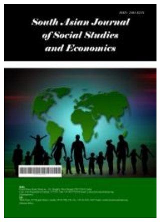

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The Problems of Africa's Industrialization Substitution Strategy and Reformation Needs

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Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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ABSTRACT

This study showed that industrialisation by substitution of imports has been a failure in Africa and has made industries in this part of the world less competitive on the foreign market. As such, a different industrialisation strategy which in the context of globalisation of economies and the fierce competition of the international market reinforces the competitiveness of African countries. This new strategy was translated amongst others by the appropriation of new technologies, protection of infant industries, cloning of manufactured products imported out of Africa, regional integration and the culture of exporting manufactured products.

Keywords: Industrialisation; strategy; infant industry; integration.

1. INTRODUCTION

Industrialisation, conceived as the multiplication of industrial activities and as the transformation process of production using machines is at the heart of all economic development. To a developing country, industrialisation signifies not only a means of simply increasing income and the volume of production but of modernising the primitive production structure and transform all

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the socio-economic traditions associated with it [1].

At the eve of independence in the 1960s the strategy of industrialisation was at the centre of economic planning of African countries. Its primary objective was to secure national economic autonomy through the creation of an industrial capacity that substitutes imports and transformation for export of agricultural and mining products out of the continent. This strategy progressively showed its limits as from the 1970s leading to its being put into question as from the 1980s. Today the problem of industrialisation of Africa is raised in a very different context of globalisation of economies, rapid technological changes, and the policy of disengagement of the state in economic activity and consequently calls for a redefinition that can be formulated as: How can the competitiveness of African firms be reinforced in a world of fierce international competition?

The objective of this study is to show that the industrialisation strategy of substitution of imports adopted so far by African countries has not been fruitful and the present context that is characterised by the generalisation of market conditions worldwide requires rectification and the redefinition of a new problem of industrialisation of these countries with the objective of raising the level of external competition of the continent.

The secondsection of the study presents the traditional paradigm of import substitution industrialisation (ISI) and its unfitness for Africa. The third section presents the basis of a new African industrialisation adopted from ambient neoclassic and equally raises the constraints that have to be taken into consideration during its implementation. In the fourth section we draw conclusion.

2. THE TRADITIONAL PARADIGM OF ISI IN AFRICA AND ITS REDEFINITION

Nowadays the ISI model remains a solution to the problems of industrialisation in Africa. This model proposed by [2] in collaboration with C.Furtado of the CEPAL (Economic commission for Latin America, 1948) has influenced the industrialisation policy of all developing countries after the Second World War. The apparently charming idea did not meet up with expectations of African countries. In other ton study the causes of this failure we will first analyse the means used by the ISI model and then show how this model has given illusions then disillusions to African countries.

2.1 The Resources of the ISI model

The ISI model is based on the following question. Why not initially give privilege to local industrial activities with an existing internal demand (as indicated by imports)? In order to put in place these activities the ISI uses as major resources [3]: factory tariffs, multiple exchange rates and the creation of external activities.

2.1.1 Factories tariffs

The high custom duties on finished products and the low duties on inputs favours the entry of the spare part assembling industry because of the consumption effect and the high level of effective protection. Thus the automobile industry was implanted in Nigeria, Morocco, Egypt and South Africa.

2.1.2 The multiple exchange rates

Multiple exchange rates involves the application of different rates according to the nature of the imports (for example an official high rate to maintain the prices of indispensible imports and a free rate to depreciate, discourage the importation of luxury products) or according to the foreign currencies (a less depreciated rate for country with which imports want to be encouraged and another rate with the rest of the world). Multiple exchange rates have the same effect as a contingency. They bare much easier to implement than custom duties and contingents since they do not require a competent and incorruptible administration which is difficult to find in developing countries.

2.1.3 The creation of externaleconomies of scale

Those who give priority to industrialisation support the game of economies of scale and external economies. Thus [4] distinguishes two types of investment:

- those which concern direct production activities (DPA) which are chosen on the basis of their economic profitability;
- those concerned with economic and social infrastructure (ESI) that promotes development by creating an appropriate environment for productive investment

The criteria used in choosing between the two types of investments is that of social marginal productivity: the investment funds have to be shared between direct production activities (DPA) and economic and social infrastructure (ESI) so as to maximise usage and value added at the least cost. A sectoreconomic and dynamic reasoning requires that emphasis should be made on their complementary nature. If investment resources are scarce, investments should be focused on projects with strong indicator effects and for pivot industries. That is, young and dynamic entities that distribute high incomes thus inducing complementary exchange activities, financing or incomes having the possibility of selling at competitive prices. If one admits that investments carried out in the order A and B do not have the same effects as investments carried out in the order of B and A. Thus the determination of the sequence of investments will be a major problem. The concentration of investment efforts can equally be spatial around growth poles.

The input-output matrix has potentially powerful vertical inter-sector relations. Initially, we will have sector supplying inputs to order sectors (basic chemicals, petrochemicals, industrial mechanics, non iron metals,). Then later we find sectors supplying goods for final consumption; these goods are generally small in size less capital intensive.

Three types of effects result from the vertical inter sector liaison

- the ex-ant liaison effects which are the results of an additional demand emanating from consumption
- the post-ant liaison effects that emanate from the capacity of the production capacity of inputs and with the advent of an opening. When for example a basic product becomes available (fertiliser for example), then potential users will be incited to buy the goods, this will have as consequence an increase in future production and productivity. The automatic nature of such an effect is less evident than the previous. It is not enough for the basic product to exist nor effectively available at a compatible price and that is its utilisation justified by an increase in final opportunities.
- the boomerang and increase in commodities. If the bottom liaison effects occur that leads to an increase in the demand of sector from bottom to the top (liaison effect towards the top) and vice versa. Thus, a chain or spiral process that plays in an interactive manner.

In virtue of this approach one can say that growth can only take place through a series of successive disequilibrium in the evolution of the different sectors.

In the context of Africa especially, the putting in place of a strategy based on the ISI model has lead to less hope.

2.2 The Illusions and Disillusions of ISI in Africa

History gives an account of the application of ISI in Africa Characterised by the Euphoria of the 1960s and the hopelessness of the 1970s, 1980s and 1990s.

2.2.1 The enchantment: the 1960s

The 1960s was characterised by the permanent intervention of the state in the industrialisation process. Three themes prevailed then [5]:

- the delays and the handicaps were such that one could engage in the path of industrialisation only with conscious, massive and directed efforts
- the putting in place of great technological projects as a vector of independence was prioritised
- the concentrations around some geographical poles of growth which are vectors of growth in an open economy constitute a choice of national sovereignty

The instrument of political choice was the nationalisation of strategic units, sector and global planning and the organisation of the banking system to serve industries. In the presence of anaemia of private investments and the need to mobilise production and economise foreign currencies around which the poles of growth (from the top the primary industries: cement, electricity, chemicals; from the bottom industries that valorise of products for exports and the local market). The extension of the public sector was considered as the essential angel of economic policy.

As concerns the growth rate, the African industry behaved well at the beginning progressing from 10% between 1965 and 1973 [6]. The initial industrial base was restricted and the first set of import substitution based on foreign assistance and returns from exports was vigorous.

2.2.2 The disenchantment: the 1970s, 1980s and 1990s

At the beginning of the 1970s, the large inappropriate investments were denounced and the cathedrals in the desert [7]. The hopeplaced in the large industry just as in industrial poles was deceptive. Whether bit was the chemical factories or mechanical assemblies, these achievements did not succeed in proving their capacity to stimulate growth. The inefficiency of the African industry seems to increase with the intensity of the requirements needed to put in place installations. At the same time, it was demonstrated that it is not enough to replace imported goods by locally produced goods so as to guarantee economic independence and technical efficiency. In fact, industries of substitution have remained based on the importation of inputs, spare parts and equipment and this situation has persisted [2]. The relation with the local economy remained limited to raw material whereas spare parts and intermediary goods, counselling and technical services such as technologies have continued to be imported. When the prices of commodities decreased, economic rents fell and the cost of energy increased, the vulnerability of the strategy was very cruel.

-the 1980s were declared decade of industrial development of Africa by the ONUDI and CEA[21]. The results of the first part of the 1980s remained important for Cameroon (8.5% annual growth between 1980 and 1987). (9.7%), Ivory Coast (8.2%) and Mauritius(10.9%). We can equally add to this list Kenya and Zimbabwe who succeeded in maintaining a positive flow of foreign investments and who have a strongly diversifies industry today (the food, chemical, textile, petroleum industry ….). Dominated by the presence of some large firms, former Rhodesia can presently manufacture about 6000 industrial products at competitive costs.

However, following the dependence on imported inputs because of the small scale of the production units, their inadaptability to technological evolution and the markets and an inconsiderate debt policy, the industrial sector progressed all most everywhere later on. After three decades of attempt of industrialisation, the situation is painful: most production units remain isolated from the international market, they have high costs of return and productivity remains low. The lack of maintenance and spare parts lead to the degradation of installations in addition to contraction in internal demand, fall in incomes and the stabilisation measures.This led to deindustrialisation in many countries characterised by a fall in the production index. Averagely in sub-Sahara Africa the proportion of industry in the GDP moved from 18% in 1965 to 33% in 1980 and fell back to 28% in 1987 [6]. Among the most affected countries we have Benin, Ghana, Liberia, Madagascar, Mozambique, Tanzania, Togo and Zaire.

In some countries, the capacity of industrial production used fell below 30% [2] . The unfavourable trend of 1980 reveal the vulnerability of the industrial system: there was therefore a deindustrialisation of economies in a context of reduction in protectionism, privatisation, economic liberalisation and fall in demand [8]. This contributed to feed criticisms on the dysfunction of the ISI model in Africa.

In the 1990s, just like in the last two decades the ISI model was a source of structural stagnation related to the absence of competition (oligopolies or monopolies) and a profitability based on rents (and not profits). If one considers the low jobs created, the existence of a low production capacity, the model led to a stagflation caricature [9].

2.2.3 The industrialdys function

At least four factors can explain the dysfunction of industrial policy in Africa [8]: the choices of economic policy, organisational and management problems; macroeconomic factors and the international environment.

- **the choice of economic policy**The African industry is most often poorly located

[1]The United Nations organization for Africa and the United Nations Economic Commission for Africa: a program for the industrial development decade of Africa New York UNO 1983. An evaluation of this program was done during the conference of African ministers of industry at Harare in May 1989 that declared the second industrial development decade of Africa

[2]The rate of utilization of industrial production is not well known. The institute of enterprise (for a real partnership with Africa balance sheet and perspectives of the African industry, Paris 1989). In a study of 343 industrial complexes in Africa for 20 years reveals that 274 of them were no longer functioning (79 cases) or functioning poorly whereas only about 60 of the production units use their full capacity.

lowly scaled and use of poor technology. The high effective protection of industries (+50%), the real interest rates that have been positive for a long time, the under evaluation of exchange rates and regional policies are signs of a voluntarism industrialisation that is conceived beyond the criteria of profitability, efficiency and competition.Socio-political rationality dominated the criteria of financial and economic profitability. The pooreconomic location is explained by the criteria of regional equilibrium. The large scale and the under capitalisation are related to the modalities of financing and the rents received by politicians. The duplication of industrial projects results from the opportunism of states.

- **Organisational and management problem :** The appreciation of the gains dominates the creation of value; there is generally over investment and poor investment, lack of equity capital by enterprises and over indebtedness. Competencies are poorlyused and there is not always a relation between salaries and productivity.

The evaluation of the support system to the industry has put into evidence a complexity and a disorder in the mechanisms of subvention and production: contradictory or unstable intervention, negative protection of some sectors, the perverse effect of a step wise protection on the national production of inputs, the absence of coordination in the organisation of a sector. Criticisms have enabled to put into evidence the fact that the affirmed objective in the development plan (especially national or regional integration) gave way to other less explicit but powerful objectives.

As such [10] estimates that the model of development based on protection, subvention and taxation seemed to be a subject of demystification indicating that the objective of accumulation could hid an objective of creation of enterprises and that the mentioning of the need for protection could cover up inefficiency and a distributive economy. The incoherence of industrial and trade policies that do not only result in instrumental difficulties but also to multiple objectives assigned to it, circumstantial, social, political and categorical objectives.

- **the macroeconomic factors :** Among the macroeconomic factors, the most important one is the narrow national market [11]. This narrowness has been an essential factor of the failure of the ISI policy in Africa. Today it is still a major obstacle to the putting in place of an ambitious industrial project in Africa.
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The size of the internal market depends on demand (that is the only solvable needs) and is narrowly related to the volume of GDP. The absolute value of the GDP being particularly low in African countries, they constitute except for rare exceptions insufficient markets for the profitability of industrial activity. It should be added that in some African countries administrative or official measure (illicit trap) and poor infrastructure still contribute to the segmentation of the internal market [12].

Creating an industry only for the local market appears to be suicidal or a very risky game that has very low chances to be won.

But there is more. It is not enough for the internal market to quantitatively absorb the production of the new industry for its functioning to be economically justified. The investments equally have to be profitable for the country and more than any competitive allocation of national resources. If it is not the case, there is wastage of resources. Thus, examples of poor industrial investment are very rampant. The [13] gives an example that gives a caricature illustration, the poor tendencies that are found in several industrial projects in recent years; it is the Morogoro Shoes Company a state firm created in 1980 in Tanzania.

This company had to be one of the large producers of shoes in the world and export more than 80% of its products. But the factory was poorly conceived and constructed. Problem multiplies at the beginning; the capacity utilisation did not reach 4% on average. It did not export even one pair of shoes. The management of the company was not up to the task, the product was poorly conceived and quality control was inexistent. The value added of production is negative with respect to the world price. In the middle of the 1980s, its cost was half a million dollars per year to the economy to maintain the company operational without counting the interest and principal to be repaid out of the 40 million dollars of investment.

- **the international environment :** Today, the African industrial sector is impoverished more than ever before. It is even on a decline for some years now as indicated by the remark made on July 200 by ONUDIin its report on the state and perspectives of industrialisation in Africa;ONUDI presents the state of the last twenty years (1980-2000).The measure of the added value of industries which take into account the transformation of local or imported raw materials; between 1980 and 2000, the share of sub-Saharan Africa reduced moving from 1% of the world total to 0.8%. During the same period the other regions of the world increased their share more or less strongly; from 1.5% to 2.4% for north Africa, from 0.8% to 1.8% for south Asia and most especially from 41% to 13.9% for east Asia. These figures take all transformation activities into consideration including those that are related to raw materials. In the whole of Africa the industrial added value represents 200 billion dollars in 2000 as against 95 billion in 1980. During the same time period, East Asia multiplied its contribution by five (from (154 billion to 863 billion dollars).

The international environment that has become very unstable is somehow characterised by the steady increase in new competitor, most often Asians and by the monetisation of relations. In this sense policies of reduction in protectionism and contraband have usually led to the declassification of the industrial apparatus. The exchange adjustments did not take place given the high proportion of factors of production paid in foreign currency and the outcomes from external competition. It is seen for example that despite the devaluation of January 1994, the African countries of the Franc zone have not recovered their external competitiveness. The proportion of external trade of the entire continent in world trade moved from 20% in 1960 to less than 2% today, indicating the moribund and regressive nature of the African economyand the very low international competitiveness of its firms.

It is therefore necessary in the context of fierce international competition, the globalisation of economies to define a new approach to industrialisation that one can consider to be modern. This approachbeing the rupture with the tradition model of ISI.

3. THE MODERN APPROACH OF INDUSTRIALISATION OF AFRICA AND ITS CONSTRAINTS

Drawing lessons from their unfortunate industrial experience, African countries have to go for a modern reorientation of their industrialisationwhich involves the reinforcement of the competition of their firms in a context of globalisation of economies and fierce international competition. Efforts couldbe made to increase both the supply and demand of their manufactured products. But these efforts have to consider the constraints related to the markets for these products.

3.1 Efforts on the Supply and Demand of Manufactured Products

On the supplyside the problem is technical which on the demand side the economic aspect dominates.

3.1.1 Supply

The supply conditions refer to five elements: the mastery of technology, the organisation of production, competition, foreign direct investment (FDI) and the protection of infant industries.

- **Technical progress; the importance of new technology:** Is it possible for African countries to know future profitable activities in the present context of evolving world market? Should industrial policy be limited to flexible actions of incubation that give greater role to enterprises in the choice of technological innovation?

New technologies lead to radically new productive combinations and are sources of productive gains. Theyrequire an improvement in the quality of labour.

The major technological changes of the last decades concern several domains, for example new materials, new energies, information technologies (computer science, robotics and telecommunications), natural sciences and biotechnologies, the agro-industry and the valorisation of the oceans and space. All these new technologies have common characteristics.

- They have a high dose of research-development;

- They integrate programming, modelling and control processes;
- They associate the language of the computer in the collection and treatment of information;
- They put in place communication mechanisms that enable to transmit information fast and as far as possible.

At the heart of the question of technological appropriation is the notion of scientific potential and national technique (SPNT) [5]. It is defined by its components: number and equipment of research centres, the qualifications of researchers, theaptitude of local firms to put in place the new technologies. A SPNTisqualified as complete or autonomous if it integrates four activities: fundamental and applied research, research and development, production and trading. The African countries except South Africa have at least one 'imitator'SPNT, that is a partial capacity of fundamental and applied research, of research and development, of production and trading and most often from a 'user' SPNT to an 'autonomous' SPNT. This is possible due to the implementation of a strategic industrial policy by the public authorities in the light 0of the new theory protectionist theory of [14] that required the public authorities to finance fundamental and applied research on one hand and on the other hand to subsidise the research and development of local firms enabling them to have low unit costs of production than those of foreign competitors and be competitive on the international market.

Organisation: industrial economy : Enterprises are actors of industrialisation. They should be conceived as adaptive units: they find their viability in the face of multiple constraints; they can only be sensitive to information and assistance from the state that will reduce the obstacles encountered in their effort of adaptation.

Industrial economics as a method of analysis gives useful indications on the problems of organisation of the sector. It considers the departure point of the firm to be its internal organisation, its objectives, and its supply and demand constraints to see how it can take advantage of growth opportunities.

Then it positions the state that represents the interest of the community and which can intervene to help as a regulator, General interest requires some performance from the enterprise and greater efficiency at the level of production, on technology, the usage and allocation of national resources. If this ideal of efficiency is not attained it is because there are distortions that have to be localised and supress at the level of behaviour and structures.

- **Competition: the reference on the international market :** Until recently, the quest for competitiveness seemed to concern only countries engaged in the trade war and spare African countries. Meanwhile once the products of local origin are under competition in the internal market or in the foreign market the question of competition is raised. With the opening of the borders, competition has henceforth become an essential element in the evaluation of the production system; Refusing to involve in such a competitive relation will mean closing oneself in an autarcique regressive world.

- **Foreign direct investments (FDI) :** The FDI via multinational companies currently still remain the major vector of propagation of technology. This is done via several channels: the sales of capital goods, the sales pf patent, licensing agreements, the sales of key units in hand, wholly owned subsidiaries or technical assistance. The equation to be solved is that which enables African countries to best capture the national interest of this imported technology. One can for example think of the cloning of foreign manufactured products with the help of this imported technology.

- **The protection of infant industries :** The theory of infant industries is based on the idea that protection is justified when a new industry with strong economies of scale potential has an induction effect on the other sectors. These virtual advantages have to be taken into consideration in the dynamic of the sectors of the national economy. They will be translated later on into a fall in the marginal cost of the industry which is beneficial to everyone. Thus, the initial excessive cost have to be borne by the community in the future, either in the form of subvention or in the form of custom duties until when the unit marginal cost will fall to the level of the social marginal cost. (end of subvention), or the international reference price. The system of industrial incentive by educative protectionism therefore finds their theoretical legitimacy. In fact, the debate concerns the efficiency of custom duties [15].

Custom duties lead to distortion in the income distribution. Under the assumption of good usage of gains their justification is based on two elements: protection is transitory, it enables to increase production until it becomes useless. It also gives way for the collection of taxes to beused for development.

3.1.2 Demand

Despite the efforts on supply, it does not change the fact that most internal African markets remain narrow for significant industrialisation. But the existence of sufficient demand is a necessary condition for profitability. Consequently, it is imperative to anticipate alternatives to national demand for new industrial productions today.

Two ways of expanding the market are possible:

- Regional economic integration that enables to extend the internal market to the market of neighbouring countries:
- the export of manufactured products to the world market where there is potential demand as long as the products are competitive

- **Regionalintegration :** The economic integration of African countries is one of the major recommendations of the Lagos plan of action (1980). According to African countries, it is within an expected objective of autonomy (self reliance) and it is a necessary condition for its realisation.

However, it appears more like an idea and a program of action. Nothingisreallymentioned on the modalities of realisation neither on the ways of preventing previous failures.

It is therefore not surprising that the calendar of liberalisation of exchanges was not respected. In 1985, the African heads of states decided in Addis Ababa to apply what they adopted in 1980. And in 1991 in Abuja (Nigeria), 49 governments signed a new treaty creating an African economic community (AEC) with its realisation scheduled for 2035. What are the chances of realisation?

According to [11] an economic integration is efficient when it possesses a dose of political integration. This signifies: obligatory arbitrage between national interest to the benefit of the interest of the community and central impulsion. As long as each important decision requires the unanimous and irrevocable accords of all participating states, failure is practically unavoidable. In other words, the putting in place of a supranational organ and in parallel reinforcing the myth of a national sovereignty without any limit are preliminaries to a real regional economic integration[3]. But as indicated by [16] on the regional integration of West Africa, the prevalent strategic preoccupation has been to achieve integration than using it to establish and/or reinforce state reconstructions.

But the absence of a real political will is not the only reason that explains the attempted failure of African economic integration. The poor conception of what the process is has also been responsible for the failure. According to the contemporary economic view, African politician see more of reduction of custom duties in the process.

According to this conception, the logic of integration movements is essentially a negative logic[4]. This involves the elimination of all the artificial obstacles that hinder market forces. And even the rate measures of harmonisation and integration said to be positive have a minor function of promoting common policy than eliminating the disparities that distort competition.

In reality, the problem of economic integration of African countries has to be approached in a different way. They have to seek sufficient demand so as to make the new industrial activities profitable. Consequently what is essential in a regional agreement is that the new products of each country should have access to a vast market when launched.

Integration has to first be conceived as the coordination of development, the liberalisation of

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[3] *The AEC recognizing this exigency"One major reason for the present inadequacy has been the failure of African countries to realize that multinational economic corporation and integration is an absolute imperative, and this has in turn led to a lack of political will to support the creation and sustenance of regional and sub-regional corporation. ECA and Africa's development 1983-2008, pp. 14-15 cited by J. Ravenhill (Ed), Africa in economic crisis, London, Mac Millan 1986. P.100*

[4] *According to [11], this conception of economic integration is in the light of the classic and the neoclassic theory of international trade. Therefore the specificity of the nation is in the default of mobility (Natural and artificial) of factors of production. This default of mobility leads to the splitting of the punctual market of the general theory and reduces economic efficiency (in a characteristic manner, Bariatsaid in the 19th century that custom duties was an anti rial way). In this light the policy of free exchange that is aimed at eliminating all artificial trade obstacles will be the royal path to better efficiency.*

movements of goods that come as support. In this perspective, regional integration can at the beginning be limited to some sector (for example the rehabilitation of stream basins and road networks, the coordination of maritime or air transport, refining of petrol, heavy chemical industry, etc). However, the quest for efficiency has to lead to some coordination of macroeconomic policy [17].

It has to imperatively lead to a global equilibrium distribution of the advantages among the participating states.

However, it will succeed only if industrial development is competitive and cannot be a means of escaping from the constraints of the world market.

- **the export industry :** The exchange structure of developing countries was modified significantly and this modification is a major economic event for the world market where funds are redistributed as well as for countries which can get important benefits.

But in this movement of funds, African countries have remained behind [18] estimate that manufactured products (especially chemical products, machines and transport equipment) are about 50% of exports of developing countries in general whereas their share in African trade is less than 20%. In many countries, it is not up to 10% and Ile Maurice is the only African country that has more than the average of developing countries with 68.1%.

Why this difference in evolution? Will itbebetter for African countries to redeploy their efforts? If yes then how can this are done?

One of the advantages to African countries for exporting their manufactured products is because the world market offers a pre-existing demand. Thus, these countries find mutatis mutandis for new industrial products. A situation that is similar to what they experienced before for their primary products and escape from the constraints of a narrow internal market.

To have access to the world market, producers have to be competitive with respect to existing suppliers in the logic of the market economy. To African countries it is necessary to gainfrom the specific advantages in conformity to the traditional theory scheme: available natural resources, but also and especially man hours.

Nevertheless, the real world is not that of theory and access to the world market has a lot of barriers related to the structure of industrial production, the organisation of markets, to pressure groups which are the present producers of importing countries (professional associations and trade unions), The example of the new industrialised countries always shows that these obstacles are not insurmountable.

Moreover this access to the world market enables the new industry to attain a scale that is similar to break even. If as we have seen, the low internal demand is one of the major factors that slow the progress of new industrial activities, openness to the world market appears as a means to escape from this constraint.

3.2 The Constraints Related to the Efforts of Modernisation of the African Industry

The constraints of the industrial development of Africa will also focus on the foreign supply and demand of African manufactured products.

3.2.1 The constraints related to supply

It has been highlighted that the present techniques elaborated for developing countries could be inadequate for African countries. Under these conditions, it is expected that these countries to put in more efforts so as to better use local factors and consider the most urgent needs.

But we should be careful with slogans and hasty conclusions and recall that the cost of an adaptation is not negligible. In other words, the advantages that African countries will get from adaptation will be compared to the costs of their implementation. Moreover, as indicated by [19], we should avoid to ‘’adjusting technology to the parameters of under development instead of modifying the parameters according to the existing technological possibilities’ if not they may find themselves with under developed technology.

However, it would be very dangerous under the pretext of arrive late in the industrial universe for African countries to be content to copy old technology that is out-dated. Africa has to rapidly become part of the contemporary technological evolution and especially in the development of new and emerging technologies (information technology, micro-electronics, biotechnology).

The absence of Africa in this technological evolution will lead to its marginalisation and dangerous consequences for the future. Thus, givingupits competitive advantage to the benefit of more dynamiccompetitors.

3.2.2 The constraints related to demand

There are at least three of them.

First regional economic integration and the export of manufactured products have often been presented as antinomy, the first being analysed as a decouple policy that correspond to an auto centred type of development, in disconnection with the world market whereas the second consist of a new modulation of traditional subjugation of economies to this market.

Then in the traces of integration African countries wanted to start with what was considered as the beginning that is say the liberalisation of exchanges. But, whatcanwe expect fro the liberalisation of exchanges when it is done between countries that trade essentially not among them but with the rest of the world?

Finally stimulating the export industry does not mean the complete absence of protectionist measures. It signifies the moderation of these measures. But a protectionist measure has two faces. If it favours some sectors, then it does so unavoidably to the detriment of others. Among the later we have unprotected or less protected sectors that rely on the internal market: the protectionist measures reduce the real income of consumers and at the same time the demand for product and increase the prices of their inputs and consequently their production cost.

4. CONCLUSION

The objective of this study was to show that the ISI strategy that is still applied in Africa nowadays is nor beneficial and the industrialisation of the continent has to be redefined so as to adopt it to the present world context of liberalisation. In fact, towards the end of the 1980s, the theoretical design of the ISI that formed the basis of assurance of development in Africa collapsed. ISI was criticised for the following disadvantages: it has neither reduced the importations of Africa but has only modified the structure nor made the production of the continent competitive, nor created a real industrial base; it has instead exacerbated the social tensions and has lead to a vast movement of deindustrialisation.

Today, Africa needs a modern industrialisation policy that should reflect at least five fundamental elements; an appropriation of technology, (SPNT autonomy), the protection of infant industries, an external competition of prices and products, a rational organisation of production, the cloning of imported manufactured products.

But this new industrialisation of Africa has to take national (size of the market, number of factories) and international (constant evolution of technology) environmental constraints into consideration.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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