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SUBSTITUTION ERA

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AN ESSAY ON COMMERCIAL POLICY IN THE POST-IMPORT SUBSTITUTION ERA

by

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Abstract

This essay focuses on the appropriate commercial policy to minimize the costs for a country that wishes to maintain the existing degree of import-substitution. It argues that the stagnation frequently associated with IS strategies is in substantial part due to the complex array of policies that have accompanied the growth of the IS sector but which are unnecessary for its existence. The essay proposes a two pronged policy: (1) neutralize the balance of payments as a source of differentiated import restrictions; and (2) apply a uniform degree of effective protection to all import-competing activities.
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There is profound disillusionment with the results from the import-substitution (IS) strategy followed by many developing countries. At the outset, the well-known but evidently small, static losses from import-substitution were willingly incurred in order to obtain the less certain, but potentially substantial dynamic gains. Yet now, with a few decades of experience, the evidence is mounting: import-substituting industrialization has not been nearly the success as a dynamic engine of growth that the proponents of the policy predicted.

This is not to say that the strategy has left the economies unchanged. On the contrary, the import-substitution strategy has succeeded in building up a substantial protected industrial sector in virtually every country pursuing the strategy. The very existence of a significant industrial sector, however, places the disillusioned policy-makers on the horns of a dilemma. If nothing is done, the stagnation that gave rise to their disappointment will continue. Yet if the now substantial industrial sector is abandoned, the disruption would be so enormous that the potential benefit is often considered not worth the cost. Hence, policy-makers in many countries believe that the issue of whether or not to reverse the IS strategy is a closed one. This closed-mindedness falls into a mental trap, as Hans Singer recently reminded us.\(^1\) We assume that the only choice is whether or not to have an IS sector.
The purpose of this essay is to argue that commercial policy options within the context of maintaining the existing degree of import-substitution merit consideration. Further, the potential gains from adopting an appropriate set of policies under the umbrella of the actual IS structures are substantial.

By posing the issue in this way we do not mean to suggest that the question of IS versus export promotion (EP) should not be asked. In fact it should be asked first. The evidence from Brazil and Korea, for example, suggests that the costs of transformation to an EP strategy are small, and the benefits substantial. However, other cases, such as Chile, suggest that the transition costs are sufficiently great to make the choice of whether or not to dismantle an existing IS sector far from obvious.

This essay is concerned with the choices open to a country that has opted in favor of maintaining an IS sector. The key point to recognize is that the principal cost necessary to maintain an IS sector is the static efficiency loss due to protection. This cost, then, is the price paid for avoiding the disruption that would be caused by an attempt to reverse the IS strategy. However, within the context of maintaining an IS sector, it is possible to consider scrapping the highly complex array of policies that are the source of the large additional losses that have accompanied the growth of the IS sector but which are unnecessary both for its continued existence and for maintaining external balance.

The reform we propose consists of the following: (1) Neutralize the balance of payments as a source of differentiated commercial policy; (2) apply a uniform degree of effective protection to all actual and potential import-substitution activities; and (3) Remove all other measures
which have as their raison d'être support of either import-substitution or balance of payments.

The rationale for the proposal is that the negative effects that have been associated with the IS experience have arisen because of the highly complex array of policies which were introduced initially with an eye to either import-substitution or balance of payments but which are absolutely unnecessary for either balance of payments or IS, and are positively harmful to the effective functioning of the economy.

We begin in the next section with a review of the broad-ranging nature and consequences of the set of policies that have been associated with IS strategies. We then examine how our proposed reform would remove a substantial portion of the negative effects that have been experienced with an import-substitution strategy.

Restrictive Trade Regimes and Their Consequences

The anatomy of restrictive trade regimes has been examined in some considerable detail in a wide-ranging project "Foreign Trade Regimes and Economics Development." The picture that emerges from these studies is a complex array of trade restrictions imposed to promote domestic production and "save" foreign exchange. Typically the system of restrictions consists of individual myopic regulations without any reference to the complex interrelationships in a developing economy. The regulations generally provide for differential degrees of restriction of imports depending on one, and often many, of the following categories: (a) The commodity; (b) the source; (c) the end use; (d) the type of importer; and (e) the payment conditions.

The degree of effective protection for any particular activity that emerges from this complex set of restrictions depends on the incidence of these
restrictions on the competing imports and on the inputs used by that activity. While the average level of effective protection is typically high, there is generally a high variance of protection among activities. This is because of the highly differentiated degree of restriction, which results in virtually identical products being restricted in different degrees hence the extent of an individual activity's protection depends crucially on the particular combination of restrictions that happen to bear on the output and on the inputs. Furthermore, since the production processes and/or the access to and prices of importable inputs often differ between firms, otherwise identical outputs often receive differential degrees of protection. In the end, the degree of protection varies across activities within individual firms, across firms in the same industry, and across industries in the import-competing sector.

Some of the variation of protection is deliberate, but more often than not, there is a limited correspondence between the a priori rationale for a pattern of protection and the actual pattern. Activities for which intended protection is substantial remain with negligible protection while other activities with no evident rationale for their privileged position receive substantial protection.

Furthermore, the pattern of protection is constantly changing. One evidently small change in the restriction on imports of one good immediately has repercussions throughout the system which may be quite substantial, depending on the competing domestic production and the using industries and the substitute-complement relationships for all of these. One change in the production function will result in a change in the protection for that activity and, because of the interdependence already cited, the entire pattern
of protection can be altered. These changes in protection are often unan-
ticipated and capricious, largely because their full effects cannot be
known in advance.

This picture of a seemingly irrational pattern of protection is
what emerges from numerous studies of the patterns of protection in developing countries. Yet even those measurements are subject to wide margins of
error for particular activities. Inevitably there is some form of aggrega-
gation that is made, both of production data, and of the protection data.
Those studies that have attempted to use highly disaggregated data have used
production data at the establishment level and trade restriction data at
the 6-digit SITC level, yet still these have involved aggregation of different
products and processes within the establishment, and aggregation of different
commodities within the finest trade classifications. The pattern of pro-
tection that is measured depends critically upon the data used: (1) the input-
output data that were collectable; and (2) the components of the protective
system that were measurable.

Finally, since the protective system is constantly changing the mea-
sured patterns of protection depend crucially on the year that happens to
have been chosen to make the calculations. Furthermore, the pattern refers
only to the historical period, and the actual protection, inevitably, differs
in both level and structure from the historical. Yet, given the complexities
of the relationships, the continually changing nature of the structure of
production must be unknowable.

The Consequences

The consequences of the system are numerous. First and foremost are
the massive production inefficiencies that are permitted. Effective rates of
protection in the several hundreds of percentage points are common. This means that the favored activities are able to incur costs that are several times the costs under free trade. Meanwhile other activities, often within the same firm or industry, for no apparent reason find themselves with negligible protection.

Second, the system induces excessive use of imported machinery and material inputs. This occurs in two ways: (a) High protection combined with cheap imported inputs encourages a domestic structure of production that is intensive in the use of imported inputs because it is those favored activities that expand at the relative expense of other activities. (b) Substitution between inputs means that there is decreased use of domestic raw materials and labor, and increased use of imported materials and machinery. For both of these reasons, it is entirely possible that the demand for imports at the existing exchange rate increases.

In addition, there are two important changes in the domestic production possibilities: (a) The potential production possibilities frontier shrinks because generally there is differential access to cheapened inputs between sectors. The effect is identical to that of any other input market distortion. (b) Domestic production becomes dependent on the availability of imported machinery and material inputs. As a consequence, a stochastic reduction in export earnings instead of inducing an expansion of domestic production to replace imports no longer available, must result in a fall of domestic production. In other words, the adverse effects of an export shortfall are magnified.

Third, the granting of protection often creates, at the same time, a domestic monopoly. This generates a double loss to the economy: not only
is there the loss due to the restrictions of trade, but there is also the loss due to monopoly.

Fourth, another well-known consequence of the restrictive regime is a substantial reduction in the utilization of installed capacity. Consequently, the output derived from a given capital stock is less than it could be. Furthermore, it is often observed for extended periods of time that the capital stock in the industrial sector exhibits very high growth rates, while output growth rates are considerably smaller.  

The restrictive regime induces these results in several ways. There is the initial incentive to create the excess capacity. Several incentives work in this direction. Incentives are often denominated in terms of the size of the capital stock or expenditure on purchases of capital equipment. For example, import licences, tax concessions, or cheap credit may be authorized on the basis of installed capacity or fixed capital. Another effect, evasion of exchange control regulations, may be accomplished via overinvoicing of imports of new machinery. This, in turn, encourages the excessive purchase of new machinery, and the appearance of excess capacity.

The effect of inducing excessive installed capacity is compounded by the existence of policies which maintain both efficient and inefficient firms in existence. Where licences for imported inputs are allocated on some pro rata basis, the size of a firm's market share depends not on its efficiency in meeting the demands of the market, but on its ability to affect the basis for its share of the inputs to be allocated. Consequently, efficient and inefficient firms continue to share the market.

The potential venting of excess capacity in export markets is also inhibited by the typical restrictive trade and payments regime. An
over-valued currency, restrictions on foreign travel, prohibitions on the maintenance and replenishment of foreign liquidity balances, and repatriation requirements on foreign earnings all act in this direction.

The effects just cited refer to the existence of a permanent excess capacity. In addition, the system introduces sources of temporary excess capacity, which result then in a higher average level of excess capacity. The temporary unused capacity arises from bottlenecks, delays, and shortages in the availability of imported inputs which the administrative procedures of the control regime create.

Another effect, closely related to the foregoing, is the increase in desired holdings of inventories. Rigidities and uncertainties about availability of supplies to both producers and consumers means that both have a higher desired level of inventories. In other words, they want to hold a higher proportion of their real wealth in the form of additional inventories. To the extent that they are successful in doing so, they reduce the losses from disruptions in the flows of their production or consumption. However, this is done at the cost of the income foregone from holding greater inventories. The system may try to prevent excess holding. To the extent that they are not successful in augmenting their actual holdings, they incur the losses arising from the disruption of production and/or consumption. In other words, a policy of preventing the excess holding of inventories does not eliminate the loss.

The next item of consequence is the administrative cost of operating and coping with the control system. A restrictive regime that requires numerous and frequent administrative intervention by the regulators and responses by the regulated, is intensive in its use of a resource that is frequently in very short supply—administrative talent. The excessive use
this particular talent is itself a loss. Furthermore, it creates a bias in favor of larger firms who can spread the costs of a specialist familiar with the regulations over its full range of operations. It also creates a locational bias for firms to locate near the city in which the administrative details must be handled. In addition, the experience and knowledge necessary to cope with and handle the regulations act as a barrier to entry, augmenting the latent monopoly power of the existing firms.

The increased administrative costs just referred to are those undertaken just to make the system work. In addition, there is an enormous diversion of administrative and related effort away from productive activities and toward the pursuit of transfers. This has been baptized by Anne Krueger as "rent-seeking." It has also been analyzed by Richard Posner in the context of monopoly profit. The productive capacity of the economy is reduced by the amount of real resources spent in the pursuit of transfers. The transfer may be any form of a right or artificially created rent. The two most common rents in the present context are the rights to import-licences, and the designation of one's (domestically produced) product in a category to be granted a monopoly in the domestic market. If the rent-seeking activity is competitive (and there is no reason to expect it not to be), then the entire value of the rent is a deadweight loss. In other words, the resources used up or production foregone, in seeking a transfer, transform the transfer (which is not a loss) into a social cost.

Rent-seeking activities may or may not involve illegal actions. To the extent that they do, however, the damage to the social fabric by encouraging illegal transactions is a matter of potentially serious concern. The award of import-licences, or exemption from duty on a material input, on
registration of your (domestic) product in a list of prohibited imports are all matters of administrative discretion in which the most honest public service in the world is subject to repeated temptations to alter its behavior in a manner consistent with the private gain to be had from that change, and to share in that private gain.

Another type of illegal transaction that often emerges is smuggling, sometimes on a massive scale. Smuggling not only involves the damage to the social system, but also, to the extent that real resources are used up in the smuggling activity, there is an economic loss in the same manner as that which occurs with rent-seeking.9

Finally, the restrictive trade regime generally makes the country more vulnerable to inflationary bouts. Two of the most important automatic stabilizer mechanisms lose their potency when a restrictive trade regime is introduced. The automatic stabilizer mechanism of the trade balance itself is no longer functioning. In periods of excess demand, the automatic countering effect of falling foreign exchange reserves on the money stock and hence on excess demand is blocked. Similarly, the elasticity of the government budget surplus with respect to aggregate demand is reduced because one of the major revenue sources, import duty collections, no longer responds to excess demand. The automatic stabilizing effect of the government budget surplus on the money stock is thereby reduced. With reduced automatic stabilization, and sometimes destabilization, a shock which would otherwise be absorbed now becomes the initiating force in an inflation.

Altogether, these effects add up to a powerful condemnation of restrictive trade regimes. However, one might still argue that these essentially static effects might be worth it if, in the end, a more rapid rate of growth
is generated—that the present loss is offset by future gains. There are several models that point to this possibility. However, in the final analysis, the actual experience is that restrictive trade regimes have not created more rapid real growth. In no case has a country succeeded in accelerating its growth for a prolonged period by means of a highly differentiated restrictive trade regime. In some cases the restrictive regime has apparently made little difference, but in most cases the result has been a significant reduction in the growth of real income.

A Modest Reform Proposal

The IS strategy as implemented, has been a major mistake for most countries. The foregoing tale of the negative consequences tells us why. Furthermore, countries that have followed a more open strategy, almost without exception, have been counted among the successful development cases. The contrast is striking: countries that did in fact pursue an IS strategy can now see that they would have been considerably better off if they had pursued a more open strategy.

It does not follow from this observation, however, that an IS strategy country should now switch to an open strategy. A significant protected sector now exists. Consequently a change in policy which abandons the existing IS sector could create an upheaval so enormous that the transition costs of a change in strategy would outweigh or at least substantially offset the gains to be had from a more open strategy. Thus, if nothing is changed, the stagnation of the existing situation continues. Yet change does not appear to be a viable option for many countries.
Is there no way out of this corner? The answer is yes: briefly put, it is to scrap the highly differentiated components of the system, but retain a uniform bias in favor of import substitution. At some future date, the issue of whether or not to wean the infant IS sector can be considered. In the meantime, much more pressing is the large potential gain to be had from a reform of the system.

Our reform proposal consists of two closely related components. First, the balance of payments must be neutralized as a source of differentiated commercial policy. In other words, policies which are imposed for reasons of maintaining external balance cannot be permitted to have a differential impact between activities in the domestic economy. Note that there is no change in the total domestic absorption from such a policy switch because external balance is zero under both the existing and proposed systems. Second, establish a uniform effective rate of protection approximately equal to the current average effective rate of protection.

Many countries have already seen the significance of adopting the first component of the proposed reform. This is clearly a necessary first step. However, it is not sufficient to achieve the potential reform gains. In fact, the exchange rate reform is likely to achieve only a fraction of the total potential—that coming from the extreme discrimination against exports. There remains, in other words, a substantial proportion of the task yet to be accomplished by a country that has taken the first step and not the second.

The total gains from the two-step reform package are enormous: they amount to the elimination of virtually all of the costs cited in the previous section. This means that the two relatively simple steps of an exchange rate policy of maintaining external balance via neutral measures combined with a
uniform effective protection can eliminate the ongoing losses from the existing system, leaving the economy with the well-known, but relatively small, cost of the given (uniform) degree of protection.

The adjustment costs are very likely to be negligible, and largely compensated for by increased certainty of protection to be received by domestic producers. The potential net losers from the reform would be those now collecting some form of rent from the rest of the economy. There would not, however, be any allocational effect, and hence no adjustment costs of reallocating labor and capital to other activities.

These points merit elaboration. Our proposal is simply to replace a highly differentiated system with a uniform degree of discrimination in favor of domestic production of all importables. The first step—neutralize the balance of payments as a source of differentiated import restrictions—is clearly necessary to achieve this. The second step—apply a uniform degree of effective protection to all import competing activities—is then possible with a very simple device: a uniform tariff on all imports. This follows from one of the well-known characteristics of effective protection: when the tariff on the output and the tariffs on all the inputs are equal to each other, the effective rate of protection is equal to that same (uniform) tariff rate.

A uniform degree of effective protection means there is no variance in the degree of protection between import-competing industries, or between firms within a particular industry or even between activities within a particular firm. Furthermore, there is no variation in the degree of protection over time. It is no longer possible for some seemingly unrelated decisions such as the granting of protection to a maker of a good not previously produced
in the domestic market to alter one's degree of protection. It is no longer possible for a firm's degree of protection to depend on the size of the import-licence allocation for competing imports and for material inputs, which can vary dramatically from year to year, depending on the decisions of policy-makers and the shifting winds of political change. Furthermore, the degree of protection is no longer subject to individual negotiation where, depending on the relative negotiating skills, some firms are more successful than others in extracting special concessions. It is also far more defensible from the politician's viewpoint. Exceptions to a general rule are far easier to refuse than "small" special favors in the form of a "slightly" better allocation of inputs. And, from the firms' viewpoint, the degree of protection is no longer constantly subject to the threat of possible re-negotiation either directly, or indirectly via a change in the protection of an input. In other words, the degree of certainty about one's protection is markedly enhanced. It does not change with the whims of the existing authorities or when the authorities change.

The increased degree of certainty in the degree of protection an entrepreneur can count on has two effects. First, it is the equivalent for a risk-averse entrepreneur, of an increased degree of protection. This trade-off means that it is entirely possible for a firm to find its post-reform rate of protection less than before, but to find it profitable to expand its activity. The second effect is to lengthen the time horizon of investment decisions. The reduced probability of a change in the degree of protection at some future date means that there is less discounting of future profits. The result is a much more stable industrial sector. The system does not attract portable factories that put on finishing touches and which pack up as soon as their particular
industrial incentive expires. The result is also a more innovative sector. The risk of a profitable innovation being made unprofitable by a capricious change in protection is eliminated, enabling the entrepreneur to make his decisions on the basis of his assessment of the true business risks. The risk of a new innovation not receiving the same treatment as the existing process—either because the output or the inputs are classified differently—is removed.

An important issue concerning the production effects remains. How can a country avoid a serious industrial depression when introducing this type of protective reform? This is an entirely legitimate worry, for few are the policy-makers who wish to embark on a course that is likely to result in substantial unemployment, even for a short-run transitional period. The candid answer is that we cannot be absolutely certain.

However, we are not flying entirely blind. We know that we are introducing only a redistribution of protection among industrial activities. Consequently we are not considering a reassignment of industrial workers back to, say, the rural sector and an abandonment of the associated capital stock. We know also that there are likely to be several activities actually or potentially undertaken by individual firms, and that the potential for redistribution of activities within firms is substantial. 14

The redistribution of activities within firms is likely going to account for most of the allocative effects. The remainder will be handled almost certainly, by reallocation between firms within the same industry. Hence, the workers and the machinery may change employers, but they are unlikely to have to change industry. The reason for this is that the variance of effective protection between firms is often equal to the average for the industry. Consequently, there will generally be some firms expanding while others are
contracting in a particular industry. Given the fact that most industries are covering a large proportion of the domestic market, and are likely to maintain that position in the post-reform situation, we can conclude with a high degree of certainty that the total level of activity in any particular import-substitution industry is not likely to change substantially. Finally, since the protection of the import substitution sector as a whole is to remain fixed in this reform, we can be assured that any residual reallocation adjustment not already accomplished at the firm level or the industry level can be accomplished at the sector level.

The preceding argument has been couched in terms of reallocation of the existing markets and labor force. However, we also know that there is almost certainly going to be substitution in favor of more intensive use of labor and local materials at the expense of imported inputs, with the result that the same size of local market is going to absorb more labor, and is going to use more local materials. Furthermore, the effect of increased certainty will mean that for a given level of protection, the domestic producers' share of the market will be increased. Both of these effects then mean that domestic import-competitive production will expand beyond the reallocated positions noted earlier.

Given that the production effects of the reform are unlikely to be negative for most firms, and almost certainly not negative for individual industries and the import substitution sector as a whole, we can turn to the other effects. It is in these other effects that the true gains emerge.

Taking them in the order presented in Section 2, first we can see that a uniform tariff eliminates the substitution in favor of increased use of imported raw materials and machinery. The excessive use of techniques intensive
in imported inputs, the excessive capitalizations of domestic industry, and the associated low labor utilization are ended. The composition of domestic production changes to include a wider range of activities, and the use of domestic inputs (labor and materials) is expanded, in the process reducing the dependency of the domestic productive structure on the foreign sector. The reform also means that the economy's effective production possibility frontier is moved outwards because the distortion in the input market has been eliminated. The magnitude of these effects cannot be stated a priori, for they depend on the degree of the distortions and the production functions. 15

Second, monopoly rents in many of the import-competing activities are eliminated. Trade, or the threat of it, even at a high tariff, means that the monopolist cannot affect the domestic price by restricting his output. Hence, the very act of switching from an administered set of restrictions in which monopoly rights are routinely granted, to a tariff type restriction means the elimination of the monopoly power. The monopolist loses his monopoly profits. However, the production and employment effects of such a switch can be either positive or negative—and in any case are probably small—depending on how the tariff inclusive price compares with the marginal cost of domestic production at the monopolist's original level of output.

Third, the incentives to build excess capacity are largely eliminated. It is no longer profitable to build excess capacity in order to obtain a larger allocation of licences for materials. It is also less profitable to make excess purchases of machinery in order to transfer funds abroad via over invoicing because a tariff has to be paid on the over invoiced value. Further, as the excess capacity is eliminated, it is the inefficient excess capacity that is removed first, because market share no longer depends on
some arbitrary allocation, but now depends on efficiency in production. It is also worth noting that the temporary stoppages due to bottlenecks are much less likely to occur in a tariff-restricted system than in an administered system. Consequently temporary excess capacity is also less common. This also means that domestic production becomes far less vulnerable to shocks in the external sector. An unexpected shortfall of foreign exchange earnings will restrict expenditure in any case, but it now affects domestic output far less because of the reduced dependence of the domestic producers on foreign inputs.

Fourth, inventory holdings are restored to their normal function: as a desired cushion for unexpected events. The uncertainty of input supply associated with an import-licencing system does not arise. Consequently the costs of either not having sufficient inventories of inputs or final products, or of carrying excessive ones, is eliminated.

Fifth, the extreme administrative costs of running and coping with a regulated regime disappear. This is a gain both for the regulated and the regulators. The producing sectors will eagerly reassign their scarce administrative talent to socially productive activities. What to do with the former regulators, at first glance, appears to be more of a problem. However, when it is recognized that they have accumulated considerable intellectual capital in understanding how the industries operate, it is clear that they could readily be reassigned to promotional activities such as export promotional activities or small business promotion.

Sixth, with the disappearance of large quota premia, the incentive for both rent-seeking and smuggling are substantially reduced. Import licences, duty exonerations, special concessions or reclassification no longer exist,
so the rent from obtaining them no longer exists. Smuggling may not disappear, for as long as any positive tariff exists there is an incentive to smuggle. The extremely high tariffs have been reduced, making smuggling to avoid tariffs less profitable. The incentive to transfer funds by overinvoicing is reduced by the combination of an appropriate exchange rate and a positive uniform tariff. Similarly, the gains from a reclassification for duty purposes and related forms of smuggling through the customs sheds are eliminated. In brief the widespread corruption and evasion of the system is ended.

To sum up, it no longer makes sense to debate whether or not an IS sector should exist. It does exist, and in most countries it is not going to be abandoned. What does make sense is to minimize the costs of maintaining it. Our reform accomplishes that as clearly and simply as any existing system or proposed system. It merits the serious consideration of the policy-makers.
Footnotes

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2 I am indebted to Anne Krueger for reminding me of this important point.

3 The project consisted of ten country studies: (1) Turkey by Anne Krueger, (2) Ghana by J. Clark Leith, (3) Israel by Michael Michaely, (4) Egypt by Bent Hansen and Karim Nashashibi, (5) The Philippines by Robert Baldwin, (6) India by Jagdish Bhagwati and T. N. Srinivasan, (7) South Korea by Charles Frank, K. S. Kim, and Larry Westphal, (8) Chile by Jere Berhman, (9) Colombia by Carlos Díaz-Alejandro, and (10) Brazil by Albert Fishlow. All but volume 10 have been published to date by the NBER, New York. In addition, two synthesis volumes by Jagdish Bhagwati, Anatomy and Consequences of Exchange Control Regimes, and by Anne Krueger, Liberalization Attempts and Consequences have been published 1978, by Ballinger Publishing, Cambridge, Mass., for the NBER.

4 An "activity" should be thought of (defined) as narrowly as the product and input classifications are employed.
In addition to the studies of the NBER series already cited, there is an earlier major project directed by I. M. D. Little, T. Scitovsky, and M. Scott for the OECD Development Centre. A synthesis of those studies is contained in their *Trade and Industry in Some Developing Countries*, Oxford University Press, 1970. Another study, with a somewhat more narrow focus but wider coverage is Bela Balassa, ed., *The Structure of Protection in Developing Countries*, Johns Hopkins University Press, Baltimore, 1971. Individual country studies are too numerous to mention.


10 See Bhagwati, *Anatomy and Consequences of Exchange Control Regimes*, op. cit., Ch. 6 for a discussion of some of these models.

11 There are different institutional arrangements which would accomplish this. One option is to rigidly fix the exchange rate, and permit the adjustment of excess demand, implicit in an external imbalance, to work itself out. Ultimately this must mean that fiscal and monetary policies must be chosen
which are consistent with the fixed exchange rate. Another option is to adopt a crawling peg exchange rate, in which the exchange rate adjusts virtually continually to achieve external balance. This permits fiscal and monetary policy to be set independently of external balance, and to the extent that they generate excess demand, the excess emerges in the price level and the exchange rate. In between the two there are various possible combinations. For example, a surcharge on all foreign exchange purchases might be used as a temporary device under a fixed exchange rate. This amounts to an exchange rate change and a tax to help sop up the excess demand.

12 For the computation of the average it is unnecessary to have a full-fledged set of effective protection calculations. Because of the equivalence of the average (weighted by value added shares) effective rate of protection and the average (weighted by consumption less import shares) nominal tariff, it is possible to make the latter, somewhat simpler, calculation. See J. C. Leith, "The Equivalence of Average Effective Tariffs and Average Nominal Tariffs," *Journal of International Economics*, Vol. 1, No. 3, 1971. If it is desired also to restrict consumption and/or to take advantage of the tax revenue elasticity of certain luxury fine goods, the uniform rate of protection can be supplemented by an exercise on sales tax on all (domestic and foreign) products in the luxury category, without affecting the degree of protection.

13 When there are non-traded inputs, this proposition is correct only when we define value added as including the non-traded inputs.

14 For example, a food processing firm may find some lines more profitable and others less profitable than before the reform but its workers and its machinery are likely to be general enough to be reassignable without substantial disruption.
The magnitude of the effects in a partial equilibrium context are illustrated in J. C. Leith, *Ghana*, op. cit., Ch. 4. In a case where the capital share of inputs amounted to about 50%, and differential access to capital was at real interest rates of 3% versus 6% per annum, the result was a doubling of capital used per unit of output in the favored activity.
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