

COMPARATIVE AND COMPETITIVE ADVANTAGES WITH THE FUNCTIONING OF A RECEPTION. STORING AND THE DISPATCH OF FUELS IN PARAGUAY AN SOUTHERN ERN REGION.

Duarte Chávez, Héctor A.

Faculty of Economic Sciences – Roman Catholic University "Nuestra Señora de la
Asunción" Regional Office Itapúa

Antequera entre Arq. Tomás Romero Pereira y 14 de Mayo

Encarnación - Paraguay

E-mail: hector.duarte@ultrapar.com.py

SUMMARY

This work is a research developed within the context of Paraguay an market of fuel derived from oil, to determine the appropriate conditions and to propose competitive and comparative advantages for the southern ern region of Paraguay, with the functioning of a reception, storage and fuel dispatch plant.

The problem around which the study has been made, converges in the hypothesis that supposes the achievement of comparative and competitive advantages in the oil derivate fuel market in Paraguay an southern ern region, with the functioning of a reception, storage and fuel dispatch plant, based on socioeconomic, demographic and geographical characteristics of this region and under appropriate market conditions.

The work was developed by means of a deductive - inductive process, starting off from the triangulation of the theoretical-conceptual bases and the results obtained from the different primary data sources.

The results of the work, allows us to reach the conclusion, starting off from the appropriate characteristics and conditions of market, it is possible to achieve comparative and competitive advantages for the southern ern region of Paraguay, with

the functioning of a reception, storage and dispatch plant, starting from an open-market, in which the prices are fixed by the offer and the demand, with clear and predictable rules, applied by an autonomous and independent regulator entity, which compete in equality of conditions all the interested parties actors in the fuel sector, be these national or foreign.

KEY WORDS Fuel Plant, Open Market, Reception Storing, Dispatch

INTRODUCTION

Lately world trade has been changing a lot; new concepts, theories and models appear, and in function of these, new structures, organizations and relationships are developed among these last ones, everything with purposes of achieving competitiveness and market sustainability, starting off from strategies that allow the companies to achieve their objectives.

Doubtlessly the world economy is subordinated to oil, as one of the most important energy sources. In Paraguay, the economy is directly affected by the commercialization policies of oil derived fuel, fixed by the State, which impact in a decisive way in the country's macroeconomic stability.

In short, the commercialization of oil derivate fuel in Paraguay, is carried out in a monopolist form, through the government enterprise Petropar, that deserves a careful study to determine the characteristics and conditions that are presents in the fuel market in this country; to determine what advantages or disadvantages affect, on one hand Paraguay an State that has the state oil enterprise Petropar, with a heavy and bureaucratic structure, that subsidizes the sale prices and it also supports high operative costs; and, on the other hand, the final consumer who acquires the products without option to competitive and comparative advantages, in a market that is characterized by an unbalanced matrix of fuel consumption and that leads to dieselization.

To this is added, the problem of a constant fluctuation in the international behavior of the commercialization of the product for diverse influential situations in direct or indirect form of the world's reality.

The southern region of Paraguay is considered one of the country's most productive areas. This region is characterized to be in constant agricultural productive activity (soil preparation, sowing, harvests of different types of grains), in all cases the derivative fuel of the oil is a very important factor.

The current conditions that Paraguay an fuel market presents, described above, are not favorable to generate comparative and competitive advantages in the sector, as with the current situation, a series of given factors are analyzed in depth in this research and that they serve as a base to develop a proposal that sustains the strategic possibility of the functioning of a reception, storage and dispatch of oil derivative fuel, in the mentioned region that obtains comparative and competitive advantages, under appropriate market conditions.

This work seeks to be a summary and organization of information, from different bibliographical and field sources, with the objective of formulating proposals for the functioning of a reception, storage and dispatch of oil derivative fuel for the southern region of Paraguay in management terms, under de-monopolized and deregulated conditions. In this context, Peter Druck's¹ ideas are interesting he says that "the main source for the formulation of a strategy is the qualitative and quantitative information that allows one to make effective decisions in uncertain circumstances". On this point, one should clearly understand that, mere information without its appropriate treatment, of the same one, does not guarantee the success of a strategy. As to this, Nilda Tañiski

¹ Flaherty, John E. (2001) Peter Drucker. La esencia de la administración moderna. Prentice Hall. México. Pág. 99

sustains that "knowledge should have an objective, that is to improve performance through a very oriented focus (...)"²

With the general panorama presented in the previous paragraphs, the problematics approached in this research are defined. The queries as to this relationship, are presented in the following terms:

Which are the advantages or disadvantages offered by the consumer market due to the current Paraguayan State monopolistic situation in the provision of oil derivative are?

What advantages would the de-monopolization, in the provisioning of fuel in the Paraguayan market and, especially, to the southern region of this country?

Under what conditions internal and external to Paraguay, would a reception, storage and dispatch of oil derivative fuel be able to offer comparative and competitive advantages to the southern region of Paraguay ?

Would the Paraguay southern region final consumer be benefited, due to the installation and functioning of provision plants, logistics, storage and marketing of oil derivative fuel, and in the current market conditions?

These questions guide the purposes of the research, in which one aims at answering them, with criteria and scientific foundations in the treatment of the theoretical bases and the data collected for the researched reality, analyzing and establishing conclusions starting off from the appropriate relationship between them.

The hypothesis tries to establish, that under appropriate market conditions, the functioning of a reception, storage and dispatch plant for the southern region of Paraguay, would benefit the consumers, adding value to the companies which do this, (value delivered to the client)³ and offering a greater quality in the service to this

² Tañski, Nilda C. (2003). Administración de Marketing. Segmentación Integral de Mercados. Editorial Graficop. Buenos Aires. Argentina. Pág. 59.

³ Kotler P. y Armstrong G. (1999). Marketing. Editorial Prentice Hall. México. Pág. 591

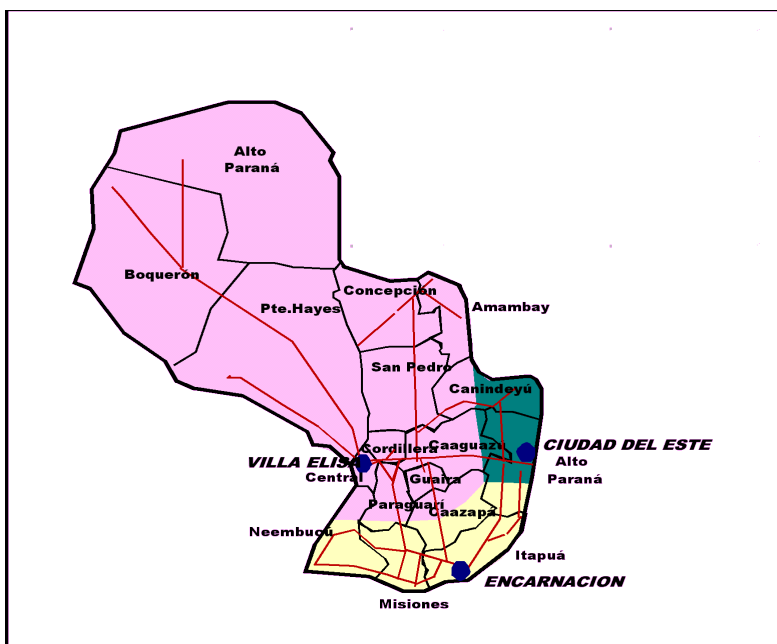
region. This would be achieved by means of generic strategies that derive in comparative and competitive advantages.

The study refers to an exploratory and descriptive research, based on primary and secondary sources that have allowed to establish the relationship theory-reality. The applied methodology pointed to a qualitative and quantitative description of the current market situation

It sets off a current analysis of the Paraguayan fuel market situation, trying to establish the appropriate conditions for it, based on clear and precise theoretical foundations, for the proposal of comparative and competitive advantages within the framework mark of the problem outlined.

RESEARCH SCENARIO

The research scenario is located in the geographical environment that corresponds to the southern region of Paraguay and, more specifically, to the Department of Itapúa that constitutes the most representative area in this region. The following map represents this region:



References:

Southern region of Paraguay (Itapúa and influence areas).

One of the main problems which at present the region is going through is the unfavorable condition of the provision of oil derivative fuel. These fuels, at the moment are provided, via terrestrial, from the city of Asunción, in cistern truck with a capacity of approximately 30 m³.

According to data gathered from companies of the area, Itapúa's current demand is of 16,000 m³ per month, this means approximately 530 cistern trucks per month, for this department. If to this area the departments of Misiones and Ñeembucú are added, it would mean a monthly consumption of around 30% of the total of this fuel imported.

This is one of the conditions that serve as foundation for the development of the study in the region described above. In relation to the research period, one should make it clear that it has been done from April to August 2005.

POPULATION AND SAMPLE

The universe of the field research will be conformed by:

Authorities of the sector and similar

Sector entrepreneurs

Final consumers of oil derivative fuel, with a sample of 126 persons selected by means of the simple random method, in three strategic points of the Itapúa department of (Encarnación, Colonias Unidas, and an area of the Highway Graneros del Sur and Coronel Bogado.)

Hypothesis

The hypothesis of the study is developed in the following terms:

"With the functioning of a reception, storage and dispatch of oil derivative fuel in the southern region of Paraguay comparative and competitive advantages will be

achieved, based on the socioeconomic, demographic and geographical characteristics of this region and under market conditions adequate for the country."

The objectives that underlie the hypothesis are detailed next:

General objective:

To analyze and describe the comparative and competitive advantages of a reception, storage and dispatch plant for the southern region of Paraguay, as to management terms, under you condition de-monopolized and deregulated conditions.

Specific objectives:

Gather data on the current situation of the marketing of fuel in the southern region of Paraguay.

- To analyze the current situation of reception, storage and dispatch plant in Paraguay and its implications for the southern region of this country.

To determine the market conditions that would generate comparative and competitive advantages for the fuel market of the southern region of Paraguay.

To propose underlying comparative and competitive advantages to the reception, storage and dispatch plant for the southern region of Paraguay.

Dependent variable

- Comparative and competitive advantages derived from the reception processes, storage and dispatch plant for the southern region of Paraguay.

Independent variables:

Current characteristic of the Paraguayan fuel market.

Condition appropriate for the generation of comparative and competitive advantages for the functioning of a plant for reception, storage and dispatch plant in the southern region of Paraguay.

RESEARCH METHODOLOGICAL FOCUS

The kind of research will be basically exploratory - descriptive. New data will be looked for on this matter, approached by means of techniques that are explained later on.

The descriptive character of the work is centered in the researcher's purpose to describe this reality, paying attention to the variables that are derived from the purposes and objectives of the study. "The descriptive studies try to specify the important states of people, groups, communities or any other phenomenon that is subjected to analysis" (Dankhe, 1986, mentioned in Hernández Sampieri and Other, 2000)⁴

It should be admitted that in this kind of study, it is difficult to represent the situation of a region or a wider association environment than the one taken into account for the research, due to the research characteristic.

FIELD RESEARCH TECHNIQUES AND INSTRUMENTS

The techniques to be used in the field report data will be:

Survey questionnaire: It has been applied with the basic purpose of obtaining information of the universe study and as a starting off point for the approach to the study object and so as to gather the first data and information. It was executed by means of a survey with five structured questions. This technique has been applied to the sample of final consumers, of oil derivative products, prior pilot test of the instrument, to assure the study, reliability and relevancy.

Profound personalized interviews This technique has been applied to the authorities and entrepreneurs of the sector. The instrument used was a questionnaire made with starting off questions. The procedure has been validated based on a pilot plan in a representative enterprise, in accordance with the research itself. After the

⁴ Hernández Sampieri, Roberto y Otros (2000) Metodología de la Investigación. Segunda Edición. Editorial McGraw Hill. México. México

application of the pilot plan, the corresponding and convenient corrections were carried out, for a better understanding of the instrument.

Written and phonographic material (documents): The documents taken into account, for their analysis were publications from national and international official public entities. On the other hand electronic documents (recordings), were appealed to, from trustworthy and first hand sources.

INFORMATION PROCESWSING AND ANALYSIS

The results of the interviews in depth have been transcribed in lineal and sequential form, starting from the obtained recordings.

The results of the applied survey were analyzed using descriptive statistic techniques, tabulation in absolute frequencies and percentages as well as the graphic representation for the best understanding and analysis of the results.

The information gathered starting from each one of the instruments for data gathering have been conveniently triangulated, in function of the interactive dynamics with which the group process has been developed.

The theorization of the research results has been developed starting off from the categorization of the emergent aspects in function of the objectives proposed in the research.

ANALYSIS OF PARAGUAYAN OIL DERIVATIVE FUELS MARKET FROM A THEORETICAL PERSPECTIVE

The word oil comes from the Latin words: *petra* that means stone and *oleum* that means oil. Oil is a mixture of hydrocarbons with different molecular masses, which are presented in three states matter states, (solid, liquid and gas). Its color varies from black to amber; its boiling point varies according to its molecular mass, that is to say, those of more mass present a higher boiling point. This circumstance is taken advantage of, to separate it by the fractional distillation method.

Oil distillation

The following chart shows the different derivative products from crude oil, which are obtained starting off from a process called distillation:

Chart 1: Chart of distillation products from Crude

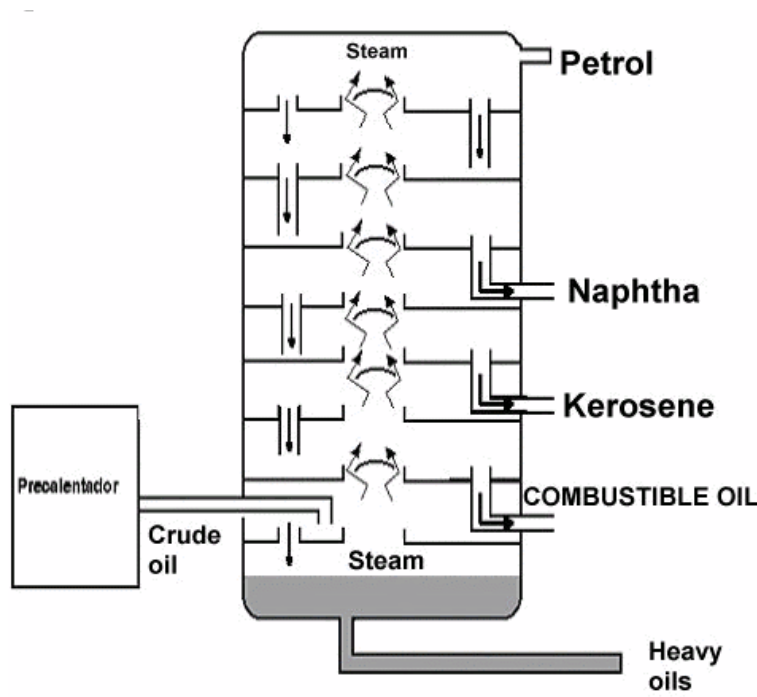
Product	Composition	Distillation Temperature	Application
Gases	methane to butane		fuel and obtaintion of carbon starting off from carbon black
oil ether	pentane to heptanes	35 to 90°C	solvent for dry cleaning
gasoline or benzene	heptane to nonane	70 to 220°C	solvent and fuel for engines
kerosene (oil of burning)	Decane to hexane	200 to 300°C	illumination and fuel
gas oil (oil fuel)		up to 375°C	subjected to "cracking" to give the gasoline lubrication.
lubricant oils, oil jelly, Vaseline	From C ₂₀ H ₄₂ onwards	above the 300°C (semi-solid)	lubricant for ointments production.
oil tar			Waterproofing and artificial asphalt.
Oil coke		solid	Fuel for electrodes

Source: Babor, 1946.

Oil refining process: Cracking

Once the crude is extracted, it is treated with chemical products and heat to eliminate the water and the solid elements and natural gas is separated. Next the oil is stored in tanks from where it is transported to a refinery in trucks, bytrain, by ship or through a pipeline. All the important oil fields are connected to big pipelines.

Chart 2: Crude refining outline



Source: Babor, 1946.

The basic refining tool is the distillation unit. The crude oil begins to vaporize at a temperature something less than the necessary to boil water. The hydrocarbons with less molecular mass are those that vaporize at lower temperatures and as the temperature increases the bigger molecules evaporize. The first material distilled starting off from the crude is the gasoline fraction, continued by naphtha and finally by kerosene. In the old distilleries, the residue that remained in the boiler was treated with sulfuric acid and next it was distilled with water vapor. The upper zones of the distillation apparatus provided lubricants and heavy oils, while the inferior areas gave waxes and asphalt. At the end of the XIX century, the fractioned gasoline and naphtha were considered a nuisance because there was not a great necessity for them, the demand for kerosene also began to diminish when the production electricity and the use of electric light grew. However, the introduction of the automobile made the gasoline demand, increase abruptly, rising the need of crude.

Oil derivatives

Oil derivatives are industrialized products that are obtained starting off from distillation processes and refinement or cracking. The main derivatives are classified in:

Butane and Propane liquefied gases: Are used as liquefied gas to cook, internal combustion, heaters, lab burners and gas lamps.

Gasolines: Subjected to a use guarantee particularly severe as fuel and solvent, it should, firstly, be composed of hydrocarbons of correct volatility, which is verified by means of a distillation test in automatic still. Its performance in a motor is laboratory calculated by diverse octane indexes that measure detonation resistance and self-ignition. The gasoline is sub classified in: a) Regular: It is used in low compression internal combustion engines, boat engines, lawn mowers, and small engines. B) Super: medium and high internal combustion engines, such as passengers' automobiles and small trucks.

Kerosene: Oil industry commodity for a hundred years. It is used as jet planes fuel, passenger airplanes, turbine helicopters, as fuel for stoves (rural cookers), iceboxes, and heating or incubators.

Light Diesel: This type of product, intermediate between the light and the heavy ones, represents an important percentage of the destinations of oil. Used in internal combustion engines, passenger cars, heavy duty equipment, boilers and industrial burners.

- Marine diesel: In internal combustion marine engines and in gas turbines for generating electricity. It is also used in industrial ship boilers

Combustoil (Fuel Oil or Bunker Oil) Industrial use of fuel for boilers to generate vapor or electric power for example: thermoelectric energy plants, it is also used for marine propulsion engines.

Asphalt: They are products of great consumption demanded in growing tonnage for the construction of highways, freeways, repair of streets and roads, for joints

buildings, construction of walls, for roof and waterproofing, for the electricity industry, etc.

Chart 3: Industrialization Average yield for a barrel of crude

	Liquified Gas	1% and 3%
Light products (Called thus due to their lower density and high Volativity)	Gasoline	21%
	Diesel	22%
	kerosene	8%
Heavy Products	MarineDiesel	8%
	Combustoil or bunker	40%

Source: Babor, 1946.

Besides the previous ones, we can mention: The lubricants (greasing oils), paraffin (oil waxes)

At the beginning of last century, from the crude, were only extracted gasoline, kerosene and black oil. Nowadays, the oil is distilled, separating in this way first the naphtha or gasoline, then the kerosene and, lastly, the gas oil.

Oil or mineral oil is a substance composed by many classes of hydrocarbons. By means of the well-known process called fractional distillation, these hydrocarbons are separated one from another and they are used for a diversity of purposes. Fractional distillation is based on the fact that each one of the components possesses a determined boiling temperature, that when reached, it becomes vapor, separating itself from the other ones; next the vaporized substance becomes liquid by cooling. So by for fractional distillation, among others, the following products are obtained: gases, oil

ether, gasoline, kerosene, gas oil, combustible oils, lubricant oils, it Vaseline and paraffin As residual of the distillation there remain, tar and coke.

As the most valuable of all the components of mineral oil is the gasoline, and as the proportion of this in oil is low, special procedures have been devised to increase the quantity of gasoline starting off from a certain volume of oil. This is achieved by means of what is known with the name of cracking, word that derives of the English "crack", meaning rupture. And indeed, by means of high pressures and temperatures it is possible to break the molecules of the heaviest products and to transform them in gasoline. One can also obtain gasoline by means of the polymerization or condensation of the lightest products, which consists in uniting simple molecules to form other more complex ones.

Naphtha, according to its quality, is used as fuel for automobiles or airplanes, the kerosene (it distills approximately between 150 and 300°C), for illumination, heating and the production of insecticides. Gas oil is a fuel used in diesel engines. Fuel-oil, residual that was not distilled, is the ideal fuel for ovens and boilers, since it does not leave ashes and generates a lot of heat. This does not end there, these by-products serve as first matter to elaborate others of great utility. The oils that are used to lubricate the engines of the automobiles and airplanes, come from the distillation of the fuel-oil, as well as paraffin used to manufacture spark plugs and to waterproof paper; and vaseline (of pasty consistency, white or yellowish color) that is used in the preparation of ointments and cosmetics.

Asphalt is the heaviest part in the fuel-oil, which is the rest of the oil that is not distilled. Asphalt is dense and viscous, of blackish color, we see it often employed, blended with sand, to pave roads, and it is also used as lining for walls.

Tar, is obtained by dry distillation, it is a viscous and dark liquid, of strong and unpleasant smell. For a long time it was considered as an annoying and smelly waste. But after chemical studies it was discovered that it was a mixture of numerous compounds called aromatic hydrocarbons, substances which under the effect of heat

they are gasified and separated. From tar we obtain benzene, methylbenzene, dimethylbenzene, naphthalene, and anthracene.

Benzene is a colorless liquid of characteristic scent that dissolves fats and other substances very well, so it is used as stain remover and in the production of varnishes and as resins solvent. But what attracts the most attention is that this colorless liquid has given origin to two of the most important industries in the world: that of dyes and artificial perfumes.

Formerly, dyes substances were scarce and expensive, and they were extracted, almost in their entirety, from animal products and vegetables. Only the rich and the noblemen could use clothes dyed with some of them. Starting off from the discovery of benzene, hundreds of new colors were achieved, which with their brilliant and delicate shades, beautify our clothes, the cloths that upholster our furniture, the fabrics of our curtains, and the countless plastic material articles that adorn our homes

Through the miracle of chemistry, with the tar derivate substances are obtained those aromas imitating flowers and the wild plants, such as essences used in confectionery and in the production of perfumes for toiletry and soaps.

Besides tar aspirin is also obtained, that calms pain and drives away the fever; the caffeine that stimulates the heart; the sulfas that save so many lives, and the T.N.T. or trinitrotoluene, powerful explosive. But the benefits of tar do not end there, since from it more than two hundred useful substances useful to man, are obtained.

Mineral paint thinner is another oil by-product, used a lot in the of varnish and paint industry. This should not be mistaken this with the vegetable paint thinner or turpentine essence which is extracted from the pine.

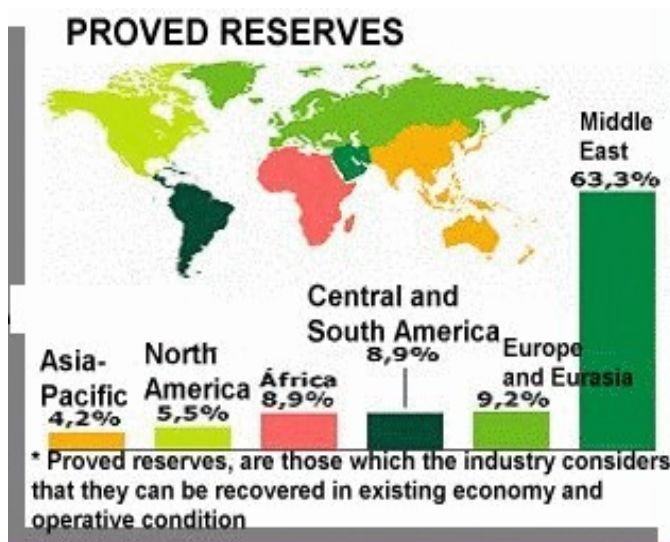
WORLD REALITY ON THE PRODUCTION AND COMMERCIALIZATION OF OIL DERIVATIVE FUELS

The Middle East continues being the center of attention in connection with oil, especially when one speaks of reserves. The magnitude of the locations in Saudi Arabia and Iraq makes, those of the rest of the world, seem small.

The North Sea and Canada still have important reserves, but in these areas it is much more expensive to exploit.

In the following chart you can appreciate the distribution of the percentage of crude reserves in the entire world.

Chart 4: Distribution of world oil reservations

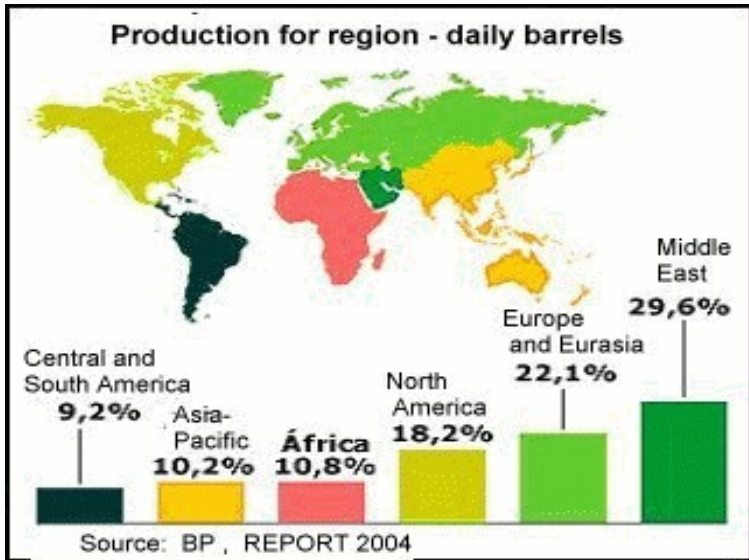


Source: British Oil - <http://www.bp.com> June 07th 2005

In fact, the Middle East region is the greatest adult oil producer: it provides nearly a third of world consumption. It is followed by Europe, Eurasia and United States as large producers (See charts 4 and 5).

One should also highlight that the United States does not its domestic consumption.

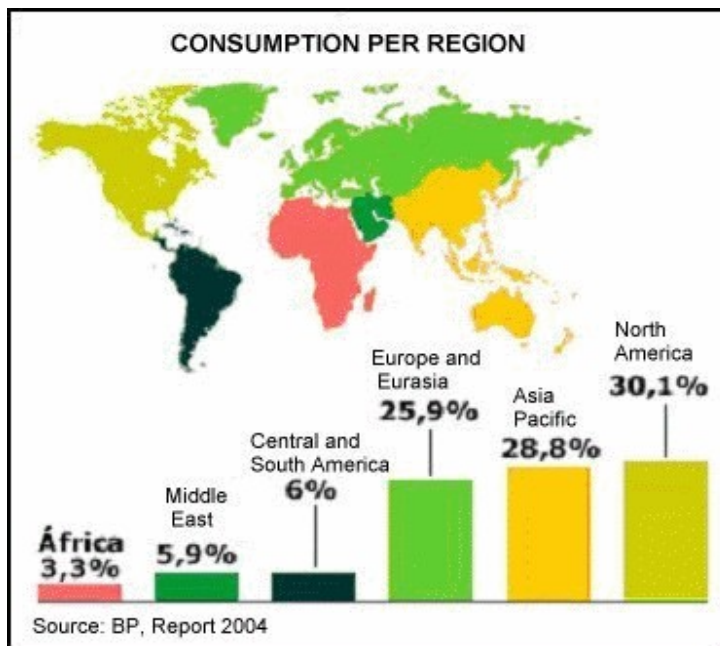
Chart 5: World oil production distribution



Source: British Oil - <http://www.bp.com> June 07th 2005

In relation to the consumption of fuel, North America is the region that more oil consumes, although it is one of those that has the less reservations. Also in the Middle East producing countries, oil and its derivatives are cheap and there is a lot of consumption. The Asia-Pacific area there is also a great consumption of crude, being the ones that have less locations. Both regions are attributed almost 90% of the increment of oil consumption of the last 10 years (See chart 6)

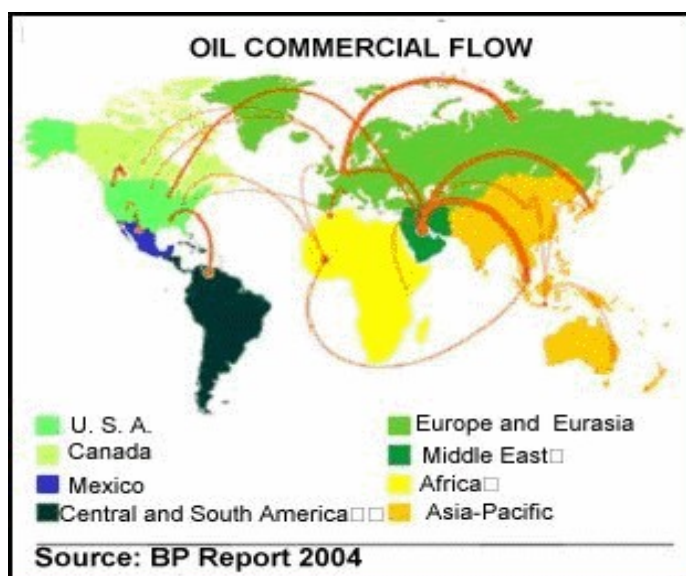
Chart 6: Distribution of oil consumption in the world



Source: British Oil - <http://www.bp.com> June 07th 2005

The greatest commercial oil flows go from The Middle East toward Europe, Asia-Pacific and United States, and from Russia towards Western Europe. The supply line Venezuela to United States is also important, and in a smaller measure, Mexico's to its northern neighbor.

Chart 7: World Oil Commercial Flow



Source: British Oil - <http://www.bp.com> June 07th 2005

Regarding the Southern American reality in the production of hydrocarbons, this region has an important participation. "The region registers more than 10% of the oil reserves, around 14% of the production and only a 8,3% of the global consumption. Latin America has also, more than 4% of the natural gas reserves, nearly 6% of the production and 6% of the world consumption. In this case, Argentina and Bolivia are the main exporters." ⁵

⁵ BBCMundo.com (2005). Hydrocarbons in Latin America. (on-line) London. England. Consulted 07 Jun 2005. Available in: <http://news.bbc.couk/go/pr/fri-lhilspanishlspeclals/newsid>. According to this source:

Mexico is at present the Latin American country which most crude produces: 3.8 million barrels per day. Nearly a third of the government revenues come from this activity. Petróleos Mexicanos (Pemex) is one of the larges producers on the international market and one of the main United States suppliers. Mexico exports more than half of the crude it extracts.

Venezuela is the fifth exporter of crude of the world and it sells nearly 60% of its production to the United States. It is the only OPEC Latin American member, where it has an active role. For some time there is a dispute as to the the quantity of oil extracted in the country. The government affirms that 3.1 million barrels are produced per day, but the annalists say that - due to the political tension - that figure has diminished. According to the AIE, Venezuela generates, at present, 2.1 million barrels daily.

With 1.9 million barrels daily, Brazil is the third producer of crude crude in Latin America according to the AIE. the government enterprise Petrobras is behind Pemex and PDVSA, the most important sector enterprise in Latin America. It operates in several countries of the region and in Bolivia it generates 20% of the Gross Domestic Product. (GDP).

According to the OPEC, Argentina produces nearly 800,000 barrels daily, which places it in fourth place in Latin America. Most of the crude one is for domestic consumption. Argentine hydrocarbons law establishes that first the domestic market has to be supplied, and only then can the remaining production be exported.

Undoubtedly the world economy is subordinated to oil. The information that is developed around the production and consumption of oil derivative fuel in the world: the world reserves, commercialization, prices and variables that influence on the final consumer and its incidence in the economy activities.

Today much is said about the world's energy crisis that influences in the marketing of all types of oil derivate fuel. Among other things, the constant growth of consumption, the offer and the demand and the perceptions on consumption policies, wars, inventory volatility, climatic changes, distance from supply sources, etc., are factors that impact in this crisis.

"The threats of attacks to oil facilities in Iraq, the possibility of an interruption of the exports of the Russian group Yukos, the uncertainties regarding the referendum in Venezuela and the threat of storms in the Gulf of Mexico, (...) constitute a combination of risks that has pressure on the market.⁶"

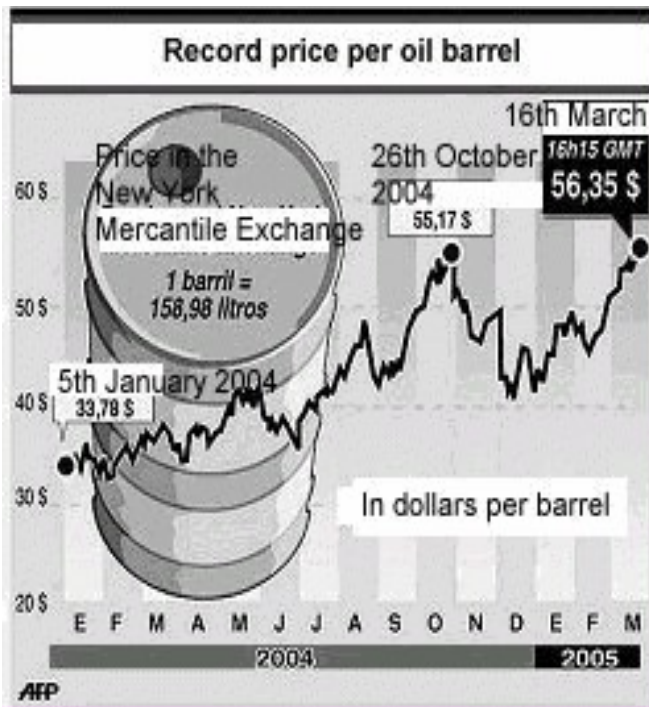
In the following chart the evolution of the price of the crude is presented in the international market for 2004 which presents a bull market, which supposes extremely unfavorable conditions for the current Paraguayan policy on this matter.

Chart 8: Variations in the price of oil barrels

The Bolivia oil production is minimum if it is compared with its gas generation: nearly 40,000 barrels daily, according to the Ministry of Hydrocarbons.

Ecuador is the fifth crude producer of Latin America. Data of the AIE, point out that it extracts about 550,000 barrels daily. According to the Ministry of Energy and Mines of the Andean country, the majority the extracted oil is for export. The sale of crude generate approximately a quarter of the domestic GDP. The government enterprise Petroecuador shares the exploitation with numerous foreign enterprises, among them the Brazilian Petrobras. New production projects in the Amazon region have generated conflict with the aborigines who live there.

⁶AFP. (2005). Fantasma de escasez empuja precio del Petróleo a US\$ 45. Nueva Cork. Estados Unidos

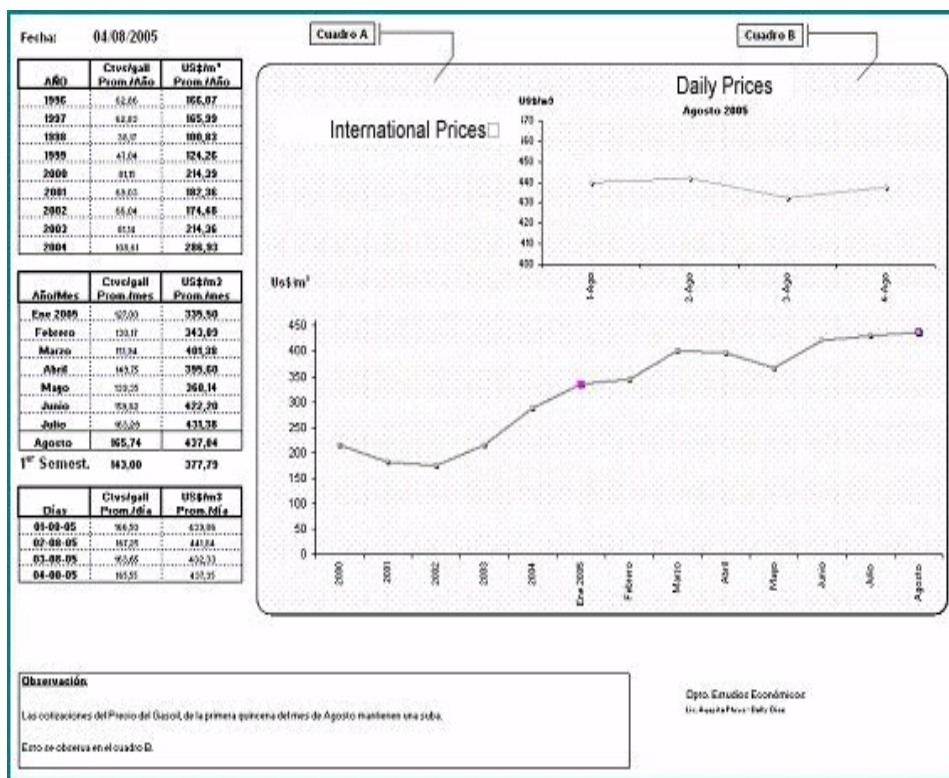


Source: AGENCE FRANCE-PRESSE <http://www.afp.com>

Colombia is the sixth producer in Latin America. AIE statistics show that it extracts 530,000 barrels per day. The State enterprise Ecopetrol, calculates that the country will stop exporting crude - at present the half of its production - within the next few years, and will have to import it, should they not find new locations soon.

In fact, in this country, another thing has not happened: the prices of the oil derivate products have been rising, as shown in the following chart published by the Paraguayan state oil enterprise (See chart 9).

Chart 9: gas oil price monthly variations in Paraguay



Source: <http://www.petropar.gov.py>. August 08 2005

THE GEOGRAPHICAL AND SOCIO-ECONOMIC CONDITIONS OF PARAGUAY AND OF ITAPÚA AS A MAIN COMPONENT OF THE SOUTHERN REGION OF THE COUNTRY

For the functioning of a reception, storage and dispatch plant for the southern region of Paraguay, it is indispensable to keep in mind the conditions and characteristic that Paraguay presents in relation to its location and geographical characteristic and its socio-economic aspects.

Paraguay is located in the center of the River Plate basin, one of the most important of the planet. Two of the main rivers of the hydro zonal system - the Paraguay and the Paraná Rivers- affect their territory directly.

This situation placed Paraguay in an unbeatable position in the decade of the sixties and the beginning of the seventies, when the two biggest economies of South America - Brazil and Argentina - began studies and negotiations for the use of the hydro energetic potential of the rivers of the basin. After the construction of the Acaray

Dam, in 1969, Paraguay began to export its electric energy surpluses to the cities of the state of Paraná, in Brazil, and to those of the Argentine Province of Misiones.

The exploitation of hydro power with Brazil, with Itaipú Dam, like with Argentina with Yacyretá, assure the access of electricity to the companies and industries situated in both countries.

By virtue of its geographical location, Paraguay plays a decisive role in the regional future of other three big development projects. The Hydro-way work of deepening the Paraguay river bed, rectification of some of its sections and construction of new ports on its coastline, - will make it easier and assures the exit of the economic production from central Brazil and from our country through the mouth of the River Plate.

It should be kept in mind that the Paraná and Paraguay Rivers are the roads of transport for the fuel that the Paraguayan market consumes; that are brought from the River Plate in specially prepared barges.

From the economy point of view, Paraguay is part of the block of countries that are commonly called of the Third World, underdeveloped or developing that have an essential characteristic, a low industrialization level.

The country's production has as its main components:

- The agricultural sector, responsible for 16% of the Gross Domestic Product (GDP).
- The industrial sector that represents 14.3% of the GDP.
- The cattle sector with 7.6%.
- The basic services sector (electricity, water and sanitary services, transport and communications) that contribute 10.3% of the GDP.
- The trade and finances sector with a participation of 25.4% of the GDP.

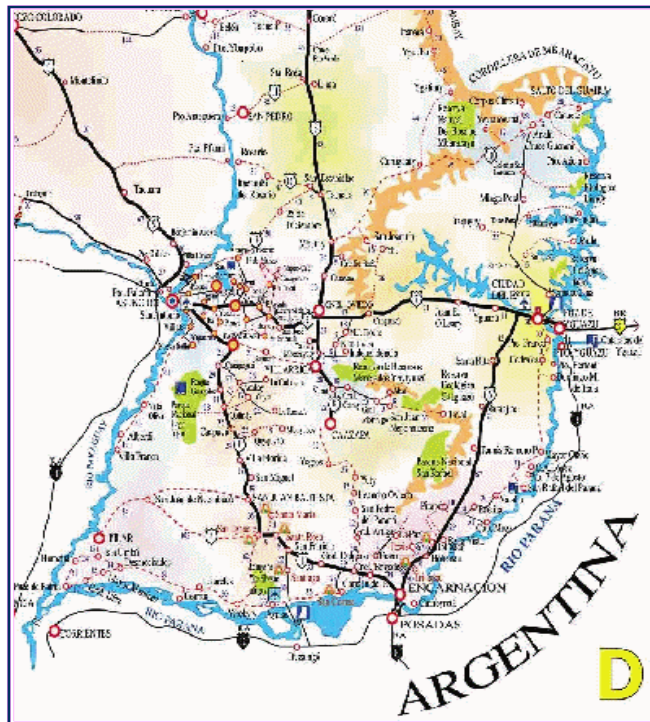
A synthesis of the current socioeconomic situation of Paraguay is presented in the following macroeconomic data⁷:

⁷AFP. (2005). Nueva York. Estados Unidos

- Inflation June 2005: -0.1%
- Cumulative inflation 2005: 5.1%
- Cumulative inflation 2004: 2.8%
- Cumulative inflation 2003: 9.3%
- Cumulative inflation 2002: 14. 6%
- Total population: 5,742,006 people (2004estimate)
- Economically Active population (EAP): 2,762,459 people (63.4%)
- Men: 50% women: 50%
- Economically Inactive population (EIP): 1,592,459 (36.6%)
- Occupied population: 2,560,612 (92.7%)
- Total Rate of unemployment (2004): 10.9% of the EAP
- With vehicles: 21.6%
- Population rate growth: 2.3%
- GDP (2001): USD 6,850 million
- GDP (2002): USD 5,391 million
- GDP (2003): USD 5,531.1 million
- GDP (2004): USD 7,151 million (estimate)
- GDP per capita (2001): USD 1,216
- GDP per capita (2002): USD 934
- GDP per capita (2003): USD 998
- GDP per capita (2004): USD 1,173
- Tax deficit (2002): Guaranies. 976,642 million
- Tax deficit (2003): Guaraníes. 197,598 million
- Fiscal surplus (2004): Guaranies. 648,696 million
- Foreign debt (up to May 2005): USD 2,369.4 million
- Dollar (closing sale on Friday): Guaraníes. 6,000
- Minimum wage: Guaraníes. 1,089,103

- Deposits of the private sector in country's currency: (May 2005): Guarníes. 4,226 thousand million
- Deposits of the private sector in foreign currency (May 2005): USD 918.8 million
- Bank credits to the private sector in country's currency (May 2005): G. 2,736.1 thousand million
- Bank credits to the private sector in foreign currency (May 2005): USD 439.4 million
- Bank profitability (February 2005): 3.5%
- Liquidity of the bank system (February 2005): 25.5%
- Non fulfillment (January 2005): 10.65% (foreign currency), 10.54% (local currency)
- Registered exports (May 2005): USD 721.3 million
- Registered imports (May 2005): USD 1,013.3 million
- International reserves: USD 1,273.7 million (04/July/05)

Chart 10: Center, south and east of the Eastern Region



Starting off from the obtained information of the statistical data from the last population census carried out by the National Statistics and Censuses Department of Paraguay and data contained in the report of the UNDP on human development in Paraguay, Itapúa is the seventh department of Paraguay whose capital is the city of Encarnación, distant to 370 Km. from Asunción; located to the country's south, on the right riverbank of the Paraná River. The first inhabitants of the area were the Guaranies, in a cosmopolitan department because its inhabitants is made up of more than 20 nations from all over the world.

- Surface: 16,525 km.
- Population: 417,807 inhabitants. The current population of the department of Itapúa is of approximately 450,000 inhabitants distributed in the following way:
 - Social Distribution:
 - High class 10%
 - Middle class 20%

- Hard-working poor class 60%

- Poor marginal Class 10%

- Settlement:

- Urban population 30%

- Rural population 70%

7 Source: <http://www.bcp.gov.py.htm>

- Demography: The department of Itapúa has a population of 417,807 inhabitants, 70.7% is in the rural area and 23.3% in the urban area. The mean annual rate average of the population's growth is of 3.6%.

- Business sector: The business of the department of Itapúa especially in the city of Encarnación, has increased considerably in the trade of different fields.

- Agriculture: This activity has increased considerably as to the quantity of plantations and in the cost of the products, likewise as to production due to the excellent climatic conditions at harvest time. In this department, soy, wheat, cotton, corn, rice, mate (*ilex paraguayensis*), and tung are cultivated.

- Industrial sector: Numerous industries exist especially in the area that carry out activities, such as the mate industry, in Bella Vista and other towns.

- Cattle and forestry activities: The bovine livestock corresponds to 5.6% of the national existence. The breeding of swine is an activity that we can highlight in the department, because it represents 20% of the country total. There is also a high production of ovine, caprine and equine, as well as the production of fowls such as chicken - hens in the whole region. The cattle establishments continue to increase in the area. The improvement of the quality makes that this item is gaining acceptance gradually. The few wood areas that exist in the department are located to the South. This, being part of the "San Rafael" National Park.

THE ANALYSIS OF THE PARAGUAYAN FUEL MARKET OF AND ITS IMPLICATIONS IN THE PROPOSAL OF STRATEGIES TO GENERATE COMPARATIVE AND COMPETITIVE ADVANTAGES

Formerly the companies had their guaranteed survival on the base of captive markets. In industry in general, these clients made sure of the existence of different types of business entrance barriers, that is to say, different restrictions to the offer which did not generate competition conditions. Today the situation, in general, is quite more competitive and, in this context, the concept of competition or competitiveness should be understood, and what it implies for an organization or enterprise to act within the framework of a competitive strategy.

The strategy concept has different significances depending on the environment in which it is applied. For this work, concrete definitions will be adopted, referred to the environment of the managerial organizations.

According to Rico, "strategy is a system of activities, tailor-made, to achieve the unique result that the enterprise wants to reach in the objective market"⁸

Lardent says that "Strategy is the capacity and the action of combining and using the resources to obtain an objective"⁹

On the other hand, Peter Drucker¹⁰ considers that information is the primordial base to formulate a strategy, for that reason he defines it as an intent to organize qualitative and quantitative information, in such a way that it allows the taking of effective decisions in circumstances of uncertainty, since the strategies should be based more in criteria and objective analysis than in experiences or intuition that in not all organizations neither to all managers work.

According to Porter¹¹, the essence of the formulation of a competitive strategy consists on relating a enterprise to its environment and the key aspect of the

⁸Fuente://<http://www.bcp.gov.py.htm>

⁹Rico, Rubén Roberto (2001). *Calidad Estratégica Tota: Total Quality Management*. Ediciones Macchi. Buenos Aires. Argentina. Pág. 38

¹⁰Lardent, Alberto R. (2001). *Sistemas de Información para la Gestión Empresaria*

¹¹Flaherly, John E. (2001) Peter Drucker. *La esencia de la administración moderna*. Prentice Hall. México. Pág. 99

environment of the enterprise, is the industrial or service sector in which it competes. In this sense "(...) the competitive strategy consists on positioning a enterprise to take advantage of the maximum the value of the capacities that distinguish it from its rivals."

¹² Their foundation is based in "(...) to take defensive stocks or offensive actions to establish a defensible position in an industry (...)"¹³

The fundamental element of this concept constitutes obviously the competitor or rival, that which implies the necessity to know him. Porter says that "the competition determines the success or failure of the enterprises."¹⁴ In such a sense, this author sustains that "the competitive strategy is the search of a favorable position inside an industry, fundamental scenario where the competition is carried out"

Within the framework of the problem approached in the research, so that a reception, storage and dispatch of oil derivative fuel enterprise, in southern Paraguay, achieve comparative and competitive advantages in their acting, they should know the means in which they must operate. This would imply to develop an exhaustive analysis of the current situation and the projection of the fuel market in Paraguay. In such a sense, in the following paragraphs a detailed analysis developed, as to the characteristics and conditions of this market and starting off from which the bases to fundament the research hypothesis.

On the other hand, comparative strategy is a term defined by David Ricardo at the beginning of the XIX century, which explains the benefits obtained by all who participate in international trade. It also called the theory of comparative costs. It affirms that, under some given technical conditions, the total product obtained from specialization and the change, instead of autarchy and economic isolation, it will be maximized if each country or region specializes in the production of those goods or services in which its comparative cost is relatively smaller. Although Ricardo only

¹² Porter, Michael E. (2004) *Estrategia Competitiva. Técnicas para el Análisis de los Sectores Industriales y de la Competencia*. 32^a reimpresión. Compañía Editorial Continental. México. Pág. 19.

¹³ *Ibíd* Pág .65.

¹⁴ *Ibíd*. Pág. 51

formulated such a principle for international trade it also highlighted that the same is clearly applicable to all the specialization forms or division of work and exchange, either among people, companies or nations.

Continuing with the conceptual framework, it is necessary here to develop the aspects or forces that conform the structure of competition in a market.

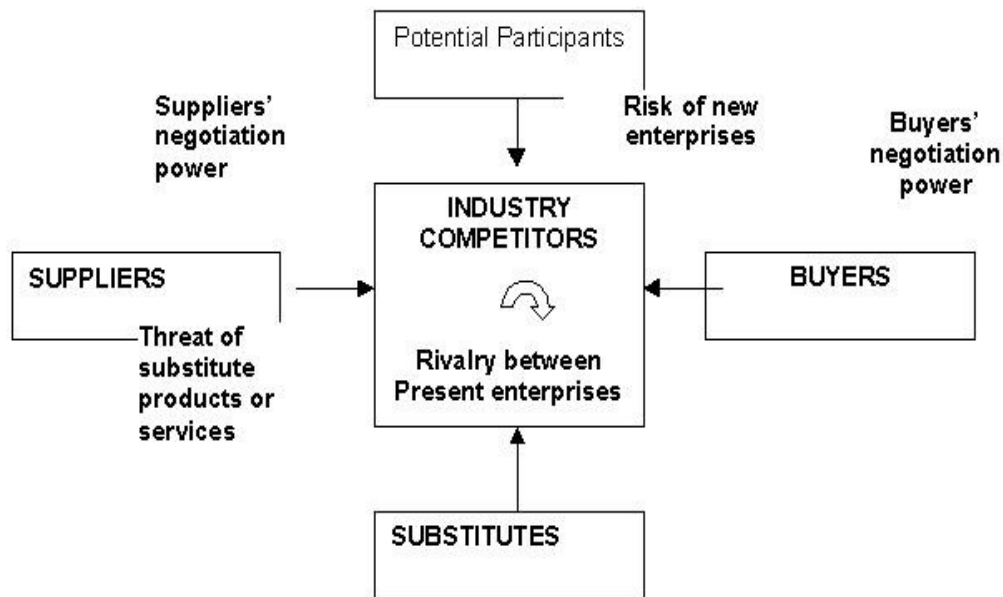
The structure of an industrial sector has a strong influence when determining the competitive rules of the game, as well as the strategic possibilities potentially available for a enterprise. The key is in the different abilities that can be developed the organization to act within a competitiveness framework.

Porter, establishes that the competition situation of an industrial sector or of service depends on five basic competitive forces:

- Rivalry among current competitors.
- Power of buyers' negotiation.
- Power of negotiation with the suppliers.
- Threats of entrance of new competitors.
- Pressure of substitute products.

The following chart illustrates the structure made up by these forces:

Chart 11: Forces that impel the competition of the industry



Source: PORTER, M. (2004). P. 20

The combined action of these forces determines the potential profitability of an industrial sector where the potential of utilities is measured in terms of the long term yield of capital invested. Not all the industrial sectors or of services have the same potential.

For Porter, these forces determine the competitive intensity as well as the profitability of the industrial sector, and the force or more powerful forces are those that govern and they are crucial from the point of view of the formulation of the strategy. These forces acquire relevance when conforming the competition in each industrial sector.

In the concrete case of the functioning of a reception, storage and dispatch plant for the southern region of Paraguay, these forces should be analyzed, taking as benchmark the insert of a new participant in the market.

In such a sense, under the current conditions, the comparative and competitive advantages are based in the fact that deficiencies exist in the attention to the market, of

the southern region of Paraguay, in demographic and geographical terms; a monopoly outline that restricts free competition, mainly in the item of the gas oil (that constitutes 80% of the structure of the matrix of consumption, of the of the country's market of oil fuel derivatives, and which generates the phenomenon of its dieselization); the Paraguayan state has not yet got a very clear structure of costs and an inadequate subsidiary policy that generates an anachronic market. To this one should add the state inefficiency as entrepreneur to generate comparative and competitive advantages in this item. Obviously, these conditions serve as base for a future market, starting off from the prospecting that is being proposed in Paraguay: A pressure from the multilateral organisms in the Paraguayan State, to deregulate the market, to eliminate subsidy and the creation of fuel legislation, that allows the de-monopolization of the market, the re-ordering of the fiscal policy.

Based on the prospective situation of Paraguayan fuel market, as potential participant, anticipating other companies, the functioning of a reception, storage and dispatch plant for the southern region of Paraguay would generate competitive and comparative advantages offering a greater capacity of attention as supplier of a high consumption market segment, as is the country's southern region, starting off from a strategic geographical position, with a logistics that allows to save economic resources and temporary ones; in an incipient framework of threat of substitute products.

Following there is a synthetic analysis of the developed forces that impel the industry competition.

Competitive forces and the functioning of a reception, storage and dispatch plant for the southern region of Paraguay

The existent rivalry among enterprises can generate high fixed costs or of storage, lack of differentiation or the costs caused when switching costs, the improvement of the capacity when making big increments, diverse competitors and high barriers for the exit.

"The risk that more participants enter in an industry will depend on the current barriers against the entrance and also of the foregone reaction on the part of the companies already established."¹⁵ If the barriers are high and/or the recently arrived one, can expect an active reprisal on behalf of the established competitors, the entrance threat is low.

We set off from the premise that the functioning of a reception, storage and dispatch plant for the southern region of Paraguay, tries to settle in the market as a potential participant with competitive and comparative advantages. Therefore, the barriers for their entrance are the current conditions of monopoly and the state policies mentioned above, would be overcome starting from the application of the appropriate outlined conditions, mentioned before.

Among the entrance barriers for a new enterprise in the market that Porter proposes, the main restrictions could be developed, that could be given in the market, for the functioning of a reception, storage and dispatch plant in the southern region of Paraguay :

- Differentiation of the product: Aspect that can be taken advantage of by the plant installed in the southern region, offering a product of quality and certified quantity, by means of controlled processes with appropriate technologies.

- Capital requirements: A enterprise that wants to attend the fuel market of in the southern region of Paraguay will have the necessity to invest big financial resources to compete investing in fixed assets like tanks, pumps, machineries, equipment and top technologies for the inventory handling.

- Changing costs: costs that the buyer has to make when changing from one supplier to another. These can include costs of the employee's re-training, auxiliary equipment, cost and time to prove and to qualify to new source, etc. The state as an enterprise, has these disadvantages, with heavy and bureaucratic structures, when

¹⁵Porter, Michael E. (2002) Ventaja Competitiva. Creación y sostenimiento de un desempeño superior. . 2ª Edición. Compañía Editorial Continental. México. Pág

having to bid for all its acquisitions, which obviously generates higher costs. These disadvantages that the state oil enterprise suffers, can be taken advantage of with the functioning of a plant with facilities and efficient processes in reception, storage and dispatch.

- Access to the distribution channels: to the degree that the logical channels of distribution for the product have already been served by the established companies, the new enterprise should persuade the channels that they accept its product by means of price cutting, assignments for shared publicity and similar, which reduce utilities. However, in the context of the research, this situation is given in inverse form, when the distribution channels for the southern region of Paraguay are not being assisted competitively. With a plant that distributes fuel for this region, you can achieve greater effectiveness in the attention of the distribution channels for this area, that which would make that the access to the same, highly feasible.

- Disadvantages in independent costs of scale economies: the most critical disadvantages are:

- Favorable locations: In spite of being a geographically strategic region the market that is in the southern region of Paraguay is disregarded, with the functioning of a plant that provides fuel to this region, it could generate comparative and competitive advantages and that starting off from this situation, the entrance barriers would be generated for the new participants.

- Government subsidies: This aspect constitutes one of the main barriers presented to the Paraguayan fuel market, at present, this country's State exercises a subsidiary policy in the commercialization of gas oil, which greatly limits the possibility that new companies can participate in the market. So that the appropriate conditions can be given, to generate comparative and competitive advantages with the functioning of a plant in the southern region, the outlined situation should be reverted.

- Learning or experience curves: With the functioning of a plant in the southern region, the learning curve would constitute an important barrier for the new participants.

- Government policies: under the current fuel market conditions in Paraguay, the government of this country, limits the entrance of an enterprise, since free competition does not exist, restricted by the monopolist and subsidiary policy in the commercialization of the gas oil. However, further ahead the appropriate prospective conditions are outlined, that would allow the achievement of comparative and competitive advantages with the functioning of a reception, storage and dispatch plant for the southern region.

Intensity of the rivalry between the existent competitors

The rivalry exists because one or more of the competitors feel the pressure or see the opportunity to improve their position.

According to Porter, some forms of competing, especially the competition of prices, they are extremely unstable and very prone to leave an entire industrial sector worse, from the point of view of profitability. The mentioned author enumerates several structural factors that interact among themselves:¹⁶

- A great number of competitors or equally balanced: Under the current conditions of the Paraguayan fuel market, when there is no free competition, the intensity of the rivalry in this sector is not noticeable.

- Fixed or high storage costs: They create strong pressures so that companies operate to full capacity, that which usually leads to a scale of descending prices when capacity exists in excess. A situation related with the fixed costs is that in which the fuel, once received, it is expensive to maintain stored. The competitive and comparative strategy for a plant of reception, storage and dispatch plant for the southern region of Paraguay would consist on a system of logistics in accordance to the market consumption volumes, to be attended. The ideal thing would be to maintain the economy order quantity. (EOQ).

¹⁶Ibíd. Pág. 23

- Lack of differentiation or changing costs: when it is perceived that the product or service is almost without difference, the election on the part of the buyers is based on price and service. The competitive and comparative advantage for a plant that is in the southern region would constitute a larger answer capacity to the consumer and the speed in the dispatch of fuel.

- Strong exit barriers: they are economic, strategic and emotional factors that maintain the companies competing even when they are earning low yields.

- Specialized assets, specific infrastructure for the functioning of a reception, storage and distribution plant, which would imply their abandonment, when not being reusable.

Pressure of substitute products

Substitute products limit the potential yields of an industrial sector placing a maximum on the prices that the companies in the industry can charge profitably. The identification of substitute products is a matter of looking for other products that can carry out the same function. The substitute products that deserve the maximum attention are those that a) are subject to tendencies that improve their performance and price against the product of the industrial sector or b) those produced by industrial sectors that obtain high yields.

In the case of the problem approached in the research, although the possibility of the pressure of substitute products is presented as alternative fuel (biodiesel), the conditions so that these present such limitations as: a) the production of biodiesel in large scale, to satisfy the total demand, at present it is unviable, since the restrictions are the lack of enough raw material, paraffin (by-product in the process of biodiesel production) does not have an assured market and it would be a waste without application and, the point of combustion of this fuel is very high (it freezes at approximately 10°C). It is known that in Europe, biodiesel covers around 20% of the demand of fuel by means of appropriate mixtures with gas oil. Finally, due to this

situation and anyway, a plant can adapt its infrastructure for the reception, storage and dispatch of this substitute product.

There is the possibility that through time, the world's oil reserves, will reach their peak production, starting off from this, a decrease in its productive capacity is generated; this would generate high costs in crude extraction and due to an increase of the demand of emergent markets, it would suppose a crisis of the world oil market. In the face of this eventuality, Dr. Enrique Ibarra de Robert, international political analyst outlines the possibility that, in the future, the energy that would substitute oil is the atomic energy, through the atom fusion.

It is considered here that it is worthwhile to keep in mind the aspects treated here, however they are yet incipient pressure factors, as substitute products and one can hardly evaluate, in exhaustive way, their threat.

Buyers' negotiator power

The buyers compete in the industrial sector forcing the fall of prices, negotiating for a superior quality or more services and making the competitors compete among themselves.

Porter establishes that a group of buyers is powerful if:¹⁷

- It is concentrated or purchases big volumes with relationship to the supplier's sales.

- The fuel that the industrial sector buys represent an important fraction of the costs or the buyer's purchases.

- The fuel that are bought for the industrial sector are of standard or not differentiated quality.

- If it faces low costs to change supplier.

- The buyers outline an integration threat backwards.

¹⁷Ibíd. Pág. 33-36

- The buyer has total information.

In the case of potential clients (emblems) of a reception, storage and dispatch plant for the southern region of Paraguay, the possibility is presented that its negotiating power is derived from the volume of its purchase (approximately 15,000 m³ monthly) and an eventual alliance to generate some type of pressure. One could also give some type of capacity of integrating backwards. A third possibility would be the fact that the buyers opt for substitute products that generate kind of some comparative advantage. On the other hand, the fuel plant can improve its strategic position finding buyers that have a minimum purchase power, to influence them in adverse way.

Power of negotiation of the suppliers

The suppliers can exercise negotiation power on those that participate in an industrial sector threatening to go up prices or to lower quality of the products. The conditions that make powerful to the suppliers spread to be the reflection from those that make powerful to the buyers.

Porter says that a group of suppliers is powerful if it happens that:¹⁸

- It is dominated by few companies and concentrated in the industrial sector to which it sells.
- They are not forced to compete with other substitute products for the sale in their industrial sector. In this case, there can give be the possibility that the reception, storage and dispatch plant has the capacity to incorporate in its processes, bio diesel as a complementary product and decrease the negotiating power of the suppliers.
- The enterprise is not an important client of the supplying group.
- That the suppliers sell a product that is an important input for the buyer's business.
- That the supplying group represents a forwards integration threat.

¹⁸ *Ibíd.* Pág. 40-43

The conditions that determine the power of the suppliers, are not only subject to change but rather that they are often outside enterprise control.

From now on the factors treated here will be analyzed from a perspective of the current and prospective reality of the fuel market in Paraguay, and their implicancias for the functioning of a reception, storage and dispatch of oil derivatives, in the country's southern region to generate comparative and competitive advantages.

Paraguayan market situation of fuel and the necessity of a planned change for the proposal of comparative and competitive advantages for the fuel market in the southern region of Paraguay

In this section one should set off, necessarily, from the current conditions that the Paraguayan oil derivative fuel market presents and the structural changes that should be given within this context so that the comparative and competitive advantages be given for the functioning of a reception, storage and dispatch plant for the southern region.

First of all term, it should be kept in mind that this market presents the particularity of being monopolized by the government enterprise Petropar, as one of the characteristics of a market in connection with the participation of the competitors on this item. In this respect, Kotler¹⁹, when speaking of the conditions in those in which production organizations operate he, establishes five types of industrial structures:

- Pure monopoly: when only one enterprise provides certain goods or service in a country or determined area.
- Pure oligopoly: few companies that produce in essence the same merchandise.
- Differentiated oligopoly: companies that produce partially differentiated goods, in quality, characteristic, design or services.
- Monopolic competition: it consists of many competitors able to differentiate their offers, in everything or partly

¹⁹Kotler, P. (1996) Dirección de mercadotecnia. Análisis, Planeación Implementación y control. 8ª Edición Prentice-Hall Hispanoamericana S. A. México. Pág. 227

- Pure competition: it consists of many competitors that offer the same product and service.

In relation to the market of oil derivative fuel in Paraguay, the current reality is critical because there is no free competition, the Paraguayan State regulates and subsidizes the prices and monopolizes the market.

According to the consultant hired by the World Bank, Jorge Chamot, "Paraguayan market, according to the existent legislation is theoretically free"²⁰. The National Constitution of Paraguay, in Chapter IX, of the Economy Rights and Land reform, article 107, makes reference to assembly freedom: "Everybody is entitled to dedicate himself to the licit economic activity of his preference, within a régime of equality of opportunities. The competition in the market is guaranteed. They will not be allowed to create monopolies and the artificial rise or fall of prices which block free assembly. Usury and unauthorized trade of noxious articles will be punished by the Criminal Statute."

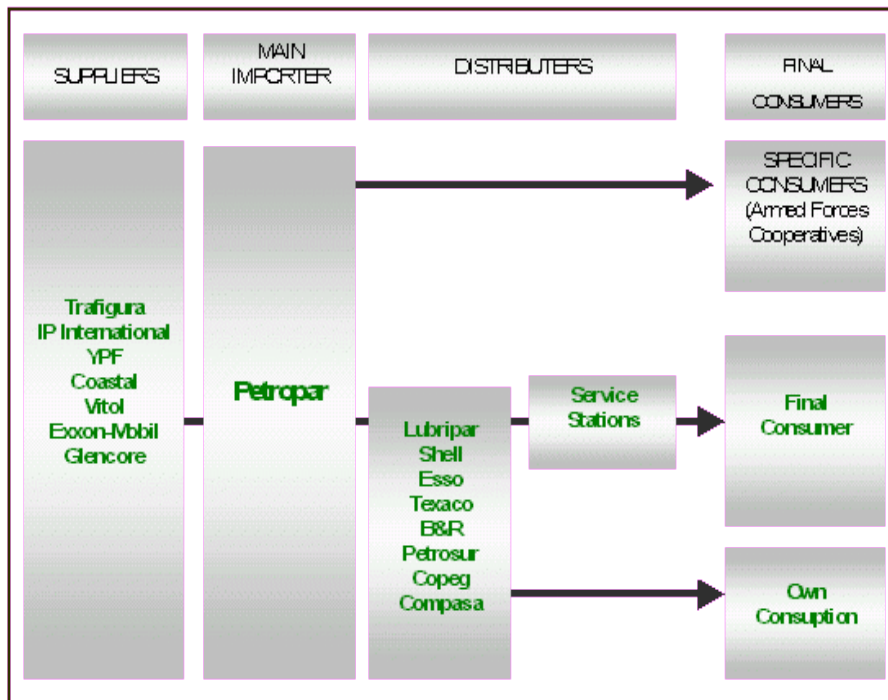
However, with the market of oil derivate fuel, the Paraguayan Magna Charta is transgressed, for the government enterprise Petropar, because from any point of view, it exercises monopoly.

For the former President of Petropar, Engineer Ángel M. Recalde: "Petropar is in practice a monopoly supplier of gas oil in the local market, because its prices are subsidized by the State. This causes that no other enterprise has interest in importing fuel and to sell it locally at market prices, since its offer will always be above the artificial prices that is established by the state oil enterprise. This distortion has an enormous cost for the public corporation that accumulates up to the present, a negative patrimony above 200 thousand million Guaranies."

The monopoly condition on behalf of Petropar is given in the commercialization of the gas oil and the outline that describes the flow of this product from the supplier until the final consumer, is seen in the following chart:

²⁰Constitución Nacional del Paraguay

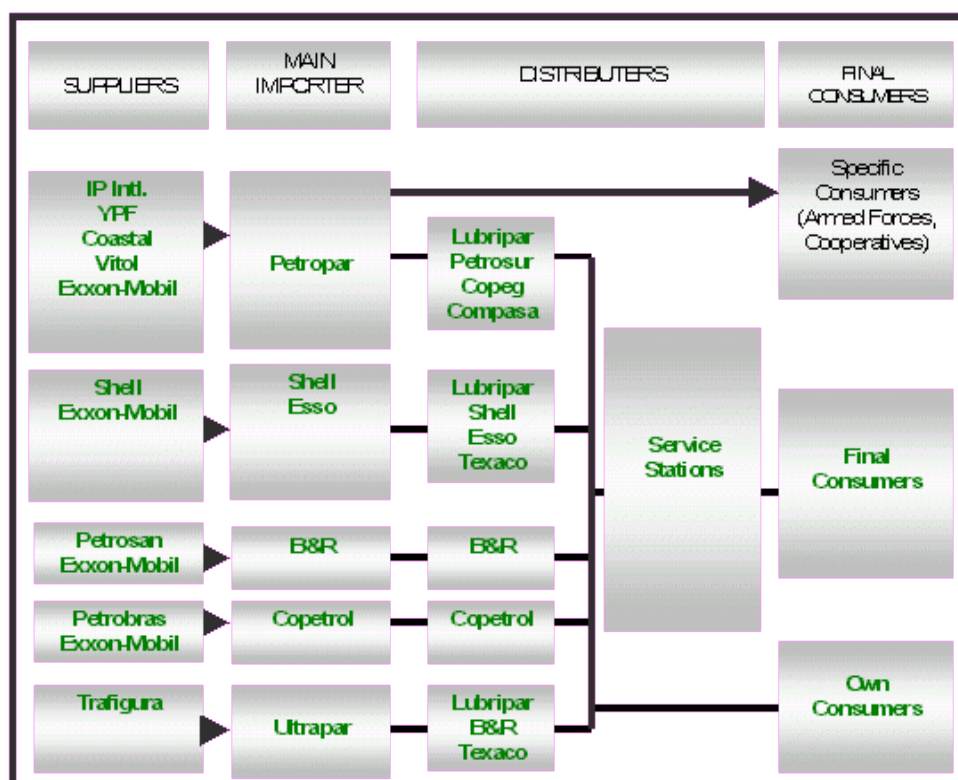
Chart 12: Monopoly system structure of the Paraguayan gas oil market.



Source: Ultrapar

However, the same situation is not the same with the other oil derivative products, such as naphtha, as one can observe in the following outline of the commercial flow of these.

Chart 13: Demonopolized market structure of other oil derivative fuel in Paraguay



Source: Ultrapar

On the other hand, the financial situation of this state entity is also critical. Chamot confirmed the conclusion to which other technicians reached, "that Petropar is today an enterprise which technically is bankrupt, since it has negative patrimony, it owes a lot more than what it is worth and it uses State resources in an inefficient way (...) the state oil enterprise constantly absorbs losses when selling (the gas oil) below the cost and for that reason it suffers a truly unsustainable economic-financial situation."

On the other hand, the market of oil derivative fuel in Paraguay is affected by a high degree of corruption. In such a sense, the National Deputy and former president of the Association of Proprietors of Services Stations and Similar, (Apeasa), Blanca Mignarro, highlighted that: "first, Petropar's monopoly in relation to gas oil, was always

illegal and, second, one of the strongest tentacles of corruption and that most bleeds the country. She added that a total lack of honesty always existed in the price of gas oil, specially in relation, with the supposed State subsidy of the price of this fuel".

One could affirm that in Paraguay, the conditions that make the market of oil derivative fuel, to be, monopolized by the State, constitutes an environment crisis that does not visualize an exit based on plans and competitive strategic policies.

The future of the market of oil derivative fuel in Paraguay must be governed for a law whose project has been elaborated by consultants hired by the World Bank and technicians proposed by Paraguayan State, said document has been presented to the Paraguayan National Congress

The document was presented for the consideration of the Petropar Strengthening Commission, this last one, in charge of Gerardo von Glasenapp. According to him, "the prices of the fuel, the operator' rebate margins and the other economic conditions of the supply chain, will be free and subject exclusively to the bid and demand forces... "

On the other hand, the World Bank itself, recommended the creation of the Fuels National Commission (CONACOM) which is foreseen in the same bill mentioned above.

The new fuel legislation wants to assure:²¹

- An appropriate, efficient and transparent legal régime for the activities, the participants and the facilities for the fuel supply chain .
- The supply of fuel in sure and efficient form, with competitive and economic prices for the final consumer and the country's economy.
- The application of safe international norms and protection of public health, of natural resources and of the environment, in the facilities and functioning of fuel supply.

²¹Fuente: Proyecto de Ley de Combustibles derivados del Petróleo y Biocombustibles (Ver Anexo 5)

- The quality of oil derivatives according to the established norms.

An efficient and transparent institutional framework, with appropriate capacity for the application and inspection of the legislation.

- The development of the managerial initiative in a free competition market, without state interventions, except in cases of risk of lack of supply, foreseen in the law.

- An information system continuous monitoring of free prices and other supply conditions that assure the transparency of the market.

- The development of the investment in the infrastructure and the participation of new economic factors in the fuel supply chain.

At present, this project is in the Paraguayan parliament, for its study and approval.

Perspectives exist for a future deregulation and de-monopolization of the fuel market in Paraguay. The government itself manifests clear intentions in this respect as an exit to the Petropar financial crisis, in particular, to the serious and untenable market situation of fuel in the country.

As an example, Recalde referred that in accordance with the prices that the crude reached in the international market at the end of February of 2005, "(...) the state ended up losing up to 400 Guaranies per liter if one considers its sale prices. "If we were competing with the private enterprises, one equal to another, we could make the adjustments in an almost immediate way".

On the other hand the World Bank questions Petropar's losses, sustaining that "the price of the gas oil cannot be fixed by decree, but on the base of international prices". The consultant from the World Bank, Jorge Chamot "recommended that it is necessary to free the Executive Power from the responsibility of the fixing of values that, in fact, are imposed in an arbitrary and artificial way."

The same professional sustains that the subsidy to the fuel on behalf of the Paraguayan State is negative. "A subsidy should be well managed, it should come out through the expense and not through the income, and it is necessary to know to whom

it will arrive. We have already seen that the general blind subsidy in the case of Paraguay, through Petropar, has taken this enterprise to an untenable situation".

He also added that "we should take out of ourselves this concept, above all, considering that the prices of the fuel are governed by the international offer and demand".

The World Bank has proposed to the government of Paraguay, to liberate the prices of the Oil derivative fuel. The prices of all the fuel will be fixed freely by the market if the proposal of regulatory framework is accepted, presented by the World Bank to the national authorities.

"Nobody controls the prices of the oil in the international markets, mainly in a product type that flows with a lot of agility and dynamism. There is a single market in the world, and Paraguay cannot be isolated, it can not say , "I will have my oil prices", still less when it does not produce oil."

According to the president of Petropar himself, Angel María Recalde, a bill that is about to be approved by the economic team and that it will be remitted shortly to the Congress will allow the oil enterprise to fix prices, based exclusively in the variations of the market.

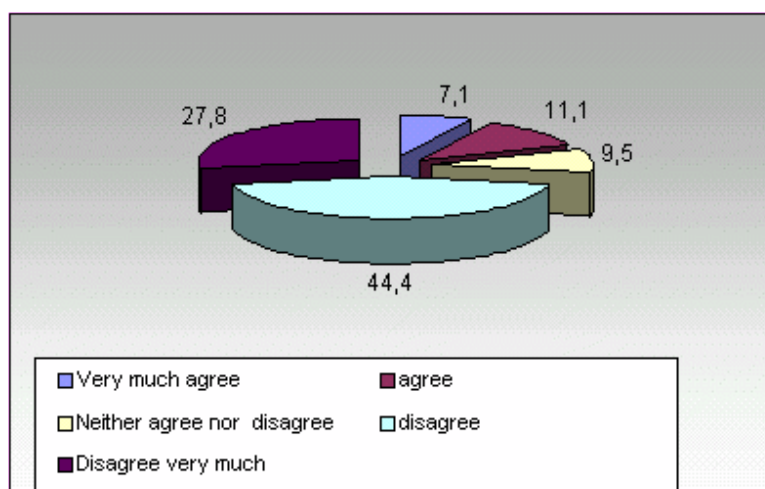
"Although it is certain that for a time Petropar has had power of adjusting its prices, that is done after several consultations with the ministries of the economy area and whenever the measure does not radically alter some variables which have to with the Government's economic policies. The intention is that with this law the price be really liberated".

On the other hand, when carrying out a survey with the purpose of sounding the underlying ideas to the perception of the final consumers, specifically, when being consulted on if they agree with the current policy of oil derivative fuel commercialization?,

Seven of each ten interviewed are very disagreeable or in disagreement with the current policies. The remaining proportion is distributed among the indifferent ones, (one of every ten) or agree (two of every ten).

Table and Chart 1: Opinion survey on the current policies of fuel commercialization in Paraguay

	f	fr%
Very much agree	9	7.1
agree	14	11.1
Neither agree nor disagree	12	9.5
disagree	56	44.4
Disagree very much	35	27.8
TOTAL	126	100.0



Those that are in disagreement and very much in disagreement with the State policies in relation to the commercialization of oil fuel derivatives in Paraguay, sustain that:

- "It is a totally antidevelopment policy, it goes against production."
- "It is monopolized and that harms the sector."

- "The fuel is more and more expensive and the price is exaggerated. The cost is very high. The fuel tax rate is very high."

- "The state every time takes advantage from the workers."

- "There is no price competition."

- "For the monopoly and the low quality of the infrastructure of the sector."

- "Because due such a policy, there are many offsets in the economy in general."

Now then, which the ideal future of the market of fuel in Paraguay to generate comparative and competitive advantages, from the private entrepreneur's optics and of the final consumers?

According to Engineer Ricardo Quintana, manager of the enterprise Lubripar, he sustains that to respond to this question, "It is necessary to define to what we call advantages and disadvantages. If the advantage is to have product availability at a good price, in time, a permanent and reliable supply, flexibility to respond to unforeseen demands; then we should keep in mind that, to have a depot for storage of fuel in the southern region will be a key element in any distribution logistics."

For the general manager of Shell Paraguay Limited Ltda., Cíbar Granada, "our country (Paraguay) should define the profile of the market for the gas oil, in an eventual case of deregulation of the price". This posture rotates around the deregulation in base of the definition of a structure of the Paraguayan market, "establishing the framework within which we will be able to enter this market; the conditions under which we will work, and the investments that are required to assure the provision of the product and of the service, in the import and commercialization process".

Under these conditions the price liberation would be beneficial, but "according to a well defined scenario, since to intrude in this market represents a country monthly consumption of 90,000 m³, and it requires an important logistical structure, which implies tanks, truck loaders, port facilities, river and land transport, necessary stock to administer the business and capital to invest". Granada also manifested that the private

sector could offer greater advantages for the import and commercialization of diesel, in relation to the final prices.

Due to the government's official announcement of beginning the process of de-monopoly of gas oil, after it concludes a diagnosis ordered by the Executive on the alternatives of deregulation. In such a sense, the Paraguayan government prepared the creation of the National Fuels Commission (CONACOM).

The deregulation of the gas oil market, generates great expectations in the combustible sector, and there are entrepreneurs that sustain that free competition is the best mechanism to make the market transparent. According to Cíbar Granada, "we all know that in a competitive market the one that has the most benefits is the final consumer".

For Granada, there does not exist another better mechanism than that of free competition to liberate the diesel price, and to make the fuel market transparent. He adds that the impulse of the game of the economic factors is the one that really determines who will be better or worse off, or who will compete under better conditions.

The Government announced that it has already resolved to liberate gas oil market, after it concludes a diagnosis ordered by the Executive on the alternatives of deregulation.

On the other hand, it should be kept in mind that the current condition of monopoly and of prices regulated in the Paraguayan fuel market, generates another unfavorable situation for the southern region of Paraguay, as the main reception, storage and dispatch plant (especially of gas oil) is the government enterprise Petropar which is in the city of Villa Elisa, (Central department). This enterprise has not foreseen the installation of a plant in the southern region of Paraguay that can satisfy its necessities offering comparative and competitive advantages.

With the installation of a plant in a strategic geographical position as is the department of Itapúa, with a port on the River Paraná, it could generate those

comparative and competitive advantages. However it should not be forgotten, which are its favorable conditions?

In such a case, the private managerial sector coincides in that, necessarily, the de-monopoly and deregulation of the market in question should be given.

Ricardo Quintana, general manager of Lubripar, said that "(...) under an open commercialization outline, without political interference, neither forced regulations, is where a good logistics becomes a key element for the competitiveness of the enterprises, allowing to compete with products of quality, good price and service." Under this outline, the same professional sustains that the advantages would be based in "(...) good price (when having a more competitive logistics), product quality and a good deliveries service, and answers to eventualities." Also, it is necessary to keep in mind that: (...) the situation of the local market, where the price of the fuel, and particularly the diesel that represents 80% of the consumption, is regulated by the government. This makes the population pay the additional costs that the transfer of the fuel from Asunción to the area represent, making the final price of the product more expensive, at least."

Reinaldo Ramírez general manager of Ultaprar, says that "a system for supplying fuel to the southern area will be competitive, reliable and cheaper, being able to guarantee the supply to the size of the market in the area of Paraguay under these premises (de-monopoly and deregulated market conditions). Obviously the advantage of profitability of smaller cost makes this viable, also as an investment."

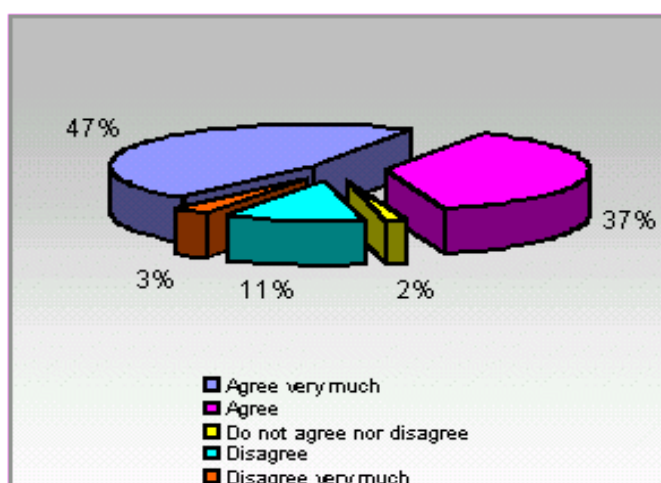
The aforementioned professional continued saying that the enterprise which locates itself in this region (...) will take possession, it will be positioned in a very competitive way for what will necessarily come through time in the market".

As to the final consumers, when asking: Do you agree that in Paraguay there are enterprises that are devoted to freely market oil derivative fuel, apart from Petropar?, the opinion survey gave as results that 84% of those interviewed are very much in

agreement or in agreement that in Paraguay there be enterprises that are freely devoted to the commercialization of oil derivative fuel .

Table and Chart 2: Opinion consultation on the current free competition in the commercialization of fuel in Paraguay.

Answer indicators	f	fr%
Very much agree	59	46.8
agree	47	37.3
Neither agree nor disagree	2	1.65
disagree	14	11.1
Disagree very much	4	3.28
TOTAL	126	100.0



Also, in the same survey the following has been asked: do you find it beneficial, for the final consumer that the southern region of Paraguay have a local plant to supply oil derivative fuel As to this, the answers were also positive in a proportion of those consulted; nine of each ten surveyed, who say to be very much in agreement or in agreement with regard to the question.

Table and chart 3: Opinion survey on the installation a plant for fuel commercialization in the southern region of Paraguay.

Answer indicators	f	fr%
Very much agree	66	52.4
agree	50	39.7
Neither agree nor disagree	5	4.0
disagree	2	1.6
Disagree very much	3	2.4
TOTAL	126	100.0

Strategic analysis of the outline of fuel consumption in Paraguay

In the following paragraphs an analysis of the current consumption matrix of fuel, which has to do with the developed of the Paraguayan market scenario of commercialization of oil derivatives.

Paraguayan State tax policies on fuel consumption

The Paraguayan State has at present a system of Selective Consumption Tax, (ISC) that taxes the oil derivative fuel. The following chart illustrates the percentages corresponding to these taxes applied to the consumption of diverse types of fuel.

Chart 14: Effective tax in the countries of the MERCOSUR for oil derivative fuel.

Oil - Year 2005.

COUNTRIES	Naphtha less than 85 octane	Naphtha less than 95 octane	Naphtha more than 95 octane	Gas oil
Argentina	56%	53%	51%	50%
Bolivia	n/d	37%	32%	36%
Brazil	58%	58%	58%	29%
Paraguay	34%	34%	38%	18%
Uruguay	45%	51%	51%	22%

Source: Treasury Ministry of Paraguay

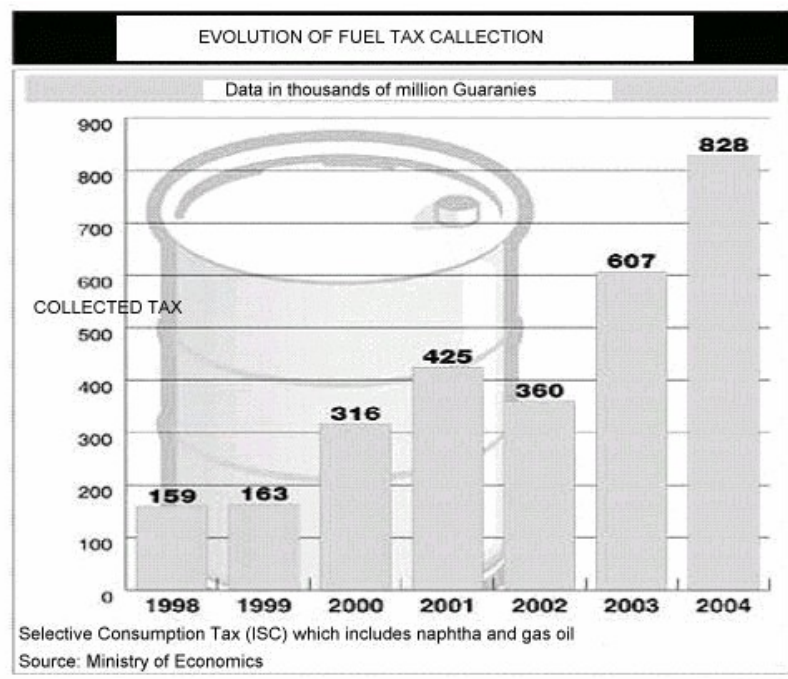
A comparison among the taxes paid in the nations of the region shows, that our country has more reduced tributary load; however, the price charged for diesel is the highest in the frontier areas with Brazil and Argentina. In tax matters, it should be noticed that in the last years, the tax rate has grown in an important way, which is reflected in the great dependence that the Revenue Office has the obtained collections, due to the oil derivatives.

As to taxes applied to the oil derivatives, a review to the rates that govern in the different countries of the region (to See Chart 14) reaches the conclusion that Paraguay presents the lowest tributary loads, as much to naphtha as to gas oil .

On the other hand, it is necessary to keep in mind that Paraguay is a net importer of fuel, as is Uruguay, where it is observed that the rates are in higher levels which make marked prices to be also higher. However, in spite of the fact that Paraguay possesses the most reduced tax rates, it draws our attention that, the final prices to the public are higher than in the border areas, as is the case of Foz do Yguazú (Brazil), Posadas and Clorinda (Argentina), only to mention some concrete cases.

A quick look to the evolution of the Selective tax rate of the gas oil shows as a result that in only five years the tribute paid effectively by the citizens tripled. This is clearly appreciated in the evolution of tax collections yearly obtained by the Revenue Office, which have been increasing in a sustained way during the last years, to such a point that it has become the second most important tribute after the Value Added Tax, (VAT).

Chart 15



Source: Treasury Ministry of Paraguay.

Petropar's operative costs and the structure of costs in the commercialization of fuel in Paraguay

Regarding Petropar's structure of costs, the conversant professionals on the matter continue insisting in that there are items which can be reduced drastically, as is the concrete case of fluvial freight and of the famous "bonus" or "reward" that the entity pays. Also, other costs such as the intergovernmental contributions exist (money that Petropar should remit to the Central Treasure) and the 4 Guaranies for the Ministry of Public Works and Communications (MOPC).

The decisions assumed by the Government in the last years tends to confirm that it is following the recommendations that, when they had just begun their mandate, the World Bank left it through a document called: "Creating the conditions for a sustainable growth, policy options for the new management."

This document is the result of the work of a World Bank team, headed by Peter M. Hansen. It was done from March-May of 2003 and it was presented to the new Administration on 27th June of that same year. The report is made up of a synthesis and three thematic notes, which they themselves are based, on 21 sectoral reports.

Said report, as to the Selective gas oil Consumption Tax, sustains that in particular, the Selective Tax to the Consumption (ISC) of 14% to the gas oil is significantly lower than in all the other countries of the Mercosur, where the taxes to the gas oil are in the order of 30% (including VAT; in Paraguay the gas oil is exempt of VAT). The increase of the rate of the ISC to a similar value to that of the Mercosur would generate an increase of the GDP in additional public rents. And it is important to highlight that the Executive Power already has the legal faculties to increase the ISC to the gas oil (the existent superior limit in taxes to the fuel is of 50%). While the weight of an increase in the tax kind, would relapse strongly in the sector of modern agriculture, it is in fact this sector the one that is oriented to the export and has benefited from a Guaraní significant real devaluation in the last years and, in and of itself, it is the sector that can better absorb the increase. As for the transport sector, the heavy gas oil vehicles are those which most deteriorate the highways, and an increase in the tax to the gas oil it could be justified as a legitimate rate for the user. Also, the ISC to the gas oil is a tax of efficient collection, since it is paid wholesale at the moment it is imported, and few evasion possibilities exist. Anyway, its structure should be converted from an ad valorem to a specific tax per liter, to give stability to the Government's public rents, as well as to avoid fluctuations in the final price to the consumer as a result of the fluctuations in the world price of the oil.

Gas oil price structure Data in Guaranies

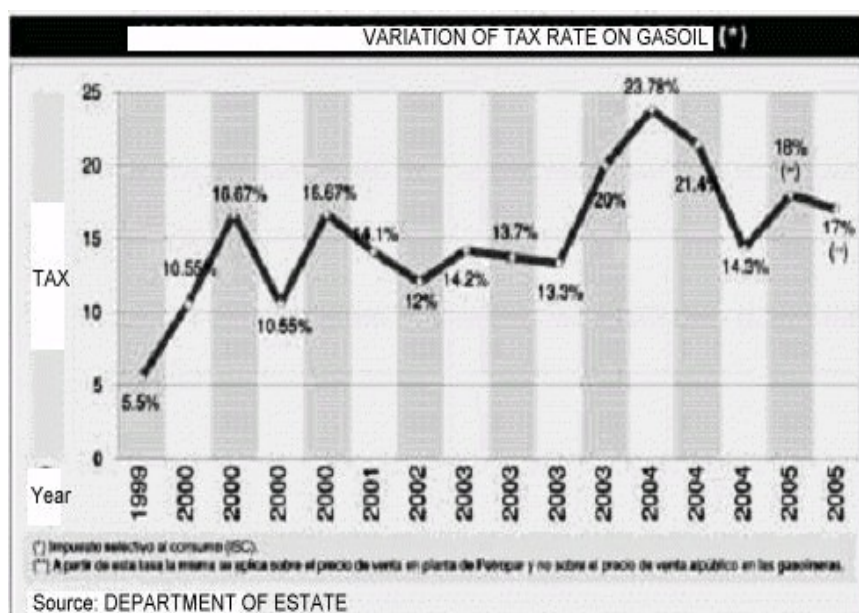
Chart 16: Paraguayan gas oil price structure

Concept	Before 4th July (a)	Before 22nd July (b)	Present (c)	Difference (c-a)	%
Petropar Net	2,739	3,028	2,917	-111	-3.6%
Selective	602	665	600	-65	-9.7

Imp.					
MOPC	4	4	4	0	0%
Plant Price	3,345	3,697	3,521	-176	-4.7%
Bonification	455	503	479	-24	-4.7
PRICE TO THE PUBLIC	3,800	4,200	4,000	-200	-4.7%

Source: Petropar

Chart 17: Variation of gas oil Tax Rate in Paraguay



CONCEPT	January /05	April/05	July/05	July/05	Difference
July/January					
Selective Tax	472	602	665	600	128
Intergov. Contribution	22	29	28	28	6
MOPC	4	4	4	4	0
TOTAL TAX	498	629	697	632	134

Source: DEPARTMENT OF ESTATE

Source: Petropar - Treasury Ministry of Paraguay

With this situation, the Paraguayan state should apply a tax policy that allows a new equilibrium in the global offer of fuel in the country. And for that to be reached, a tax redistribution should be made, that makes that the offer of products to the market give the consumer the possibilities of being able to opt for one or another fuel.

The consumption outline, the fiscal policy in relation to the fuel in Paraguay and their implications in the processes of crude refinement.

One of the aspects derived from the tax politics of the Paraguayan state is that it is necessary to keep in mind that, at present the selective taxes to the fuel applied by it, generate an unbalance in the consumption of the different oil derivative fuel.

That is due keeping in mind the new price of the diesel, since in this material we are referring to this fuel that for our country it represents 80% of the market demand.

Related to the above-mentioned, the Paraguayan state has originated the policies which at present are effective, and they represent a structural distortion in the market. This is the only country in the world where 80% of the fuel is gas oil, and what is happening is not very good in the world in connection with the situation of Paraguay.

In the following chart a summary of the relationships is shown among the three aspects analyzed.

Summary Of Relationships Between Consumption, Isc In Paraguay And Industrialization Yield Of The Barrel Of Crude

Chart and graph 4: Relations between consumption and ISC of oil derivatives in Paraguay and the yield of the crude barrel.

Relations between consumption and ISC of oil derivatives in Paraguay and the yield of the crude barrel

Relations between consumption and ISC of oil derivatives in Paraguay and the yield of the crude barrel			
Dimension	Products		
	Gasoil	Naphthas	Others
1 ^a) Chart of consumption of oil derivative fuels in Paraguay	78%	18%	4%

2 ^a) Percentage of Selective Consumption Tax (ISC) applied to fuels.	18%	50%	10%
3 ^a) average yield per crude barrel.	22%	21%	57%

Own Elaboration

The relationship among the three treated dimensions, generates an unbalanced situation among them that gives high gas oil consumption in relation to the other oil derivative products, a phenomenon denominated as dieselization of Paraguayan fuel market, being the cheapest, which also, makes this market to be atypical in comparison to what is usually given in the world market, where it is possible to harmonize the consumption of the different derivatives in relation to the proportions of these, resultants of the processes of industrialization of the crude.

This phenomenon implies a problem for the Paraguayan oil market. In this respect it is important to take into consideration the ideas of managers and specialists in the topic, belonging to the private sector.

When consulting with them on the aspects related to the fiscal policy in relation to the fuel, the consumption matrix and the deregulation of the gas oil market in Paraguay, the ideas coincide.

As to the president of the Federation of Production, Industry and Trade (Feprinco), Gustavo Volpe, affirmed that "(...) the solution to the problem of the gas oil is the deregulation of the market, so that it opens itself up to free competition."

On the other hand, Engineer Enrique Duarte, President of Lubripar, said: "we are in favor of a free market, we believe that the law of supply and demand, it will regulate the prices on the consumer's benefit, we also favor, that this system will allow to maintain a certain control on the investments that the sector is constantly doing, also, this system will favor the more efficient enterprises and service stations, while the other ones will have to adapt or to improve"

For the general manager of Shell Paraguay Limited, Cíbar Granada, "our country (Paraguay) should define the profile of the gas oil market, in an eventual case of price deregulation".

Reinaldo Ramírez, expressed that "(...) the deregulation has to bring a new balance as to what is the global offer of fuel in the country and, in fact, so that that is achieved one has to rationalize or to make a tax redistribution that makes the offer of products to the market give the consumer possibilities to being able to opt for one or another fuel. Today there are not options, today the option is gas oil or perhaps liquefied gas (...) ²²"

The three ideas coincide in the deregulation of the fuel market; however, the favorable conditions should be rescued so that this situation takes place: an appropriate scenario that is based on tax rebalance between the naphtha and the gas oil, associated to a restructuring of the matrix consumption of this product in the country.

As to this, Canese et al, say that due to this problem certain such changes should be introduced as "to Implement a system of tax reassessment, where the tax burden that relapses at the moment on the naphtha is compared to that of the gas oil, which could generate a significant decrease in the dieselization of the market."

It should be highlighted that these conditions would be given within a framework of the implementation of a policy of sustainable energy development that engages the responsible participation of the actors (government, private capital and consumers)

Here are valid the expressions of the managers of the private fuel sector themselves, who, in relation to the fiscal policy, implemented by the government in relation to the fuel, it is not the most appropriate, because the current fiscal system has distorted the market (generating the phenomenon of the dieselization of the market), adding the new consumption matrix should be planned within the framework of a policy

²²Fuente: Proyecto de Ley de Combustibles derivados del Petróleo y Biocombustibles (Ver Anexo 5)

of sustainable energy development in the country and based on the input potential, and the national industry (as the alcohol).

Reinaldo Ramírez pointed out that "(...) what there has to be is a, state tax reordering, to give up in some items that can be recovered in others, (...) we should have appropriate prices; to have appropriate prices, we have to have reasonable taxes (as component of this final price).

Also, to this situation one must add the unfavorable condition that Paraguay assumes, as a consumer of oil derivative product, as consequence of its consumption matrix. The Paraguayan market distorts the natural law of the industrialization of the crude totally, then, what happens to the acquisition of fuel on behalf of Petropar?

Reinaldo Ramírez explains that "any enterprise that will supply Paraguay, when wanting to buy fuel on the international market and presents himself interested only in the gas oil, he will never have a competitive price, because what one has to buy is the cut of crude that is to say, to say: the country needs to buy 30% of naphtha, 40 %gas oil and the remaining 30%, industrial fuel."

These proportions do not function with the outline of country's current consumption according to that exposed above and, starting off from this situation, a new consequence is deduced that can be defined as a disadvantage in the power of negotiating the provision of the fuel on behalf of the state oil enterprise. Reinaldo Ramírez explains this phenomenon saying that "(...) any refinery of the world will tell you that it takes out (refines) 30% or 40% of diesel (per barrel of crude). What is the matter? We, Paraguayans, ask him for double this, and from where will he take out that double?, does the refinery have more than enough naphtha, does he have more than enough of other products, does he have more than enough of all that we do not request him for, (...), " we only want only want the steak, and what does he do with the rest of the cow? ".The refinery has auction the products that it has more than enough, because it has an oversupply."

This situation obviously, brings with it a not very favorable situation for the government enterprise Petropar. According to Reinaldo Ramírez, Petropar supply organizations tell him "(...) there is no problem, but the gas oil instead of costing X costs $X + N$ what we do not know how much is N, and we will never know, because it depends on the rate of exchange, (...) when we go out to negotiate (he refers to the country represented by Petropar) we already have a serious problem in the price of the product that we will buy."

As a chain of effects, the analyzed situation generates a consequent deficiency in the competitiveness of the Paraguayan state to negotiate, the cost of reinstatement of the product and there we enter into a circle of problems whose solution, is derived in the provision of gas oil at a higher cost.

So, Reinaldo Ramírez points out that: "(...) inefficiency is exported in a terrible way, the government enterprise is not given the capacity to negotiate, and the cost is removed, and to that inefficiency an additional cost is imported, that later wants to be solved with the tax, they proceed completely the other way round; what should really be done well (...). The investment is feasible under conditions of reasonable market, in fact the market this there, the volume is there, but the most dangerous thing that the state is doing today is that it is playing with the taxes and it is subsidizing a product that should not be subsidized; I understand the agricultural producers that want to be competitive, but one should not forget to the common worker, the workers that generate services, this consumer does not ride on a tractor. The main idea is that the offer of the fuel in the market, be recomposed in a reasonable way, that necessarily will bring about a tax redistribution of these fuel to generate the market conditions so that the consumers, have the option of buying a naphtha, diesel or GLP vehicle."

As to the question, how would free competition work in the provisioning, logistics and marketing of oil derivative fuel in Paraguay, under de-monopoly and deregulated condition in the sector?, the General Manager of the enterprise Lubripar, Engineer Ricardo Quintana mentions the following: "In a market of deregulated fuel, the law of

the offer and demand, reigns. The companies that have better distribution logistics, carry out the best purchases in the external market and offer the best service, will take the leadership. The sale prices to the different sectors of the economy will move in function of the competition in that sector, of the agreements among parts, of the appraisal of the services that one offers and of the market situation of purchase in bulk fuel that is had as reference. The final sale prices will go up or down in function of those parameters".

FODA analysis: A synthesis of the analysis of Paraguayan fuel market.

In the following chart an outline of internal and external analysis is presented, as proposal for the functioning of a reception, storage and dispatch of oil derivative fuel for the southern region of Paraguay.

(PROSPECTIVE ANALYSIS FOR THE FUNCTIONING OF A PLANT FOR RECEPTION, STORAGE AND DISPATCH IN THE SOUTHERN REGION OF PARAGUAY WITH COMPARATIVE AND COMPETITIVE ADVANTAGES)

Variables	Strengths	Weaknesses
<ul style="list-style-type: none"> Geographical Position 	<ul style="list-style-type: none"> Strategic geographical location with private port on the river Paraná that allows an effective management Capacity to include a segment of market of high consumption Quick communication roads Short distance for the supply of the final user 	<ul style="list-style-type: none"> Insufficient supply capacity
<ul style="list-style-type: none"> Safety 	<ul style="list-style-type: none"> To operate under international norms of strict industrial safety Procedures to assure the maximum efficiency in the 	<ul style="list-style-type: none"> Non fulfillment of the norms

		systems of prevention and control of accidents	
•	Profitability	• profitability covers the opportunity cost	• Unfavorable economic position.
•	Financial resources	• Capacity of stock maintenance (storage) to satisfy the demand	• Lack of resources.
•	Physical Resources	• Structure physics of high quality, appropriate to operate in sure, comfortable, quick form	• Limited physical capacity
•	Technological resources I	• Computer system of control of the operations of dispatch of products. • Balanced Scorecard (IMC)	• Deficiency in the system
•	Position in the market	• Low costs. • Differentiation in the service. • Segment of high consumption.	• High prices. • Differentiation absence. • Non segmented market.
•	Anticipation	• Capacity of anticipation in function of the future scenario of the market	• Not to anticipate changes and to lose opportunities
•	Productivity	• High productivity when being related to a segment of high consumption	• Low quality in the service
•	Environment	• High degree of execution of mitigating measures foreseen in the study of environmental impact, fulfilling the legislation	• Environmental contamination.

COMPARATIVE AND COMPETITIVE STRATEGIES FOR THE FUNCTIONING OF A PLANT OF RECEPTION, STORAGE AND DISPATCH PLANT UNDER DEMONOPOLY AND DEREGULATED CONDITIONS

It is necessary to keep in mind, that, in times gone by, the managers were accustomed to develop an activity that went well with them because they had some kind of privilege, regulations or other artificial barriers that prevented others from entering the business, captive markets, exclusivity, indirect subsidies, restrictions to the imports, etc. in this scenario, the subsistence of the enterprise was subordinated to the result of a competition, caricatured by a zero-sum game, one wins and another loses, and the manager knew only a single form of competing: the price and, therefore, they centered their strategies in the fall of costs.

A deepening in the functioning of the organizations in an open society and free to initiative and creativity, leads us to conclude that to reduce the competitive strategies in scenarios of open economy, with freedom of undertaking, to a competition management expressed in a zero-sum game, where one wins because another loses, is a not very fortunate posture.

"Today, in a scenario of open economy with freedom of undertaking, the permanency of the enterprise in the market is won, creating and maintaining a sustainable competitive advantage in time."²³

With this dynamics, Nalebuff and Brandenburger²⁴ sustain that "(...) the success of one does not demand that others fail (...)", because there can be multiple winners, and it is no longer a winner / loser game but according to the modern game theory you can achieve a winner / winner scenario.

In this sense, the positioning of the strategy can be considered as the creation of defenses in function of the competitive forces or to find a position in the industrial

²³Canese, Ricardo y Otros (2005). *Petróleo, Biocombustibles y Desarrollo*. Editorial El Lector. Asunción. Paraguay. Pág. 124.

²⁴Zúñiga, H. (1996). *Planificación Estratégica, un enfoque para el nuevo escenario Portuario en Latinoamérica*, OEA, IX Conferencia Portuaria. P.10.

sector where the forces are weaker. The knowledge of the capacities of the enterprise and of the causes of the competitive forces, will point out the areas where the enterprise should face the competition and where to avoid it.

It should also be kept in mind that, in modern times, the concept of competitive strategy is very much bound to the management of the quality in the organizations. In this respect, Rico sustains that "the organization that is able to satisfy and to delight the client in a concrete continuous way has the most overwhelming competitive advantage, winner and advantageous"²⁵

To propose comparative and competitive advantages in the framework of the functioning of a fuel plant in the southern region of Paraguay, it is implicitly assumed that one aims at products and services of quality that satisfy the requirements of a segment of high consumption fuel market. This full satisfaction will be the "the sum of the added values that one incorporates to the product and/or service, during the process and that the clients extract from them (...)"²⁶

For Porter, once the forces, have been analyzed previously in this work, they affect the competition in an industrial sector and their fundamental causes have been diagnosed, the enterprise is in position of identifying their forces and weaknesses in function of the industrial sector in which it competes. This author sustains that, from the strategic point of view, the crucial strong and weak points are the position of the enterprise in front of the fundamental causes of each element of the competitive force and that, a competitive strategy understands an offensive or defensive action with the purpose of creating a defensible position against the 5 competitive forces.

In specific form, for the functioning of a plant for the reception, storage and dispatch plant for the southern region of Paraguay, it has several possible focuses:²⁷

²⁵ Nalebuff, B. y Brandenburger, A. (1996). Competencia, Editorial Norma. Barcelona, España. Pág. 12

²⁶ Rico, Rubén Roberto (1997). Total Customer Satisfaction. Ediciones Macchi. Buenos Aires. Argentina. Pág. 232

²⁷ Rico, Rubén Roberto (2001). Calidad Estratégica Total: Total Quality Management. Ediciones Macchi. Buenos Aires. Argentina. Pág. 5.

- Positioning the enterprise so that its capacities provide the best defensive position in function of the existent competitive forces;

- To influence in the balance of forces by means of strategic movements, improving in this way the relative position of the enterprise or;

- To anticipate the changes in the factors that fundament the forces and to respond quickly to them, taking advantage of them to choose an appropriate strategy, for the new competitive balance before the competitors recognize it.

The best strategy is a unique construction that reflects its particular circumstances. At a specific level, taking Porter's ideas three generic strategies are established, internally consistent (that can be used one at a time or in combination) to create a long term defensible position and to stand out above the competitors. These same concepts can be adjusted to the possible market conditions of fuel in Paraguay, with the functioning of a reception, storage and dispatch for the southern region:

- Total leadership in costs: This strategy would be based on offering the lowest price starting off from saving in freights, by means of the strategic geographical position, next to the area of high consumption. A second factor of leadership in costs would point to a reception system, storage and dispatch, planned based on efficient budgets. A third strategy would be based on the use of outpost technology to diminish costs of plant functioning.

- Differentiation: It consists on focusing in particular on a group of buyers, in a segment of the product line, or in a geographical market and it can take several forms. In this aspect, the enterprise chooses one or more attributes that it judges as important and it adopts a special positioning to assist those necessities.²⁸ In short, the strategy would consist on offering a dispatch service with a differentiated value, based on quick and opportune delivery, by means of the development of a system of quick billing. Another differentiation factor is the excellent geographical location of the facilities of the plant regarding the clients, which would redound in economic benefits for these starting

²⁸Porter, Michael E. (2004). Op. Cit. Pág. 46

from the optimization of the use of the vehicles for the distribution of fuel for the area (logistics). Also, with facilities that offer maximum safety in the manipulation of the products, they would constitute a factor more than differentiation.

- Concentration: Concentration is the third strategy proposed by Porter. "The enterprise selects a segment or group of segments (inside an industrial sector) and it adapts its strategy to assist them excluding the remaining ones."²⁹

In this case, the possible concentration strategy to be applied with the functioning of a reception, storage and dispatch plant for the southern region of Paraguay can be given under two conditions: concentration based on costs and concentration based on the differentiation, attending to a high consumption segment constituted by the area of agricultural production of Itapúa and influence areas.

On the other hand, one cannot stop considering the risks that the enterprise goes through when trying to put into practice some of the proposed leadership strategies:

- Leadership Risk in costs: The leadership in costs imposes severe loads on the enterprise to maintain its position, what means to reinvest in modern equipment, to discard the obsolete assets relentlessly, to avoid the proliferation of the line products and to be alert in the face of technological improvements. It is vulnerable to the same risks of trusting the scale or in the experience as entrance barriers.

Some risks can be:

- Technological change.
- Incapacity to adapt to the changes.
- The costs in the quality of the products and services.

- Differentiation risks:

- The differential cost between the competitors of low cost and the differentiated enterprise, is too big so that the differentiation retains the loyalty to the mark. In this way, the buyers sacrifice some of the characteristics, services or images lent by the differed enterprise to obtain big savings in costs;

²⁹Ibíd. Pág 14

- Concentration risks:

The competitors find submarkets inside the strategic objective segment and put out of focus the enterprise concentrated on this segment.

A proposal for the chain of value

The chain of value is a concept that describes how the activities of the business contribute to their tasks of designing, producing, supplying, communicating and supporting its product.

Idalberto Chiavenato³⁰ says that "the organizations should add value continually to what they make, to be competitive."

The chain of value of an enterprise consists of two types of activities that create value for the clients:

- The basic activities: They consist of the provisioning of materials, transformation of products, logistics, their commercialization and rendering service.
- Support activities: They facilitate the primary activities, providing the bought inputs, developing the technology used in the process of the product, hiring, forming and motivating the personnel of the enterprise and providing the management infrastructure, financing and planning.

Lardent speaks of the analysis of the chain of value as "one of the available techniques that contributes to the definition of corporate strategies, to visualize in what way the organization adds value and how it incurs in costs, (...) it constitutes a series of phases, each one of those which adds value and generates costs." ³¹

In previous paragraphs the five basic competitive forces exposed by Michael Porter have been approached and, in this point of the analysis, one can affirm that these forces constitute the base for the determination of the relative position and of the competitive advantages of an enterprise. It has also been affirmed that when one

³⁰Chiavenato, Adalberto (2004). Gestión del Talento Humano. Editorial McGraw Hill. Bogotá. Colombia. Pág.145

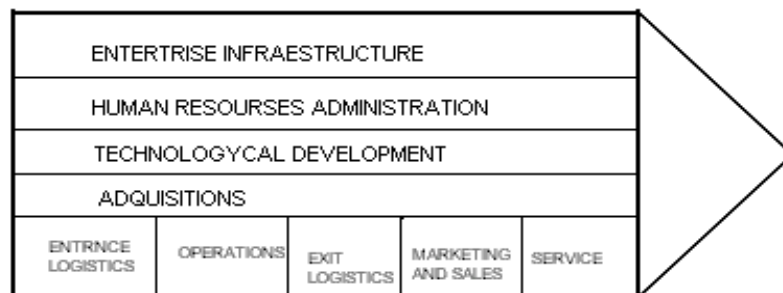
³¹ Lardent, Alberto R. (2001). Op.Cit. Pág. 112

speaks of competitive advantages, reference is made to low costs of production, differentiation of products or services and strategy based on well defined action space (segments).

Supported by these concepts, Porter proposes that the chain of value is like a useful tool for the analysis of comparative and competitive strategies and in this context, it is necessary to identify the activities that the enterprise develops in the execution of its business and to accentuate its evaluation, because it is in them where it is possible to obtain advantages through cost or differentiation.

In the following chart is represented, in generic form, the group of activities whose objective is to design, to manufacture, to market, to hand over and to support the product.

Chart 18: Porter's generic chain of value



Source: Porter M. (2004). P. 37

The concept of chain of value can be applied to any of the generic strategies for the generation of competitive advantage. Thus, one can speak of the chain of value for the analysis of costs; the chain of value and differentiation.

With a wide approach one could take on Porter's as to the analysis of the chain of value and to apply it to the generation of critical factors of success, to any organization and to any item.

This chain of value shows the possible strategies that can develop competitive and comparative advantages in the installation of a plant of reception, storage and dispatch for the southern area of Paraguay.

VALUES CHAIN IN COST LEADERSHIP, DIFFERNCIATION AND CONCENTRATION

Enterprise Infrastructure

Ø Reception, storage and dispatch system, on the basis of an efficient estimate.

Ø Rational use of the facilities.

Ø Management System Effective control.

Ø Support of the higher management for the reception, storage and dispatch, convenient for the market.

Ø Modern and safe facilities.

Ø Excellent administrative information system

Human Resources Management

Ø Excellent personnel preparation and training.

Ø Optimization in personnel recruitment and training system.

Ø Stable employees policy

Ø Operating under 9001 Quality Norms

Ø Excellent labor environment.

Ø Minimum quantity of personnel.

Ø Low personnel rotation

Ø Qualified personnel in sales and post-sale services.

Ø Permanent training of contact personnel.

Ø Low additional personnel costs.

Technological Development

Ø Magnificent technology in fuels reception, storing and dispatch.

Ø Information system which allows one to better know suppliers' costs and market conditions.

Ø Agility and high precision in the processes with high technology equipment and machinery.

Ø Updated technology to diminish operational costs.

Ø Development of a quick invoicing system.

Ø Technology which allows diminishing dispatch costs.

Ø Updated service technology.

Ø Maintenance of safe facilities.

Purchases

Ø Sure and reliable supply of fuel to the plant.

Ø Effective purchase system so as to optimize acquisition procedures.

Ø Suppliers' diversification.

Ø High quality fuel.

Ø Direct sales.

Ø Minimum maintenance costs.

Ø Storage tanks placed in the best place.

Ø Minimum costs in invoicing system.

Ø Bought product: positioning and image.

Ø Low advertising costs as it is a "star" product.

Entrance Logistics

Ø Reception of fuels made up of: port, piers, access catwalks and intermediate areas on the Paraná River, riverside.

Ø Excellent geographical placement of plant facilities, as to suppliers.

Operations

Ø Preventive, corrective actions, and continuous improvements, to allow service differentiation and reduction of operative costs.

Ø Conformity with fuel technical specifications.

- Ø Strictness in fuel reception, storage and dispatch processes.
- Ø Maximum prevention of incidents in the handling of dangerous products.
- Ø Low costs in operative processes.

Exit Logistics

- Ø Quick and opportune delivery.
- Ø Exact and adequate processing of orders.
- Ø Excellent geographical placement of plant facilities, as to clients.
- Ø Consumers' minimum freight cost.

Marketing And Sales

- Ø Optimum personal relations with channels or clients.
- Ø Great credit facilities for buyers.

Services

- Ø High quality service.
- Ø Optimization in services costs

FINAL CONSIDERATIONS

In this chapter, starting off from the analysis of the reality around the problem approached in the research, the fundamental aspects of the situation of the study are exposed in a synthesis of the results of the research .

The ideas exposed are once more considered in the hypothesis outlined in the framework of this work that supposes the achievement of comparative and competitive advantages in the market of oil derivative fuel in the southern region of Paraguay with the functioning of a reception, storage and dispatch plant, based on the socioeconomic, demographic and geographical characteristics of this region and under specific market conditions.

REALITY OF PARAGUAYAN MARKET OF OIL DERIVATIVE FUELS

According to what has been analyzed up to here, it is clear that the tensions that are found in the environment of the market, of oil derivative fuel in Paraguay; do not generate comparative and competitive advantages for the market represented by the southern region of Paraguay, being one of those of more consumption. The underlying disadvantages are generated starting off from the following situations:

- State monopoly outline, that does not allow the free competition in the commercialization of gas oil (diesel).
- Inappropriate subsidization on the price of the gas oil (diesel), exercising dumping.
- Lack of balance of the matrix consumption of fuel in the Paraguayan market.
- Inadequate tax System that generates the dieselization of the Paraguayan market.
- Not very clear structures of prices and overloaded in the oil derivative products.
- Outline of consumption of the Paraguayan market that reduces the bargaining power in the purchase of oil derivative products.
- High Petropar operative costs.
- Lack of attention to the segment corresponding to the southern region making the product to be expensive, as to cost dimensions, insurance and freight.

In the current context of the Paraguayan fuel market, these factors are related amongst themselves, forming a structure of causes and effects, that can be interpreted starting off from the following chart, whose fundamental axis constitutes an anachronic non competitive fuel market:

Flowchart of cause effect relationships in the present day Paraguayan fuel market.

APPROPRIATE CONDITION FOR THE PROPOSAL OF COMPARATIVE AND COMPETITIVE ADVANTAGES

Under the current conditions, the market of fuel in Paraguay presents an adverse scenario for the generation of comparative and competitive advantages, for the exposed mentioned above.

Now, which would be the appropriate conditions for the generation of competitive and comparative advantages with the functioning of a reception, storage and dispatch of oil derivative fuel plant in the southern region of Paraguay?

Due to the characteristics present in the Paraguayan fuel market, unavoidably certain requirements or conditions should be given, so that there can be the possibility of the functioning of a reception, storage and dispatch plant in the southern region of Paraguay, that offers comparative and competitive advantages to the market of this area.

These requirements or conditions would be:

- Fixation of the price of the gas oil on the base of the international prices, and not by decree; this means to liberate the price of the diesel and to make the fuel market transparent. The Executive Power of Paraguay should not have the responsibility of fixing values in an arbitrary and artificial way on the oil derivative products. One should understand that one cannot control the prices in the international markets, mainly a kind of product that flows with a lot of agility and dynamism, and even more, considering that Paraguay is not a producing country. The deregulation should bring with it a new balance of what is the global offer of fuel in the country.

- Elimination of the subsidy to the gas oil price to the final consumer.

- Adjust from the Consumption Selective Tax rate, (ISC), to a similar value, to that of the other MERCOSUR countries, whose benefit would be an increase of the GDP, in additional public rents.

- Implementation of a fiscal policy, in relation to the fuel, to achieve a tax rebalance among the different oil derivative fuels, allowing that the offer of these products to the market, facilitate the consumer to opt for one or another fuel. The direct consequence of this decision would allow to correct the current consumption matrix

(dieselization of the market) that that, in turn, would allow a greater competitiveness in the market.

- Implementation of a policy of sustainable energy development based on the being able to potentialize the input and the national industry. This policy would imply a greater use of anhydrous alcohol, for the mixture with the naphtha and development of the industry of the bio-diesel in appropriate proportions.

- Effective application of as to safety international norms and protection of the public health, the natural resources and of the environment in the facilities and functioning of fuel supply.

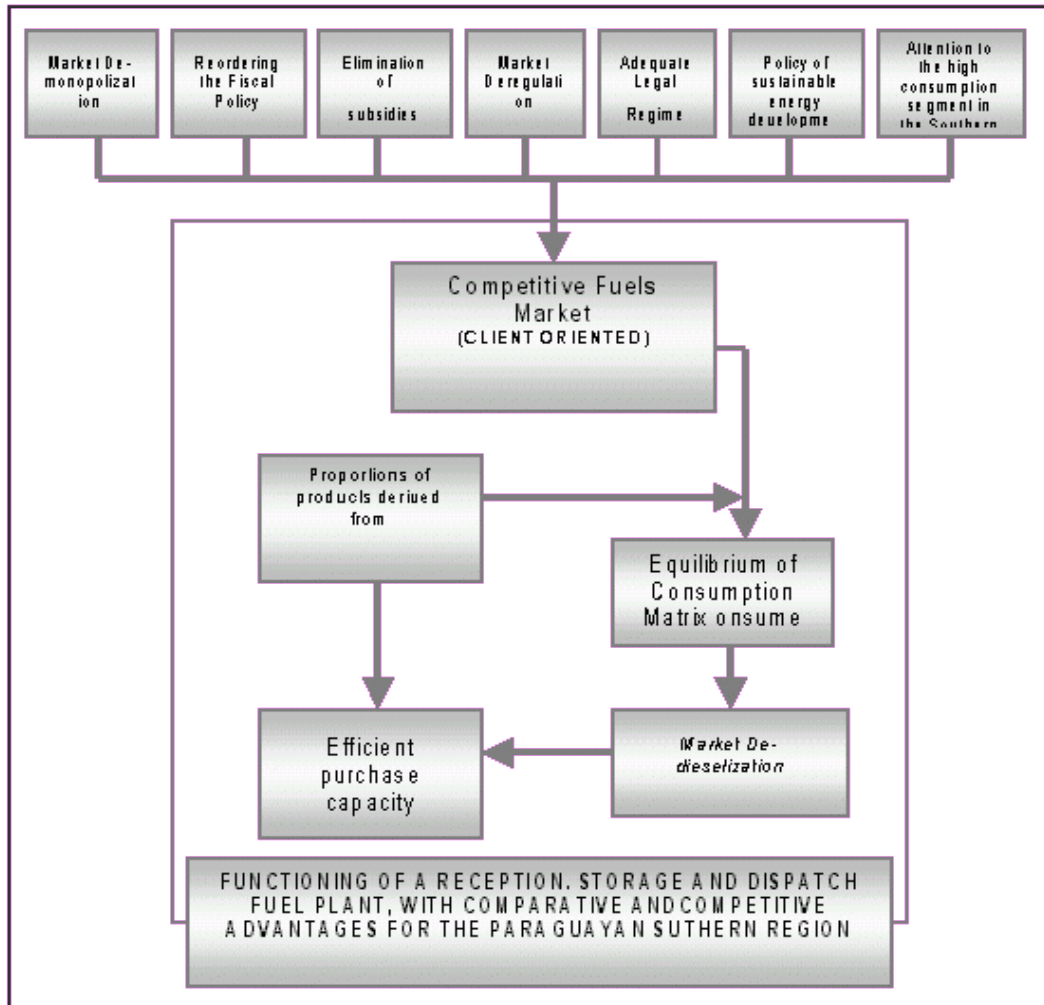
- To achieve the functioning of an efficient and transparent institutional framework, with appropriate capacity for the effective application of the bill of fuel; within an atmosphere where the conditions are in order for the necessary transformation towards an open and competitive oil market in terms of investments.

- Develop of a macroeconomic policy, able to foment the investment of capitals, within an economic framework where there does not exist the regulation and control of prices, that is to say that the prices are fixed according to the offer and the demand. This will allow an incentive for the managerial development in a free competition market.

- Establishment of a solid and committed association Government - Private Sector, to foment the development of the fuel market in Paraguay .

The chart following shows the outline with the appropriate market conditions for the proposal of comparative and competitive advantages with the reception, storage and dispatch plant for the southern region of Paraguay .

Flowchart of cause effect relationships for a competitive fuel market in Paraguay



SUMMING UP

With all that has been explained, one can infer that the commercialization of the oil derivative fuel in Paraguay, is carried out in monopoly form through the government enterprise Petropar, characterized by a heavy and bureaucratic structure, that subsidizes the sale prices and supports high operative costs, which causes the final consumer to acquire the products without option to competitive and comparative advantages, in a market that is characterized by an unbalanced matrix fuel consumption, and which derives in the dieselization of that market. To this it is added, the problem of a constant fluctuation in the international behavior of the

commercialization of the product, for diverse influential situations, be they direct or indirect, due to the world reality.

On the other hand, the southern region of Paraguay is considered one of the country's most productive areas. It is characterized by being in constant productive activity and, in all the cases, the oil derivative fuel is a very important factor and, in this context, deficiencies exist in the attention to the market, due mainly in this region to a monopoly that restricts free competition, in the item of the gas oil (that constitutes 80% of the structure of the consumption matrix of the market of oil derivative fuel of the country's and that generates the phenomenon of its dieselization.).

With the result that, the current conditions presented by the fuel market, in Paraguay, described above, is not favorable to generate comparative and competitive advantages in the sector.

However, starting off from a prospective focus, these conditions serve as base for a future market, starting from the situations that are being given in Paraguay: A pressure of the multilateral organisms to Paraguay, to deregulate the market and to eliminate the subsidy to the gas oil, the creation of the Fuel Law, that allows the de-monopoly of the market and the reordering of the fiscal policy.

Based on the prospective situation of the Paraguayan fuel market, as a potential participant, anticipating the other enterprises, the functioning of a reception, storage and dispatch plant for the southern region of Paraguay would generate competitive and comparative advantages offering a greater capacity of attention as supplier of a segment of market of high consumption, as is the country's southern region, starting off from a strategic geographical position, with a logistics that allows to save economic resources and difficulties, in an incipient framework of the threat of substitute products.

Therefore, within the framework of the outlined hypothesis, one can affirm that it is possible to achieve comparative and competitive advantages for the market of the southern region of Paraguay, with the functioning of a reception, storage and dispatch plant in this area, starting off from a convergence of appropriate conditions, defined by

a de-monopoly and deregulation of the market, reordering the fiscal policy, elimination of the subsidy to the gas oil (diesel), an appropriate legal régime, policy of sustainable energy development and the attention to the segment of high consumption in the country's southern region. The implementation of the mentioned conditions would derive in a competitive fuel market, with a balance in the consumption matrix, of the oil derivatives that would lead to the its de-dieselization and an efficient integration capacity backwards in function of the proportions of performance of the industrialization of the crude.

In other words, for the confirmation of the hypothesis, a transformation of the current structure of the Paraguayan oil market should be given, to an open-market, in which the prices are fixed by the offer and the demand, with clear and predictable rules overseen by an autonomous and independent regulator entity, in which compete, in equal conditions, all the interested actors in the fuel sector, be these national foreign ones.

Finally, the comparative and competitive advantages can be synthesized in the following points: excellent geographical location for the facilities of the plant regarding suppliers and clients; lower fuel cost for the urban area (130 Guaranies per liter less than when it is brought from Asunción); lower fuel cost in the areas of agricultural production, such as Itapúa and influence areas, by means of shorter distribution routes; optimization in the use and rationalization in vehicles, (smaller investment in vehicles) dedicated for the distribution of fuel to the area (logistics), since the distance of the average journey would be of 200 Km., instead of 800 Km. (when the fuel is provided from Asunción); provision of fuel with assured quality, that favors a bigger development of the profitable cultivation surfaces in Itapúa and influence areas; autonomy in the supply of fuel, when not depending on the Asunción plan, quality assurance in the services and products of a local enterprise that would respond with more speed to the eventual complaints, higher revenues for taxes and contributions to the commune, to the department and to the Paraguayan State; use of manpower of the area, for direct,

and indirect work through contracts with local enterprises, and, grater effectiveness in the development of business transactions related to the functioning of the plant.

BIBLIOGRAPHY

- FLAHERTY, John E. (2001) PETER DRUCKER. La esencia de la administración moderna. Prentice Hall. México.
- PORTER, Michael E (2002). Ventaja Competitiva. Creación y Sostenimiento de un Desempeño Superior. Compañía Editorial Continental. Segunda Edición. México.
- PORTER, Michael E. (2004) Estrategia Competitiva. Técnicas para el Análisis de los Sectores Industriales y de la Competencia. 32^a reimpresión. Compañía Editorial Continental. México.
- RICO, Rubén Roberto (2001). Calidad Estratégica Total. Total Quality Management. Ediciones Macchi. Buenos Aires. Argentina.
- TAÑSKI, Nilda C. (2003). Administración de Marketing. Segmentación Integral de Mercados. Editorial Graficop. Buenos Aires. Argentina.