



Theoretical Approach of Growth Poles and Export Base Theories in Economic Development of Mozambique

Isaque Manteiga Joaquim^{1*}, Elzira Tiago Tundumula², Raitone Armando³

¹Faculdade de Economia - UEM, Mozambique

²FACECO – UEM, Mozambique

³ESUDER – UEM, Mozambique

*Corresponding author: imjoaquim20@hotmail.com

Abstract

Regional development theories has been used to guide the destinies of economies in the world around 1960-1970, and then, observed their decline. Since then, the theories went dormant at the academic level as well as at the political level. So, in order to recover the theoretical framework of the growth poles and export-based theories, a research interest in the proposed theme emerged to this study. A descriptive method was used based on literature review of regional development theories, emphasizing their evolution over time and the complementarity between them. This allowed separating models from different authors and situating their contribution to the development in Mozambique. This concluded that the country has not yet adopted the growth poles or economic base strategies, regardless its huge regional asymmetries. Therefore, it is opportune to learn from the failures of others and adopt these theories to adjust the country's reality where the mining sector contributes little to the local economies. And with no polarization or diffusion effects due to the use of investment models that create income leakage because of the no consumption of local goods and services or no use of local productive resource. Thus, the involvement of local business community is not prioritized.

Keywords: Growth Poles, Theory, Growth, Development and Export Base.





1. INTRODUCTION

When traveling around the world, one sees tremendous variations in living standards, both between countries or regions of the same country. Since the time of Adam Smith, economists have been concerned with understanding the reason for these differences and the respective determining factors, as it was believed that with the awareness of the determining factors it was possible to act on them and put all countries on the path to economic growth (Mankiw , 2013, p260).

The growing economy presents itself as a combination of relatively active sets (driving industries, industrial poles and geographically concentrated activities) and passive sets (moved industries, regions dependent on geographically concentrated poles). The development pole is a driving economic unit or a set formed by several of these units, namely: technical polarization - linkage effects between the driving industry and other companies; economic polarization - job and income generation resulting from the implementation of the driving industry; psychological polarization - associated with investments resulting from the climate of optimism generated by the success of the driving industry; and geographic polarization - impacts on the urban system of the development of the city where the driving industry is located (Monasterio and Cavalcante, 2010).

Polarized regions must consider the interdependencies around a pole, determining its sphere of influence and its hierarchy through indirect indexes, such as population density and transport costs. The concept of growth pole originally proposed by the French economist François Perroux (1903-1987) was one of the most used in the formulation of regional development policies in several developed and developing countries, mainly in the period between the World War II and the middle of the decade of 1970 (Miyoshi, 1997).

Mozambique is a developing country, where the developmental vision must be a priority to reduce the high levels of poverty and regional inequalities inherited from the colonial era. The models for development are many, but the social and economic factors suggest that the adoption of these models is not unique. Although it is a capitalist country, the State continues with strong intervention on defining development policies or programs aimed at specific economic and social regions or sectors, for example, the Strategy of Rural Development (EDR 2007-2025), PARPA I (2001-2005) and II (2006-2009), PARP (2010-2014), PROAGRI I and II, Special Economic Zones, District as a Development Pole, National Plan of Sustainable Development (PNDS 2015-2030), Rural Finance Strategy (EFR 2011-2016) and the Government's Five-Year Plans.





These policies or programs addressing the development, arouse a certain interest in the search for appropriate theoretical approaches to them, so that the poles of development and the export base theories may be the best starting point for this reflection. It is in this context that this research arose, with the intention of bringing the theoretical framework of regional development theories, specifically the growth pole and export-based theories in the context of Mozambique.

1.1. Research objective

The aim of the research is to review the theoretical framework of regional development theories, specifically the growth pole and export base theories and their application in the Mozambican context.

1.2. Justification of the study

Although Mozambique is a market based economy, the country still maintains socialist traces from the post-independence period with State intervention in the country's development destinations. Hence, a combination of different models for development may be the most indicated path.

The Government has been concerned with reducing regional asymmetries, through the elaboration of specific public policies to solve real problems in each region. For example, the Rural Development Strategies recognizes that rural areas are at an uneven pace of development. of urban areas; District as a development pole, assumes that each district must define its own priorities and allocate financial, material and human resources for the operationalization of local development programs; creation of Special Economic Zones (ZEE), from recognizing that some regions of the country have special attributes that can capitalize a certain type of investment that drives their development.

Some development programs have already advanced steadily and seem to be applying the theory of regional development, with policies such as the National Development Strategy (END) and the National Sustainable Development Program (PNDS). So, to contribute to this political and economic framework, the theory of development poles and export-based theory appears to be the best development model appropriate for the Mozambican context.



1.3. Problem statement

The statistics on poverty studies in Mozambique indicate an incidence of food insecurity around 42%, with trends increasing in some provinces of the country (PARP, 2011-2014). This differential in the behavior of development indicators between the provinces and regions of the country is an indication that the economic and social dynamics are also differentiated, which requires from the Government and other development actors, diversified actions for each local reality.

According to Castelo-Branco (2015), services and megaprojects are the engines of GDP growth in Mozambique, although they are concentrated in some parts of the country, with the exception of tourism, all other services are concentrated (about 70%) in Maputo. For a country with eleven provinces, this is a clear evidence of regional inequalities. It means that explicitly or implicitly, there is a need for the adoption of regional development models, where the poles of development and export base theories can play a very important role.

The country already has some hubs of rail-port transport services (poles), megaprojects and hub-cities that can serve as engines for regional development programs, and knowing that more hubs can be identified and created with the public-private partnership.

2. METHODOLOGY

According to Lakatos (2010), the methods of approach are linked to one of the philosophical currents that propose to explain how the knowledge of reality is processed, therefore, they refer to the logical foundations as research. In the case under study, the method addresses the main ideas of the authors, related to the growth pole and export base theories and linking them to the Mozambican context. The method is deductive in that, based on general theoretical findings, it leads to a premise about development theories in Mozambique.

The techniques adopted for this research (Gil, 2010), is the review of the existing literature based on books and academic works. This allowed the collection of theoretical discussions and practical experiences, highlighting the peak and decline moments in both the theoretical and practical approach, the criticisms and new directions of reflection on this topic.

3. LITERATURE AND CONTRIBUTIONS ON THE GROWTH POLES THEORY

The growth pole of economic theory was introduced by the French economist, Perroux in the mid-1950s. This theory has its roots in the central place theory proposed by Christaller in the mid-1930s, which was widely used to define the hierarchy of centers urban areas (Berry and Garrison, 1958 p12-13). The growth poles theory had its climax in the period 1960-1970, having been used as an instrument for planning development programs in some considered backward regions within developed or developing countries (Blaug, 1977 p21).

In the perspective of Perroux (1961), the poles are defined by abstract spaces or economic spaces that are characterized by being homogeneous structures, fields of action (polarized spaces) and, as contents of a plane. Meanwhile from Boudeville (1968) perspective, the space for analysis in the theory of development poles should not be abstract. According to him, it is difficult to draw a concrete plan for the development of a specific region, since its economic space can exceed the geographic space. In this way, the analysis must be centered on the geographic space where it is possible to concretely identify companies, industries or groups of industries exerting a driving force in relation to others close to them.

Boudeville (1966, p11) defined “growth pole as a set of industries located in an urban area that induce the development of economic activity throughout its zone of influence.” Inspired by Boudeville's vision, Glasson (1974) stated that the theory of development poles served as an instrument of development policies for three reasons:

- (i) it was an efficient pathway for general growth and subsequent development in adjacent regions,
- (ii) the concentration of functions in a specific space reduced the costs of investment and
- (iii) the external effect of the development pole helped the development of underdeveloped regions.

In order to quantify the effects of the poles to the rest of the region, it is necessary to know the technical relationships between the production of different sectors and subsectors. In this perspective comes the contribution of the economist Leontieff, who proposed the Input-Output matrix to estimate the multiplier effects of a sector to other sectors. The increase in the production of one sector stimulates the activities of another sector that uses, as input, the products of the first, which means

that the production of the second sector results from the increase in the local production of inputs (Perroux, 1961 p11).

More production results in more employment; more income for workers, entrepreneurs and governments; greater demand for goods and services with a direct impact on the population's standard of living (Richardson, 1981 p.12). Stohr and Tödting (1979) add that, in order to assess the success of a development pole, one should not only measure the material dimension, but also add other elements in the analysis, such as local solidarity between families, self- achievement and access to central decision-making power. Thus, the pole is no longer just a pole of economic growth and becomes a pole of development, as it causes structural changes and expands the product and employment in the environment in which it is inserted" (Souza, 1993, p. 33).

Perroux warns that the development poles strategy does not work in cases of companies or industries inadequately integrated with the local economy, for example, studies show that in Mozambique, with the return of the mining, gas and aluminum megaprojects, the population lives in situations of poverty of various orders (Langa and Mandlate, 2015 p.61).

From the second half of the 1970s, the application of the growth pole theory in regional development policies began to decline due to the disastrous results observed in some regions and countries where this theory was implemented. Richardson (1974) attributes the poor results of these policies to the use of poor investment criteria, poor location choices and lack of imagination in designing appropriate policy instruments. For Higgins (1988) and Savoie (1988), the failure of the growth poles strategy was due to the distorted version of Perroux's theory, propagated by his disciples, mainly Boudeville.

However, this decline did not cause the theory to be completely abandoned, we find nowadays many case studies in different parts of the world applying this theory as an alternative instrument to boost local economies (Miyoshi, 1997 p.4) , as well as, the decline opened space for criticism and new reflections around this research area.

3.1. Historical evolution of the growth pole concept

Miyoshi (1997) distinguishes four stages that characterized the trajectory of the concept of growth poles known as waves, namely: (1st) Perroux's world and the birth of

"growth poles"; (2nd) Geographic applications; (3rd) Growth poles as a cause of regional inequality; and (4th) Revisionism.

a) The stage 1: The First wave of the birth of growth poles and Perroux's world

The growth pole theory arises in the context of the critique from the traditional analytical framework of contemporary economics, dominated by Keynesian and neoclassical economists who treated the economy as a set of aggregate variables, such as capital, savings, investment and consumption. This analytical framework considered growth to be driven by atomized units whose actions contribute to harmonious and balanced growth (Higgins, 1988 , p34 – 37).

According to Perroux (1961), growth is accompanied by a structural change characterized by the appearance and disappearance of industries. In this process, industries that grow at higher rates than others become dominant and leading the efficient use of innovations. Here, Perroux converges with the Schumpeterian idea of innovation, which argues that capitalism is a routine of creative destruction, as the innovative industry breaks up with all the old industries and becomes dominant.

b) The stage 2: The second wave on Geographic Applications

In the early 1960s, many articles on growth poles were published by Perroux and his followers, which encouraged political planners and decision-makers to adopt this theory as an instrument for regional planning. Boudeville sought to transform Perroux's theoretical model into a practical model of regional planning by limiting space to a purely geographic space, while Perroux considered polarized space to be abstract, which hindered its operationalization. The authors believed that in the long term, the "trickle down" effects would prevail more than polarization effects, contributing to the reduction of regional inequalities.

According to Hirschman (1958), the market forces that are expressed through the effects of polarization result from a temporary victory and tend to increase regional inequalities. This is the reason why the author recommended State intervention in the construction of residential satellite cities around the poles of growth, investments infrastructure of services (roads) in rural areas and the establishment of a nationwide transport system in order to reduce the tensions of polarization.

c) The stage 3: The third wave on growth poles as a cause of regional inequality

In the 1970s, the academic and political trend around growth pole strategies experienced its decline, as a lot of regional policies showed unsatisfactory results and sometimes widened regional disparities, especially rural vs urban (Stohr and Tödting, 1977 p31). One of the explanations can be found in the work of Myrdal (1957), where he explains that, as long as market forces were maintained, in the long run, economic polarization would not contribute to the reduction of regional disparities, as it created a process of circular causation and cumulative. Myrdal argued, "that the region gains its economic power through the process of cumulative causation, an expansive path of economic activities, where the region will continue its development by absorbing more and more resources from other regions, to the detriment of other localities and regions, leaving the last ones more impoverished.

d) The stage 4: The fourth wave on Revisionism

From the late 1970s onwards, a new wave emerged, characterized by the review and reinterpretation of the seminal concepts of the growth poles and an analysis of the ways in which this strategy was implemented, especially in regions where the results were disastrous. Among the defenders, authors such as Richardson (1974), Stohr and Tödting (1979), Gore (1984), Higgins (1988) stand out. The general conclusion is that in many cases, Perroux's concept of growth poles was misinterpreted both by his theoretical followers and by the Governments who implemented it.

Throughout the formulation of regional development policies in developed and developing countries (until at least the beginning of the 1970s), Perroux's growth poles came to be severely criticized. Blaug (1977), from a Popperian orientation, maintains that Perroux's propositions were not scientific, since they cannot even be refuted in principle. Furthermore, the irresponsible or incompetent application of Perroux's prescriptions has, in several cases, led to resounding failures. These negative examples have often been associated with "cathedrals in the desert". The metaphor is used to allude to immense works that have not been able to revitalize the regions where they were implemented and have become unstoppable monuments to the failure of regional planning based on the theory of poles (Monastério & Cavalcante, 2010).

Thus, with the aim of building a new "geographical economy of exchanges, Krugman (1993) rescues from Marshal the premise of increasing economies of scale (in

replacement of constant economies of scale) and external economies of large specialized production units, in the molds of Perroux's driving units, operating with increasing returns in a global market, in which the theory of exchange is a preponderant factor, and with important forward and backward effects along the production chain (Lima, 2006, p.72).

3.2. Analysis of the development on polarization relationships

According to Boudville (1968), economic growth is defined as an interdependent transformation process that takes place over a certain period. Paelink (1997), accepting the proposition that the economic development of a region is a function of a certain degree of industrialization, deeply analyzes industrial-type links, technical links and their evolution.

With this analysis, Jean Paelink (1965) used the empirical study of the Lyon region, in France, to distinguish the parallel hubs formations to the main poles, derived poles, and also side poles. Starting from an essentially textile economy, the Lyon region has progressively oriented itself towards the construction of machinery for the textile industry (derived pole) and, by induction, towards specialized mechanics and foundry (side pole). It also discusses the geographic location and location in the economic space of driving companies.

From this point, one can consider a company to be geographically located in the place where the resources are available, but consider that such company is completely "delocalized" in terms of all its flows of goods and services that can be traded with other regions and other countries. Another example is that of a company that may be economically located in a region, in the sense that most of its industrial relationships are produced with other companies or with final consumers located in this region, but which may be "delocalized" due to the fact of having to import its raw material from another region.

Having made these distinctions, Paelink (1965) presents two factors that condition regional growth:

- (i) the intensity of personal income flows and;
- (ii) the intensity of technical and commercial relationships between companies located in the region.

In fact, in an industrial or rural region, the increase in disposable income per unit of consumption comes from the inhabitants of the region who receive income, who spend part of it right there, thus ensuring the functioning of local commerce and, by extension, the tertiary sector (services, transport, etc). However, some income recipients do not live in the region, which means that part of their income will be spent in the same location, thus, most of it will be channeled to commerce located outside the region. It can be said that the increase in the well-being of a regional population can be based on the development of their traditional economic activities.

As for the second fact, it is necessary to distinguish the action of dominant companies and the joint action of small and medium-sized units from the intensity of technical and commercial relations between companies located in the region. One or more branches of industry may include one or more relatively powerful companies, in terms of the means of action available to them. On the other hand, these companies have, within their traditional activities, well-organized technical and commercial divisions and scientific research services. Thus, the action of these large units, with regard to regional growth, will be exercised mainly along four main lines of conduct:

- a. Expansion of the main unit in its main location, through the creation of new production divisions;
- b. Creation of branches or subsidiaries, either in the same place or within the radius of a large region;
- c. Participation in companies representing derivative or side/lateral development poles;
- d. Widespread application of subcontracting.

The choice of one among these action modalities depends on the situation and the technical particularities, but, only when it is accepted that small and medium-sized companies will not be able to exceed their growth limit if they do not have the technical and financial means. In addition to its insertion in an organized subcontracting network, three paths can be found:

- a. Consortia or specialization and co-production agreements, in order to reduce, for each of them, the range of products, and to achieve higher technical, commercial and financial returns;
- b. Cooperation in scientific research, which would be inaccessible to each of them individually;

- c. If circumstances allow, merger of farms, with the resulting increase in resources.

All of the foregoing considerations lead us to conclude that, in the modern world, accelerated regional development must be conceived as an institutionalized process, in such a way that institutions respect the conditions for effective functioning of the regional economy.

3.3. Economic base theory

The economic base theory categorizes the economy into basic and non-basic sectors (North, 1955). The base sector is composed of local companies that are totally dependent on influences from outside the region, such as: agriculture, mining, tourism, part of the manufacturing industry and part of the central government. The non-basic sector is composed of those companies that depend largely on local business conditions, such as commercial banks, local government, local public schools, local supermarkets, etc. Most local services are identified as non-core because they depend almost entirely on local factors.

External demand for products from the region drives the local economy, and the economic base multiplier captures these effects. The economic base theory is applied to industrial recruitment and promotion; it facilitates the expansion of existing export industries and improves the efficiency of the export economy through infrastructure upgrades and the use of base economic analysis techniques (LQ, Shift-share, Base Multipliers, etc.).

3.3.1. Export Base Theories

The export base theory gained evidence with the historical analysis of the development of North American regions, carried out by Douglass C. North, in his article "location theory and regional growth" published in 1955. According to the theory of regional growth, in the course of its development process a given region goes through different stages, starting this process in subsistence activities, passing through a diversification of agricultural production, resulting from the expansion of inter-regional trade to the industrialization and finally reaching a specialization in tertiary activities, producing, mainly for the foreign market (Ferreira and Medeiros, 2016).

The stage of economic growth theory predicted that regions would evolve from subsistence agricultural systems to a service economy, passing through import

substitution phases. The export base theory arose from acknowledging that many regions developed without going through the anticipated initial phases. In the 19th century, some Canadian and American regions got their boost/impulse of growth from the profitable export of their natural resources, without ever having gone through the subsistence economy stage (Schwartzman, 1977).

The development of the American and Canadian regions, for example, was essentially due to the ability to produce two exportable products, wheat and wood, diversifying its base only after reducing transport costs. Given this fact, the export base theory was developed in order to explain which would be the most favorable regions for growth and which factors would determine the pace of this growth (Schwartzman, 1977).

Thus, the development of the region is a process whose origin is linked to an external impulse, that is, the demand for its products by other regions or countries, which generates the region's economic development through the multiplier effect (Lima et al. , 2013). According to Schwartzman (1977), regional economies are more open than national ones and flows are much less subject to control. The movement of people, capital and goods between regions can often mean the difference between development and stagnation. And with these estimates in hand, the need in social infrastructure to support the population range can be planned.

3.3.2. Historical evolution of the export base concept

For De Jesus (1980), the concept of export base had the following evolution:

- a. Mercantile School (1450-1750) – important exports for the accumulation of precious metals;
- b. Physiocrats – agricultural exports should be stimulated by their linkages generated in the rest of the economy;
- c. Classical School – exports appear as an essential factor in the division of labor and the generation of economies of scale and growth.

In 1927 the term export base appeared in the New York metropolitan region, where manufacturing activity was considered basic and commerce and services as non-basic. Alexander, J.W. (1953) adds that the basic share of the manufacturing sector was those linked to exports. Homer and Weimer (1939) find that employment in the export sector was different between regions (De Jesus, 2012). The studies in the following decades showed that export activities form the basis on which activities linked to the

domestic market are built, with exports having an above-average multiplier effect on the domestic economy. In the works of North (1955) and Tiebout (1956) the export base theory gains amplitude and starts to be treated as an economic base. The authors went on adding that not only exports, but also local investments and income inflows from the rest of the world would determine regional income.

3.3.3. Export Base theory according to North

Regional development would have taken place in successive stages which would begin in a world formed by self-sufficient agricultural regions and marked by extremely high transport costs. This process would start from a moment characterized by the specialization of trade between regions as a result of the reduction in transport costs, and then reach the industrialization and specialization of these secondary activities, with the decreasing returns of the primary sector and the increase in population (Monasterio and Cavalcante, 2010).

North describes regional development from the emergence of an export activity based on specific locational factors. The activities linked to this sector are called export base, whose effects on the local economy are also indirect. The export activity induces the emergence of distribution centers and cities, in which industrial processing activities and services associated with the export product begin to develop. Sectorial diversification for North is the result of the success of the basic activities and not the result of the depletion of the primary sector (Monastero & Cavalcante, 2010).

3.3.4. Application of the Export Base Theory

In the opinion of authors Harris, Ebai and Shonkwiler (1999), one of the uses of the export base theory is to identify the economic sectors that export. After identifying the basic export sectors of regional development, one can also identify the factors influencing export sales (Shaffer, 1989).

Probably the broadest use of export base theory is development of export base multipliers for impact analysis. Estimating the sectorial base and non-core employment or income is essential for estimating exports (base multipliers). The fragmentation of economic activities has have frequently been used indirect or secondary techniques, the results of which can differ substantially from different surveys (Gibson and Worden, 1981).

Traditionally, basic industries were only equated with manufacturing, while all tertiary sector activity was classified as non-basic, but the literature indicates that some advanced service companies sell their services to clients outside the region in which they are located. (Juleff, 1993). Studies related to Kaldor's (1994) growth theory highlight the role of exports as an autonomous component of external demand and, in turn, central to long-term growth free of external constraints. A long-term strategy to ease this restriction would be the production of technological innovations by these countries.

Based on the above mentioned, this should result in a change from the values of income's elasticity of exports and imports of countries, favoring the reduction of the distance between the economic growths rates (Jaymer Jr. & Resende, 2009). Although this theory has been focused on analyzing the growth of the economy at a national level, it can be applied at a regional level as long as it exports products outside the country, thus contributing to the balance of payments.

3.4. Estimation of the Export Base Theory Multiplier

3.4.1. Activity-based multiplier

Focusing on the practical need to develop the fastest way to predict community change, some authors suggest the use of ratio to estimate the contribution weight of basic and non-basic activities sectors: Given T as the total income or employment generated in a region/locally (non-basic sector), B income or employment from the basic activity sectors (**basic industries.**), one can determine the economic base ratio (T/B for the average ratio and $\Delta T/\Delta B$ for the marginal rate).

Those in planning departments developed economic base ratios, where the T represent total income and B (basic) is the employment generated, NB income or employment from non-basic activity and APC_L the average propensity to consume locally produced goods. The multiplier is determined from the following model (Tiebout, 1962, p. 420):

$$\frac{T}{B} = \frac{1}{\frac{B}{T}} = \frac{1}{T - \frac{NB}{T}} = \frac{1}{1 - \frac{NB}{T}} = \frac{1}{1 - APC_L} \quad (\text{equation 1})$$

The greater the average propensity value of locally produced goods APC_L (<1), the greater the impact of an increase in exports.

3.4.2 Location Quotient

Location quotient is the measure of specialization of an activity in a region for a given economy. If a community or municipality is highly specialized, the sector must be exporting its products or services to customers outside the region. According to Lopes (1995, p56-59) it can be defined as follows:

$$LQ_{irt} = \frac{E_{irt}/E_{rt}}{E_{nit}/E_{nt}} \quad \text{(equation 2)}$$

Where: E_{irt} = employment in sector i in region r in period t ; E_{rt} = total employment in region r in period t ; E_{nit} = national employment (n) in sector i in period t ; E_{nt} = total national employment in period t ; LQ_{irt} = location coefficient for sector i in region r in period t

After calculating the location quotient value, if LQ is greater than one, the region says it is producing more than the expected value of production in the sector. Thus, the excess is classified as the part of industry i that is basic employment. Therefore, the basic employment for region r in sector i or E_{Birt} , can be given by this overwork as:

$$E_{Birt} = \frac{LQ_{irt} - 1}{LQ_{irt}} E_{it} \quad \text{(equation 3)}$$

3.4.3. Export Multiplier

For the analysis of the export multiplier in the context of the regional economy, three different scenarios can be observed, with an impact on the value of the multiplier and consequent contribution to the boosting of the local economy (Nowlan, 2006):

a) **Determination of the export multiplier using local production factors:**

Strating from the bellow mathematic fuction of income (Y)

$$Y = C + I + X - M \quad \text{(equation 4)}$$

Where

Y represents regional income, C for consumption, I for investment, X for exports (to other regions or other countries), M for imports (purchases from other regions or countries). Without including Government expenditures in order to simplify the presentation. Knowing that consumption and imports vary according to the models below:

$$C = c_0 + cY \quad \text{(equation 5)}$$

$$M = m_0 + mY \quad \text{(equation 6)}$$

and that I and X will be taken as exogenous $I = \bar{I}$ and $X = \bar{X}$. From equation 1, we obtain:

$$Y = c_0 + cY + \bar{I} + \bar{X} - m_0 - mY \quad \text{(equation 7)}$$

$$\text{or } Y = \frac{c_0 - m_0 + \bar{I} + \bar{X}}{(1 - c + m)} \quad \text{(equation 8)}$$

The export multiplier (using local factors of production) will be a function of exports, and will be as follows:

$$\frac{\partial Y}{\partial \bar{X}} = \frac{1}{(1 - c + m)} \quad \text{(equation 9)}$$

The export multiplier shows the increase (or decrease) in equilibrium income or product in a region as a proportion of the increase (or decrease) in exogenous export demand. The “*c*” is the marginal propensity to consume out of income and “*m*” measures the extent to which this consumption is met by imports rather than regional production. In this case, the greater the extent of consumption served by imports, the smaller the Keynesian multiplier, that is, there is income leakage to other regions or countries.

b) Determination of the export multiplier using imported production factors

Likewise, part of the imports may be goods and services needed to produce the export products or services, obtaining what some authors call “internal links of import and export content”. In this case, the export multiplier will be obtained from the following deductions:

The import function is written as following $M = m_0 + mY + m_x \bar{X}$. We can call the $(\bar{X} - m_x \bar{X})$ as net exports and the m_x is the marginal propensity to import with respect to exports.

So the equation $Y = C + I + X - M$ will become as

$$Y = c_0 + cY + \bar{I} + \bar{X} - m_0 - mY - m_x \bar{X} \tag{equation 10}$$

From the fraction $Y = \frac{c_0 - m_0 + \bar{I} + (1 - m_l)\bar{X}}{(1 - c + m)}$ the export multiplier (with import of production factors) becomes:

$$\frac{\partial Y}{\partial \bar{X}} = \frac{(1 - m_x)}{(1 - c + m)} \tag{equation 11}$$

Note that the export multiplier becomes smaller when part of the factors applied to produce the exported goods and services come from outside the region.

c) Determination of the export multiplier with foreign ownership and use of foreign capital and labor

It is assumed that the export sector is heavily foreign-owned. The value of exports, then minus the imports needed to produce those exports, represent income for the region. It means that a certain percentage of this income is used to pay services to foreign workers and profits to foreign owners. And none of this external income is spent in the region, with the exception of payments to local factors of production which are spent in the region, in proportion. This foreign income again represents a “leakage” in the value of exports; call this proportion m_F , leakage of net exports, that is, $(\bar{X} - m_x \bar{X})$.

Then the equation $Y = C + I + X - M$ becomes:

$$Y = c_0 + cY + \bar{I} + \bar{X} - m_0 - mY - m_l \bar{X} - m_F (\bar{X} - m_x \bar{X}) \tag{equation 12}$$

From this $Y = \frac{c_0 - m_0 + \bar{I} + (1 - m_l - m_F + m_x m_F)\bar{X}}{(1 - c + m)}$, then the export multiplier becomes

$$\frac{\partial Y}{\partial X} = \frac{(1 - m_I - m_F + m_X m_F)}{(1 - c + m)}$$

In summary, when thinking about an export-based strategy, the leakage of income generated in the region should be avoided as much as possible (whether in the form of capital imports, remuneration for foreign labor or repatriation of profits of foreign owners or residents outside the region under analysis).

3.5. Some shortcomings of Export base Model

Nowlan (2006), presents some constraints and challenges of this model which are described below:

- a. Increased export or investment demand in the region may simply result in higher wages and no real growth due to insufficient local labor and barriers to importing jobs
- b. Even within regions of high unemployment rate, the mix of skills, education and talent among the unemployed may not be the mix needed to allow for demand expansion because skilled labor is likely to be scarce especially in poorer regions that could benefit from increased demand.
- c. The export-based model is stronger when applied to smaller regions that are likely to be more open than larger regions and therefore to have a relatively more important export sector.

3.6. Analyzing the possibilities of Complementarity of Growth Poles and Export Base Strategies

The export base constitutes effective domestic demand, helping to build regional income and finance imports of machinery, equipment and specialized services. The internal sector expands, generating a spatial agglomeration around the basic activity. Aligned to this, over time the agglomeration economies expand, new regional specializations emerge and the region starts to expand its export agenda, and consequently, regional income and savings increase and new investments reinforce the regional economy, and, later, extra-regional trade. Thus, there is clear evidence that the (basic) export sector works as a growth pole for the local economy.

An economy based on exports will be more vulnerable to cyclical fluctuations in the national and international environment, which can create instability within the domestic market sector. The more the structure of the export sector is specialized, the

more the region will be vulnerable to fluctuations in the national and international economy. This vulnerability can be reduced if the export base strategy is complemented with the growth pole strategy, in the sense that the basic sectors can be seen as growth poles, be they technical, psychological or geographical for non-basic sectors, thus creating a specialization in certain export products and services while contributing to the diversification of the local economy.

With the exception of advanced services, most export-based theory is concerned with the exploitation of non-renewable natural resources, which can lead to long-term resource depletion and loss of basic sector weight for the region. Therefore, an integrated planning in the context of the region (Boudeville program) can help predict possible negative impacts for the region and take measures that encourage inter-firm cooperation and investment in non-basic activities, forming a multi-polarized region with diversified activities.

The export industries cannot be independent of the economic and social infrastructure created by the State; none of them will be able to grow without the services offered by the cities (energy, water, banks, labor reserves, etc.). Therefore, local service activities are essential factors in attracting companies to locate in the region that they want to foster/enhance. The attraction of more companies to the region makes the local economy more dynamic, compared to others around it, making the region polarized, as, according to Markusen (1996), obtaining growth rates in the average or above average compared to other locations in the region, it is one of the conditions that define a pole or an industrial district (*sticky place*).

4. GROWTH POLE STRATEGIES IN THE MOZAMBICAN CONTEXT

Mozambique is characterized by regional inequalities and with a dispersion and underutilization of resources, especially natural and human resources. Since independence, the Government has been one of the main actors in the national economy through the elaboration and implementation of five-year plans and other programs for the development and promotion of private investments¹.

Since agriculture is considered the basis of development, many resources were allocated in this sector, for example, construction of irrigation systems in some districts

¹ Case study on the formulation of a national Local Economic Development (LED) policy. The case of Mozambique (2005) http://www.ilsleda.org/usr_files/activities_national/mozambique_nati794180.pdf



of the country, implementation of agro-processing industries (tea, cotton, sisal, etc.), in addition to sugar plants (Mosca, 2005).

Many of the infrastructure oriented to the agriculture sector was destroyed during the sixteen-year civil war (1976-1992) between Renamo and Frelimo and until then its rehabilitation was never complete. At the time, irrigated areas were considered granaries of the provinces or even of the region where they were located, in addition to being dynamiters (boosters) of local economies.

The Government of Mozambique continues to draw up development policies and programs, whether sectorial, transversal or more general in scope. For example, the Action Plan for the Reduction of Absolute Poverty, implemented in the period 2001-2014, in three phases, stands out (PARPA I 2001-2005; PARPA II 2006-2009, PARP 2010-2014). Among several actions, these instruments aim to ensure investment in basic infrastructure and its maintenance, allowing an efficient communication from north to south of the country and between rural and urban areas for people, goods and information (PARPA II, 2006).

From this perspective, it is believed that communication allows a movement and flow of people and goods, boosting the economy and consequent economic and social development. Although the poverty reduction targets set in the last Poverty Reduction Action Program (PARP) was 42%, this target falls short of comforting the struggle for development. Thus, the Government continues to bet on further improving poverty indicators.

The 2015 the Government's Five-Year Plan 2015-2019 (now due) was defined as an instrument that continues the former PARP. Special attention continues to be given to increasing productivity in all sectors with an emphasis in agriculture and fishery. The increase in production and productivity in those two sectors will allow food and nutritional security for the population, as well as access to local and global markets through the sale of surpluses. These and other instruments are reflected in the Rural Development Strategy (2007-2025), National Sustainable Development Program (PNDS 2015-2030) and Agenda 2025.

Although the design and implementation of development programs and policies does not show the explicit rigor of the development pole strategy, almost all of them have the macro objective of improving the lives of the population and at the same time reducing regional inequalities. This objective is shared with the vision of regional



development strategies and development poles in a specific way. Because it is understood that the investments that drive the economy should be located somewhere, forming large or small development poles for the underlying areas.

For instance, Maputo, Beira and Nampula are true development poles. However, due to various factors, such as the weak connection between rural areas and urban centers, in terms of transport and communication infrastructure, the technical relationship between the industries located in the centers urban areas and production in peripheral regions, the territorial extension of the main regions of influence of each urban center do not allow many of the districts in the interior to reach the desired levels of prosperity. Thus, the need to identify new potential development poles and direct national and foreign investments in a coordinated manner at all levels, district, provincial, central and inter-ministerial towards the identified poles (World Bank, 2010).

The World Bank (2010), listed the investments made and planned in the three main development corridors of Mozambique and the local potential in terms of agriculture, tourism, trade, fishing, among others, and concluded that it is possible to reach a shared and equitable growth throughout the country, serving as a growth poles strategy, and only if the Government takes specific actions.

4.1. National Initiatives

In addition to the specific initiatives, the World Bank has also identified cross-cutting actions, which should be developed at the national level, and are pointed as the following:

- (i) plans to improve the business environment;
- (ii) rationalization of public sector agencies that provide support to private institutions;
- (iii) intensification of inter-ministerial and national/local coordination;
- (iv) greater oversight, transparency and accountability of megaprojects and strengthened measures for public private partnerships; and
- (v) an involvement of the private sector and development partners in the conceptualization, design and implementation of the strategy.

The National Development Strategy (2015-2035) identifies as the main challenge of the economy: increasing the competitiveness of the economy through the diversification of the economy; bet on development poles; investment of human capital,



infrastructure and research and innovation. Another challenge is the need to ensure a greater connection between mineral resources and other sectors of the economy (END 2015-2035, 2014).

It is well known that the Government of Mozambique has begun to look at the development poles strategy as an alternative for national development and for some specific regions. The country intends to expand and diversify the industry beyond mineral resources through the creation of industrial parks in areas with potential for agricultural, fishing, forestry, wildlife, energy and tourism (END, 2014). These are the major sectors that will serve as growth poles engines that will encourage private investments in various fields of activities.

One of the main criteria for choosing the place to define a development pole will be its potential in natural resources, specifically, fertile land, forest and fauna, fishing and energy sources. Looking from this angle, the National Sustainable Development Program (PNDS 2015-2030) foresees the construction of 25 agricultural centers, 6 tourist centers and the projection of 5 housing centers and 7 cities of the future (smart-cities), namely: Palma/Afungi, Nacala-Velha, Pebane, Lumbo/Angónia, Dondo and Matutúine (PNDS, 2015, p40).

Within the pillars of the National Development Strategy, market-oriented training stands out; the expansion of vocational education; creation of industrial parks; Special Economic Zones, aquaparks; improvement of inter-sectorial coordination and articulation. These areas of intervention, in a way, respond to the recommendations given by the World Bank report, in the context of the creation of growth poles.

Since the resources are not sufficient to allocate to all potential development poles, it may be opportune to reflect at the strategic level, the proposal of the Development corridors identified by the World Bank as being potential. The advantage of starting to create industrial parks within the development corridors is that there are already some large-scale investments, which can be the basis for attracting other industries in diversified sectors.

The combination of Development Corridors with the development poles strategy is an asset to the success of the country's development policies and programs, as the literature states that the existence of a development corridor assumes the existence of at least two poles connecting each other, which may have a high level of development due to their location (Campbell and Meades, 2008).





In the Mozambican case, the development corridors have their first pole (hubs) in ports, and the second in the inter-land countries (South Africa, Zimbabwe, and Malawi). However, activity along such a corridor need not be uniform (Del Mistro, 2001).

Most of the experiences in the application of regional development theories went wrong because the planning process was centralized “top-down” and some of the regions found it difficult to adapt quickly to new productive and organizational paradigms (Krugman, 1998). Thus, it is prudent that community participation is assured at all times, from the planning to implementation of policies and programmes. Mozambique has a favorable administrative political framework, as it defined the district as a development pole where development planning must be participatory. However, a development pole may involve more than one district, this implies that the districts' representativeness must also be ensured.

The local community must be heard about their aspirations in relation to investment proposals, must be informed of the business and employment opportunities that will be generated, professional training must be market-oriented. In this last aspect, the National Institute of Employment and Professional Training (INEFP) must play an active role in guiding young people to take advantage of potential opportunities or existing opportunities.

5. FINAL CONSIDERATIONS

Growth does not occur homogeneously in space, but manifests itself in growth poles, differing only in their degrees of intensity, but it expands through several channels, with different effects on the entire economy. There are some understandings that one should not try to develop an entire region at the same time, but assuming that a concentration of activities brings considerable advantages, assistance to the region should be focused on a few points or hubs called growth poles. However, the anticipated global effects of a growth pole can also be neutral or unfavorable.

In the regional context, as opposed to the national one, emphasis needs to be placed on factor and commodity flows. Local goods and services can be consumed within or outside the region. Thus, the concept of export base theory emerges, which defends that the growth of the local economy is stimulated by the export sectors. Its impact depends on the variation in the values of the income elasticity of exports and imports, on the intensity of the connection between the exporting (basic) sectors and





the non-basic sectors. Some methods are applied to measure the regional income multiplier, including: average propensity to consume locally produced goods, location quotient, minimum employment or non-basic employment for each sector and region, Keynesian macroeconomic model, and the regional model of input-output.

The Government of Mozambique has been concerned with reducing regional asymmetries, through the elaboration of transversal and sectorial public policies. However, there is a need for coordination at all levels so that the resources allocated to each policy or program are rationalized as much as possible.

The awareness and need for diversification of development strategies is evident to both international partners, the Government and independent academics. For example, the World Bank presented in its report on “Perspectives for Growth Poles in Mozambique” the proposals to enhance development corridors to become growth poles. This report provided some recommendations in term of specific action to be taken from the district, provincial and the central government. At the level of public policies, the strategic documents contain intentions to adopt the growth poles strategy, for example, the National Sustainable Development Program foresees the creation of agricultural, tourist, housing and cities of the future. The National Development Strategy also mentions the creation of growth poles based on the potential of natural resources.

The growth and development poles strategy has been applied as a development planning tool for many countries, with examples of successes and failures, ups and downs both in the theoretical and empirical framework. Mozambique has the opportunity to learn from the mistakes of others and adapt it to the economic and social reality of regions with the potential to emerge with a true growth poles strategy. For this, debates are needed and ongoing in the various spheres, to bring more realistic subsidies so that in the future we don't have actors of all failure or of all success.

The country has large investments in the mining and energy sector where studies show that they contribute little to the local economy. Following this logic, one cannot think of growth poles from the perspective of a driving company, but rather of a regional program, where there may be several small, medium and large companies with polarization and diffusion effects. The polarization effects consist in the attraction of companies, factors (capital and labor) from the periphery to the center (pole). And while the diffusion effects consist of an increase in demand directed to activities on the periphery, relocation of activities from the center (pole) to the periphery and the diffusion of innovation from the pole. Thus, the mining industry by itself does not create



these polarization or diffusion effects. So there is a need to find the best way to transfer part of the income generated in this industry to other sectors with potential connection to the local economy. Therefore, the mining industry could play the role of financier of the most dynamic sectors.

Some of the Government's actions that can contribute to the success of the growth and development poles strategy would be from a multi-sectorial approach; improvement in the business environment, especially for local entrepreneurs; training of human capital to match the opportunities of the local market; improvement of transport and communication infrastructures; an involvement of the private sector and development partners in the conception, design and implementation of development strategies. The adoption of investment models that create income leakage in the region should be avoided as much as possible. The income retained in the region will be maximized when the greatest possible number of local productive resources (capital and labor) and the consumption of local goods and services are used. The involvement of the local business community must be a priority.

REFERENCES

- Alexander, J.W. (1953), Cited by Homer Hoyt (1961) The Utility of the Economic Base Method in Calculating Urban Growth, on Land Economics (pp. 51-58)
- Berry, B. J. L. (1971) "Hierarchical diffusion: the basis of developmental filtering and spread in a system of growth centres." in N. M. Hansen (Ed.) (1971) Growth Centres in Regional Economic Development. New York, The Free Press.
- Boudeville, J. R. (1966) "Problems of Regional Economic Planning". Edinburgh: Edinburgh University Press.
- Boodeville, J.R. (1968), " L'espace et les pôles de croissance". París, Presses Universitaires de France, Colección Bibliothèque d'Économie Contemporaine, 232
- Campbell, M. M.; Meades, E. E. (2008). The viability of corridor development between Bloemfontein and Welkom. Bloemfein: 5th Post Graduate Conference on Construction Industry Development. Available at: <<http://www.cib2007.com/papers.html>>.
- Castelo-Branco, C. N. (2015). Desenvolvimento empresarial e da capacidade produtiva no crescimento económico e na industrialização. In: IESE. Questões sobre o desenvolvimento produtivo em Moçambique. Textos de investigação para o projecto da DANIDA "Advocacia e Pesquisas de Negócios do Programa de Desenvolvimento do Sector Privado (PDSP 2011-2015)", coordenado pelo Fundo para Ambiente de Negócios (FAN).

- De Jesus, N. de Sousa (2012). "Teoria Da Base Da Exportação". Available at: <http://www.trabalhosfeitos.com/ensaios/Teoria-Da-Base-Da-Exporta%C3%A7%C3%A3o/184626.html>. Accessed on 13.03.2018.
- Del Mistro, R. (2001). Development of an integrated urban corridor assessment and strategy development process for transport authorities and provinces. Pretoria: University of Pretoria.
- Estrategia Nacional de Desenvolvimento -END (2015-2035) Maputo, Julho de 2014, pIV-VI
- Estrategia de Desenvolvimento Rural (EDR), 11 de Setembro de 2007, Maputo, p1-4
- Ferreira, F., Medeiros, E. (2016). "Teoria da Base de Exportação" Revista de Economia, vol. 12, #02
- Friedmann, J., Alonso, W. (1975) Regional Policy: Readings in Theory and Applications, Cambridge, Mass., MIT Press.
- Gil, A. (2010) "Como elaborar projetos de pesquisa". 5ª ed. São Paulo: Atlas,
- Gil, A. (2011) "Métodos e técnicas de pesquisa social". 6. ed. São Paulo: Atlas, 2011
- Gore, C. (1984) "Regions in Question: Space, Development Theory and Regional Policy". London: Methuen
- Governo de Moçambique. (2015). "Proposta do Programa Quinquenal do Governo 2015-2019". Aprovada na 4ª Sessão Ordinária do Conselho de Ministros.
- Harris, T. R., Shonkwiler, J.S, Ebai, G. E. Ebai (1999), Dynamic Nonmetropolitan Export-Base Modeling, [Review of Regional Studies 1999, 29(2), 115-138]
- Higgins, B. (1972) "Growth Pole Policy in Canada" in N. M. Hansen (Ed.) Growth Centers in Regional Economic Development. New York: The Free Press.
- Higgins, B., Savoie, D. (Eds.) (1988), "Regional Economic Development: Essays in Honour of Francois Perroux". Boston: Unwin Hyman.
- Hirschman, A. (1958) "The Strategy of Economic Development". New Haven: Yale University,
- Jayme Jr., F. G.; Resende, M. F. da Cunha. (2009). "Crescimento económico e restrição externa: teoria e a experiência brasileira". In: IPEA. Crescimento económico. Rio de Janeiro.
- Jefferson, M. Available at: http://jeffersonmgmendes.com/arquivos/eru_-_cap_10_-_douglas_north.pdf. Accessed on 17.03.2018.
- Juleff, L. (1993) "As implicações da teoria de base de exportação". Napier University,
- Kaldor, N. (1989b[1979]). "Equilibrium Theory and Growth Theory", in Targetti, F. & Thirlwall, A. P. (eds.), The Essential Kaldor, N. York: Holmes & Meier.
- Kaldor, N. "The Case for Regional Policies". Scottish Journal of Political Economy, v. 17, p.337-348.

- Krugman, P. (1998) - What's new about the new economic geography? Oxford Review of Economic Policy 14 (2, Summer).
- Krugman, P. (1999). The role of geography in development. International Regional Science Review 22, pp. 142-161.
- Klaassen, L.H. (1965). "Aménagement économique et social du territoire", Directive pour les programmes, OCDE,
- Lakatos, E. M. Fundamentos de metodologia científica. 7. ed. São Paulo: Atlas, 2010.
- Langa, E., Mandlate, O. (2015). Ligações entre grandes projectos de investimento estrangeiro: Promessa de desenvolvimento. In: IESE. Questões sobre o desenvolvimento produtivo em Moçambique. Textos de investigação para o projecto da DANIDA "Advocacia e Pesquisas de Negócios do Programa de Desenvolvimento do Sector Privado (PDSP 2011-2015)", coordenado pelo Fundo para Ambiente de Negócios (FAN
- Leite, Pedro Sisnando.(2012). Novo enfoque do desenvolvimento econômico e as teorias convencionais, 2. ed. rev. – Fortaleza.
- Lesage, J., Reed, D. (1989), "The Dynamic Relationship Between Export, Local and Total Area Employment," Regional Science and Urban Economics, 19 , pp. 615-636.
- Lima, A. C. da Cruz; Simões, R. F.. "Teorias do desenvolvimento regional e suas implicações de política económica no pós-guerra: o caso do Brasil". Belo Horizonte: UFMG/Cedeplar, 2009. Texto para discussão, 358. Available at <http://www.cedeplar.ufmg.br/pesquisas/td/TD%20358.pdf>. Accessed on 17.03.2018.
- Lima, Antônio Ernani Martins. (2006). A Teoria do Desenvolvimento Regional e o papel do Estado. Análise Econômica. Porto Alegre. Brasil.
- Lima, E.C., Lima, E. P. C., Evas I. M., Texeira, M.S.G. (2013) "Teoria da Base de Exportação e sua Relação com o Desempenho Económico", v. 16, nº 1, 2013 Available at: <https://periodicos.ufsc.br/index.php/economia/article/viewFile/2175-8085.2013v16n1p95/27344> Accessed on 24.08.2018
- Lopes, V. S. (1995), "Desenvolvimento Regional- Problemática, Teoria, Modelo", 4ed., Fundação Calouste Gulbenkian, Lisboa, p. 56, 56 e 99
- Mankiw, N. G. (2013) "Introdução à economia". Tradução da 6ª edição norte-americana. Allan vidigal Hastings, Elisete Paes e Lima. São Paulo: Cengage Learning, 2013.
- Markusen, A. (1996) "Stricky places in slippery space: a typology of industrial districts". Economic geography, v. 72, p. 293-313,
- Mendes, J. M.G. (2009). "Teoria de Base de Exportação "
- Miyoshi, T. (1997). " Sucessos e fracassos associados com as estratégias de pólo de crescimento " .A dissertação apresentada à Universidade de Manchester para o

- grau de MA (Econ) na Faculdade de Estudos Económicos e Sociais ,
Departamento de Estudos Económicos.
- MITADER, Programa Nacional de Desenvolvimento Sustentável (PNDS), 2016, p9-11
- Monasterio, L. & Cavalcante, L.R. (2010) "Fundamentos do pensamento económico regional". In: IPEA. Economia Regional e Urbana. Textos e métodos com ênfase no Brasil. Brasília.
- Moore, C., Hill, J. "Interregional arbitrage and the supply of loanable funds". Journal of Regional Science, v.22, n.4, p.499-512, 1982.
- Moore, C., (1975) " New Look at the Minimum Requirements Approach to Regional Economic Analysis," Economic Geography, 51 (1975), pp. 350-356.
- Mosca, João. (2005). "Economia de Moçambique". Século XX. Instituto Piaget.
- Myrdal, G. (1957) "Economic theory and under-developed regions", London: Duckworth, 1957.
- North, Douglass C. Réplica. In: Schwartzman, J. Economia Regional: Textos escolhidos. Belo Horizonte, Cedeplar, 1997.
- North, D. C. "Teoria da localização e crescimento económico regional". In: Schwartzman, J. Economia Regional: Textos escolhidos. Belo Horizonte, Cedeplar, 1997.
- Nowlan, D. M. (2006) "The Export Base and Input-output Models of Regional Development". Background to the classroom presentation and discussion. University of Toronto.
- Paelinck, J. (1965). Systématisation de la théorie du développement régional polarisé. Cahiers de l'I.S.E.A., série L, n° 15, 1965
- Paelinck, J. (1997) "A Teoria do Desenvolvimento Regional Polarizado". In: Schwartzman, J. Economia Regional: Textos escolhidos. Belo Horizonte, Cedeplar, 1997.
- Parr, J. B. (1999) "Growth-pole strategies in regional economic planning: a retrospective view". Part 1-Origins and advocacy; Part 2- Implementation and Outcome. In: Urban Studies, 36 (8,9): 1999.
- Pratt, R.,(1968) "An Appraisal of the Minimum Requirements Technique," Economic Geography, 44 pp. 177-124.
- Perroux, F. (1967) "A Economia do Século XX". Porto: Herber, 1967.
- Perroux, F (1955) "Note sur la notion de pole de croissance", Economie Appliquée, 8, p307-320. or in I. Livingstone (1979) Development Economics and Policy: Selected Readings. London: George Allen & Unwin
- Perroux, F (1961) "La firme motrice dans une région et la région motrice", Cahiers de l'ISEA, Series L, No.9.

- Perroux, F (1968) "Les investissements multinationaux et l'analyse des pôles de développement et des poles d'integration", *Revue Tiers Monde*, 19, p239-65
- Republica de Moçambique. (2014). *Estratégia Nacional de Desenvolvimento (2015-2035)*.
- Republica de Moçambique. (2007). *Estratégia de Desenvolvimento Rural (EDR)*.
- Richardson, H.W. (1976) "Growth pole spillovers: the dynamics of backwash and spread". In: *Urban Studies*, Vol.10:1-9, 1976
- Richardson, H. W. (1975) *Regional Development Policy and Planning in Spain*. Farnborough: Saxon House.
- Richardson, H. W. (1978) "Growth Centers, Rural Development and National Urban Policy: A Defense", *International Regional Science Review*, 3, p133-152
- Richardson, H. W. (1980) "National Urban Strategies in Developing Countries", *Urban Studies*, 18, p267-283.
- Richardson, H. W. and Richardson, M. (1975) "The relevance of Growth Center Strategies to Latin America", *Economic Geography*, 51, p163-178
- Schwartzman, J.A. (1975) "Teoria da Base de Exportação e o Desenvolvimento Regional". In: Haddad, P. R. (Org.). *Desequilíbrios regionais e descentralização industrial*. Rio de Janeiro: IPEA/IPLAN, 1975. p. 37-91. Série monografia, n.16.
- De Jesus, N.S (1980) "Conceito e aplicação da teoria da base económica". *Porto Alegre: Revista Perspectiva Económica. UNISINOS. São Leopoldo, RS, v. X, n. 25, p.117-130, mar. 1980.*
- Storper, Michael (1994) " Desarrollo Territorial en la Economia Global de Aprendizaje: El Desafio para los paises en Desarrollo", *Revista EURE (Vol. XXI, nº 60)*, pp.7-24, Santiago de Chile, 08/1994
- Tiebout, C. M. (1977) "As exportações e o crescimento económico regional & Tréplica". In: Schwartzman, J. *Economia Regional: Textos escolhidos*. Belo Horizonte, Cedeplar.
- Tiebout, C. M. () "Exports and regional economic growth". In: Friedmann, John & Alonso, William op. Cit., cap. 13
- Tiebout, C. M., (1956) "A Pure Theory of Local Expenditures", *Journal of Political Economy*, 64 (5), p.416-424, Oct 1956
- UFRGS. Available at: http://www.nalijsoza.web.br.com/downloads/outros-textos/economia-rio-grande-do-sul/teoria_base_rs.pdf. Acessed on 15.03.2018
- Ullman, E.L. e Dacey, M.F. (1960) "The Minimum Requirements Approach to the Urban Economic Base". *Lund Studies in Geography, Ser. B. No 24*, pp. 121-143
- World Bank. (2010). "Perspectivas para os Pólos de Crescimento em Moçambique": Sumário do Relatório.