

THE NEO-CLASSICAL THEORY OF FREE ECONOMIC ZONES

by

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1. Introduction

Particularly since the end of the sixties governments of many developing countries have demarcated and equipped special zones on their territory to attract industrial activities that are characterized by their intensive use of labour and by their export-orientation. These areas were called Export Processing Zones (hereafter EPZ's) but they also got other labels like Free Trade Zone, Free Production Zone, Free Export Zone, Export Promotion Zone and Investment Promotion Zone (cfr. the Katunayake Zone near Colombo in Sri Lanka).

The wide spread of the EPZ's in the seventies was mainly a consequence of the well known shift in the industrialization strategy of many developing countries, away from import substitution and towards export promotion. It is expected that the EPZ's stimulate employment and exports and hence help to solve the unemployment problem and the foreign exchange shortage. Other favourable effects, like useful technology-transfer and a better schooling of the labour force are also highlighted, but they are often not the first priority.

It is noteworthy that by the beginning of the eighties the industrialized countries also tended to demonstrate a great interest in establishing special industrial zones on their national territory¹. The reason is obvious. Since the structural rupture in the post-war economic growth recorded during the period after the first oil shock of 1973-74, most developed countries have faced an ever increasing unemployment problem. Many of the developed countries also have to deal with deficitary trade balances.

More than in the developing countries, the increasing interest in the creation of special industrial zones in the industrialized world is influenced by another factor. That element is the partial abolition of existing governmental measures that are considered to be harmful to economic development overall and to industrial development in particular. The term used to indicate the process of abolishing government measures is deregulation; hence the

1. The spread of FEZ's in the industrialized countries seems to have started : in the USA there are plans to establish 50 to 75 zones in the 1983-86 period ((1), p. 54). It is interesting to note the first proper Export Processing Zone was established not in a developing but in a developed country. It was set up in 1958 near Shannon Airport in Ireland.

name Deregulation-Zones that is used in the Netherlands to refer to the special economic zones discussed here. The interest for such zones in the developed countries is a symptom of the neo-liberal stream of thought that is increasingly influencing economic policy since the mid-seventies.

EPZ's and similar zones are, as a phenomenon, linked to the Duty Free Zones. Duty Free Zones are areas within which no customs duties are levied on imported or exported products. Very often such customs facilities are implemented in large parts (or the totality) of port-territories, and one then speaks of Duty Free Ports. Although already age-old, the establishment of most of the Duty Free Zones is situated in the 1945-1970 period that was characterized by the progressive liberalization and fast growth of international trade among industrial countries.

As in Duty Free Zones, in most EPZ's imports and exports are free of customs duties. In EPZ's, activities are however not limited to mere storage and, sometimes, light processing involving packaging. EPZ's are well equipped industrial estates where substantial industrial activity can take place. An EPZ is a combination of a Duty Free Zone and an industrial estate, in which export-oriented industries are attracted by offering an extremely favourable investment climate. By establishing EPZ's governments very often aim at attracting foreign direct investment mainly by multinational enterprises.

Nowadays Duty Free Zones as well as EPZ's (and similar zones) are very often referred to by the general term "Free Economic Zones" (FEZ's). Recently a number of authors have tried to formulate a specific economic theory that deals with the economic effects of these EPZ's. In reasoning about FEZ's most authors want to explain the operation of the industrial zones (EPZ's) rather than the operation of the merely commercial zones (the traditional Duty Free Zones). In this paper we shall try to clarify the essence of the contemporary neo-classical economic theory of Free Economic Zones. We do this to a large extent by reviewing critically H. G. Grubel's recent article⁶ that is the first global exposition of the neo-classical approach to the phenomenon of the Free Economic Zones.

2. The Neo-Classical Theory of Free Economic Zones

In the neo-classical approach, the effects of Free Economic Zones (FEZ's) are analyzed in a way that is similar to the analysis of the effects of a customs union and other forms of economic integration (i.e. free trade area, common market and economic union). Therefore it is useful to comment briefly on the nature and scope of the theories of Customs Unions and Free Economic Zones.

A. Comparison between the Theory of Customs Unions and the Theory of Free Economic Zones

The theory of Customs Unions (CU's) mainly examines the economic effects of the abolition of barriers on *international* trade transactions between member-countries of a group of countries forming a CU²). The formation of a CU involves, as is known, the elimination of customs duties and other trade barriers among the member-countries, and the establishment of a common tariff-wall vis-a-vis the non-member-countries. The analysis that is used in the basic theory of CU is of a comparative static nature. This means that the structure of the economies examined is supposed not to change; the quantity and the quality of the factors of production, the technology and the commitment of entrepreneurs and the labour force thus remain unchanged. This implies that the static basic theory only reflects the short-term effects of the CU. There is a small part of the theory that examines the dynamic effects, but that part of the theory is not substantially integrated in the major body of the theory which is of a static nature. The static effects of a CU are analyzed by means of the two familiar concepts "trade creation" and "trade diversion" initially developed by Jacob Viner³. With respect to the theory of CU, one could say that it possesses, to a large extent, a macro-economic character.

Let us now look at the study-object and the study-method of the theory of Free Economic Zones (FEZ's). Firstly, this theory is also characterized by a comparative static nature, which implies that it only reflects the short-term effects. It mainly examines the economic effects of the abolition of government regulation concerning national economic transactions, in certain areas (the Zones) *within* a country. The static effects are analyzed by means of two concepts that are analogous to the ones used in the theory of CUs: "activity creation" and "activity diversion". Activity creation concerns newly created economic activity (investment, production, trade) by and within the zone, whereas activity diversion indicates the shift of economic activity from outside the zone toward the area of the FEZ. One can argue that, contrary to the theory of the CU, the theory of the FEZ is more of a micro-economic nature.

On the basis of the static analyses of both a CU and a FEZ, we arrive at the same theoretical conclusion that appears to be an application of the so-called "theory of the second best"⁴. Indeed, with respect to the economic

2. For a relatively extensive discussion of the theory of Customs Unions, see e.g. C. P. KINDLEBERGER and P. H. LINDERT, *International Economics*, Homewood, R. Irwin, 6th Edition, 1978, chapter 9.

3. J. VINER, *The Customs Union Issue*, New York, Carnegie Endowment for International Peace, 1950, 221 p.

4. For a brief exposition of the theory of the second best, see e.g. C. P. KINDLEBERGER and P. H. LINDERT, *o.c.*, chapter 7.

welfare effects of a CU and a FEZ, it appears impossible to make a clear a priori statement. The net welfare effects can be positive or negative: the former is the case when the welfare improvement (which follows from activity creation) is greater than the welfare reduction (that follows from activity diversion); the latter is the case in the opposite situation. Obviously it is also possible that the two opposite effects exactly neutralize one another so that the level of economic welfare remains unchanged. At any rate, no clear theoretical statement can be made concerning the global effect on economic welfare. Every concrete, specific CU or FEZ needs to be examined separately to determine the net result for the specific CU or FEZ dealt with. In the next section, we shall explain the concepts of "activity creation" and "activity diversion", and illustrate how they are used to arrive at the conclusion we have just stated.

B. The Static Welfare Effects of a Free Economic Zone

From Grubel (6, p. 49) we borrow figure 1 that enables us to clarify the static welfare effects of a FEZ. The transformation curve reflects the production possibilities of the country examined; product y is an export good and x is a product that is (also) imported. In the initial situation the domestic production of good x , that competes with the import of x , is protected. This protection leads to a domestic price ratio or terms of trade (indicated by DPR) which is not equal to the international price ratio or terms of trade (indicated by IPR)⁵. The DPR is reflected by the slope of the domestic price line r_1 , and also by the line r'_1 that runs parallel to r_1 ; the IPR is indicated by the slope of the international price line r , and also by the lines r' and r'' that run parallel to r . The larger angle of the domestic price line r_1 with the x -axis (namely $tg\alpha$) compared to the angle the international price line r makes with that x -axis, reflects the fact that because of the protection of the x -product, the domestic relative price of x is larger than the international relative price of x . The production, in the country we consider here, takes place in point P_1 , i.e. the point where the domestic price line r_1 is tangent to the transformation curve, so that DPR is equal to the marginal rate of domestic transformation in production between y and x (DRT_{yx}). The package of goods consumed is indicated by C_1 , i.e. the point where the domestic price line r'_1 is tangent to the community indifference curve i_1 so that DPR is equal to the marginal domestic rate of transformation in consumption between y and x (DRS_{yx}). We would like to draw the reader's attention to the fact that the domestic equilibrium of respectively producers and consumers (characterized by the equalities $DPR = DRT_{yx}$ and $DPR = DRS_{yx}$)

5. The international terms of trade, or international price ratio (IPR), is very often indicated by the term "foreign rate of transformation." We believe however that the term IPR is a little more clear.

always comes about in the framework of a free market economy we use here, since producers and consumers establish the package of goods they respectively produce and consume on the basis of the ruling DPR.

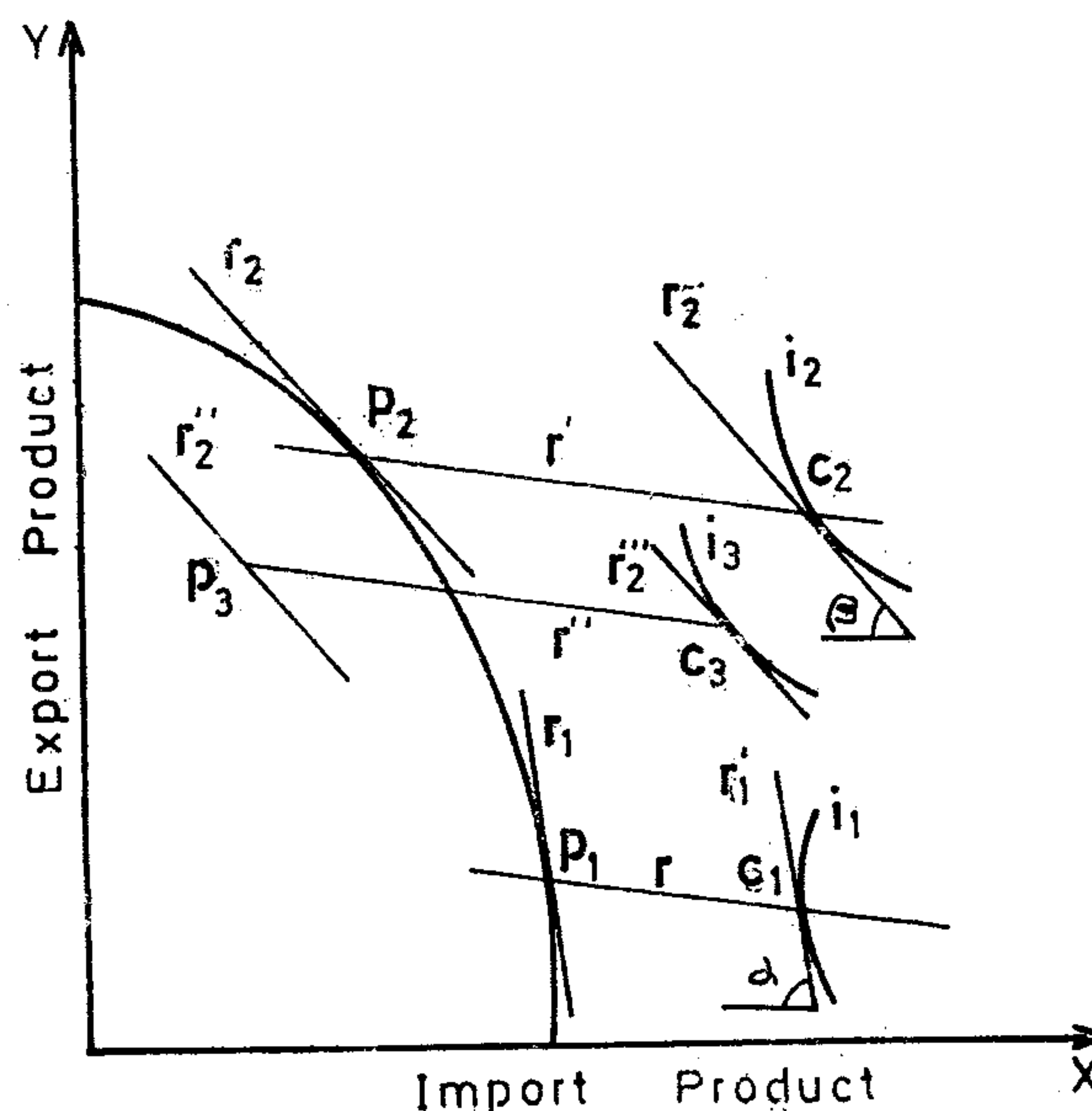


Figure 1

In the initial situation of international trade products y and x are traded at an IPR that is indicated by the slope of the international price line r . The country reaches the consumption point C_1 that lies on the community indifference curve i_1 . The initial situation we have just sketched is not optimal because of the protection of the x -production that is assumed to be socially undesirable⁶. This can be observed by the fact that $IPR < DPR = DRT = DRS$: the Pareto-optimum conditions are not fulfilled because the DPR diverges from the IPR.

We now examine an altered situation in which the average rate of protection on the import product x is lowered following the establishment of a Duty Free Zone in the country considered. We assume this does not affect the IPR; in other words, there is no international terms of trade effect, so that the IPR continues to be reflected by the slope of r , r' and r'' . The decrease in protection on imports of x entails a change in the DPR; the new

6. By saying that there is no sound basis for protection, we mean that there are no domestic distortions in production or consumption. In other words: there is no difference between the private and the social DRT_{yx} on the one hand, nor any difference between the private and the social DRS_{yx} on the other hand.

DPR (after the establishment of the Duty Free Zone) is characterized by a lower relative price of x and is reflected on the figure by the new domestic price line r_2 , and also by the lines r'_2 , r''_2 and r'''_2 that run parallel to r_2 . We shall indicate the new DPR as DPR'. The lower domestic relative price of x immediately appears from the fact that $\text{tg } \beta < \text{tg } \alpha$. Production will shift to point P2 and consumption will take place in point C2 that lies on the community indifference curve i_2 . That consumption point is arrived at thanks to the international trade at an IPR indicated by r' . The country still finds itself in a suboptimal situation because $\text{IPR} < \text{DPR}' = \text{DRT}' = \text{DRS}'$. As DPR' points at the new DPR, so DRT' and DRS' respectively indicate the new DRT (in point P₂ of the transformation curve) and the new DRS (in point C₂ of the community indifference curve i_2). However, after the establishment of the Duty Free Zone, the country is better off: this is reflected by the attainment of a consumption point that lies on a higher community indifference curve, namely i_2 . The welfare increase obtained follows from the decrease in protection that leads to a greater specialization in the production of the export good y in which the country holds a comparative advantage. This further specialization also leads to an increase in international trade, thus to trade creation.

In the article referred to above, Grubel implicitly argues that the increased specialization and trade leads to activity creation. Thus, the welfare increase we have just indicated can therefore also be looked upon as the reflection of the favourable effects of activity creation. This is however not very clear since the analysis works with the hypothesis of fully used productive capacity. New activity implies that the production capacity of the country had previously expanded, which should be depicted by an outward shift of the transformation curve⁷. There is also another remark to be made concerning the figure used by Grubel, namely the queer and illogical location of the initial indifference curve i_1 with respect to the following indifference curves i_2 and i_3 .

Let us now turn to the illustration of the unfavourable effect of trade and implicitly-activity diversion. For that, Grubel assumes the abolition of excise taxes on petrol in the zone. Because of the price advantage for petrol, many cars from outside the zone drive to the zone to fill their tanks. From a private micro-economic point of view this is rational. For the country as a whole (macro-economic standpoint) however, this is welfare-decreasing and thus irrational. Indeed, now there is a greater use of various factors of production needed (labour, petrol, truck-time etc. . .) to bring about the same service, namely the delivery of a particular volume of petrol. The country no longer uses a technically efficient method of production (here,

7. This means that within the intrinsically static analysis a dynamic element is brought in, so that the clear distinction between static and dynamic analysis—which exists in the theory of Customs Unions—cannot be maintained here.

method of distribution), and therefore no longer produces in a point that is situated on the transformation curve; production will take place in a point under the transformation curve, let us assume in point P_3 . We assume the efficiency loss on the production side does not affect the IPR, and therefore the country can still trade at the existing IPR that is reflected by r'' . If the existing domestic price ratio remains also unchanged, then consumption will take place in point C_3 on the community indifference curve i_3 . It is clear that i_3 is situated below the community indifference curve i_2 - this must illustrate the negative welfare effect of trade and activity diversion from a Free Economic Zone within which some regulation (here an excise tax) was eliminated.

In the preceding paragraphs we have separately clarified the positive and the negative effects of a Free Economic Zone. The net effect, and thus the final situation for the country considered, is determined by the respective magnitude of these two opposite welfare effects. By comparing the final situation with the initial one, we can find out whether by the establishment of the Free Economic Zone the country is better or worse off. On the basis of the figure used here this is difficult to see. The consumption point C_3 seems to lie on a higher indifference curve than the point C_1 (initial consumption point). At any rate, in principle it is not possible to make clear a priori statements about the net welfare effect of a FEZ. Such a statement is an empirical matter; the welfare-outcome will depend upon the relative magnitude of the opposite welfare effects that are observed.

C. Dynamic Effects

The attractive feature of the static effects we have discussed above is that they can be quantified relatively easily. However, the static effects do not reflect all economic influences that derive from a Customs Union or a FEZ: there exist also dynamic effects that change the economic structure. Whereas the static effects manifest themselves in the short run, the dynamic effects are felt in the longer run. Unfortunately we cannot obtain reliable quantifications of these dynamic effects. This is particularly regrettable since many people claim their positive influence to be far greater than any favourable influence of the static effects.

The dynamic effects of the operation of a FEZ are based upon factors with which we are already familiar from the analysis of the Customs Unions. In a Customs Union the dynamic effects mainly relate to :

- (1) the greater utilization of economies of scale
- (2) the improved efficiency due to greater competitive pressure

- (3) the increase of investments
- (4) the stimulus for technological progress⁸.

With the establishment of a FEZ one may expect that primarily the third and fourth favourable dynamic effect will be operating; possibly also the first effect can manifest itself. The abolition of various hindering governmental measures, accompanied with the provision of a good infrastructure (mostly complemented with special fiscal and other facilities), indeed probably leads to new investments in the zone and perhaps stimulates technological progress and the utilization of economics of scale. An important additional dynamic effect is the activation of entrepreneurs; the more favourable investment climate positively influences their overall attitude and therefore improves their so-called X-efficiency⁹. This last effect is one of the elements on which recently attention has been drawn by the so-called supply economists (e.g. A. Laffer) to foster the overall economic activity.

Whereas in the analysis of the Customs Unions the static effects can be distinguished quite clearly from the dynamic ones, this is not the case in the analysis of the FEZ's. Like some of the static effects, also the dynamic ones give rise to activity creation. Hence one can choose for an approach in which there is no specific treatment of the dynamic effects, that is, separated from the static ones. Such an approach would then imply that the concept of "activity creation" incorporates not only the favourable static effects (i.e. the better utilization of existing productive capacity) but also the dynamic ones.

3. Some Concluding Comments on the Neo-classical Theory of FEZ's

The first point we want to comment on is the degree of deregulation that is envisaged by FEZ's. The deregulation brought about by FEZ's is always partial or selective. Indeed, it is clear that by establishing a FEZ, governments want to deregulate only part of the existing and potential economic activity, namely the present and potential economic activity that is covered by the FEZ. Very often the deregulation is, however, partial in the sense that mostly governmental regulations within the zone are not entirely but only partially eliminated.

8. For more explanation on these dynamic effects within the context of a Customs Union, See e.g. C. P. KINDLEBERGER and P. H. LINDERT *o.c.*, chapter 9.

9. X-efficiency concerns the way in which the factors of production are used in production, distribution, and management. The so-called allocative efficiency relates to the place (the sectors and the enterprises) in which resources are allocated, that is, used. The X-efficiency deals — so to speak — with the efficiency of resources within given sectors and enterprises. (See H. LEIBENSTEIN, "Allocative efficiency versus X-efficiency," *American Economic Review*, June 1966).

The major reasons to induce governments to go only for a partial deregulation are obvious. Firstly, a total elimination of the most important governmental measures (for instance in the fiscal field and in the area of industrial relations and social legislation) clearly does not make sense. The state would lose all of its revenues and would therefore, by lack of financial and legislative instruments, not be able to exert a number of functions that are vital for the organization of a human society. Secondly, there is uncertainty as to the eventual net result of the facilities implemented. This uncertainty leads governments—at any rate initially—to implement the various possible facilities only at a relatively limited scale.

Besides the elements just mentioned, there is still another factor that encourages only partial deregulation, namely the balance of power among economic agents who see their interests affected by the deregulation that is introduced. When a government would like to install *total* deregulation in a particular sector, it is almost certain that it will meet powerful and organized resistance of a limited group of entrepreneurs, employees and civil servants, because they will probably suffer a substantial welfare loss. The advantages of such complete deregulation (but limited to one or some specific sectors) are likely to flow to a large number of entrepreneurs and employees who, because of the very limited potential individual advantage, will not form a cohesive block that could put some pressure on the authorities to force them to implement the deregulation considered. In the case of *partial* deregulation by means of the establishment of FEZ's, the interest and power-structure is very different. FEZ's probably generate such substantial advantages for a limited group of enterprises, employees and local authorities, that they will exert relatively heavy pressure on the policy-makers to effectively create a FEZ. The resistance against the establishment of a zone, on the other hand, will probably be small due to the relatively low costs that go with it and the large number of economic agents (tax payers) over which these costs can be spread. Since the considerations just mentioned relate to political lobbying, it is understandable that Grubel speaks in this respect of "the political economy of the FEZ's" ([6], pp. 46-48).

The introduction of essentially limited deregulation can, very often be accomplished when the area (in its territorial and/or economic meaning) in which the deregulation will be applied, can be effectively separated from the rest of the national economy. Thus, it is necessary to bring about a very effective demarcation of the zone. With Duty Free Zones and Export Processing Zones the necessary limitation is mostly of a territorial nature; the walls or fences erected around these zones reflect in a very clear way the limits of these special areas. The establishment of a FEZ can only be successful when it is technically feasible to accomplish an effective separation between the deregulated sector (inside the zone) and the other, normally regulated,

sectors. When the separation takes place on a territorial basis, it is understandable that particularly along the FEZ's border draining-off effects can take place, that is: activity diversion from the surrounding, still heavily regulated areas.

An important factor in considering the establishment of a FEZ in a particular country is the presence or absence of influential FEZ's abroad. If the country is one of the first to install FEZ in a given product sector, one can speak of offensive FEZ's. When the country is following an already widely spread trend, one deals with defensive FEZ's. In the latter case the country is almost obliged to establish FEZ's. Probably it has already experienced a transfer of various enterprises to other—artificially more attractive—countries, and want to stop this activity diversion. Since with such defensive FEZ's the main aim is to undo the activity diversion that has occurred, the probability of a net positive welfare effect is greater than in the case of offensive FEZ's. (See [6], p. 51).

Reviewing the neo-classical theory of FEZ's, it is clear that it presents a useful framework to reason about a number of economic effects brought about by FEZ's. However, the neo-classical theory does not analyze all important effects of a FEZ, and it should therefore be complemented by other analyses. These other analyses relate to the distribution of the costs and the benefits, the change in the industrial structure and in the employment structure, the country's share in the total value added created, the structure and distribution of wealth, the technology-transfer (the last three points are also important with respect to the impact of multinational enterprises), the influence on the relations among and within the various social classes, etc. In short, for an overall evaluation of FEZ's one has to examine all economic and social effects. Only by means of such a comprehensive evaluation can one obtain proper insight in the FEZ's impact on the long term social economic development and on the concrete way in which that overall social economic development takes place. Frobels, Heinrichs and Kreye⁵ were among the first who tried to arrive at such a global evaluation. We can only mention here that their overall appraisal turned out to be rather negative. Authors like H. G. Grubel, who reason along strict neo-classical economic lines, are clearly inclined not to agree with Frobels, Heinrichs and Kreye's sceptic conclusions.

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