH AFRICA

6.1 Introduction

Thus far in attempting to relate tariff protection and the pattern of economic development in South Africa, protective policy was described in terms of the conclusions and recommendations of various commissions of enquiry into such policy, while trends in the growth of the economy were analysed in terms of broad statistical indicators. From the analysis presented in Chapters 2 and 5 (dealing with the historical aspects of protection and economic growth in South Africa respectively) it appears that tariff policy in South Africa has had a decisive impact on the productive structure in the country, in that such policy has encouraged a policy of import substitution. The general trend in the protective structure of the country has appeared to be the levying of relatively high duties on final goods designed for consumption and utilizing large amounts of labour, initially white labour, as well as the levying of low duties on capital and intermediate goods.

It was also suggested in the previous chapter that deeply-rooted structural problems have recently come to the fore with regard to the pattern of development in South Africa. In order to analyse whether the protective structure in South Africa has contributed to these, one should ideally analyse these in terms of the levels of effective protection that have been implemented in the economy over time. Such analysis is not possible for a variety of reasons. Firstly, as has been mentioned in Chapter 3, the concept of effective protection is a relatively recent one. The tools used for such analysis, viz. input-output tables, have also only recently been developed. In South Africa, for example, the first input-output table was devised for the 1956/57 period. In addition, there are problems involved in comparing input-output tables and industrial censuses on which these are

based over periods of time, in that the categories and classifications of industries frequently change from one time period to another. Yet another complicating factor is the difficulty involved in obtaining duty levels, over periods of time, that are readily accessible. Perhaps one of the most serious sources of difficulty involves the classification of duties according to the input-output classification. Duties are frequently expressed in terms of a schedule of tariffs that differs vastly from the input-output classification based on a standard classification of industries. These latter problems related to duties have necessitated an unsatisfactory approach in attempts to calculate nominal tariffs. Frequently (and South Africa is not alone in this problem) nominal rates are perforce estimated by dividing the duties collected for each sector by total imports for a sector as given in the input-output tables. The disadvantages in this approach will be discussed later as will some additional difficulties in estimation.

This chapter concerns itself with analysis of two recent and detailed studies of effective tariff protection for South Africa. Some of the major conclusions emerging from these studies are discussed. In addition, the results are analysed and interpreted in a way that is different to the authors' methods in these studies. In conclusion, a revised and more manageable method of measuring effective protective rates is suggested in an endeavour to overcome several of the difficulties described above. It must be emphasized that the measures referred to in this chapter apply to effective tariff protection only, and exclude other forms of protection such as transportation rates, import controls, subsidies, devaluation, fluctuating exchange rates etc. Attempts to incorporate these would serve to complicate an already difficult exercise considerably. Furthermore, in a country like South Africa, the paucity of statistics concerning these latter factors would make any such analysis virtually impossible to undertake.

6.2 The Holden Measure of effective protection in South Africa

This measure was put forward in 1974 and presented in the form of a doctoral dissertation by Merle Holden[1]. A summary of results was presented recently in an article by the doctoral candidate and her husband[2]. The purpose of the Holden study was essentially to calculate effective tariff protection in South Africa for 1956/57 and 1963/64 to ascertain how changes in nominal tariff rates have affected the pattern of production in South Africa. Their calculations suggest that, broadly interpreted, there was an increase in the levels of both nominal and effective tariff protection over the 1956/57 - 1963/64 period. Because of the relatively low Spearman rank correlation coefficient of 0,51 between the percentage change in the nominal tariff rate and the effective tariff rate, the implicit conclusion is 'if changes in nominal rates provide an accurate indication of the intended impact of commercial policy, the actual and desired impact of policy frequently differed'[3].

The basic assumptions underlying the Holden model are that:

(i) international prices of imports and exports are fixed, i.e. the demand for South African imports and exports are perfectly elastic;

(ii) input-output coefficients are fixed over the relevant time periods;

(iii) tariffs are assumed to be the only form of market distortion. The reason given for this assumption is that there does not exist in South Africa comprehensive price survey data which would enable a comparison to be made between domestic and world prices for each industry. Thus an

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(1) Merle Gwendoline Holden, 'Effective Tariff Protection and Resource Allocation in South Africa from 1956/57 to 1963/64' Ph.D 1974. Duke University.

(2) Merle Holden and Paul Holden, 'An Intertemporal Calculation of Effective Rates of Protection for South Africa,' S.A.J.E. Vol. 43, No. 3 Sept 1975, pp.370-379

(3) Ibid., p. 379.

incomplete picture is obtained of the true protection granted to each industry. At the most this implies that the calculations made reflect only effective tariff protection rather than the total effective protection granted to each industry'[4]. The authors claim, however, that during the years in which the study was undertaken non-tariff protection was not at a maximum so the results are not quite as incomplete as otherwise might have been the case[5]; and

(iv) despite input-output coefficients being fixed, the value added per unit of output of each industry rises with output. The implications of this assumption is that the supply of primary factors is less than perfectly elastic.

Both the Balassa and Corden formulae were used in the calculations. Nominal tariff rates were calculated by dividing the duties collected for each sector by total imports for that sector as given in the input-output tables for the relevant years. 'As imports are only recorded in total for each sector,it is not possible to use anything but a simple unweighted average....to determine the rates'[6].

Furthermore, with regard to differences in levels of aggregation in the two input-output tables, most of the aggregation,it is argued,takes place in the processed foodstuffs and textile sectors and the tables are comparable in terms of their ISIC groupings. Thus the authors reclassify the broader 1956/57 table to conform with the 1963/64 classification.

The results, reproduced in Tables 6.1 and 6.2, confirm that the Balassa formula yields higher absolute effective rates than the Corden formula. As explained previously the reason for this divergence in the two methods is that the Corden method implies that the elasticity of supply of non-tradables

(4) Ibid., p.371

(5) Ibid., p.371.

(6) Ibid., pp.372 and 373.

TABLE 6.1

EFFECTIVE TARIFF RATES FOR 1956/57 FOR THE SOUTH AFRICAN ECONOMY

	Sector	Simple Balassa	.Corden	Nominal Tariff Rates
1.	Agric. Forestry	0.21	0.07	0.44
2.	Gold Mining	-3.21	-2.74	0
3.	Diamond Mining	-2.87	-2.74	0
4.	Coal Mining	-3.89	-3.40	0
5.	Other Mining	-3.52	-3.19	0
6.	Slaughtering & Meat	-3.53	-1.91	0.5
7.	Diary Products	21.39	12.62	3.63
8.	Fruit & Veg. Products	34.57	5.86	14.91
9.	Fish & Sea Products	-5.87	-4.94	0.58
10.	Grain Mill Products	200.84	65.02	0.4
11.	Bakery Products	69.67	39.1	13.35
12.	Sugar & Refineries	15.42	6.9	5.5
13.	Chocolate & Confect.	-3.85	-3.31	2.86
14.	Misc. Food Preps.	-6.08	-4.42	2.2
15.	Distillers & Wines	63.94	14.56	142.05
16.	Breweries	-8.96	-7.75	19.2
17.	Tobacco Manuf.	-63.7	-57.09	30.3
18.	Spinning, Weaving	12.68	3.98	8.5
19.	Knitting Mills	16.9	9.36	12.96
20.	Cordage, Rope	-2.16	-3.64	3.5
21.	Footwear (excl. Rubber)	2.96	1.27	6.16
22.	Clothing	31.88	18.33	19.6
23.	Made-up Textiles	-14.07	-12.98	3.4
24.	Wood & Cork	-2.97	-2.59	1.18
25.	Furniture & Fixtures	55.21	35.87	22.54
26.	Pulp, Paper & Board	-2.14	-1.94	1.17
27.	Articles of Pulp, Paper	74.74	39.80	19.09
28.	Printing & Publishing	10.63	7.81	8.4
29.	Tanneries & Leather	1.66	0.43	2.6
30.	Rubber Products	34.01	17.46	17.9
31.	Basic Ind. Chemicals	-1.77	-1.40	0.6
32.	Miscellaneous Chemicals	7.71	1.93	8.62
33.	Products of Petrol	-31.53	-22.22	40.4
34.	Structural Clay	5.93	3.79	6.2
35.	Glass	27.56	13.48	14.24
36.	Cement	132.77	44.76	31.14
37.	Non-Metallic Minerals	-0.33	-0.33	3.19
38.	Iron and Steel	-3.38	-2.65	1.0
39.	Non-Ferrous Metals	-5.01	-2.09	0
40.	Metal Products	2.54	1.45	3.6
41.	Machinery	-2.02	-1.94	1.3
42.	Electrical Machinery	1.78	0.84	3.6
43.	Transport Equipment	3.57	1.30	3.56
44.	Motor Vehicles	-9.84	-9.84	9.05
45.	Misc. Manufacturing	18.97	4.79	7.47

Source: Merle Gwendoline Holden, 'Effective Tariff Protection and Resource Allocation in South Africa from 1956/57 to 1963/64', p.38.

TABLE 6.2

CALCULATION OF EFFECTIVE TARIFF RATES FOR 1963/64 FOR THE SOUTH AFRICAN ECONOMY

		Simple Balassa	Rank	Corden	Rank	Nominal Tariff Rates
1.	Agric., Forestry	6.03	16	2.95	15	7.8
2.	Gold Mining	-1.24	22	-1.08	23	0
3.	Coal Mining	-2.14	23	-1.87	24	0
4.	Other Mining	-1.15	20	-1.07	22	0
5.	Processed Foodstuffs	9.43	14	2.76	16	3.6
6.	Beverages & Tobacco	*		231.61	1	94.0
7.	Textiles	7.31	15	2.56	17	8.3
8.	Knitting Mills	1.92	18	1.15	19	12.5
9.	Clothing	47.62	3	29.89	4	19.8
10.	Footwear	34.85	4	22.44	5	15.4
11.	Wood & Wood Prod.	-1.17	21	-0.97	21	2.7
12.	Furniture	-18.68	27	-14.42	28	1.6
13.	Paper & Paper Prod.	-7.05	24	-5.27	25	3.4
14.	Printing & Publish.	24.61	6	17.47	7	4.0
15.	Leather	59.49	2	35.69	3	5.2
16.	Rubber Products	29.91	5	17.80	6	13.2
17.	Basic Ind. Chemicals	-11.15	26	-8.54	27	1.4
18.	Misc. Chemicals	15.11	9	5.59	13	9.0
19.	Pharmaceuticals	1.09	19	0.20	20	4.9
20.	Petrol & Coal Prod.	415.56	1	79.53	2	71.0
21.	Mineral Products	14.34	10	9.20	10	8.6
22.	Basic Iron & Steel	19.16	7	13.02	8	0.7
23.	Basic Non-Ferrous	15.66	8	7.18	12	0.7
24.	Metal Products	11.34	12	7.73	11	6.8
25.	Machinery	13.82	11	9.81	9	1.0
26.	Electrical Machinery	4.08	17	2.56	18	3.8
27.	Transport Equip.	-32.08	28	-26.30	29	1.1
28.	Motor Vehicles	- 7.41	25	-6.13	26	6.2
29.	Misc. Manufacture	10.18	13	3.26	14	7.3

* Negative value at world prices was computed

Source: Reproduced from Merle Holden, op. cit., p.43.

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