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PORT INFRASTRUCTURE DEVELOPMENT IN LATIN AMERICA AS
GROWTH FACTOR FOR THE REGION

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DEDICATION

This thesis is dedicated to the Port of Santa Marta that has taught me the extensive world of ports and foreign trade, and where all sectors converge showing the economic reality of a region.

This port is a leading company in the Caribbean region with an important position at international level, thanks to the high quality and efficiency standards it manages. Complying with the best environmental practices and developing an investment plan focused to extend the capacity and modernization of its facilities in such a way it becomes the best option in the Caribbean to handle bulk and general cargo, projects, coal and containers.

The Port of Santa Marta, a port enterprise that also dedicates its efforts to the development of a City with Social Responsibility, seeking to strengthen its relation with the community, generating employment, promoting the development of the historical center, also supports the development of an International and Cruisers Marina in order to strengthen the touristic vocation of the city, and at the same time accomplish an environmentally sound management for the operation and cargo handling at the Port.

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I hereby acknowledge all my coworkers at Sociedad Portuaria de Santa Marta for their management and support and with the team work developed in all areas, achieve decisions and interdisciplinary progress with a high aggregated value, being able to consolidate the project for the extension of our Port Concession until 2033. With the leadership of our manager, Mauricio Suárez Ramírez, very important things have been achieved that have made me grow both professionally and personally, understanding that

the world is limitless and what is required is the desire to work and create value for the things we do.

To my family that has shown comprehension and patience and has accompanied me in this hard task that represents being a member of the Family of Sociedad Portuaria de Santa Marta.

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I. INTRODUCTION

Investment in Port Infrastructure as Factor of Development:

Colombia is a country with a privileged geographic position having coast in the two oceans; however, industrial and economic development has generated in the hinterland.

Based on the above, the concern that arises is, why the Colombian Caribbean and Pacific coasts have had a slower growth than the center of the country, being ports the gate of entry and exit for foreign trade?, basically considering that the development of the port city is linked to the existence of the port.

In order to face the challenge of economic opening in the beginning of the eighties, alternative mechanisms were sought to finance road projects, ports and airport projects, among other, to face an imminent globalization of economy and the internationalization of markets, having considered the figure of concessions, as at this time backwardness of the country in matters of infrastructure was evident. It is as of this time when a real port development is achieved for the country, and started a new management and transformation of ports by the private sector. *Sociedades Portuarias Regionales* were established as mixed-capital enterprises.

During the last decade mechanisms have been given towards providing incentives for port development, by assigning port concessions from the Department of Guajira to Cartagena. Also, concessions have been granted in the Magdalena River as a barometer for foreign trade development.

Port concessions of the Caribbean area, such as Santa Marta, Barranquilla and Cartagena, in order to accomplish a 20-year extension of the concessions, have entered into important infrastructure and social investment commitments. This in order for its renewal and to update the future challenges imposed by the growth of foreign trade, encouraged

at the same time by a greater dynamics of national and international economies, supported by the major commercial agreements of which our country is part.

Although what I know the most is Colombia, and I place this as an example of the best practices and models implemented in Latin America, this region must also be seen in an integral manner, showing the potential generated by the trade agreements with the rest of the world, entering to compete on the best standards and important growth rates.

Though port models in different Latin American countries vary depending on their governments, a common factor is the participation of the private sector as intelligent capital, where profitability and competitiveness models are the principal pillars of growth. Also, the common factor of investment in infrastructure causes this case of study to be of great help in order to have a general vision of the different factors integrating the logistics chain, where as in other places it is directed by the ports, thus becoming important development promoters.

Work, although part of a general economic environment, travels through a number of sectors, especially in the case of Colombia, and concludes on the principal elements of the logistics foreign trade chain that Latin America has taken as tool to change its status of third world countries to developing countries, while some are even recognized as major economic powers.

The methodology for the preparation of this thesis is based on real cases, the historical and real documentation of port sector companies. Documentation research work has been done on the specific case of Sociedad Portuaria de Santa Marta – Colombia, as well as interviews with officers of the financial areas of other Latin American ports at the seminars of AAPA.

This document is limited to a descriptive essay of the different situations framed within a common economic activity as foreign trade and the participation of ports in the logistics chain to which they belong. Thus, a new economic theory is not being generated, but it rather highlights and consolidates the best form practices that serve as example for new and existing ports.

Chapter I will develop the approach to the problem expecting to consolidate the different elements showing that ports are a motor for development, among which worth noting is infrastructure, employment, social responsibility and financing.

Chapter II develops a descriptive tour through the background that made the approach to the problem to have a theoretical and historical support justifying the importance of the study performed.

Chapter III shows the important and relevant integration of the city-port and the aspects generating growth dynamics and sustainable development.

Finally it concludes with the evolution of the descriptive research work, the key factors of development, and why the port sector is one of the most important actors in world development, generating an inestimable value that affects the entire economic sector.

II. OBJECTIVES OF THE ESSAY

- Determine if the economic investment in port infrastructure is the motor of development for Caribbean countries.
- Application of the model of development and conflict to the community.
- Methodology of efficient funding of the port model structure definition

III. CHAPTER I

- **Theoretical Assumptions**

The globalized modern world demands of countries a series of requirements to reach a competitive position within the logistics chain in order to move a large volume of commodities offered and demanded by world population. For this reason, this study involves the following elements:

1. Globalization
2. Privatization
3. Control of the productive chain
4. Optimization of world flow

The future of ports is centered in having the capacity to serve large-size vessels, which also require deep drafts, the capacity to serve cargo timely and efficiently and the capacity to connect with the intermodal chain of distribution.

Trade, and its associated growth, demands a greater capacity than ports and land traffic may have, and for this reason requires the extension and maintenance of its infrastructure. This long-term trend is projected as constant growth, and for this reason social sustainability and environmental strategies compatible with the industry must be developed.

1. Globalization

In Latin America the first steps are being taken towards an economic opening since the second half of the decade of the seventies, by developing economic readjustment programs in Chile (1976), Colombia (1976), Argentina (1978), and Uruguay (1978).

As a result of the external debt crisis of 1982, Latin American countries were obliged by the International Monetary Fund and the World Bank to agree on economic opening programs for having access to new credits: Mexico (1986, 1989), Bolivia (1986), Dominican Republic (1988, 1990), Venezuela (1989), Ecuador (1989), Peru (1990), Brazil (1990), and Argentina (1989, 1990). Loans are addressed not to fund projects, but to develop programs to achieve a real adjustment guaranteeing timely payment of debt. A change in the model is required: not an “inward” development, based on protectionism, as had been proposed by ECLAC in the mid-century, but an “outward” development to guarantee open markets, searching for a favorable commercial balance; increase of internal savings; elimination of subsidies; and reduction of the intervention of the State.

The economic opening process, which was followed in Latin America as the formula to overcome the underdevelopment condition, is developed with economic policies seeking to achieve the following objectives:

- a) Increase of public savings
- b) Increase of private savings seeking strengthening of internal financial institutions.
- c) A greater economic efficiency through the elimination of microeconomic distortions such as price control to the readjustment of real salaries.
- d) A better allocation of public investment towards developing human resources and infrastructure.
- e) An increase in the supply of tradable goods by maintaining a real exchange rate, liberalizing the foreign trade regime by reducing import duties and eliminating quantitative character restrictions.

The above is the global and Latin American context where develops the economic opening process of Colombia; in the nineties in Colombia, during the government of President Cesar Gaviria, an economic globalization model starts to be implemented

considering the opening of borders to receive goods and services from the rest of the world, after many years of handling a closed economy where the internal market was saturated of local products at high prices and low quality because of the lack of competition present in the market.

The economic opening involved the implementation of customs, commercial and fiscal policies that facilitated connecting with other markets in such a way that the introduction of foreign products to the Colombian market completely transformed the relation between supply and demand that had ruled the country for several decades. As a result of the opening, national companies disappeared as they were not prepared to assume the challenge of a competitive market; this happened mainly with companies of the agriculture sector. On the other hand, small and medium enterprises started to develop, thus causing a growth of non-traditional exports and further generating the entry to the country of foreign currencies.

Regarding consumers, or at least those consumers whose purchasing power was not affected by the disappearance of certain industries, the opening represented a greater variety of products at lower prices and of better quality.

The implementation of an open economic model was not fully applied, as there still existed (and still exist) protectionist measures such as import duties for products, subsidies to sectors and other type of restrictions.

In general, Latin America started its economic opening process with very specific variations in each country; however, this generated a generalized consolidation trend of economic blocks such as Mercosur, Alca, CAN and others. This trend is marked by the liberation of trade, decentralization of power and reduction of the presence of the state through PRIVATIZATIONS.

These privatizations occurred differently in each country, but a common factor for all was based in profitable and sustainable economic models with a high participation of the private sector, significantly encouraging and increasing foreign investment.

At the same time, another model comes forward that is adopted by the Asians (today nine industrialized countries) and is the economic growth based on encouraging exports, which is nothing more than an open competition in the international market.

Regarding results, although some companies of the traditional sector were usually negative, the panorama for companies performing in more modern activities that generated higher added value and with a greater relation with foreign capitals, not only survived, but expanded, as they could adapt more easily to the new requirements, something larger companies were not able to do, despite much more had been expected from them.

2. Privatization

Privatization is a legal-economic process by which entrepreneurial activities are transferred from the public to the private sector. It is done to give more dynamics to economy by promoting competition, decreasing economic inefficiencies and resolving high indebtedness issues that affect the fiscal and monetary policies of the country.

While the number of public companies decreased, the economy of central governments started to recover. This privatization policy generated earnings amounting to 175 billion US dollars for the region between 1990 and 1999. Practically 60% of these earnings were generated by the privatization of infrastructure services and almost 10% for the privatization of financial services. 95% of total earnings concentrated in six countries: Brazil (40%), Argentina (26%), Mexico (17%), Peru (5%), Colombia (3.5%) and Venezuela (3.5%). Smaller countries generated fewer earnings in dollars. But despite earnings of these countries were insignificant for the region, they were important because of the size

of their economies. For example, while the average earnings resulting from privatization represented about 2.7% of the GDP of the region, for Bolivia or Panama these earnings were equivalent to 10% of their GDP.

But the increase in fiscal revenues was the only objective for reforms. Specifically, in the case of utilities, important improvements in efficiency were moreover expected that would contribute to the quality of life of the people, the equitable distribution of opportunities and benefits of development, as was highlighted with the adoption in these sectors of regulatory type RPI-X (Price cap) regimes. For example, in the sectors of electricity, water, telecommunications or transportation, this regime tended to be the form of regulation adopted by reformist governments. According to Estache, Guasch and Trujillo (2004), 56% of contracts signed during the 1990s in Latin America were regulated by the price cap regime; 20% by the return rate regime; while a hybrid system was introduced in 24% of contracts.¹

Privatization of the Port Sector

In 1991, in development of the implementation of an economic opening policy, which object was to improve efficiency, efficacy and modernization of Colombian sea ports, the government of former president César Gaviria delivered to the private sector, through the legal figure of concession, the management of Colombian sea terminals, which were directly managed by the State. Under this scheme, the Colombian government concessioned the management of the sea ports of the cities of Santa Marta, Cartagena, Barranquilla and Buenaventura for an initial period of 20 years.

The new management model for the port sector, based on the assumptions of efficiency and efficacy, generated a new type of labor contract, according to the process of

¹ Revista Semana. A Second Opportunity. Gustavo Bell Lemus.

modernization of ports that sought improving competitiveness of the sector and Colombian economy.

During the first decade of the concession, operational and physical security of merchandises was improved, and competitiveness in matters of port operations also improved, which at the same time has been transmitted to the productive sector.

The need for infrastructure development in Colombia led to the need for port concessions of public use to be renewed for 20 more years, providing the possibility of having enough time to recover these investments, which represent technological improvements and operational efficiency that will revert to the nation, and thus the State improves foreign trade infrastructure through strategic allies (concessionaires) with financial efficiency.

In line with the growth of Colombia and the investments in the infrastructure of roads, ports and airports, in 2008 the concession contract term of Sociedad Portuaria de Santa Marta was extended until 2033, based on the Master Plan for investments in infrastructure. This Master Plan of investments focuses on the extension, modernization and optimization of the terminal capacity to handle containers cargo, bulk cargo and upgrading of docks.

With these investment plans is expected to achieve the development of the port system of the country, hand in hand with globalization and growth of foreign trade, thus achieving the necessary capacity to meet projected cargoes for the next 25 years under the scheme of sustainable growth at hand with Social Responsibility.

Global trend is for foreign trade to concentrate in sea transportation, especially in containers, which results in the preparation of the country to receive in the future large volumes of exports and imports.

The *Sociedades Portuarias* managing the operation of Colombian terminals by means of concessions moved 31,232,657 million tons in 2012, thus showing a decrease of 0.64% compared to the previous year, basically because of coal deceleration, which represents 16% of total cargo moved, while for 2011 this participation was 20%. Of the total cargoes (foreign trade + coal), Buenaventura participates with 29%, Sociedad Portuaria Santa Marta with 21%, SP Cartagena with 17% and SP Barranquilla with 14%.

In other Latin American countries, port privatization process has had variations regarding assets management, having entered public-private associations in which the public sector leases the properties and develops the infrastructure without the public sector losing its autonomy as port authority.

However, it is worth mentioning that these privatizations are basically focused on the practice of concessions, leaving unresolved issues such as:

- Access to ports.
- Connection to the transportation and logistics infrastructure.
- Relationship with the cities.
- Environmental care and marine resources.

3. Control of the productive chain

As mentioned, the globalization era causes economies to compete at international level. The answer of these export-based economies, such as Colombian's, has been the generation of efficient logistics chains, where ports are a fundamental link. Thus, port cities are the unavoidable actors of this globalization. These are the gates of entry of merchandises to the countries because of its strategic geographic position, and its yield has a direct influence on national economies through the participation in the implantation of transportation networks to achieve access to and from them, generating new local and regional economic dynamics.

For an adequate response to the needs of an industry focused on the consumer, a greater integration between parties forming a same value chain must be achieved. This has caused generating to ports something more than an efficient connection and the articulation of transportation networks. Because of its strategic position, ports are called to perform an important role in the organization of exchanging merchandises and information, which supposes not only modernizing port supply, but also providing logistics services capable of generating comparative advantages versus other transportation infrastructures.

Together with services currently offered by Colombian ports, such as loading, unloading and storage, these also include in their offer supplementary operations as consolidation, cargo fractioning, and pre-commercialization activities such as labeling and packaging, as well as services to facilitate processing and managing administrative, commercial and logistics information accompanying cargo movements. Ever more, competitiveness of the ports in itself no longer depends on its infrastructure and equipment, but integration and commitment are starting to play an essential role of the port with the city and the country.

In fact, a new concept has born in world economy: the port metropolis that stop being merely ports to become places endowed with efficient commercial and financial capabilities, and where converge business areas, free zone areas, and distribution and business areas.²

4. Optimization of global flow

² Pesquera, M.A. (1996). *Estrategias de Desarrollo Sostenible para Ciudades y Puertos (Strategies of Sustainable Development for Cities and Ports)*.
Recovered from http://unctad.org/es/Docs/ship49414_sp.pdf

The transformations that have resulted in the structure of global commerce demand deep changes in the conception and execution of transportation and distribution of merchandise. First of all, the need exists to articulate the new centers of production and consumption that have resulted, which involves new connections, some subordinated and other principals, developed by the maritime transportation network. On the other hand, the need for proximity of producer to consumer, which is the origin of the development of the chains of integrated transportation based on logistics and inter-modality, are also undergoing important transformations, as is the case of disintermediation because of the importance acquired by factors such as rapidity, reliability on terms of delivery and the security of ever more valuable merchandises.

As well as infrastructure of access, emphasis must be placed on sea transportation demand as it is growing as a result of the evolution of trade, higher to rise in production of goods and services. This has also caused shipping lines acquiring larger size vessels and thus, ports must prepare to serve them, a fact that has forced them to give special attention to the development of its facilities. Growth seen in sea transportation is basically the result of infrastructures being less expensive than other means of transportation, thus becoming evident the economies of scale.

- **Approaching the Problem**

Taking as reference the parameters and experiences of globalization, privatization, supply chain optimization of the global flow, this work intends to carry out the analysis of the financial/economic factors linked to investment in the different stages of the modernization of the port to generate favorable and competitive conditions in Latin America

Is economic investment in port infrastructure the countries motor of development?

In Colombia we have observed dissociation between the port and the city. Growth and development of ports has been designed at the expense of the territorial planning of cities, in such a way that these two have grown and developed in an uncoordinated way, and precisely this lack of coordination is one of the principal reasons why our country is now facing the phenomenon where industrial development generates from its interior.

IV. CHAPTER II

- **Infrastructure**

To modernize and expand port terminals infrastructure and reach a greater port capacity and efficiency, the promoters of logistics activities and competitiveness require large levels of investment for which the following aspects will be analyzed:

- Financing
- Social operation license
- Land and river access
- Railroad
- Navigation channels

Land, River and Railway Access³

In most areas of the country where a mining activity is developed, as is the case of Norte de Santander (the region with the highest exports tendency), infrastructure results inadequate and insufficient. In Colombia there is lack of railways that facilitate coal transportation from the hinterland to other regions, and formerly port capacity and public access to ports was limited. In addition to that expressed above, public resources for the development of works required for the construction and renewal of infrastructure are insufficient.

³ Cormagdalena VISIÓN COLOMBIA 2019: COLOMBIA SEGUNDO CENTENARIO (COLOMBIA, SECOND CENTENARY)

Port infrastructure is closely linked to connectivity with production and consumer centers, where in many countries they are in the interior and have to travel many kilometers by land generating higher costs in the logistics chain. For example, in the case of Colombia, land transportation costs are higher than river transportation costs, because of the shortage of roads, its quality, the complex geography of our country, and the high cost of fuel, among others. For example, it is more expensive to move a container between Cartagena and Bogotá than between China and the west coast of the United States.

The growth of foreign trade, either encouraged by the mining boom, the free trade agreements and the ever more solid exchange relations, or the dynamics of a developing market enabling the country to increase its productive capacity, represents for the country the opportunity to invest resources, both public and private, in infrastructure and human capital, in order to eliminate or mitigate barriers affecting competitiveness today and thus improve the welfare of the economy.

For this reason, the National Government is not only promoting road concessions, but also seeking the development of other means of transportation to complete present offer, in order to provide greater competitiveness. One of the great projects is the recovery of the navigability of the Magdalena River, the rehabilitation of the railway and the construction of new railways.

Combined transportation development is a fundamental axle for the implementation of sustainable transportation and connectivity. This is based on an appropriate coordination of the networks of roads, railways, ports and points for merchandise manipulation.

Land Access

Infrastructure rearrangement being generated upon the increase of commerce and the need to have required capabilities are focused on improving land access. Two-lane

roadways are being built at present now exceeding 1,000 km in two-lane roadways that may considerably reduce transit time between ports and the production and/or distributions centers.

Infrastructure improvements are crucial as it allows having efficient access to destination markets, in terms of time and cost, thus resulting in greater competitiveness for producers and traders. For this reason, the National Government has proposed as its goal to triple investment in road infrastructure works for 2013, having changed from representing 1% of the annual GDP to 3%.⁴ This investment will be destined to the construction of two-lane roadways, rehabilitation of roads in bad condition, extensions and maintenance of same.

However, in our country building a road in the estimated time and with the budget allocated is almost a titanic task because of delays of contractors, problems in the acquisition of properties, approval of environmental licenses, conflicts with the communities, and even complicated geography, among others. Based on the above, Colombia is today one of the most backward countries in matters of infrastructure both in Latin America and the world.⁵

Our backwardness is worrying, above all considering that the National Government has proceeded to sign trade agreements and started an ambitious infrastructure construction

⁴ El Colombiano. *Gobierno triplica recursos para el desarrollo de infraestructura*. (Government triples resources for infrastructure development (2013, April 30). Recovered from http://www.elcolombiano.com/BancoConocimiento/G/gobierno_triplica_recursos_para_desarrollo_de_infraestructura/gobierno_triplica_recursos_para_desarrollo_de_infraestructura.asp

⁵ Revista Semana. *Infraestructura, la locomotora a empujar* (Infrastructure, the engine to push) (2013, March 29). Recovered from <http://www.semana.com/nacion/articulo/infraestructura-locomotora-empujar/338148-3>

plan for COP 44 billion. This investment shows the good intentions of the government and the support it grants foreign industry and commerce with its investment plans; however, all the bottlenecks mentioned above cause that roads communicating with the hinterland are still half-way under construction.

Although this is not a case of study for this document, it is important to consider the draft bill filed last March by the Ministry of Transportation, which seeks to end these bottlenecks and other road obstacles.

River Access

Despite important investments being entered to update access to the land, this waterway is being revaluated in the logistics chain, the Colombian case being where the Magdalena River is born near the Magdalena Lagoon at 'Las Papas' Moorland, Department of Huila, in the Colombian Massif or Mountain Range. It crosses the country by the west from south to north, has a length of 1,540 km between the Eastern and Central mountain ranges of the Colombian Andes, and forms a valley that is also the road corridor arriving to the Caribbean Sea.

The Magdalena River is the most extensive Colombian waterway, being the principal river artery of the country. Its basin has influence on 18 departments of Colombia and occupies 24% of the national territory, forming the department borders of ten of them; its principal tributary is the Cauca River and it is navigable from its mouth in the Caribbean Sea to Honda.

Undoubtedly, the Magdalena River is the central communications axis of the Andean Region and the Colombian Caribbean. Because of its geographic position, it connects the principal production and consumer centers with the principal ports of the Atlantic Coast, which are the integrators of the center of the country, and with the international markets and the potential markets for these products.

Navigable for some 990 km, between Honda (Tolima) and the city of Barranquilla (Atlántico), it is the main river route of Colombia. Up river, after the rapids of Honda, it is navigable for some 240 km, especially through what is known as the Valley of the Medium Magdalena. At its mouth in the Caribbean Sea, known as 'Bocas de Ceniza', 22 km from the city of Barranquilla, was built one of the greatest works of engineering of the country. The mouth was modified and extended into the sea by means of breakwaters allowing the necessary draft for the entrance of large-size vessels. This was done because the river deposits 500,000 cubic meters of sediment each quarter.

The Magdalena River serves as means of transportation for passengers and cargo. Minor ships navigate along more than 1,300 km as of the dam of Betania. It is considered navigable for larger ships from Puerto Salgar/La Dorada (kilometer 888), where the river abandons the rocky beds and enters an alluvial valley with a channel formed by the own sediments of the river, up to the Atlantic coast. When arriving to Calamar, navigation goes towards Cartagena (along the 'Canal del Dique', 115 km) or towards Barranquilla (90 km).

In general, it has a 40 m wide channel along the entire navigable length of the river between the Atlantic Coast and Puerto Salgar/La Dorada (much less than the total width of the river). However, usable depths vary, as well as the average longitudinal slope of the different sections.

Channeling works of the Magdalena River in the sector from Puerto Salgar and Barrancabermeja were chosen as one of the 100 principal strategic infrastructure projects of Latin America for 2012, as stated by Norman F. Anderson, President of the firm CG/LA Infrastructure.

Cormagdalena has designed a three-year action plan, 2012-2014, where three objectives have been set as tasks of its mission.

1. Recovery of the Magdalena River navigation.
2. Preservation and Management of the Basin.
3. Sustainable exploitation of river resources.

Channeling works for the river will last two years, thus actions are being done for the preparation of a CONPES (National Council for Economic and Social Policy) document, updating designs for works now in Phase III and obtaining environmental licenses, among others.

Also, progress has been made to include the Managing Plan of the Basin in the POT (Territory Ordering Plan) and POMCAS (Management Plans and Watershed Management) of the municipalities where Cormagdalena has jurisdiction and have referred to the agreement with Hydrochina for the sustainable use of the Magdalena River.

Although the River is the most important means of transportation, the role it had in regional and national development in the mid-20th century lost participation as railroad and road transportation developed; the country in the last half of the century, privileged road transportation and decreased resources towards maintaining navigation, causing the loss of the importance of the river as means of transportation.

However, 70% of road infrastructure is located within its basin, and also 95% of railway infrastructure and 90% of waterway transportation, and has nine intermodal transfer centers.

According to the description of river navigability, intermodal projects are beginning to rise with the purpose of supporting and looking for efficiencies for the access to the land, as because of the geography of Latin America the countries have difficult and steep accesses

and thick forests preventing connectivity with centers of production, making investment in roads very costly.

In comparison, advantages of the river are determined by having access to two of the export ports of the country, BARRANQUILLA and CARTAGENA, and undoubtedly the possibility to reactivate navigation is determined by the flow of merchandise entering and leaving as foreign trade cargo through these two ports. Since productive centers of the country are located in the hinterland of Colombia, limited by the intricate geography and the difficulties of access to the seaports, the Magdalena River grants this connecting possibility; geopolitically it has a strategic character of privilege because of the great potential of the natural resources present within the area of influence, the productive and economic potential, and the infrastructure capacity potential that will allow articulating with other means of transportation, and the possibility of developing new industries and urban centers articulated to the ports where economic activities flow as a triggering factor for employment and social improvement of the areas of influence of international trade.

Transported tonnage is between 2-2.5 million tons, mainly composed of hydrocarbons and coal transportation, and the developed Satellite Navigation System (SNS) guarantees optimal navigation conditions for the entire distance traveled from the Caribbean coast to Puerto Salgar, which will allow delivery of information in real time, and supplying information to the navigator via Internet to facilitate a safe navigation.

Railroad Access

It is necessary to have the infrastructure for the logistics chain including roads, railways, ports, airports and river arteries allowing the national product to exit the country. That is why incorporating the railway system, which has been left behind for years, to the transportation system of the country is starting to acquire importance as it will enable to

connect areas of production to consumer centers and the port exit and entry to the country. This will enable mobilizing a larger volume of products under a scenario that contributes to improve the competitiveness of our industry⁶.

The railway system is not only the perfect complement for roads and river arteries, but is also a means of transportation that generates great advantages over these, such as security, high cargo capacity, decrease of emissions and lower costs. In the case of coal, its transportation by road is not technically or economically sustainable, generating negative effects both on roads and the environment.

Colombia is presently the fourth coal exporter worldwide, only surpassed by Indonesia, Australia and Russia.⁷ The coal industry is dominated by large private companies that have developed port and railway infrastructures, as is the case of El Cerrejón, Drummond and Glencore.

Because of the advantages of this type of transportation, a world level niche has been found for the movement of certain cargoes and Colombia has not been foreign to this effect. Coal transportation represents most of cargo moved through here, corresponding to 90%, and demonstrating the importance the railway has had in the development of the mining industry of the country.

As already mentioned, Colombia has a transportation infrastructure backlog, especially in the railway system, mostly because this has been a topic left aside for decades in the plans of the government. However, this transportation system, both cargo and passengers, is of valuable importance for the development of many regions of the country and must be a priority upon the entry into force of the Free Trade Agreements.

⁶ Cámara Colombiana de la Infraestructura (Colombian Chamber of Infrastructure). *Follow-up to Projects of Infrastructure*. (2012). Recovered from <http://www.infraestructura.org.co/seguimientosci.php>

⁷ Cantillo, Jackie. (2013, March 13). *Status and Future of Colombian Exports*.

Conscious of this matter, the National Government has set as its objective the rehabilitation, reconstruction, recovery, maintenance and conservation of the railway infrastructure of the country, encouraging and giving way to private initiative megaprojects.

Navigation Channels

As mentioned above, growth of international trade dynamics has caused a response from shipping lines to increase capacity of their vessels, which has had repercussions on seaports, as these must guarantee depth for different-size vessels to berth at their docks. For this reason, most ports require dredging and cleaning to increase or maintain a navigable channel to facilitate sea traffic without prejudice for vessels.

Dredging works allow ports, both seaports and river ports, to increase their levels of competitiveness. Let us remember that shipping lines are having a turn over for ever larger vessels, to which Colombian ports must adapt, grow in capacity, deepen and extend nautical ways, access channels, anchorage areas, maneuvering docks and mooring systems.⁸

- **Competitiveness and Growth**

Colombia's trend in the last years has shown that seaside regions are key sectors for the growth of the country, which has resulted in a transfer of investments from the interior of the country.

⁸ El Universal. (2013, April 3). *Ampliación del Canal de Panamá beneficia a Colombia: Dimar* (Extension of the Panama Canal benefits Colombia: Dimar) Recovered from <http://www.eluniversal.com.co/cartagena/nacional/ampliacion-del-canal-de-panama-beneficia-colombia-dimar-114722>

The strategic location of seaside cities for sea transportation and its connectivity to other countries of the world makes it possible for them to receive national and foreign investment serving as investment axis in search of competitiveness.

The need to connect these areas with the different centers of distribution and national production generate road infrastructure projects to include two-lane roadways to keep up with the major cities of the world. Also, to promote retaking railway and Magdalena River transportation, in such a way that it generates connectivity alternatives to the hinterland of the country.

The National Government has been generating favorable conditions to facilitate competitiveness, supporting the port sector and also generating attractive destinations for infrastructure investments, as the creation of free zones that may have fiscal and customs benefits. These zones, altogether with industrial parks, constitute one of the tools to attract investment and generate employment.⁹

It is clear that the rhythm of growth for foreign trade requires greater capabilities and development of port infrastructure, roads and production to assist it; otherwise, in some years it will be insufficient, generating loss of competitiveness when other countries as the Asians are focused on such growth.

For this reason the National Government has promoted industrial zones, which constitute the motor of development for the region where companies are located, estimating projects of US\$575 millions in an olefin plant, and US\$560 millions in chemical plants, among others. Likewise, direct and indirect employments are generated.

⁹ Portafolio. (2013, 31 de mayo). *Zonas francas, con el acelerador a fondo. (Free Zones, at full throttle)* Recovered from <http://www.portafolio.co/economia/zonas-francas-crecen-colombia>

It is worth noting that the Caribbean region has advantages for transshipment traffic, mainly in Panama and Cartagena. The principal attraction of the facility resides in its lower transit time (shorter distances) and decreasing transportation costs to key consumer regions.

The future of Latin American macroeconomic perspectives, especially Colombian, in relation to international trade, depends on the economic perspectives of these countries and its commercial partners, for example the FTA between Colombia and the United States shows a high impact on foreign trade volumes to be transacted in the years to come.

At global level, trade volumes have dramatically grown during the last decade, which has been promoted by the high volume of containers traffic. The structure of international trade routes has changed considerably because of the incorporation of the transatlantic sea trade. Also, the boom presented by world sea transportation has revolutionized port operations. To face the increasing demand, maritime companies have had to triple their capacity during the last 10 years. At present, the top 10 companies have a market share (measured by total transportation capacity) of approximately 58% compared to 50% ten years ago. The top 30 companies have now a joint market share of 92%. This concentration is yet more dramatic when considering that the top 5 companies represent 50% of the total fleet and portfolio of orders. Out of these, four are European companies with 43% of the total and three are EU companies (Maersk Line, CMA-CGM and Hapag Lloyd).

This trend is forecast as sustainable in the long term with cargo increases because of high demand and demographic growth at world level. This demand exceeds port and land capacity as a result of truck traffic, causing a deficit in infrastructure.

The Colombian Caribbean Region is seen in the short term as a territory of great prosperity thanks to the implementation in May 2012 of the Free Trade Agreement with the United States. One year after the departure of the first container from the port of Cartagena under the new conditions of the Free Trade Agreement, the balance shows interesting data: 775 Colombian companies exported to the United States for the first time, besides the inclusion of 187 Colombian products on the shelves of that country. Despite being an encouraging data, this represents challenges being evident the need of intermodal transportation infrastructure in order to link ports with production centers.

Movements doubling their activities at the ports of the Colombian Caribbean were evident and still are; transfer of large industries to these cities shows the development potential that will be lived in the years to come.

During many years, Colombia undervalued the Caribbean Region; however, over the years it became an unsustainable concept that was only made evident by the economic and social lag compared to the hinterland of the country. This model had no support for being sustainable in the long-term with a globalized economy in which it was a must to connect to the rest of the world.

These were times in which Colombia needed to look abroad. The national interest was then passing by its ports, which had a great dynamics that extended beyond city limits.

A series of macroeconomic factors as of the consolidation of coffee as principal export product generated the design of the road and railroad system of the country. Later on, the industrial model was replaced by a protectionist system leaving aside exports and Colombia was obstinate by giving its back to the sea. The Caribbean Region marginalized

and what little industry it had deteriorated due to lack of investment incentives, generating poverty, backwardness and corruption.¹⁰

Globalization obliged Colombia to revalue the geographic comparative advantages it had. In such a way for the industry to successfully achieve facing the challenges of the commercial agreements with the rest of the world, it should be located as close as possible to the seaports through optimal access routes.

Some figures show what development represents by giving importance to ports as points of development for the Regions: between 2000 and 2012 the Colombian Caribbean Region has produced 208,822 students registered at universities of the Caribbean; 9.51% of the GDP was generated in this region, exports produced US\$13,978 millions, and 153,581 persons were employed in the industry.

Most companies have arrived to the coast considering savings in transportation costs for the entry or exit from the country of its products; companies such as Austin Engineering of Australia that manufactures mining machinery, Augen Capital of Canada, Liebherr of Germany, manufacturer of construction equipment, Pricemart of the United States, trading company, Sutherland Global Services of India, Komatsu of Japan, manufacturer of mining equipment, Hamburg Süd of Germany, maritime transportation company, or Kuehne + Nagel, transportation and logistics company are some examples of the new scenario of companies that have started to arrive to the region.

Ports are the key for the country to benefit of the new trade agreements. The Atlantic Coast has all the potential to become a center of logistics distribution of the country. With the extension of the Panama Canal, its ports have the possibility of receiving merchandise

¹⁰ Revista Semana. *La Segunda Oportunidad (The Second Opportunity)*. Gustavo Bell Lemus.

from Asia and Europe and commercialize it in Latin America and the Great Caribbean. Also, it may help companies from the United States to establish here and trade with other Latin American countries.

Port terminals have been preparing with state-of-the-art technology, trained personnel, implementation of information systems to plan the operation and an adequate infrastructure to increase its capacity, leaving behind the times in which vessels had to wait for days to be served.

The three most important ports of the Colombian Caribbean have entered large investments for its modernization and to be more competitive. The port of Santa Marta has invested in direct coal loading, being a pioneer in this type of environmentally sustainable system, fully compatible with the activity of tourism, to the extent that cruisers have berthed at this coal terminal. Also, a strategic alliance was entered into with one of the largest containers companies operating in the world, which purpose is to increase its capacity moving from 100,000 TEU to 420,000 TEU, plus operation efficiency.

The port of Barranquilla extended its berthing and maneuvering zone through deepening works in the Magdalena River. On the other hand, the port of Cartagena has focused in acquiring equipment and logistics technology, extending its infrastructure to handle containers, its objective being to reach in the long-term a capacity of 5 million TEUs and serve New Panamax vessels.

At present there is no passage for post-Panamax vessels between the Atlantic Coast of South America and Asia, therefore in order for this type of vessels to transport cargo from the Pacific to the east coast of the United States, they must unload at the western coast and distribute merchandise to the hinterland in trucks, trains, or aircrafts. Due to the above, Kingston and Manzanillo are the principal cargo distribution centers of the Caribbean. However, with the extension of the Panama Canal there will be a direct route

from Asia to the eastern coast of the United States. Thus, large size vessels are expected to arrive that must be unloaded at only one call and then reloaded for distribution to the Caribbean. This gives ports of the Colombian Caribbean (Santa Marta, Barranquilla and Cartagena) the advantage of being the first ports after the canal, which will allow competing or entering alliances with the ports of Kingston and Manzanillo.

As we have seen in Colombia, the mining activity may contribute to the progress of a country, provided it is developed within the institutional framework and based on clear and stable rules. In our country we have experienced the positive aspects of the mining sector, basically its macroeconomic impact (greater contribution to the GDP, increase of the IED and exports). In addition, the mining boom has contributed (although there is still a long way to go) to the development of public use infrastructure, both roads and ports, which may also generate resources that, if adequately invested, will create benefits for the entire society.

- **Extension of the Panama Canal**

The Panama Canal is an interoceanic navigation route connecting the Pacific Ocean with the Caribbean Sea, granting benefits to world commerce both in time and money, via savings, having decisively contributed to the dynamics of commercial exchange.

The Canal has a length of 80 m long and 91-300 m wide, has a depth of 12.8 m in the Atlantic and 13.7 m in the Pacific. It has two terminals, one on each ocean, three sets of twin locks and the Gatun Lake (one of the largest artificial lakes of the world).

For 2006 was announced the construction of the third set of locks and the extension of the navigation channel, in order to allow passage of post-Panamax size vessels. The cost of these engineering works amounts to US\$5,250 millions, according to the Panama Canal Authority and is expected to be finished the second quarter of 2015.

This Canal expansion represents a change in world trade. As for the coal industry, which will benefit, this represents the possibility of starting mineral transportation in vessels of up to 180,000 tons. This also represents a great benefit for the mining industry of our country as Colombia is the country that most uses the Canal to export the mineral (it represents 40.8% of coal exporting countries, followed by the United States with a use of 35.6%), being Chile the main destination country for coal passing by the Canal.

On expectations of the increase of trade and cargo movement, above all coal and containers thanks to this work of engineering, Colombian ports must continue developing in order to face the future challenge, and only by adapting infrastructure and technology, and engaging suitable personnel, it may keep up and comply with the standards expected by port users, foreign trade, the industry and in general, the entire country.

However, as mentioned throughout this essay, Colombia must look forward to its integral development, not only to ports, but also to the interconnection of production centers with distribution centers, as ports are efficient if well connected.

Shipping Routes

Adam Smith establishes that the wealth of a society depends on the extension of its market and the exchanges generated by its trade, always advocating favoring the mobility of international products. Based on the above, ports and sea navigation are essential elements for international trade because of the articulation between producers and consumers, giving place to a very close relationship between trades, port infrastructure and shipping lines.

Sea transportation has a privileged place in world trade transactions, as most of these are done through this means. Originated dynamics and its growth have carried on to the evolution in size and capacity of vessels, and modernization of ports.

Port efficiency is a relevant element of freight costs.

The response capacity shown by ports regarding new market conditions generated as a result of the expansion of world trade and the great movement capacity of cargo by shipping lines has induced the reconfiguration of routes and certain stratification of the ports of the world.

The ocean, as a unique and closed space, allows ships to circulate freely from any part of the world, following different routes and establishing large quantities of sea routes. Sea routes are built based on mandatory passage points, political frontiers, strategic points, international agreements, the existence of natural or artificial passes, and oceanographic conditions such as currents, winds, depth, and reefs. The principal routes carry on most of sea transportation flow and without these there would be few profitable alternatives, thus resulting in more expensive costs that will negatively affect world trade.

- **Emerging Countries**

Key economies of the former Third World are again rising as dominant actors of the future, ceasing to be those just peripheral economies they had been during the first Industrial Revolution.¹¹ However, despite those countries concentrating more than 80% of world population, their low income level per capita has caused them only to provide 20% of world GDP, although this rate is expected to increase as its growth is now practically twofold that of developed countries.

The world in which we live, ever more integrated, is at the brink of a new period full of competitive threats and exciting opportunities, not only because of global flattening but because of the favorable inclination of the balance towards the so-called emerging countries.

¹¹ Van Agtmael, Antoine. *El siglo de los mercados emergentes (The Century of Emerging Markets)*. (2007).

According to Agtmael (2007), three events occurred during the last century in commercial relations between First World and Third World countries, which boosted the economy of the latter. These events are:

- Direct investment in foreign factories
- Subcontracting and extra-territoriality
- World-class emerging competitors becoming peers

Social License for the Operation

Sustainable development of a port must lead the progress of the city and the region where it is located, and for this reason work must be jointly done with communities and state entities, as it strengthens local human capital and support a social, pacific and sustainable development. Far away are those times when the only environmental concern of port management was the evolution of dredging or of new infrastructures.

Social Responsibility

The Declaration of Paris on the development of an efficient aid was signed in 2005 by the main donor countries and the poorest and most indebted. The principles included in the declaration: harmonization, alignment, appropriation, management oriented to results and mutual responsibility, were adopted by many countries. Latin American countries, among which are Peru and Colombia, are involved in such a way to commit themselves with the goals of the declaration, within a framework of development on social, economic and environmental sustainability.

Emerging countries have today a leading role, their economies have grown beyond the levels of developed countries and in time they are more important in matters of commerce and investment at global level; that is why the Social Responsibility system has taken force; although not yet a mandatory topic, its implementation is ever more

frequent. The principal objective of this Social Responsibility System is to maintain and improve the creation of value for the objective social groups.

Ports conceive their Social Responsibility system as the commitment of the company to contribute to development, welfare and to improve quality of life of its employees, their families and for the social, economic and environmental improvement of the community in general, that is, decisions of the organization affecting third parties in order to improve their competitive situation and added value.

The company seeks with its Social Responsibility System to generate greater confidence inside the community where it operates and establish purposes serving common good, without leaving aside the purpose of maximizing economic return for its associates.

Social Responsibility is a combination of legal, ethical, moral and environmental aspects; it is a voluntary decision, not an imposed one. It involves internal and external aspects, the first oriented to its collaborators or the work team, its associates and shareholders, and the second one, those foreign to clients, suppliers, workers families, community and social setting, and among others, the environment.

Criteria used to identify needs and expectations of its social groups, objectives and programs developed are focused to the areas of influence to identify the needs and expectations of these target social groups.

Out of requests received, the Port must determine which are of interest and will affect a great part of the social groups, and focus addressing towards them all its efforts, without leaving aside the situations of crisis or need of the country, where the company may contribute either with resources or infrastructure.

Ports have made important contributions in:

- ✓ Consideration to the Nation
- ✓ Profits for the city and the department
- ✓ Local and national taxes
- ✓ Works:
 - Social and Cultural
 - Of interest to citizens
 - Adaptation of the Cruisers Terminal
 - Rehabilitation of the Historical Center

V. CHAPTER III

• Financing

Depth of access channels, type of infrastructure (piers, docks, levees) and the equipment that form a port imply both high construction costs and physical inflexibility to extend or begin new projects, since they are subject to space boundaries of the location area of the port, which are generally quite limited.

Port infrastructure requires at present intensifying capital investments that guarantee the best in efficiency and increase in capacity, in line with investment return that must be paid with the cargo tariff and at the same time being competitive. Many variables meet towards the same objective: "Capacity to assume world growth".

There are many ways of achieving funds for these infrastructure projects and financial entities, investment bank, alliances or joint ventures and/or capital funds, among many other alternatives at the moment of establishing alternatives to supply required resources.

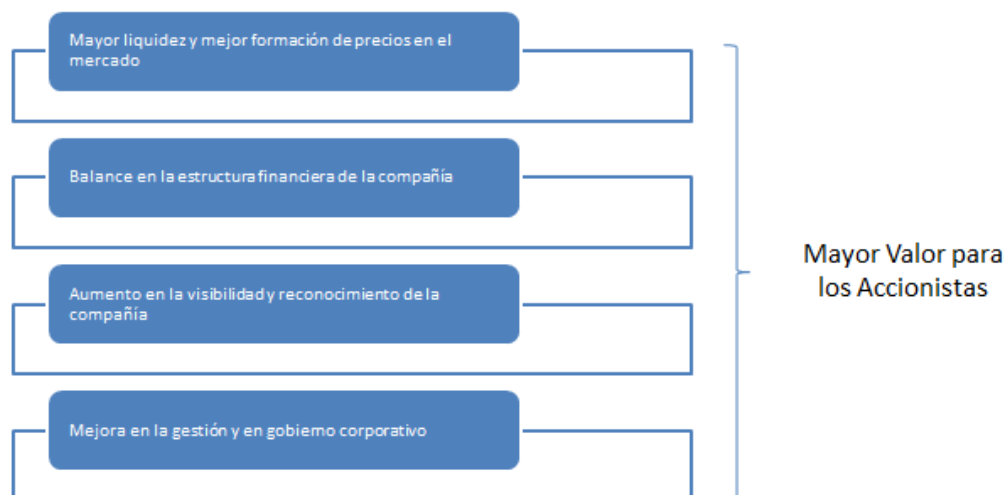
a. Market of Capitals

Latin American market of capitals has been growing in the last years, and has now reached maturity levels where important liquidity levels have been accomplished. Worth mentioning is the development of the Brazilian, Mexican, Chilean and Peruvian markets.

As these markets of capitals activate and have an important dynamics, they become a clear mechanism and a financing option for the companies.

Being listed in the Stock Exchange is a strategic decision. Having access to the market generates advantages that materialize in financial and corporate benefits, basically as the companies must internally prepare themselves (corporate government, IFRS and Social Responsibility) to assume the challenge of opening their composition of shares and general information to third parties. Within this option menu there are fixed-income securities such as bonds, commercial papers, and securitizations, and regarding variable income there are shares and bonds convertible in shares¹².

Public offer of shares generates access to capital with the following advantages:



However, any company wishing to have access to the market of capitals will be subject to the rating of risk, which is a decisive factor that must be considered to achieve access to the market of capitals¹³. This rating is just a professional opinion on the capacity of the potential issuer to pay both capital and interests of its obligations on a timely manner, in

¹² Stock Exchange of Colombia.

¹³ Stock Exchange of Colombia.

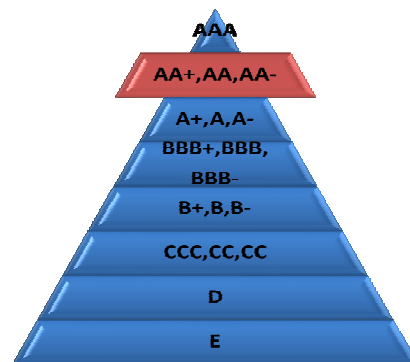
other words, it is the result of the need to grant to potential investors the tools to make decisions.

Here are described some important criteria to have in mind when rating a port, among which are resistance to demand to be applied to cargoes and markets; financial flexibility to compensate instability historically associated to world trade; and management practices to approach development of infrastructure and risk management.

The rating agencies have generally rated ports from category AA to category BB, since the port sector characterizes by a greater exposition to difficult mitigating risks, which results in lower average ratings than those of other sectors. The general valuation rank is ample, but most will be classified in A or BBB categories. Each rating specifies the most relevant factors for assigning individual rating or action.

The ports are intensive capital enterprises, with higher leverage levels, which generally tend to concentrate a larger number of geographically close companies. Besides, port operators and owners tend to deal with the corporate counterparts, with a varying liquidity from investment to speculative degree, as frequently occurs with infrastructure assets. As a result, it is unlikely that risk rating agencies rate the port above the AA category.

The general structure of ports represents a diverse mix of property and state or mixed economy structures, types of market, regulatory frameworks, and contractual arrangements, which are the key variables for port ratings.



An AAA international scale category port is a company leader at any global level category, with sales of more than US\$30,000 MM and long-term contracts representing 95% of income. With profitability levels (EBITDA) higher than 60%, reasons of coverage of interests over 16x and an EBITDA leverage lower than 1x.

AA category ports usually operate at principal markets with limited competition, low volatility of long-term historical demand (or long-term contractual agreements substantially mitigating volatility of demand of income) and having stronger classifications through income, structure of the debt, service of the debt and infrastructure development categories.

A port category A usually operates medium to large markets (possibly with competition), have low to moderate volatility of demand in the long-term and have a strong risk mixture in short-term income that is compensated by the weak structure of the debt, service of the debt or infrastructure to be developed.

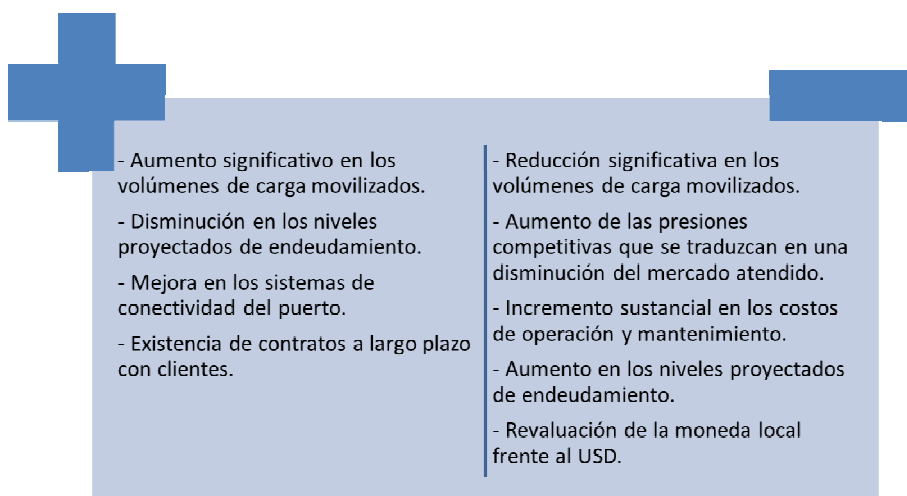
BBB category ports usually operate in small- and medium- size markets, have specialized in subsectors or those with a high degree of competition, and have a medium risk mixture in income. This category may also include ports operating in large or principal markets but have less participation in demand, with great volatility and financial risk, or capitals that are considered speculative.

A BB category port is usually a lower nominal port operating in small markets with demonstrated volatility and great dependency on a variety of cargo and limited operators. As a result, the income base is probably highly correlated with a particular industry or type of cargo.

Key factors supporting rating assignment are:

- Partially mitigated risks of demand: Ports, although operating in highly competitive markets and exposed to economic cycles, seek to maintain strategic alliances with cargo owners or shipowners allowing guaranteeing in time a constant cargo to the port, reducing volatility of cargo volumes moved during years of crisis.
- Cash flows exposed to exchange rate variations: Although tariff reference is in dollars, most ports manage costs in local currency, which generates differences that may become considerable if they do not recur to strategies to mitigate the impact, among which is control of expenses, or contracting exchange coverage financial mechanisms.
- High levels of capital investment limit financial flexibility: Concessions mostly granted for the long term allow handling long-term financing structures in accordance with cash flows; however, this debt must be structured to guarantee correct fulfillment over time.
- Indebtedness levels favor credit profile: Since this sector requires large financial resources to develop infrastructure, care must be taken and also guarantee to structure and support debt. In such a way that the sector manages indebtedness levels lower than 50% in average.

Factors positively or negatively influencing grading:



Regarding future challenges, each time more companies have access to the market of capitals, especially those of the port sector, of which in Latin America exist two cases of the issuance of bonds in Peru and Brazil (fixed income) and variable income (issuance of shares). Likewise, it seeks to encourage the appetite for ratings as AA or AA- that from the point of view of credit risk are excellent, with solid business models and important local and international market participation.

b. Fixed Income

Private debt markets encourage the development of a country as it helps to canalize savings towards productive investment, through bonds issued by companies requiring raising resources to finance their activities and/or projects. In Colombia there has been an important growth of this market during the last decade, which was accompanied by important progress and developments in matters of regulation and financial innovation, contributing to the creation of a more efficient market of debt.

Investment in fixed rent accomplishes diversification of financing sources, resources obtained in the long-term, flexibility in type of yield at fixed or indexed rate (Ex.: IPC, DTF, UVR, etc.), recompose existing liabilities, negotiate capacity, company acknowledgment to bond holders and the market in general, market management or discipline.

The market requires and rewards transparency and good corporate governance. Opposed to shares, corporate bonds do not constitute a right of property on the assets of the companies, or promise a variable participation on its profits, in other words, there is no control assignment of the issuing firm.



Aspects to be considered in issuing fixed income securities:

- Recurrent funding mechanism (levels of liquidity)
- Debt restructuring with the possibility of achieving more extensive terms.
- Defined strategy (acquisitions, Long-term expansion projects)
- Definition of market value of the firm.
- New base of shareholders.
- Reputation of the company (transparency) improves generating public confidence.
- Management improves as a result of Good Corporate Governance
- Cash flow made to the needs of projects
- Follow-up and control of external institutions

This financing mode is ever more popular in Colombia. During this year until April, 4.13 billion pesos have been issued, with a demand twice as large. In general, these allocations were done below the valuation rates because of the ample liquidity and low rates of TES.¹⁴ It is expected that during the entire 2013 private debt issuances may amount to 9.5 billion pesos¹⁵, expecting that the financial system acts as a major participant. This was the result of the expansive monetary policy of the Government, a tax reform that reduced the tax rate for foreign investors in fixed-income securities, altogether with the improvement in the perception of risk of the country, achieving allocations with hefty demand.

c. Other Financing Mechanisms

Among the ample portfolio of long-term infrastructure financing sources are the investment funds that seek a mid-term profitability without need for shareholders to lose control of its operations.

Investment funds work with private capitals that help stabilize and structure financing. The range of possibilities depends on the expectations and needs of shareholders, as debt restructuring may be required, financial close for future investments, or sale of share participation of present shareholders.

Growth of Colombian economy and its progress is locating Colombia in the radar of international private capital funds, which are seeking destinations to invest. The principal interests are concentrated in the infrastructure sector, where large investments are yet to

¹⁴ Ultrabursátiles. (abril 2013). *Local Fixed Income*. Recovered from <https://www.ultrabursatiles.co/content/mensual-renta-fija-abril-2013>

¹⁵ La República. . (2013, February 9). *Private debt issuances will reach \$9.5 billion*. Recovered from http://www.larepublica.co/finanzas/emisiones-de-deuda-privada-llegar%C3%A1n-95-billones_31350

come. Although the industry of private capital funds is yet in an early stage, considering it started in 2005, it has an important growing potential.¹⁶

Which are the main characteristics of available structures?

Companies are the most popular instrument in which to invest these funds. The entrepreneurial structure is easier to understand by investors, and the principles of limited responsibility for shareholders are well established. The company is formed upon registration and is an independent legal entity capable of maintaining assets in its own name.

When investors inject money in a structured fund they become shareholders of the company and shares will be issued to represent their participation and interests.

Company matters are controlled and supervised by the Board of Directors under company bylaws, have a discretionary management of investments entered by the fund and will assign an Investment Manager or a consultant. Directors also often delegate the day-to-day administration of the fund to an administrator in charge of keeping company books and records, complying with its obligations, calculating the value of the fund, processing subscriptions and reimbursements, and communicating with the shareholders of the fund.

Limited associations

Are also a structure frequently used by investment funds, particularly for closed-term funds. Only the identity of the general partner is available to the public.

¹⁶ Proexport Colombia. (2012, November). *50 Fondos de Capital Privado interesados en invertir en Colombia (50 Private Capital Funds Interested in Investing in Colombia)*. Recovered from <http://www.proexport.com.co/noticias/50-fondos-de-capital-privado-interesados-en-invertir-en-colombia>

Limited associations are constituted by an association agreement between a general partner having unlimited responsibility on association debits. The limited corporation has no legal capacity to enter into contracts in its own name, and therefore operates by or through a general partner in the name of the limited corporation as a whole.

The general partner is responsible for the business management of the association. Limited partners are passive investors in the business that generally must not take part in company management, although the veto right on proposed investments is usually admissible. Investors in structured funds such as limited associations will be limited partners and have the right to capital returns and part of the profits of the fund in terms of the association agreement.

The general partner will usually be the administrator of investments or consultant or an affiliate of the investment manager or counselor, and the general partner will sometimes appoint an administrator to administer the fund day-by-day, calculate the net value of fund assets and process investments and withdrawals by investors. Appointment of an administrator is less common for closed term funds because of lower regulatory and administrative requirements for such funds.

De facto Society

It is the oldest form of investment fund vehicle. It is established by a declaration of trust and the terms in which trust is to be operated may be found in an act of trust.

Investors in a fund will celebrate a beneficial interest representing a fractioned interest in the subjacent pool of assets in possession of the trustee and in the name of the trust that may be exchangeable subject to the terms of the deed of trust.

As in the limited partnership, trust in the unit has no legal capacity and must be operated based on trust. The deed of trust frequently foresees certain powers and duties to be held

by an administrator, usually the investments manager. As in other trust fund structures it will usually have the power to appoint an administrator to manage the day administrator or the fund administrator, calculate the net value of fund assets and the processing of investments and redemptions by investors.

Investment funds in general tend to specialize in a sector and currently there is a great crave for infrastructure matters, and there are specific funds for port, energy, mining and aeronautical matters.

Commercial and Multilateral Bank

Latin American Banks have grown and have their own and state resources for long-term financing under competitive conditions. These banks are versatile in granting credits in local currency or dollars, depending on the need of cash flow.

Operative leasing modality has taken a lot of strength as it is financially attractive. Based on this modality important infrastructure projects have been developed such as aqueducts, ports, plants, among others, going beyond the limit of equipment leasing.

Leasing is a mechanism that facilitates capital access to companies, and also promotes investment in assets, increasing productivity and encouraging long-term economic growth. The positive effect it has over growth is because this mechanism relaxes liquidity restrictions of the real sector, thus reduces obstacles faced by the companies for its growth. In fact, according to experts, one of the factors that mostly hinder the growth of firms is financial restrictions, among which are the requirements for collaterals, paper work at the time of requesting credits, high interest rates, lack of connections with bank entities and low availability of resources to lend¹⁷.

¹⁷ ANIF-FEDESARROLLO. *Leasing in Colombia: diagnosis and impact on investment and growth*. Recovered from <http://www.fedeleasing.org.co/>

Attachment to ownership of productive assets has evolved towards the concept of using them to boost competitiveness and not to support its equity strength.

Operative leasing is a contract by which a leasing company gives another the possession of a property for its use and enjoyment, in exchange of a periodical payment during which the property belongs to the leasing. Once the leasing operation terminates, the client has the option to release the asset or purchase it for its commercial value or return it. This modality enables the permanent updating of assets and not allows its obsolescence or disuse.

Formerly, one of the great benefits of this financing modality were taxes, as it allowed total deduction of the leasing value that included capital, allowing companies to obtain a marginal advantage over other financing alternatives, where the benefit is obtained on the reduction of the taxable base as interests are entered to expenditures. Other benefits years back were the inflation adjustment. This was because the asset was not accounted for in the balance sheet, and for this reason inflation adjustments were avoided, which on the end generated a lower income on the monetary correction account; however, this occurred only until 2006 when inflation adjustments were eliminated, leaving deduction of leasing as the only tax benefit. However, this benefit also ended with the declaration as unconstitutional set forth by Article 15 of Law 1572 of 2012 issued by the Constitutional Court that sought the indefinite extension of tax benefits for financial leasing. Despite the above, the product continues having advantages as in many cases it prevents structuring additional guarantees and continues being a suitable alternative to finance investment projects in Colombia.

Strategic Allies

Intelligent capital is a very interesting option to diversify risk, strengthen projects financially and generate value with international logistics chains, leading technology and

consolidated processes in different countries generating synergies in organizational structures, acquisitions, negotiations and tariffs.

These allies are not necessarily companies of the same sector, but do have in common the vision of long-term businesses and the need to integrate the different sectors of the economy into a same objective. This objective makes them join efforts and generate long-term, sustainable and high value content alliances.

In a globalized world and with a constantly growing market, this type of alliance takes force in the infrastructure sector that, because of its characteristic of large investment and important capital demands, becomes an option to improve indicators and increase shareholders profitability, capable of being compared to solutions obtained in the financial market.

- **Methodology and Selection of an Efficient Structure of Capital**

The methodology developed in this document allows measuring a set of key financial indicators for the definition of short- and long-term financing strategies.

The principal objective of the Model for Efficient Capital Structure (MEEC, in Spanish) involves the efficient identification (from the viewpoint Risk/Return) to finance the growth strategy of a Company in the Long-term. MEEC considers correlations existing in market risks inherent to the company and its correlation with the operational cash flow.

Indebtedness capacity of the company may be estimated with analysis, starting with the exposure of its principal financial performance indicators to market risks. Thus, a leverage strategy may be defined allowing management of such risks in an efficient manner, based on current market conditions.

Volatility and reversion to the average operational cash flow of the company will be fundamental elements to determine an efficient capital structure. High cash flow volatility implies a lower indebtedness capacity.

Steps to follow:

1. Financial Map or Diagnosis:

Summary of the principal financial forecasts of the Company:

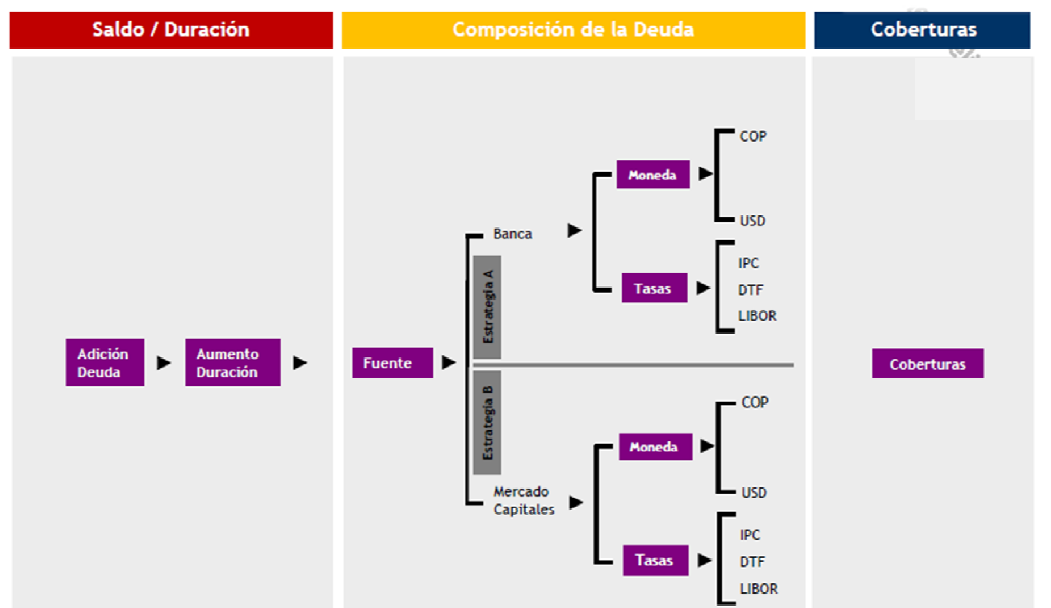
Levels	————→	Income xxxxxxx	EBITDA Margin %	Net Margin %
Growths	————→	Exchange rate	Operational Exposure*	Cash Exposure
Risk Level	————→	Risk Rating AA+		
Levels	————→	Cash xxxxx	Debt xxxxx	Investment xxxxx

* Operational exposure refers to the natural coverage of company revenues and costs in foreign currency; this differential shows the flow that will be affected by the exchange differential.

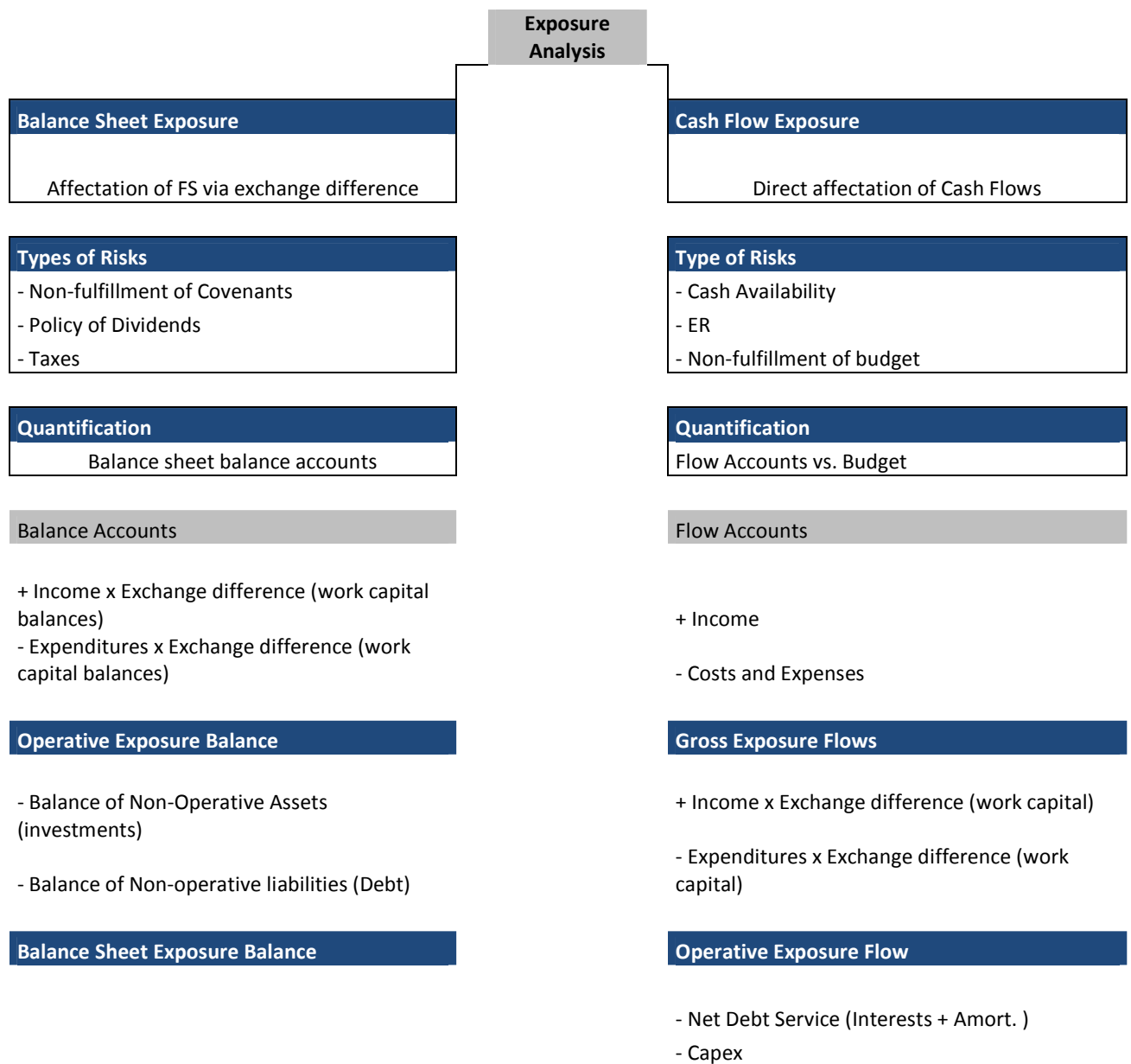
2. Decision Tree:

Refers to the evaluation of the current debt structure and the structure of local and foreign currency in order to balance exposed flows and determine optimal debt-capital levels, allowing obtaining additional resources via leverage.

Árbol de Decisión | Situación Actual

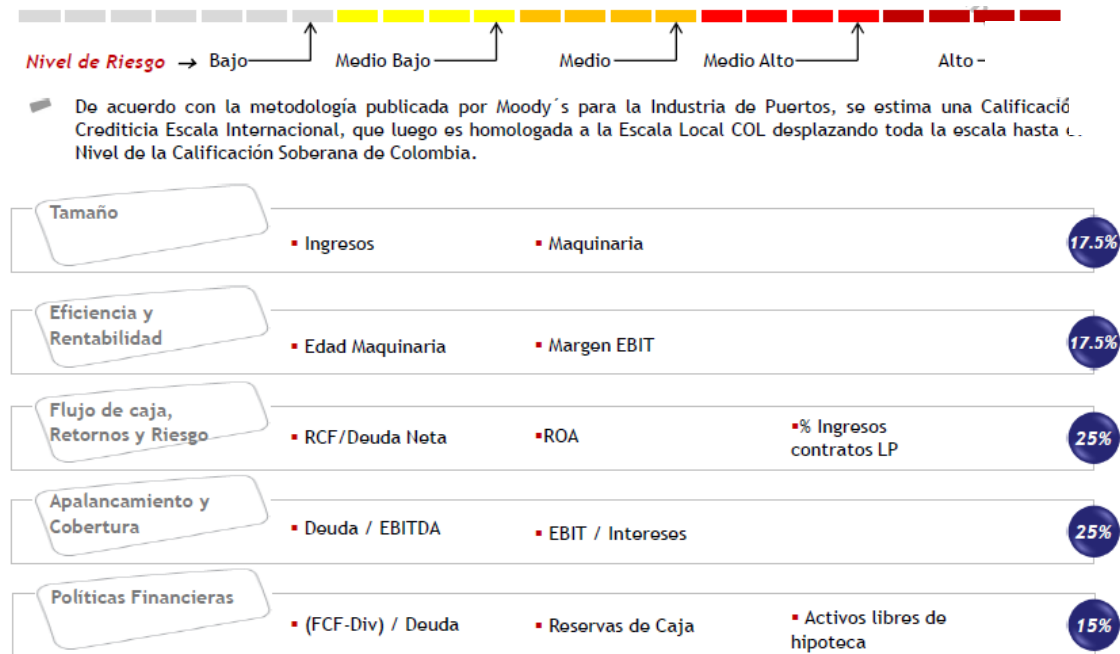


3. Sector Analysis: A comparative assessment of the sector is done at world, regional and local levels of the financial indicators, market, and productivity. Each sector of the economy is characterized by its capital structures that are determined based on the nature of developed activity. Ports especially characterize for managing considerable current cash flows, requiring large investments in infrastructure and equipment that generate barriers to enter in competition, with a very elastic demand as prices are established by the market and are susceptible to changes because of competition.
4. Risk Analysis: Seeks establishing the map of inherent risks of the sector and its levels of exposure



This analysis determines a time horizon in the long-term as the net flows are forecast for foreign currency and levels of exposure to determine the composition of local and foreign currency that generates company value. As most revenues of Ports are in dollars and costs are in local currency, having debts and investments in dollars helps mitigate the impact of exchange.

Perfil de Riesgo Crediticio



Metodología: Global Shipping Industry. Moody's Global Corporate Finance. Diciembre 2009.

At first a mapping for the forecast horizon is done for each category of analysis, determining a weighted risk level, which is average for the baseline scenario. However, the credit profile may radically change upon variable variations of the market. For example, if the company has long-term contracts it would reach an AAA local rating, equivalent to a BB+ at international level.

Matrix of Risks

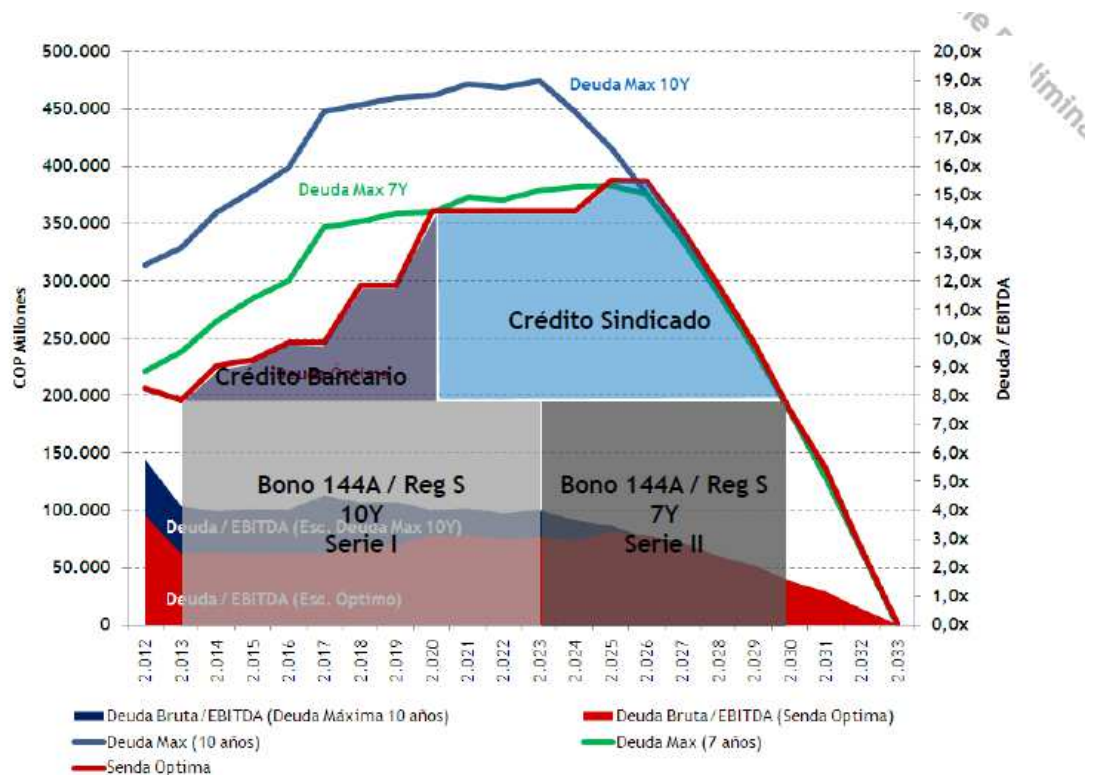
	2013	2014	2015	.....	2030	2031	2032
Income	Medium High	Medium High	Medium High	.....	Medium High	Medium High	Medium High
Number of vessels	Medium High	Medium High	Medium High	.....	Medium High	Medium High	Medium High
Age of equipment	Medium High	Medium High	Medium High	.....	Medium High	Medium High	Medium High
EBITDA Margin	Medium High	Low	Low	.....	Medium High	Medium High	Medium High
Cash Level	Medium High	Low	Low	.....	Low	Low	Low
ROA	Medium High	Medium High	Medium High	.....	Low	Low	Low
% of long-term income	Medium High	Medium High	Medium High	.....	Medium High	Medium High	Medium High
Debt / EBITDA	Medium High	Low	Low	.....	Low	Low	Low
EBIT for Interests	Medium High	Medium High	Medium High	.....	Low	Low	Low
Cash Flow - Dividend/Debt	Low	Medium High	Low	.....	Low	Low	Low
Cash Reserves	Low	Low	Low	.....	Low	Low	Low

5. Conclusions:

After having implemented above steps one arrives to a financial radiograph of the company that shows, based on forecasts, how an efficient capital structure must be and the mixture of debt and equity, local currency and foreign currency. Further on, the different financing options shown in item above are evaluated.

The following graph shows the combination of several financing strategies that expand growing capacity with new projects, generating additional value to the company as a result of the efficiency achieved in financial expenses and the incorporation of new sources of income.

A bond issue collecting the debt of ongoing businesses and liberating quotas of the commercial and multilateral bank, in addition to the financial closure with infrastructure credits for new projects, shows how a maximum debt may be achieved supporting long-term sustainable growth.



The brief description of the different financial mechanisms currently in existence may conclude that structuring requires a particular analysis depending on specific conditions, which depends if it is a private company or a public company, the type of operation contract, the duration of the operation, and the exchange, corporate and tax restrictions of each country.

Financial structures and how to select which is optimal are defined in the previous chapter; however, below are identified the following characteristics that help select the financing mechanism:

- Public ports have no limitation in time, and the support of Governments usually proves a minimum risk accompanied by the qualification of the country, being attractive and showing how the spread in variable income market of capitals, mainly in shares, is growing. This mechanism achieves democratization of part of the companies, with a good financial profile and risk for investors, and the Government may maintain decision-making control. This mechanism helps transparency and applies the highest standards of Corporate Government practices.
- Private or mixed ports are usually companies with a definite-time concession contract of 20-50 years, this being a determinant factor insofar as time passes, and its value of future cash flow is lower, which causes structuring of bonds to gain strength, provided the time remaining for payment of bonds has plenty of space before the expiration of the concession. This type of structure benefits the cash flow of the company and shareholders, and leverages investments considerably.
Structuring of bonds is justified for amounts higher than US\$100 mm because of cost of issuance. Risk profile improves a great deal when there are long-term revenues and the structuring of debt or guarantee accounts to pay coupons.
This type of structure is usually ideal for consolidated projects having ongoing flows as the risk rating is determinant for financial cost.
- Investment funds are an interesting option for those ports requiring improving their indebtedness level without compromising decision-making and port management control. These are usually financial entities in search of guaranteed returns for 5-7 years and establishing the exit formula since the start. At present there exist investment funds specialized in infrastructure and the port sector.

- World and globalization trend requires ports to look for strategic allies that expand the track and integrate to a world chain with a greater coverage, this being the reason why large port operators enter into associations and acquire smaller ports allowing them to strategically expand the market and gain participation in the logistics chain.

Strategic allies usually belong to the same sector and have extensive knowledge, which generates an additional financial value (intelligent capital). These types of strategies seek to improve profitability by using economies of scale. It usually gives way to control and in some cases to the partial or total management of the operation.

- Multilateral and commercial bank have created new specialized lines of credit for infrastructure and projects requiring large investment sums, which characterize for periods between 12 to 15 years, in some cases with a grace period for equity or interests and dead period for equity of 2-3 years. The advantage of this structure is that during the construction and implementation periods port and shareholders cash flow allows waiting for the operation to start. However, it compromises the level of indebtedness and limits the growing capacity with additional projects in time. This structure is ideal in the case of projects not having long-term contracts and no ongoing projects. Depending on guarantees granted, support and good name, competitive financial costs are achieved.

VI. CHAPTER IV

As mentioned throughout the essay, Colombia is now in a critical moment of development, entering strong investments in lands, railway and river infrastructure in

order to support the growth that has been experienced in foreign trade and to face challenges coming forth in the near future. The new dimensions of the Panama Canal, the challenges represented by the free trade agreements, and the regulation for direct loading of coal, which will be effective in 2014, have caused ports to add record investment figures. According to the project manager of the National Infrastructure Agency, the investment boom will guarantee better freights to the Colombian industry, saving US\$320 millions through the optimization of transportation costs, which will result in an increase in competitiveness.¹⁸

Worth mentioning is that the most important link of this transportation chain is city-ports. At present the country has 56 port concession contracts, which go from terminals with 14 docks to more than 35 terminals with only one dock.¹⁹

This topic of city-ports has been acquiring importance at world level as there has been a greater integration and globalization of economy. The interest on this matter is evident as all wish to know the existing interrelation between the city and the surrounding port, achieving high port efficiency and at the same time increasing the quality of life of the population.

The interface of city-port spaces has all the potential to become a motor of development; examples of the above may be seen in New York, Rotterdam, Buenos Aires, Alicante or Guayaquil.

¹⁸ Portafolio. *Auge de inversión en puertos por Tratados de Libre Comercio (Free Trade Agreements bring investment boom in ports)*. (2013, May 22). Recovered from <http://www.portafolio.co/economia/inversion-puertos-colombia>

¹⁹ Portafolio. (2013, May 22). *Boom of port investment by Free Trade Agreements*. Recovered from <http://www.portafolio.co/economia/inversion-puertos-colombia>

- **Description of Methodology**

Although the truth is that Colombia has a long way ahead in matters of transportation and port infrastructure, at least it has started walking.

Methodology for this work is research and comparison as there is the experience of other ports that have become real motors of development of the cities where they are located.

Port of Rotterdam

The Dutch city of Rotterdam has the largest port of Europe and the fourth largest of the world. Today, the port authority and the city are reinventing their relations for a renewal of the seafront resulting in benefits both for the port and the city.

However, this was not always so. At a time, the port turned its back to the city as has occurred in the case of Colombia. Investing facing the sea almost generated a geographic separation between the city and the port, although this does not mean that the port disappears from view, but does leave the minds of the citizens.

However, the economic logics that arose and the ambitions to change the port and the city forced them to establish a new relationship between both. On one hand, the city saw the need to continue taking advantage of the presence of a great port, and on the other, port authorities should assure that desired developments were supported by the city.

At present, the port and the city live together and evolve harmoniously and organically. This has required the creation of specific areas, called City-Ports, transforming a large scale port into a new urban environment, bringing the port back to the minds of the citizens and attracting certain economic niches to strengthen urban and port economy.

With this project of City-Ports, the port seeks to maintain and strengthen itself as the largest port of Europe, and also the most intelligent and sustainable worldwide. While, on the other hand, city authorities are searching for new economic sectors capable of strengthening the profile of the area, and this has been centered on the classic functions of the port.

Port of Alicante

For this time of crisis in the Iberian country, they recognize the importance of ports as essential tool to break the economic deadlock, as these represent a motor of opportunities and growth.

As of the 90s, the port of Alicante has become a structuring element of the city throughout history in spatial, economic and social levels. This is due to the commitment acquired by the Port Authority of Alicante, not only centered on development and management of port logistics infrastructure, but also with public, social and economic institutions in order to introduce strategic changes to the city and favor settlement of new companies in its environment of influence.²⁰

The port has had opportunities to grow and develop altogether with the city, creating a better maritime environment for it and fitting into city planning. Among these opportunities are the following:

- Extension of the port, with part of it becoming a space of leisure and promenade for citizens and tourists with restaurants, bars and pubs.
- Local government financing to eliminate fuel deposits of the port.

²⁰ *Alicante. Puerto marítimo y comercial (Alicante: Seaport and commercial port).*
(2012, May 19). Recovered from http://alicante.portalcity.es/Alicante_puerto

- Construction of a leisure complex within port facilities.

Based on the above, one of the great challenges of ports is not only the large investments to be made, but also the recovery of the port environment as social area. To accomplish this, policies must be developed to improve labor conditions, establish links with academic institutions, train its workers and guarantee its replacement, this in order to create a relationship between port employees and the company to build a sense of belonging. In addition, the port must have a greater implication in sustainable territorial development programs to open to a frank dialogue with public opinion of the local entourage. However, port and city integration must be a concern shared with other economic and social agents, in order to reach in an integrated manner the generation and distribution of wealth, the welfare of the individuals, the management of resources and the possibilities of joint development in the future.

Finally, the following must be considered for the orientation of this city-port relationship²¹:

1. Ports must promote port spaces and in order to recover its leadership, potentiate its facilities for civic activities.
2. Creation of policies intensifying the residential functions of areas next to the port.
3. Facilitate port accessibility by always maintaining security measures.
4. Ensure maintenance of buildings and facilities of a historical character for them to serve for the identification of the city with the port, the living memory of a common past. The port and its facilities must also become an element for the valuation of surrounding estates.

²¹ *El papel de las ciudades en el desarrollo regional: Innovación y Crecimiento (The role of cities in regional development: Innovation and Growth)*. Recovered from <http://www.aecr.org/web/congresos/2006/ATVI/ATVI-13.pdf>

5. Minimize the negative environmental effects of port activities on the city, especially visual and audible contamination.
6. Decisive impulse to the railroad as the best means of transportation for sustainable development, above all among ports located in urban centers as is the case of the Port of Santa Marta.

- **Profile of the city-port**

Santa Marta is a privileged port as it has natural dredging, being the best deep-water port of the country; however, it has a factor that as of now has been considered a disadvantage, that is, it is surrounded by the city and hills, which until now has been conceived as a restriction for its future expansion.

However, studying the experiences of other ports, as those mentioned above, this restriction could become an opportunity to work hand in hand with the municipality of Santa Marta, making of this port a motor of development for the city.

Those interface city-port spaces have all the potential to become a motor of development of city-ports.

As we have seen throughout this essay, these city-ports have the strength to increase foreign trade through its ports as a strategic location, port infrastructure and its tourist potential; however, they require infrastructure works to increase competitiveness, sources of financing to face commitments acquired with the country and the support of the national and local governments.

However, what is most required is to start working at hand with the local authorities, seeking the coordination of its future plans, even proposing an ordainment plan of the coastal front to include sports complexes for leisure, with tourist and commercial activities.

VII.CONCLUSIONS

Permanence of city-ports in the future implies a serious commitment between the port and the city, which supposes rethinking current relations between both by building a new framework of relationships with a maximum purpose of revitalizing maritime and commercial vocation. Where the best investment of public and private capitals must be done the best way, and this is only achieved by making investments profitable in the best way possible on the appropriate infrastructures, accompanying the progress of the different possible scenarios for development, Of the Cities and the Ports, and marching on the same path towards sustainability of all actors.

Without doubt, the transformation of ports in essential nodes of networks for the circulation of merchandises and information not only depends on the management of the port and with difficulty could be carried out independently from the city. To face the new challenges that may be found around the corner implies reformulating city-port relationships in the economic, territorial, environmental, cultural and commercial levels. That is why it is necessary that port planning instruments recognize and integrate those environmental and social factors which may have repercussions, and also be coherent with the figures of urban and territorial planning applicable to cities where these develop their economic activity.

In the past, dissociation in Colombia between port and city occurred by the lack of coordination between the development planning of both. However, the introduction of sustainability criteria have repaired this aspect, although there is still a route to run to harmonize the zones of the city-port interface, allowing the recovery of the port as another element of the city.²²

²² *Sustainability of Ports*. (2004)

Where there is harmony between a port and the city, it provides countless advantages to the city, among which are national and international projection, constituting a source of economic development and employment, promoting the creation of urban centers with general equipment and services (financial, commercial, authorities, public offices), granting security through social responsibility policies, and a sustainable development to reach a higher urban quality.

It is worth emphasizing that port activity and logistics synchronize with the industrial and mining sector and thus has many ways of blending and aligning in tourist and residential sectors, in such a way to jointly create prosperous cities with diverse industries, minimizing concentration and exposition to only one factor of development.

It has been definitively proven that investment in port infrastructure because of the wealth of the sectors converging in it generates development and growth not only for the city limits but also for the surrounding region, giving it an important position at international level.

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