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THE ROLE OF PROTECTION IN  
INDUSTRIALISATION POLICY

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ABSTRACT:

Protection of domestic industry by means of restricting imports has been widely employed as a means of promoting industrialisation. Experience among less developed countries has shown that, while this often produces a short "exuberant" period of rapid industrial growth, it is likely to lead eventually to chronic balance of payments difficulties and other constraints on growth that inhibit sustained progress in industrialisation. This is partly because of the biases in the system of protection that inevitably govern when it originates as a response to a balance of payments problem. Even deliberately planned protection for industrialisation, however, is likely to fail if it takes the form of import restriction. The traditional arguments for such protection (infant industry, *et. al.*) have virtually no economic merit - not that the market failures they identify are not real enough, but because the remedy is inappropriate and costly. A more rational protection system would avoid the biases of traditional protection against exports, against backward linkage, against employment, and against the processing of domestic raw products. At the same time it would correct the market failures that inhibit successful industrialisation in less developed countries. The most important of these market failures stem from factor price disequilibrium, infant industry cases, terms of trade effects and the interdependence of investment decisions. Such a more rational system could be based on a combination of a uniform tariff, a domestic value added tax system, and direct subsidies. It would be not only self-financing, but also far easier to administer than any existing set of industrialisation policies.

THE ROLE OF PROTECTION IN INDUSTRIALISATION POLICY  
WITH PARTICULAR REFERENCE TO KENYA\*

JOHN H. POWER

1. INTRODUCTION

It is assumed without argument in what follows that industrialisation (loosely defined) is an essential aspect of economic development for Kenya, as well as for virtually all other less-developed countries. Perhaps all that is needed in this connection is a reminder that, so far as we have evidence, it appears that every case of successful economic development has been characterised by a very substantial rise in the proportion of output and employment attributed to non-agricultural activities; and that, during a prolonged critical phase of this development, it has been manufacturing and the construction, transport, trade and service activities related to manufacturing that have grown most rapidly. For the world as a whole this direction of structural transformation is dictated by the changing pattern of consumption that accompanies rising per capita income. For any particular country, however, it is also the changing composition of resource endowment that influences structural change in this direction. For Kenya, in particular, with its catastrophic rate of population growth and the reasonable expectation that it will take many years to bring it down to a viable level, it is critically important that the sectors where the principal <sup>resources</sup> complementary to labour are most easily augmentable should begin to absorb a rapidly rising proportion of the new entrants to the labour force. This is not to deny that for many years the weight of agriculture in an absolute sense will predominate in respect to both output and employment.

Because of the strong interdependence between industrial growth and growth in other sectors, industrialisation policy in the broadest sense might be virtually indistinguishable from development policy. Even in

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\* I am grateful for stimulating criticism and comment to Peter Hopcraft, Stephen Lewis, Kurt Savosnick, Hans Singer, Michael Stewart and Bernard Wasow.

a narrower sense, industrialisation policy would have to include policies for developing and improving entrepreneurship, for education and training, for the provision of essential services and infrastructure facilities, etc., in addition to all of the taxes, subsidies, restrictions and regulations that might come under the heading of "protection". So the latter is only one of many aspects of industrialisation policy. Nevertheless, its influence is pervasive because it affects the whole economic environment within which the other policies operate - the whole set of market price and profit incentives. For socialist, mixed, and private enterprise economies alike, experience has taught that efficient economic planning requires a system of prices that is not too far out of line with values implicit in social priorities and resource constraints.

The discussion of the role of protection in industrialisation policy, which follows, is divided into three parts: first an assessment of the role that protection has played in the recent experience of less-developed countries; second, a critique of the traditional arguments for protection; and, third, an outline of a rational protection system for industrial growth that might better fit Kenya's development plans and aspirations than the existing constellation of policies.

It might be useful, however, to introduce the discussion by tracing very briefly the intellectual roots of the thinking that lies behind it - what Hollis Chenery has called the "new orthodoxy" in trade and industrialisation policies for less-developed countries. The new orthodoxy can be described briefly as outward-looking industrialisation. It contrasts with an old orthodoxy which was inward-looking industrialisation, as well as with an old-old orthodoxy which was outward-looking non-industrialisation.

The old-old orthodoxy assumed a natural comparative advantage for less-developed countries in primary production. Hence primary exports

were considered to be the engine of growth. The old orthodoxy in contrast, established a case for industrialisation on terms of trade and dynamic development criteria. But when it came to policies, the emphasis was on industrialisation for the home market only, balanced in relation to home demand, with all of the limitations that implies. It was, in other words, what we might call a "half-way" industrialisation strategy. It is not just that the world market for manufacturers was neglected. The system of half-way protection actually penalised home industries in the world market by keeping the price of foreign exchange below what it would have been in the absence of protection of the home market. Accordingly, an industry that might have sold in either home or world markets found that it was protected in the former but penalised in the latter. This was the kind of "protection" endorsed by the old orthodoxy.

That policies of this sort would result in stunted and frustrated industrial growth might have been predicted by economists. My impression is that by and large it was not. Instead, criticism of this inward-looking industrialisation strategy appeared to come mainly from the old-old orthodoxy, the stress being on the harm to agriculture and other primary activities from an undue emphasis on industrialisation per se, rather than on its inadequacies for industrial growth. The new orthodoxy did not develop, it seems, until there had accumulated a great amount of evidence of frustration and disappointment with inward-looking industrialisation.

The sequence of events - again, an impressionistic view - appears to have been something like the following. First there was a growing recognition of the failures of the old orthodoxy. Three important developments stemmed from that. There was the UNCTAD approach of trade preferences in the rich countries' markets for exports of manufactures from the poor countries.<sup>1</sup> In addition, there was renewed

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1. Raúl Prebisch, Towards a New Policy for Developing Countries. (New York: United Nations, 1964).

interest in preferential trading systems among less-developed countries. Finally there was also renewed interest in the reform of trade and protection policies within individual countries.

In the meantime there was a growing accumulation of empirical studies and analyses of the failures of inward-looking industrialisation, generally on a country by country basis.<sup>2</sup> With this came also a growing disenchantment with the economic growth theory that was the handmaiden of the protectionist policies - the theory that creating artificial profits for the industrial sector at the expense of the rest of the economy would lead to a self-sustaining saving and investment propelled growth. Saving was to be forced by the terms of trade squeeze on unprotected sectors, while investment were made to incentives/depend on interdependence through complementarities in consumption - the "balanced growth" doctrine. (I hasten to add that Lewis, Nurkse, and others should not be blamed for the popular versions of their theories that were only caricatures of the originals.)

New growth strategies emerged, based more on supply linkages than on demand linkages. Economies of scale and the interdependence of investment decisions through input-output relations called for the concentration of resources in selected industrial complexes, rather than their dispersion across the whole front of finishing-stages consumption goods production. This was incompatible with old-fashioned protection, but highly congenial to a new outward-looking view in which industrial exports were considered important along with efficient import substitution.

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2. See, for example, the comparative study, Industry and Trade in Some Developing Countries, co-authored by I. Little, T. Scitovsky, and M. Scott; also the various separate country studies: Brazil, by J. Bergsman, Mexico, by J. Bhagwati and P. Desai, Pakistan, by S. Lewis, Taiwan and the Philippines, by M. Hsing, J. Power, and G. Sicat: all published by Oxford University Press, 1970-71, for the Development Centre of the Organization for Economic cooperation and Development.

Then, in the middle 1960's came the new theories of protection, again based on input-output relations.<sup>3</sup> These led to the quantitative study of protection systems with the result that, for the first time, policy makers could view the overall - usually shocking - results of the hodge-podge of protectionist policies that had been built up in unsystematic fashion on ad hoc criteria.<sup>4</sup> Viewing these results, it was impossible for anyone to say: "we planned it that way".

The next step is, of course, to apply the lessons of the new evidence and the new theories to seek new means of accomplishing the promotion of sustained industrial growth in less-developed countries. Kenya and other African countries, being at an earlier stage both in industrial development and in the development of protection systems, have the opportunity to learn from the mistakes of others, rather than simply repeating them. It was with this purpose in mind that the present paper was written. I should emphasise that what follows depends more on a study of the experiences of other countries than on a study of Kenya. As empirical work proceeds on Kenya's industrialisation and trade these ideas will become increasingly Kenyanised. My excuse for presenting them now is simply the hope that this will stimulate more interest in, and critical discussion of, the role of protection in Kenya's development policies.

## 2. PROTECTION IN PRACTICE

While protection has been widely employed by less developed countries seeking to industrialise, the results have been at best mixed, and in many cases disappointing. Typically the sequence has been a balance of payments crisis met by import or foreign exchange controls, followed by a burst

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3. For the best summary, see W.M. Corden, The Theory of Protection (London: Oxford University Press, 1971).

4. See, for example, B. Balassa and Associates, The Structure of Protection in Developing Countries (Baltimore: Johns Hopkins University Press, 1971). For an excellent discussion of methods and problems, see Lewis and Guisinger, "Measuring Protection in a Developing Country: The Case of Pakistan", Journal of Political Economy, 1968.



of industrial growth in consumption goods industries substituting for the now more scarce or expensive imports.<sup>5</sup> The new industries inevitably begin at the finishing stages of production, depending on imports for their raw and intermediate product needs, as well as for their capital equipment. Accordingly a system of priorities is established in the import control system, with consumers' goods strictly limited while producers' goods are more liberally imported. In addition, the less essential is deemed the consumers' good the more severely its import is limited (whether by tariff, quota, or exchange control).

Such a system of priorities seems eminently sensible in terms of rationing of scarce foreign exchange and this no doubt explains its wide appeal. Adopted as a very short-run emergency measure it is easily defended since its protective effect would be minimal. Adopted as an industrialisation policy - or allowed to become one through prolonged reliance on import controls - these priorities are perverse. To restrict more severely the import of less essential goods means simply to give greater encouragement to their domestic production. Moreover, other things equal, effective rates of protection will be greater for those industries with the least value added in world prices - i.e., those that save the least foreign exchange. Finally, in administering a tariff

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5. Albert Hirschman identifies four origins of import substituting industrialisation - wars, growth of the domestic market following export expansion, balance of payments difficulties, and deliberate development policy. See his "The Political Economy of Import-Substituting Industrialisation in Latin America", The Quarterly Journal of Economics, February 1968, p. 5. The first two are outside of the scope of this paper. The third, which I believe to be typical, is the one on which this section is focussed. The last is considered in the next section.

or import control system, there is a strong tendency to give particular industries just the protection they need - tariff commissions and other administrative bodies being ever on the alert to avoid giving any industry more. This means, of course, that the more relatively efficient an industry is, or becomes, the less protection it is likely to get - and vice versa. The upshot is that such a policy of protection systematically favours industries that are less efficient, less essential, and less effective in saving foreign exchange - all in the name of stimulating industrialisation and protecting the balance of payments.

Moreover, there becomes established the familiar pattern of so-called "escalating rates of protection" - highest for consumption goods (especially high on the least essential ones), lower for intermediate goods, lower still for raw materials and capital goods, and of course, lowest for exports. The resulting pattern of effective rates often shows many consumption goods enjoying more than 100 per cent protection, while exports, capital goods and raw materials have negative rates.

Nevertheless, such policies often provide a powerful short-run stimulus to industrial growth, even though such growth may be considerably overstated by a system of domestic prices far out of line with world values. What Albert Hirschman has called the "exuberant phase" of import-substituting industrialisation stemming from the protectionist response to balance of payments difficulties may last for as long as a decade.<sup>6</sup> The reason is, of course, that import restriction plus liberal imports of "necessary" inputs creates an artificially profitable market for investment in consumers' goods production for the domestic market regardless of comparative advantage. An expansion of finishing stages production of consumers' goods, balanced in relation to home demand, could conceivably continue until import substitution has largely absorbed

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6. Op. cit., p. 11

the domestic market.

It is just this, however, that tends to limit the length of the exuberant phase. For when the boundaries of the domestic market for consumers' goods are approached the pace of industrial growth must falter unless industrial investment moves to the level of intermediate goods and capital goods (backward linkage import substitution), or manufactured goods move rapidly into the export market, or both. Yet it is just these potential areas of growth that are penalised by the typical protection system.

Moreover, it is not at all easy to switch policy gears at this point - to reverse the system of incentives to make backward linkage import substitution and exports relatively profitable. For a reform of the structure of protection plus a devaluation would create considerable distress among a great number of the consumers' goods industries whose profits have depended on the biases of the protection system. These, of course, should never have been encouraged. A more rational policy from the start would have produced a more select list of consumers' goods industries, some already integrated backward, and some already exporting. The lesson is that it is undesirable to have a sequential pattern of development requiring a different set of policies for each stage, with all of the political and economic difficulties that implies. What is needed, instead, is a relatively stable set of policies within which rational choices with respect to import substitution and exports at all levels of the production process can be made from the outset, so that the decisions made in the earlier stages do not subsequently become barriers to growth.

But even before the limits of the domestic market for consumers' goods are reached, barriers to sustained industrial growth may arise in two other forms. The first is a balance of payments constraint. It may seem odd to suggest that protectionist policies may lead to

chronic balance of payments difficulties when that is, in part, what they are designed to cure; but the experience of many countries in Latin America and Asia tend to confirm the suggestion. The reason seems to be basically that the typical protection system, as described above, represents a very costly and inefficient means of balancing the foreign exchange budget. Instead of rewarding equally all potential earners and savers of foreign exchange, there is one-sided bias in favour of finishing stages consumers' goods industries. And even within this group there is a relative favouring of those that are least efficient and save the least foreign exchange. The import bill, meanwhile, is rising and becoming dominated by the "essential" inputs into the import-substitution industries. Finally, exports are positively discouraged by lack of protection plus the undervaluation of foreign exchange that the system of protection defends. Thus a rising cost of balancing a growing foreign exchange budget requires ever tightening import controls, while the predominance of "essential" inputs in the import bill means that this tightening eventually brings a shortage of materials, parts and equipment that retards industrial growth.

The second possibility is one that has appeared in some Latin American countries, usually in combination with the first. It is the inflation (and compounded balance of payments difficulties) that arises out of an incomes struggle in response to the rising burden that inefficient import substitution imposes on the rest of the economy. So inflation and balance of payments difficulties may bring industrial stagnation even before the first easy phase of import substitution has been completed.

There are some other consequences of a protection system, biased in this pattern, that I will just briefly mention. First, growth of industrial output and employment will depend heavily on the growth of consumption, especially non-essential consumption. Any desire on the part of government to raise saving to accelerate economic growth or to redistribute its gains more equitably by taxing non-essential consumption

will be frustrated by the need to keep employment and output going, and growing, in the favoured industries. Hence there will be strong pressures against the kind of tough fiscal policy that is needed both for growth and social justice.

At the same time the economy becomes increasingly dependent on the rest of the world for its supply of essentials with the consequence of increased dependence on the earnings of the primary export sector. This sector, in turn, remains dependent on the world market, since the protectionist system heavily favours manufacturing based on imported inputs over processing of domestic primary products. The counterpart is that the manufacturing sector becomes what Hirschman has called an "import enclave", linking to the world for its supplies rather than to the rest of the economy; and even on the demand side depending, in substantial measure, for its sales on the new free-spending urban classes. Thus the dualistic character of the economy may be intensified rather than ameliorated. And economic alienation, rather than integration, characterises regional relations.

Finally, because of relatively liberal imports of capital equipment, the latter is priced artificially low - usually at less than free trade prices because of the undervaluation of foreign exchange. This is likely to have an adverse effect on industrial employment not only by affecting the factor mix and selection of industries but also by discouraging the development of a domestic capital goods industry which might produce more labor-using equipment.

These various possible consequences of a typical protection system - especially the tendency toward industrial stagnation, chronic balance of payments problems and inflation - are now well known. As could be expected, this has led to a reversal of policy prescriptions for successful industrialisation on the part of at least some of the most influential erstwhile exponents of protection. The most prominent of these is

Raul Prebisch who, after serving for more than a decade as the inspiration for Latin-American industrialisation, delivered what seemed to be a post-mortem on the failures of "inward-looking industrialisation" in his first report as Director-General of UNCTAD in 1964.<sup>7</sup> His solution to the problems of industrialisation in less-developed countries, however, focussed not on reform of their policies, but on trade preferences in the markets of the developed countries. The reason, no doubt, is that Prebisch saw clearly that, while the new strategy is outward-looking industrialisation, it might be disadvantageous in the context of present policies in the wealthy countries for the entire less-developed world simultaneously to reform their policies so as to encourage manufactured exports. The consequences in the form of reactive protection in the rich countries might be on a scale not yet imagined.

Nevertheless, for any one small country that decides to become aggressively outward-looking in its industrialisation policies, there are good reasons for being optimistic of success. One reason, of course, is that we can be reasonably certain that most other LDC will not follow suit. Kenya, it seems to me, is in an excellent position to follow successfully this strategy. This is an important assumption in what follows.

### 3. THE TRADITIONAL RATIONALE FOR PROTECTION

It was noted above that Hirschman's fourth category of import-substituting industrialisation is deliberate development policy. Hirschman argues that deliberately planned import substitution would not be characterised by the same pattern of perverse distortions found in the type described in the previous section. This is no doubt correct if planning were perfectly rational. An attempt to outline such a rational protection system for industrialisation is set out in the following section.

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7. Prebisch, Op. cit.

But it is difficult to locate cases of rationally planned industrialisation in the real less-developed world. The positive planning element is usually hopelessly entangled with the mix of policies surrounding foreign exchange use priorities and often serves, in part, as a rationalisation for the latter. A rational planning approach would completely reverse the priorities that foreign exchange rationing establishes as we have seen above. Instead what element of deliberate planning for industrialisation exists is usually based on a number of traditional arguments for protection - such as, for example, the infant industry argument. And that these can be made without interfering with the biases of balance of payments oriented import substitution is easily seen in the circumstance that it is usually consumers' goods production for the domestic market that is awarded infant status - less often producers' goods, and only rarely production for export.

It is important, nevertheless, in clearing the way for a discussion of a rational protection system, to assess the validity and relevance of these traditional arguments for protection. I will focus on four: factor price disequilibrium, infant industry, the interdependence of investment decisions, and terms of trade.

Factor price disequilibrium, in the form of a wage rate in modern manufacturing and related sectors that is much above the social opportunity cost of labour, is for many less-developed countries and especially, I think, for Kenya one of the most serious obstacles to industrialisation. For it means that agriculture and other primary producing sectors can export successfully at an exchange rate that prevents manufactures from being competitive. Hence the latter cannot be exported and can compete in the domestic market only behind substantial protection. What appears from market indicators as a comparative advantage in primary production and a disadvantage in manufacturing may be, in part, the effect of factor price disequilibrium. This becomes particularly important as a country

changes from relative natural resource abundance to scarcity vis-a-vis labour, the implication being that this problem is likely to worsen for Kenya in the future.

Note that it is not the absolute level of wage rates in the modern industrial sector that matters, but the duality in the wage structure. If wages were uniform for comparable skills over all sectors, the exchange rate would have to adjust to attain balance of payments equilibrium if the wage level could not. Thus raising wage rates everywhere else to the level of the modern industrial sector plus a devaluation would be an alternative remedy to a downward adjustment of industrial wage rates. Wasow has argued that a devaluation by itself would approximate this result. His conclusion depends, however, on the key assumptions that real earnings in the traditional sectors would be unimpaired by the devaluation, while those in the modern sector would be reduced because the money wage would remain fixed.<sup>8</sup>

Another way to point up the critical importance of the element of duality in the wage structure is to postulate a political separation of the high and low wage sectors. The former would, then, have to adopt an exchange rate (or level of wage rates) at which manufactures could be exported (as in the cases of Hong Kong and Singapore). But so long as the economy remains dualistic it has other options - unfortunately as it turns out.

The classic remedy for factor price disequilibrium - first argued by Manoilescu more than 40 years ago - is tariff protection (or other import restriction).<sup>9</sup> It has the very great disadvantage, however, of correcting the bias against the modern industrial sector only so far

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8. Bernard Wasow, "A note on Wage and Exchange Rate Policy in an Open Underdeveloped Economy", East African Social Sciences Conference, Dar Es Salaam, December, 1970.

9. M. Manoilescu, The Theory of Protection, (London: King, 1931).



as the domestic market is concerned. The ability to export manufactures will, in fact, be further weakened by the undervaluation of foreign exchange that tariff protection would defend. Moreover, there would be imposed an unnecessary penalty on the users of the protected products, whether producers or consumers. Finally, the remedy of protection does nothing to correct the bias in the factor mix that factor price disequilibrium implies.

This last point leads me to the comment that it is never very clear whether factor price disequilibrium is a cause of protection or its result. Surely protection is at least a way of underwriting this kind of disequilibrium; and one can easily imagine protection coming first, with labour in the modern sector able to capture its share of the gains. In any case protection and high industrial wages are likely to interact in a way that increases, rather than diminishes, the dependence of the economy on traditional primary exports and leads the industrial sector into the dead-end of import substitution behind heavy protection.

To correct the bias against exports in the Manoilescu remedy, Lary (and subsequently Kaldor) recommended a dual exchange rate, favourable to the modern industrial sector.<sup>10</sup> While this represents an important improvement, it is still a second-best remedy, since it leaves the bias in the factor mix and the bias against the use of industrial products untouched.

A subsidy to employment in the modern industrial sector would represent a superior remedy if it could be financed in a relatively neutral way. If there cannot be a direct attack on the problem through a wages policy, this probably is the best option, since it would correct

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10. H. Lary, "Economic Development and the Capacity to Import-National Policies", in Lectures on Economic Development (Istanbul, 1958).  
N. Kaldor, "Dual Exchange Rates and Economic Development", Economic Bulletin for Latin America, September, 1964.

all four biases inherent in factor price disequilibrium: the bias against import substitution in manufacturing, the bias against manufactured exports, the bias against labour in the factor mix, and the bias against the use of industrial products. In contrast, tariff protection (or equivalent import restriction) corrects only the first and worsens the other three. Clearly this traditional argument for protection fails. I should add, perhaps, that Wasow's suggestion of devaluation as an alternative second-best remedy for Kenya deserves further study.

The infant industry argument is well known and I will not bother to detail it here. Instead I will attempt to set down a few summary points about it and its relation to protection.

First, it depends essentially on the existence of economies of scale and a learning process in production. These are, of course, found not only in manufacturing, but in all sectors of the economy. Hence, there is no justification for restricting infant industry protection to the modern industrial sector, nor to import substitutes, nor to consumption goods, etc.

Moreover, it is obvious that the gains from scale economies and, perhaps, also from learning by doing will be greater in the context of more rapid growth concentrated in a few lines, rather than in slower growth across a broad front of industries.<sup>11</sup> (Rapid and slow here relate to the rates of growth of individual industries, not to the rate of growth of the aggregate which might be the same in the two cases.) This means that the kinds of gains inherent in the infant industry situation are likely to be realised more fully in the context of an open-economy, specialised industrial development, rather than in the sort of balanced growth pattern that emerges behind the usual system of protection. This is

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11. T. Scitovsky, "Growth - Balanced or Unbalanced?", Papers on Welfare and Growth, (Stanford, 1964).

reinforced by the fact that, since protection can be only relative, dispersing it more broadly simply dilutes it for each recipient. These considerations, together with the fact that industries can be expected to vary in their efficiency response to scale and learning (if indeed this could be predicted), suggests that the logic of the infant industry argument calls for special encouragement to a relatively few industries so as to develop at least some of them as eventual export industries. This is clearly not compatible with tariff protection.

In fact, tariff protection as a remedy for infant status suffers from two of the same defects mentioned above in connection with factor price disequilibrium: it is biased against the export market and it imposes a penalty on the use of the product. Yet, surely, if an industry is an infant in the domestic market it is also an infant in the world market. And to realise the potential gains from scale and learning one would want to adopt measures that enhance, not discourage, the use of the product. Therefore, a subsidy again is a far better remedy than tariff protection, since exports would be encouraged equally with import substitution and greater use of the product would be encouraged via its lower price.

Finally, as Stephen Lewis has reminded us, to implement a programme of protection for infant industries one must have not only an estimate of potential cost reduction for the industry, but one must compare this with estimates for all industries at home and abroad.<sup>12</sup> For it is long-run comparative advantage that is at issue. It is not enough for a particular industry to promise cost reduction. It must promise relatively greater cost reduction in relation to other domestic industries than does its counterpart world industry in relation to other world industries. This may sound formidable. It is with respect to the difficulty of deciding which

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12. S. Lewis, "The Effects of Protection on the Growth Rate of the Economy and on the Need for External Assistance", Working Paper No. 34, Institute for Development Studies, University of Nairobi, (April 1972), p.16.

industries might qualify. It is not, however, in the sense that it might be difficult even conceptually to find an industry that would qualify. Inevitably some will. That is the meaning of comparative advantage.

Next, there is interdependence of investment decisions. This has many facets and I wouldn't try even to begin to deal with all of them. It is important, however, to compare interdependence in demand and interdependence in supply. The former was important in the balanced growth doctrine of some years back - recall the classic shoe factory example of Rosenstein-Rodan. This was worked out in the context of a closed economy wherein it is indubitably correct that the success of an investment depends through demand linkages on all of the other investments. What was often passed over, however, was that this necessity for investment to follow the pattern of domestic demand meant foregoing

advantageous linkages on the supply side - especially where economies of scale are important. Opening the economy rescues us from this dilemma by permitting us to take full advantage of economies of scale and supply linkages while solving the demand problem through international trade. It is evident that inward-looking protectionism is not an appropriate vehicle for maximising the benefits from the interdependence of investment decisions.

Moreover, as noted above, tariffs or import restrictions have the great disadvantage of impeding forward linkages. Consider a simple example. Suppose it is decided to provide protection to a new steel industry because of its potential economies of scale and many forward linkages. A tariff would impose a penalty on steel users, inhibiting the growth of such industries and thereby stunting the growth of the steel industry itself. In contrast, a direct subsidy could give the same protection to steel without impeding forward linkages.

Finally, there is the terms of trade argument for protection. Since the marginal terms of trade are not necessarily equal to the average, there may be, from the national standpoint, a welfare loss (or a potential welfare gain foregone) under free trade. Full Paretoan optimality calls for restricting trade until the ratio of domestic prices of exports to imports equals the marginal terms of trade.<sup>13</sup> This could be done by means of a dual exchange rate, the price of foreign exchange for imports exceeding that for exports in the ratio

$$C = \frac{e}{e-1}$$

where  $e$  is the elasticity of world demand (the world supply elasticity assumed to be infinitely great). Alternatively, a uniform tariff (at all stages of the production process) equal to  $C - 1$  could produce the same result. There are two serious weaknesses in this argument, however, even if  $e$  could be estimated. First, it assumes no retaliation. The country, in effect, is allowed to exploit its monopoly position in trade unnoticed. Second is the assumption of a single elasticity of demand for all exports - presumably a weighted average. Usually, a country will have only one or a few commodities in which it is a relatively important supplier. For these the average will be too low. For all of the others the average will be too high and will call for a level of protection (i.e., discrimination against exports) that may prove to be a serious handicap to the development of minor and new exports.

This suggests that the few important exports should be treated separately with appropriate export taxes (equal to  $\frac{1}{e_i}$  for the  $i^{\text{th}}$  export) or,

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13. T. Scitovsky "A Reconsideration of the Theory of Tariffs" (revised), Papers on Welfare and Growth (Stanford, 1964). Also S. Alexander, "Devaluation versus Import Restriction as an Instrument for Improving the Trade Balance," IMF Staff Papers (April, 1951).

perhaps, international marketing agreements. For the rest it is often assumed that elasticities are infinitely great so that no further measures are required. The conclusion would be, then, that even here there is no economic justification for protection.

It is possible, however, to suggest a limited role for tariff protection on terms of trade grounds. In the face of product differentiation and concentration in international trade, I think that it is simply not reasonable to assume demand elasticities of infinity, even for small countries. Elasticities may be high, but not infinitely great. Consequently, a case might be made for a low uniform tariff as a correction for general terms of trade effects.

But it seems that this is about all that is left of the traditional arguments for protection. I do not want to be misunderstood, however. I am not saying that the infant industry, factor price disequilibrium, interdependence of investment decisions, and terms of trade arguments about the failures of free market prices are wrong. I am saying rather that, with one minor exception, tariff protection (or equivalent) is an inept and costly remedy for such market failures.

What are the alternatives? I turn to that question in the next section. Surprisingly, perhaps, it turns out that tariffs can play an important role in a rational set of industrialisation policies, even if tariff protection is relegated to a minor role.

#### 4. TOWARD RATIONAL PROTECTION FOR INDUSTRIALISATION

So far I have been using the word, protection, in a loose sense to describe the typical pattern of import restriction that countries employ to give domestic producers an advantage over foreign suppliers in the domestic market. At this point, however, a more precise notion of protection is needed. Accordingly, henceforth when I am referring loosely to protection in the above sense I will put the word in quotation marks - as "protection". In contrast, protection as an idea will be given a more

precise meaning. Moreover, I will consider only tariffs as the ideal form of import restriction. The reason will be obvious, I think, when we come to the system I attempt to describe below.

Protection could be defined as all of those measures that improve the competitive position of domestic producers vis a vis their foreign rivals. It should be immediately noted that protection, thus defined, is not restricted to the domestic market. This is an important departure from the older view of protection. Moreover, in addition to tariffs, quotas, exchange control, and the like, protection ideally would include a host of other policies relating to wages and prices, taxes and subsidies, administrative rules and procedures, etc. that might favour or disfavour domestic versus foreign suppliers. While it is important to consider all of these either in evaluating a system or in prescribing one, the presentation here will be considerably simplified by dealing with only a limited number of policy instruments: tariffs, a value-added sales tax, export taxes, and direct subsidies.

Before turning to that, however, it might be advantageous to note briefly two important aspects of the measurement of protection. First is the distinction between "nominal" and "effective" rates of protection. Second is the concept of "net effective protection".

The nominal rate of protection ( $t_i$ ) for an industry is the proportion by which the system of protection permits the net<sup>14</sup> domestic price of its output to exceed its free trade value. If a tariff were the only instrument of protection, and if the full potential of the protection offered were realised, the nominal rate would simply be the ad valorem rate of duty.

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14. "Net" means after taxes and subsidies whose incidence is on the producer.

In contrast, the effective rate of protection ( $Z_i$ ) for an industry is the proportion by which value added can exceed free trade value added as a result of the nominal rates of protection on both its output ( $t_i$ ) and its inputs ( $t_j$ ). Let  $Y_i$  represent the output of any industry and  $\sum_j a_{ji} Y_i$  its inputs, both valued at world prices. Then

$$V_i = Y_i - \sum_j a_{ji} Y_i$$

is value added at world prices, and

$$W_i = V_i(1 + Z_i) = Y_i(1 + t_i) - \sum_j a_{ji}(1 + t_j)Y_i$$

is actual value added under the system of protection. Solving for the effective rate of protection,

$$Z_i = \frac{t_i - \sum_j a_{ji} t_j}{V_i/Y_i} = \frac{W_i - V_i}{V_i}$$

From this we can see that the effective rate of protection of an industry will be greater the greater is its own nominal rate, the smaller are the nominal rates of its supplying industries, and the smaller is the proportion of its free trade value added to the free trade value of its total product. Moreover, since  $V_i/Y_i = 1 - \sum_j a_{ji}$ , it follows that if  $t_i = t_j$ , then  $Z_i = t_i = t_j$ . If all nominal rates are the same, all effective rates will be equal to the uniform nominal rate.

When protection is given to one industry there will be effects on others and subsequent feedback effects on the first industry. Considerable attention has been given to these general equilibrium effects in the theoretical literature, but the results merely indicate a range of possibilities. Until we can fill the boxes of general equilibrium theory with more empirical content we will not be able to make much use of it. There is, however, one aspect of general equilibrium repercussions that cannot be ignored because of its pervasive influence — namely the relation of the exchange rate to the level of protection. Moreover, this macro general equilibrium effect can be crudely estimated. And, finally, an understanding of this relationship helps us to understand what protection is.

Consider the following simple example. Suppose that a uniform ad valorem tariff rate of  $T$  prevails in a situation of balance of payments equilibrium. If one has estimates of the various interna-



tional trade elasticities he can further estimate the proportional change in the exchange rate that would imply balance of payments equilibrium in the absence of protection - i.e., if free trade replaced the tariff. This represents an estimate, in other words, of the overvaluation of the domestic currency due to protection. But this overvaluation (or undervaluation of foreign exchange) means a dilution of protection to that extent. More precisely, let  $K$  represent the proportional overvaluation of the currency and  $U = \frac{K}{1+K}$  the corresponding undervaluation of foreign exchange. Then the rate of net protection (both nominal and effective, since nominal rates are uniform at  $T$ ) is

$$N = (1 + T) (1 - U) - 1 = \frac{1 + T}{1 + K} - 1$$

The extent to which overvaluation occurs to reduce net protection below the tariff depends on the relative importance of the import change, as opposed to the export change, in the adjustment of the trade balance. With low elasticities of supply and demand for exports, net protection can be very much below the apparent protection offered by the tariff. It is ironic, therefore, that policy makers often use an alleged low elasticity of demand for their exports as an excuse for a policy of "protection".

When nominal rates are not uniform, effective rates will vary from nominal rates and from each other. Net effective protection is defined, however, in exactly the same way as

$$N = (1 + Z) (1 - U) - 1$$

since a variation in the exchange rate will affect all effective rates in the same proportion. An important implication of this was noted above, in the first section, when it was suggested that machinery may be imported at less than free trade prices owing to the undervaluation of foreign exchange. The implication for exports is also clear. Even without penalties from protection of its inputs, an export industry will have negative net effective protection just to the extent of the

undervaluation of foreign exchange that the system of "protection" defends. Finally, the concept of net effective protection helps us to understand also why manufacturing (often simply assembling) of imported inputs can be favoured over the processing of domestic raw products. If the effective rate of protection for imported inputs is less than the overvaluation of the currency, these inputs are entering at below free trade prices. A natural comparative advantage in the processing of domestic agricultural, forestry and mineral products can, therefore, be frustrated by "protection".<sup>15</sup>

There is one more important implication of the relation between the level of protection and the exchange rate. Suppose that in the above example of uniform nominal rates of T, we add uniform subsidies at rate T to all exports. Then (assuming that these uniform rates apply to all goods and services) the exchange rate would reach its equilibrium value at T proportion above the (estimated) free trade equilibrium level. Net protection would be zero for all industries. The situation is equivalent to free trade (ignoring the problems of collecting the taxes and paying the subsidies).

The lesson is that protection is necessarily relative. To attempt to protect all industries equally means protecting none.

With this, the way is cleared, I hope, to attempt to outline an ideal protection system for industrialisation. It must take into account the following requirements. (1) It must correct for the effects

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15. This assumes that the domestic raw products are not internationally traded, since otherwise their prices are also reduced by the undervaluation of foreign exchange, so that there is no bias from that source. If these materials are exported, however, it is likely that the processed good will also be exported. Here the bias is the penalty on exports if the comparison is made with import substitution manufacturing: and the bias is factor price disequilibrium if the comparison is with the export of the raw product. Finally, there is no bias if the processing is protected enough to correct factor price disequilibrium and uses exportable domestic materials.

of trade on the terms of trade. (2) It must provide for subsidies to encourage a selected group of infant industries, as well to guard against external economies. (3) It must provide for subsidies to employment in the high wage sector. (4) It must avoid the distortions of the price system that occur under the typical regime of "protection", and the resulting biases against exports, against backward-linkage import substitution, against labour-intensity, and against the processing of indigenous raw materials. Moreover, it must, of course, be compatible with the goals and values of society; and must be a manageable system from the standpoint of administration.

Consider first the avoidance of the biases of "protection". This, by itself, calls for a uniform effective rate of protection for all industries, at all stages of the production process, and for sales in world, as well as domestic markets. A uniform tariff matched by a uniform subsidy to export at the same ad valorem rate would be a simple means of accomplishing this. But aside from the fact that there would be effects on the equilibrium exchange rate from "invisible" transactions not subject to protection, as well as from capital transactions, this would be equivalent to free trade. Net protection everywhere would be zero, as was indicated in the example above. Uniform positive net protection for everything, in other words, is impossible to achieve, since protection is necessarily relative.

Next consider the correction for terms of trade effects. The nature of this has already been indicated in the previous section. The few estimated to be relatively low should be taken aside for special treatment. If retaliation can be safely ignored each of these should be taxed at a rate equal to the reciprocal of its estimated world demand elasticity so as to bring the net private price received by exporters into line with social marginal revenue. This is on the assumption

that exporters are perfect competitors. If, on the other hand, they are aware of their degree of monopoly in the world and restrict exports, optimally, the tax has another rationale: to capture for society the private monopoly gain. (Note that this tax is an offset against the common subsidy accorded to all exports, these included).

If retaliation cannot be ignored, the case is more complicated. The classic argument is that the existence of the threat of retaliation should lead to an international marketing agreement.<sup>16</sup> Whether or not this is actually in the interest of a particular country depends, of course, on the terms of the agreement and on an estimate of the economic consequences of "going it alone". No more can be said about that here.

The importance of treating some major exports in this manner cannot be overstated. A common excuse around the less-developed/maintaining an overvalued currency is the low world elasticity of demand for those exports that are the principal earners of foreign exchange. Whether or not this concern is entirely real or partly due to elasticity pessimism, the effect nonetheless is to maintain an exchange rate at which all of the other exports (existing and potential) are severely and unnecessarily discouraged. Ironically many of these same countries pay lip service to the need for diversifying exports. Economists who lean too heavily on elasticity pessimism as an explanation of this phenomenon, however, may be performing a disservice for these countries. It might be better to recognise their fears as operative, even if not fully validated, and urge special treatment of the kind indicated above, in the paramount interest of freeing all other exports from this discrimination.

Moving on to more general terms of trade considerations, it seems to me that economists are often elasticity optimists with respect to minor exports from relatively small countries. The common assumption

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16. Scitovsky, op. cit.

of elasticities of infinity, while convenient, is not likely to be strictly true. Let me suggest only considerations of product differentiation, consumers' preferences, and trade concentration as reasons for doubt that infinitely great elasticities can realistically be assumed. It is surprising, I think, that economists typically judge these elasticities in relation to the "world market" in the face of a wealth of evidence on trade concentration.

In any case, however, we can expect these elasticities to be very high, so that a correction for these more general potential terms of trade effects would be quite modest. If the average demand elasticity for these minor exports were about minus twenty, and the dispersion of values around this average not very great, the appropriate modification of the uniform effective rate system would be to raise all tariffs to a level five percentage points above the common export subsidy. This might be as far as anyone would want to go in discriminating against exports in general.

This last judgement is reinforced, I think, by a consideration of the risks of exporting. In general, these risks are plainly visible to the private entrepreneur. In fact, he will feel them more strongly than the government who can consider the risks pooled for all exports rather than the sum of all the private risks. In other words, the total social risk is less than the total private risk. Consequently, exporting will, for this reason, tend to fall short of the socially optimal level. This is especially true if, as could be expected, the removal of penalties on new exports resulted in greater export diversification.

Next is the problem of providing for subsidies in infant industry and external economies cases, as well as to employment in the high wage sector. The greatest problem with respect to the first two is identification and measurement of the potential. I have nothing to say here about that, but instead will simply consider the problem of

finance. This is where a value added tax comes into the picture. (An ordinary sales or excise tax on finished goods would be a second-best substitute).

The key to an efficient, relatively neutral means of financing these subsidies and providing the required level of terms of trade protection, while simultaneously avoiding the biases of "protection", lies in the way by which a uniform domestic value added tax (VAT) and a uniform tariff combine to influence net effective rates of protection.<sup>17</sup> (I could from here on simply call the tariff a VAT on imports and state everything in terms of a "destination principle" VAT; but since the level will be different for imports, I prefer to continue to call it a tariff).

Consider first the case where the uniform tariff is at the same level as the uniform VAT. Each sale in the domestic market is subject to the VAT or tariff, but each seller is entitled to a credit for the VAT and tariffs paid by his suppliers. Exports are not subject to the VAT, but receive the same credits for taxes paid at the previous stage. Taxes, therefore, will presumably rest purely on value added and the latter will be reduced for all activities, except exports, in the proportion of the VAT. On the other hand, values added will be raised in the same proportion for all of these activities by the uniform tariff, so that the net effect is nil. Exports, on the other hand, have neither the benefit of the tariff, nor the penalty of the VAT: again a nil effect on value added. Net effective rates of protection will be zero for all, just as in the case of free trade.

Compare this with the situation (described above) where uniform tariffs plus equal subsidies to exports also was shown to be equivalent

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17. Ronald McKinnon has urged such a system for Singapore. See his "Export Expansion through Tax Policy: the case for a Value Added Tax in Singapore", Malayan Economic Review, 1966.

to free trade. The counterpart in the VAT-tariff system to the export subsidy is simply the exemption of exports from the VAT.

Now to get the required terms of trade protection, we need only to raise the common tariff by five percentage points above the VAT. This will give net effective rates of protection for all import substitutes at a level five percentage points above that for all exports (other than major exports). Since the equilibrium exchange rate will change somewhat, this may mean, for example, three per cent net effective rates for import substitutes and minus two per cent for exports.

I cannot refrain from commenting on a confusion that seems to be widespread in discussions of the impact of such a VAT system on exports. Most often it is held that exemption from VAT is a great encouragement to exports. It is, if compared to the biases against exports in a "protection" system. It is not, if compared to free trade. In fact, it just removes - no more - the bias against exports that is inherent in "protection".

But real protection to counter the market failures that hinder industrialisation will come from subsidies - to values added in the cases of infant industry and external economies, and to employment in the case of factor price disequilibrium. To finance these with a minimum of distortion requires only raising the absolute level of the tariff-VAT combination high enough to generate the required revenue, while keeping the differential of five percentage points intact. Thus tariffs (and VAT) can be raised for revenue purposes without distorting "protection" effects. And net effective rates of protection for various industries will depend mainly on the subsidies provided to correct legitimate cases of market failure, without bias against exports, employment, backward integration and forward-linkage processing of domestic raw products. The result should be a far more efficient and rapid growth of the industrial sector that can be sustained without the usual balance of payments and market

constraints that plague industrialisation efforts in less developed countries.

Moreover, the system could largely replace the hodge-podge of policies that have mushroomed in less-developed countries under the guise of incentives to industrialisation. It would be far simpler to manage than the present system in Kenya (or anywhere) - uniform tariffs and VAT almost defying evasion. And, finally, to meet income distribution goals, VAT rates (and tariffs) could be raised on luxury goods and services, and reduced or eliminated on essential items that loom large in the budgets of the poor.

I scarcely need to add that the transition to such a system should, of course, be gradual. High tariff rates should come down (hopefully in the context of bargaining for reciprocal reductions from other countries) and low rates should go up according to a schedule made known in advance, so that the target of tariff uniformity is reached in a decade or two. In the meantime excise taxes can be introduced more widely along with subsidies to employment in the high wage sector, to value added in infant industries, and to exports. In this way the important corrections can be made with a minimum of disruption.

I will conclude with a very brief note on the relevance of all of this to development problems and policies in Kenya. First there is the question of the actual structure of protection in Kenyan industry. Phelps and Wasow have produced a comprehensive picture for large-scale manufacturing.<sup>18</sup> I will not even begin to attempt to report on their findings. Perhaps the following will suffice for the purpose here. Effective rates of protection range from strongly negative to astronomically high without much hint of rhyme or reason. Ignoring extreme values

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18. M. Phelps and B. Wasow, "Measuring Protection and Its Effects in Kenya", Working Paper No. 37, Institute for Development Studies, University of Nairobi, (April, 1972).



(including six industries which appear to have negative value added in world prices), we find exports and capital goods with negative rates. Import substitutes range from about 15 per cent to almost 2,000 per cent, with more than one-third of them above 100 per cent. Phelps and Wasow do not compare average rates for consumption goods and intermediate goods, but earlier Wasow and King had reported averages of 69 per cent and 20 per cent respectively.<sup>19</sup> It seems, therefore, that Kenya already has the kind of distorted protection system described above in the second section.

How does this picture of protection match the picture of Kenya's industrialisation goals and aspirations (as revealed in the current plan)?<sup>20</sup> First, there is a recognition in the Plan that the rate of industrial growth has been inadequate. Second, there is a recognition that there has been too much emphasis on assembling imported semi-manufactures and not enough on processing Kenya's raw materials. Third, there is a recognition that import substitution opportunities must increasingly be in the earlier, more basic, stages of manufacturing. Fourth, there is some ambivalence about manufactured exports. A "conservative" growth projection of 5.5 per cent per annum is set, while at the same time it is suggested that a 10 per cent growth could be achieved. A tendency for costs and prices to rise faster than those of its competitors is noted as a constraint. Fifth, the importance of both supply linkages and regional balance is emphasised. Finally, there is a recognition that to achieve its growth targets Kenya must trade more, not less, with the world.

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19. B. Wasow and J.R. King, "Industrial Development in Kenya: a case of Latin Americanization?" (Unpublished).

20. Republic of Kenya, Development Plan for the Period 1970 to 1974, pp. iv and 304-313.

Success in each of these aspects of industrial growth will depend to a considerable degree on the kind of protection system Kenya has adopted. For example, the rate of manufacturing growth would quickly tail off if concentration remained on import-substituting consumption goods. The future rapid growth areas will be backward integration and exports. This seems to be recognised. What is missing, however, is any indication of recognition that the existing protection system is strongly biased against this switch in emphasis.

Again, processing of domestic raw materials is closely related to exports and also to regional balance (with implications for employment and income distribution). And yet I wonder if the extent of the penalties on manufactured exports imposed by the protection system is recognised along with the other biases against such processing of Kenyan materials that were noted above.

I wonder also if it is fully recognised how the costs and prices (let's add wages) in Kenyan manufacturing that limit its international competitiveness are related to the kind of protection system Kenya has (perhaps inadvertently) adopted. How much of the pessimism about manufactured exports would disappear if they were subsidised at the same rate as sales in the domestic market?

Again I wonder if it is fully recognised how protection via tariff or import restriction impedes the linking of investment decisions, as well as the promotion of growth in infant industries, by penalising the use of the protected product.

In short, I wonder if Kenya's policy makers realise that their policies are antagonistic to their goals.