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"Natural Integration": A New Approach to Integration Policy in Developing Countries

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"Natural Integration": A New Approach to Integration Policy in Developing Countries

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Abstract

The article is based on the idea that geographic proximity is an essential factor for international integration policies due to its impact on the intensity of bilateral foreign trade and growth rate. Development is analysed as a process of structural diversification, whereby the country in question runs through different stages encountering co-ordination problems at the structural change-over points. Natural integration of neighbouring countries around a pivot country is shown to be an alternative to protectionist and multilateral liberalisation policies fostering structural diversification and overcoming co-ordination problems.

Table of Contents

INTRODUCTION	6
1. FOREIGN TRADE, GROWTH AND GEOGRAPHIC PROXIMITY	6
2. STRUCTURAL DIVERSIFICATION AND DEVELOPMENT	9
3. NATURAL INTEGRATION AND STRUCTURAL DIVERSIFICATION	14
4. ECONOMIC POLICY SUPPORT FOR CENTRALIST INTEGRATION	16
5. SUMMARY AND CONCLUSIONS	18
REFERENCES	19

INTRODUCTION

Regional alliances have long been a hotly debated issue, both in economic research and in politics. Theoretical and empirical research into integration has been, and still is, dominated very heavily by the discussion of regional and global welfare effects, with attention focusing on the analysis of formal integration projects. This approach disregards integration driven by market forces, which differs from region to region and can provide a basis for formal integration. The distinction between politically willed *formal* integration projects and "natural" integration processes fostered by the market is particularly important for assessing the chances of success of integration projects. Only if formal integration projects are based on a process of natural integration can they be expected to be successful from the point of view of integration theory, in the sense that the trade-creation effects exceed the trade diversion effects.

Geographic proximity is an essential factor for natural integration processes. In recent years the literature has emphasised the importance of geographic proximity for the regionalisation of world trade (Krugman 1991a and 1991b, Jacquemin, Sapir 1991). However, a natural process of integration also presupposes dynamic growth in partner countries and at the same time reinforces such growth. The failure of integration projects in developing countries is due primarily to the fact that they are formal integration projects not based on a natural process of integration.

The aim of this article is to develop a strategy of natural integration for developing countries. The first part deals briefly with the link between geographic proximity, trade and growth on the basis of existing literature. The second portrays the regional division of labour as a process of structural diversification. The third section examines the link between natural integration and structural diversification. The fourth sketches the economic measures that need to be taken to achieve regional integration. Finally, section 5 summarises the main findings.

1. FOREIGN TRADE, GROWTH AND GEOGRAPHIC PROXIMITY

Neo-classical foreign trade theory generally overlooks geographic proximity as a determinant of the intensity of international trade. Empirically, however, the effect of geographical proximity on the intensity of bilateral foreign trade flows cannot be denied, and is repeatedly confirmed by gravity models (Deardorff 1998, p. 7). In gravity models bilateral trade is determined by the income of the two countries and the distance between them, which is usually measured in terms of factors such as physical distance, common

borders, language and culture. As Jacquemin and Sapir show (1991, p.167), international trade agreements were already heavily influenced by the principle of "propinquity" at an early stage. Gravity approaches are also being used increasingly to assess the desirability of regional integration projects.

Gravity models are usually criticised for their lack of precise theoretical foundations. Attempts to provide a theoretical basis for a general gravity equation have been made, however. For example, Anderson (1979) long ago provided an initial theoretical foundation. Bergstrand (1989) developed a general equilibrium model of world trade using two differentiated products and two production factors to demonstrate that the gravity equation accorded with Heckscher-Ohlin models of inter-industry trade and Helpman-Krugman-Markusen models of intra-industry trade. Foreign trade models using differentiated products, in which transport costs are a key determinant of regional integration, also aim in the same direction (Frankel et al. 1995, pp. 74-88, Amjadi, Winters 1997, pp. 10-14). Deardorff (1998) has provided a new foundation for the gravity equation on the basis of the Heckscher-Ohlin model.

As well as gravity models, the transaction cost approach offers a comprehensive means of quantifying the importance of geographic proximity for foreign trade. This approach considers not only transport costs but also capital transfer costs and communication and information costs. Empirical studies (Amelung 1990, 1991) have demonstrated that transaction costs are just as important for the volume of trade between two countries as for the geographic distribution of trade among countries.

Viewed in this way, economic activity is unequally distributed geographically, with neighbouring countries trading more intensively with one another than countries that are far apart. Geographic proximity per se, however, has no effect if neighbouring countries are underdeveloped and hence do not have a major trade potential in any case. The many failed attempts in developing countries to copy the example of the EC (Langhammer, Hiemenz 1990) show that geographic proximity is a necessary condition for natural integration, but not a sufficient one. It also requires dynamic growth in the countries concerned that will trigger structural change and force the entire region into mutually beneficial specialisation.

Geographic proximity can give additional stimulus to trade between the countries concerned only if the preconditions for dynamic growth are present and in turn foster the growth process. In foreign trade theory, this link finds expression in new approaches

dealing with the development of geographic agglomeration processes, which can also be of international importance (Krugman 1991a). The relevance of such world economic centres of gravity for growth and trade was emphasised at an early stage by Predöhl (1971). New developments in the modelling of increasing returns to scale and imperfect competition have led to the formulation of concentration models that permit a detailed analysis of centripetal and centrifugal factors, that is to say factors respectively encouraging and impeding agglomeration. Concentration processes stem from locational decisions by firms based on relative production costs, relative market size (regional spending potential) and transaction costs in the broadest sense (i.e. transport costs, customs duties, trade barriers, obstacles due to language barriers, etc. (Venables 1997, p. 42)). Agglomeration occurs as a result of positive interdependence on the demand or cost side (increasing returns to scale) or feedback effects on both sides that lead to external effects. Deglomeration can be the consequence of the immobility of production factors, wage increases and conurbation effects (environmental deterioration, crime, etc.).

Regional differentiation in terms of income and industrial specialisation depends crucially on the level of transaction costs. If they are very high, agglomeration effects do not occur, and goods are produced in each region on the basis of the structure of demand. Where transaction costs are extremely low, agglomeration effects lead to the creation of centre-periphery structures, and where they are in the medium range both phenomena may occur.

External effects may arise at the level of individual branches of activity, groups of branches or manufacturing industry as a whole. Empirically, the competitiveness of individual countries or regions can be perceived at the level of groups of related branches. The branches involved could be regarded as regionally concentrated in the sense used by Porter (1991), encompassing not only enterprises in the relevant branches but also suppliers, sales channels and customers (Meckl, Rosenberg 1995).

In a study of trade regionalisation tendencies between 1965 and 1990, Poon discerns a trend towards a geographically less fragmented world economy (Poon, 1997). For 1965 he identifies eight regions (centred on the core countries of Brazil, Germany, Italy, Spain, Sweden, the United Kingdom, the USA and the Soviet Union), which are smaller than the five regions existing in 1990 (with the core countries of Germany, Japan, the United Kingdom, the USA and the former Soviet Union) and comprise a smaller number of member countries. The regional clusters in 1990 are easier to define and geographically

more cohesive. Poon (1997, p. 396) regards his findings as confirmation of the hypothesis that "natural" regions are developing in the world economy on the basis of geographic proximity and that formal integration projects (free trade areas) are a political acknowledgement of this state of affairs. At the same time he observes that regionalisation is not occurring at the expense of multinationalisation, so that the regions have remained stable in their external relations since the sixties or have shown a tendency for greater openness (Poon 1997, pp. 399-401).

The relationship between growth and geographic proximity is also addressed in the new growth theory (Romer 1986, Lucas 1988), which makes it possible to endogenise technical progress and emphasises in particular the importance of human capital formation and research and development for the growth process. Cross-border spill-over effects can affect growth at the international level. Whether the accumulation and spread of technology has regional as well as national and international dimensions is an issue that has been rather ignored so far (Padoan 1997, p. 3). Chua (1993) has constructed a model in which a country's growth rate is dependent not only on its own investment and human capital formation but also on those of its neighbours. This model makes it possible to measure the contribution of regional spill-over effects to growth; for example, using this model it can be shown that the intra-regional convergence rate is higher than the inter-regional rate (Chua 1993, p. 36).

2. STRUCTURAL DIVERSIFICATION AND DEVELOPMENT

In developed countries natural integration fosters industrial concentration, which can lead to a regrouping of industries. The marginalisation of particular regions is not a necessary result (Venables 1997, p. 47):

"Regions - or countries - lose their presence in some industries, and industries become more geographically concentrated. However, each region or country may have some cluster of industries so that although there is divergence of the structure of economies, there need be no divergence of income."

In models involving regions at different levels of development, marginalisation as a consequence of differing innovative potential is of course possible, but the peripheral region can nevertheless increase its growth potential by pursuing a technology policy or investing in infrastructure (Walz 1995).

Transposed to the developing countries, the findings of the latter models are of great interest, because within the former Third World there is now a development gradient in terms of per capita income and technology standards, which has led to wide development differentiation within this group of countries. In addition, economic development is leading to structural change, which finds expression in changes in the composition of output and exports (Syrquin 1988). As development proceeds, new products requiring a higher technological level and better trained labour are added to a country's production and export range. Within the integration area individual regions therefore specialise in products with different factor requirements and innovation potentials (traditional and high-tech products).

In the literature, this process is described as industrial upgrading or structural diversification (UNCTAD 1996, pp. 115-128, Mayer 1996). The change in the structure of production and exports is accompanied by a change in resource endowment, which is reflected in an accumulation of physical and human capital and an increase in R&D facilities. Mayer (1996, p. 212) attributes the process of structural diversification to dynamic learning sequences. In this regard learning is perceived as a process *"through which firms and countries build and supplement their knowledge about technology, products, management, marketing and distribution, and develop and improve the use of the broad skills of their labour force through both deliberate efforts and learning by doing, as well as their stock of 'ideas' through indigenous research and development associated with their natural resource endowment"*.

According to Mayer (1996, pp. 221 f.), each learning cycle consists of four phases: starting from a situation with low learning potential, in which traditional goods are produced (phase 1), the economy begins to grow as a result of the introduction of new technologies (phase 2). As the use of these technologies increases, the economy expands rapidly (phase 3), until with the gradual exhaustion of the learning potential a new cycle begins.

So that this picture of structural diversification developed by Mayer (1996) can be used to analyse natural integration processes, we have chosen as the starting point of our analysis a country in a state of underdevelopment, that is to say with a rather undifferentiated agricultural system and a low per capita income. As recent development literature shows (Krugman 1991c and 1993, Okuno-Fujiwara 1988, Matsuyama 1991), such a state can be the result of co-ordination failure due to externalities. These may stem just as much from the interplay of increasing returns to scale and market-size effects

as from interdependence between different sectors. An important finding of this line of research is the possibility for several equilibria to exist. With multiple equilibria, a country can remain stuck at the equilibrium position with a low income level. The reason for this may lie as much in historical chance as in the structure of expectations.

From this starting point, setting the development process in motion requires intervention to overcome historically induced disadvantages or to influence the structure of expectations in such a way that the necessary investment is made. Only then does the process of structural diversification begin. To illustrate this process, let us adopt the following assumptions:

a) there is a clear hierarchy of goods or sectors, measured in terms of capital input requirements, the complexity of the technology used and the necessary level of worker training. For the sake of illustration, the following remarks assume a hierarchy consisting of five product groups or segments (UNCTAD 1996, p. 116):

Group 1: raw materials and agricultural products, including manufactured food products;

Group 2: labour-intensive and raw-material-based products with low requirements in terms of technology and capital input (textiles and clothing, footwear, toys, simple sports articles, etc.);

Group 3: products with medium requirements as to capital and technology inputs and worker training (iron and steel, metal products, simple transport equipment);

Group 4: products with medium and high requirements (rubber and plastic products, non-electronic and electronic machines, motor vehicles);

Group 5: high-tech products.

b) the production and export structure of a developing country runs sequentially through the above product hierarchy, with new products constantly replacing older ones;

c) co-ordination failures occur in the transition from one segment to the next. Only when these failures have been remedied can the economy embark on a new growth path, which will be accompanied by rapid structural change. Along this path the economy goes through the cycle described by Mayer. Since the learning and innovation potentials within each product segment are limited, after a more or less

long growth period the economy begins to stagnate and can only move ahead again by switching to a new segment;

- d) the industrial innovation capacity of a country increases in step with structural change through the five goods segments. It is lowest in countries specialising in product group 1. Since the ability to innovate can increase only gradually as the educational level of the workforce rises, less developed countries cannot immediately take full advantage of the knowledge accumulated in the developed countries. In the LDCs, new products and processes are therefore introduced mainly by imitation. In the course of structural change, however, imitation gradually increases the country's innovative ability. This gradually developing technological capacity enables the country to achieve a leading technological position in the long run.

- e) the mature industrial countries produce and export the fifth group of products and are at the forefront of technological development. Here new products are continually being developed to replace old ones. New sectors can also emerge with even higher demands on technical ability, and may be formed into new product groups.

If several countries are considered, the possible specialisation structure at a particular point in time and on the basis of the assumptions stated above may be as portrayed in Diagram 1; the product groups produced and exported by each country are indicated by an X. Only countries 4 and 6 are assumed to export products from two groups. As each product group consists of an entire range of products, the fact that more than one country specialises in a particular product group does not mean that they export the same goods. Countries 1 and 2, for example, may specialise in completely different raw materials.

The structure of the international division of labour portrayed in Diagram 1 is subject to continuous change over time. The more advanced countries adopt newly developed technologies and products and stop producing and exporting what for them are outdated products. In so doing, they make room for less developed countries to take over the production and export of the latter products.

Diagram 1:
Structural diversification under market conditions

	Group 1	Group 2	Group 3	Group 4	Group 5
Country 1	X				
Country 2	X				
Country 3		X			
Country 4		X	X		
Country 5				X	
Country 6				X	X
Country 7					X

This process of structural diversification is driven by market forces. The more highly developed countries can maintain their rate of growth only by adopting the latest products and technologies. The less developed countries can increasingly exploit their comparative advantage over more advanced countries based on low wages as part of the technological imitation process and the rising level of education of their population.

The changed composition of the international division of labour at a later point in time could be exemplified in the manner shown in Diagram 2.

As the transition from one product group to the next is made difficult by co-ordination problems, there is a possibility that structural change will not occur in some countries and they will therefore face the danger of economic stagnation.

Diagram 2:
Structural diversification under market conditions

	Group 1	Group 2	Group 3	Group 4	Group 5
Country 1	X	X			
Country 2	X	X			
Country 3			X		
Country 4				X	
Country 5					X
Country 6					X
Country 7					X

3. NATURAL INTEGRATION AND STRUCTURAL DIVERSIFICATION

The process of structural diversification portrayed in Diagrams 1 and 2 proceeds smoothly only if it is not impeded by protectionist policies in the countries concerned. Diagram 3 offers an example of the effect of protection on the structure of world production. By contrast with Diagram 1, the industrial countries' product range also includes goods in groups 2 and 3. In terms of diversity and quality, however, this is at the cost of the production of high-technology goods in group 5, which is indicated by X*. This implies slower structural change and hence slower growth in the industrial countries, which at the same time impedes structural change in the developing and newly industrialised countries. Over time, protectionism leads to the accumulation of a large adjustment deficit. However, the high adjustment costs that are to be expected cause politicians to recoil from radical adjustment measures. In this way, protectionism feeds protectionism.

**Diagram 3:
Structural diversification under protectionism**

	Group 1	Group 2	Group 3	Group 4	Group 5
Country 1	X				
Country 2	X				
Country 3	X	X			
Country 4	X	X	X*		
Country 5		X	X	X*	
Country 6		X	X	X	X*
Country 7		X	X	X	X*

Protectionism in the industrial and newly industrialised countries impedes not only growth in the poorest developing countries; the lack of structural change in these countries also means that the learning processes necessary to overcome co-ordination failure cannot take place and the incentives to develop an R&D infrastructure are weak. As a result, the danger of marginalisation increases.

Starting from this world economic situation, there are two possible ways in which developing countries can integrate into the world economy. The first consists in a worldwide reduction in protectionism, such as was attempted in the various trade rounds and, in the case of the developing countries, by means of structural adjustment programmes. A comparison of Diagrams 1 and 2 with Diagram 3 shows that, depending on the speed of trade liberalisation, this solution would set in train a major adjustment

process and hence lead to high adjustment costs. It is therefore questionable whether the countries involved would accept these costs. It is more likely that despite agreeing to trade liberalisation some countries will continually seek ways of minimising the costs by adopting new forms of protectionism, slowing down the liberalisation process, and so forth. Protectionist pressure in the industrial and newly industrialising countries will be all the greater, the larger the number of developing countries that can launch an export offensive as a result of the reforms.

Despite undeniable successes, the liberalisation rounds and structural adjustment programmes have produced rather modest results so far with regard to the integration of the poorest developing countries into the world economy (Shams 1996, pp. 10-19). The opposing effects of reform, resistance to reform and the differing ability or inability to fully exploit the opportunities created by liberalisation are likely to lead instead to even more pronounced development differences between developing countries.

The alternative is to initiate natural integration processes. As with the first solution, here too the attempt is being made to move from the situation portrayed in Diagram 3 to a situation corresponding to that shown in Diagram 2. In this case, however, the transition is in a number of stages. It is assumed that countries 1 to 4 are in the same region, that country 4 is at a higher level of development than the other three and is a large country in terms of population size and density. In view of its size and level of development, such a country can be labelled a *central country*.

When analysing supranational conglomerations, a structure that historically recurs repeatedly is one consisting of a central country and several other neighbouring countries dominated from the centre and oriented towards the market of the central country. I have already mentioned the regionalisation of the world economy with eight core countries for 1965 and five core countries for 1990 analysed by Poon (1997). Similarly, Wijkman (1992, pp. 92 ff.) identifies three different groups of countries as regards trade ties within Europe in 1958: a first group consists of the British Isles and the Scandinavian countries, with the United Kingdom acting as the pivot country. A second group consists of the six original EC member states plus Switzerland and Austria. Here Germany is the pivot country. The other countries - Portugal, Spain, Greece, Yugoslavia and Turkey - have a one-sided dependence on countries in the second group, especially Germany.

A strategy of natural integration implies that countries 1 to 4 in Diagram 3 combine to form an integrated union in order to promote regional production cycles. The main instrument for this purpose is direct investment by the pivot country (country 4) in the smaller neighbouring countries, in order to permit the production of product groups 1 and 2 to be transferred to countries 1 and 2 and the production of product group 3 to country 3. At the same time, the pivot country opens its borders to imports of the transferred products from the smaller neighbouring countries and exports to them products resulting from increased output of group 4 goods. The pivot country therefore adopts the role of a regional engine of growth. The necessary structural change towards group 4 in the pivot country of the region demands that this country attract direct investment from industrial countries in these areas and be able to sell products of this group not only within the integrated area but also in the industrial countries. In view of its endowment with human capital and relatively low wages by comparison with those in the industrial countries, the pivot country of the region has comparative cost advantages over industrial countries in group 4 products. By comparison with its poorer neighbours, however, the pivot country has no comparative advantage in product groups 2 and 3 because of its relatively *higher* wages, which makes the transfer of the production of these goods appear advantageous.

As a result of natural integration in the developing countries, protectionist pressure on the industrial countries is reduced in two ways. By comparison with a strategy of multilateral liberalisation, countries 1 to 3 will export fewer goods in product groups 2 and 3 to industrial countries. The industrial countries find themselves facing increasing competition in product group 4 from the pivot country. By contrast with product categories 2 and 3, in group 4 the industrial countries have more opportunity to safeguard employment by product differentiation and innovation, which reduces the protectionist pressure. This gives them more time to make the adjustments that would have been unavoidable in any case in the longer term. It should also have a positive effect on the willingness of the industrial countries to adapt in the sense of structural adjustment towards product group 5.

4. ECONOMIC POLICY SUPPORT FOR CENTRALIST INTEGRATION

Under a strategy of natural integration, integration measures are directed primarily towards the creation and promotion of regional economic circuits. Such circuits do not develop spontaneously, however, because of co-ordination failure that hampers structural diversification. To overcome such co-ordination failure requires economic policy intervention consisting in the choice of suitable sectors and products to be

promoted and the formulation of appropriate ways of promoting them. Depending on the level of development of the country, the strategic sectors for this purpose will be those with the highest learning effects, so that they will become internationally competitive in the shortest possible time (Mayer 1996, p. 222). As learning externalities are difficult to measure, it will not be easy to identify the appropriate sectors and products, which militates against a state promotional policy. In practice, however, certain restrictions will always apply to any decisions that are made. For example, in every country at the time of the decision a particular industrial structure with existing abilities and a particular structure of human capital endowment will predominate. This starting point determines not only the product groups that must be the next target; closer examination of the available abilities and the restrictions that apply could also indicate which product segments within the group are the best to promote. It is always possible to take the wrong decision, however. As with business investment, all the information can be evaluated, but the risk of reaching the wrong conclusion cannot be entirely eliminated.

As a rule, temporary subsidies serve as industrial policy instruments in theoretical treatises, but practical experience with export subsidies in developing countries shows that the results can be very mixed (Rodrik 1993). In order to prevent or minimise the misallocation of resources, it is to be recommended to avoid subsidies if possible and instead to promote so-called Coase institutions, which internalise external effects (Shams 1997, p. 271). Such institutions, which may be informal, serve mainly to ensure the flow of information and the formation of consensus among businesses and between them and the government. Moreover, state institutions should be strengthened so that rent seeking is prevented as far as possible.

In order to encourage natural integration, each of the countries involved must therefore formulate an industrial policy comprising co-ordinated measures to promote technology and direct investment, develop the human capital and create the export infrastructure for the selected sectors. As there are many ways and means of importing technology and as investment can play different roles within an overall strategy, it is not possible to make general recommendations. The differing experiences of East Asian countries show that the policy mix may differ markedly from one country to another, depending on the conditions in each. In the pivot country, in particular, the concept must include measures to encourage the outward transfer of those sectors and products that are losing their international competitiveness as a result of the exhaustion of learning potentials and rising wages. A deciding factor is also the determination with which the policy is

embraced, the linking of incentives to companies' export performance, the prevention of rent seeking and the willingness and ability to make rapid and smooth corrections if policy errors emerge.

Industrial policy measures must be complemented by trade policy measures. It is not necessary to create institutions to oversee integration policy, but trade barriers between the pivot country and its poorer neighbours must be eliminated in order to ensure the success of industrial restructuring. Above all, the pivot country must refrain from protecting sectors producing products in groups 2 and 3. The same applies to the poorer countries with regard to group 4. A common trade policy towards industrial countries in the shape of a customs union would be an advantage, in that it would strengthen the region's negotiating position and intensify the regional orientation of trade in product groups 1 to 4.

5. SUMMARY AND CONCLUSIONS

The strategy of natural integration is based on the regional dynamics of the world economy. Taking the current differences in the level of development of developing countries as the starting point, these regional dynamics allow a strategy to be developed for a step-by-step integration of the developing countries into the world economy. Economic development is understood in this context as a process of structural diversification under certain assumptions as to learning and innovation potentials. A strategy in this sense requires economic policy intervention to resolve co-ordination problems that occur at structural change-over points. The main advantage of natural integration is that it does not impede market forces, but rather supports them, and by exploiting regional development potential it makes the developing countries involved less dependent on markets in industrial countries. As a result, the resistance of the industrial countries to structural change should also diminish, which in turn could contribute to the integration of the developing countries into the world economy.

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