UNIVERSIDAD DEL AZUAY

FACULTY OF LEGAL SCIENCES

"STUDY OF FEASIBILITY OF EXPORTATION OF FROZEN BREAD TO PERU AND SPAIN".

Graduation work prior to obtaining a bachelor's degree in International Studies with a mention in Foreign Trade

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Dedication

The conception of this project is mainly dedicated to God and my parents. God because he has been with me at every step of my life, giving me the strength to move forward; to my parents, who are the fundamental pillars in my life, who have invested their entire confidence in my intelligence and skills, always giving me their support. Their constancy and insatiable struggle have made them a great example to follow.

Acknowledgement

To each of those who are part of my family, to my father, my mother and my brothers; forever giving me strength and unconditional support, helping me fulfill one of my goals and life goals. To my colleagues and friends, for giving me their advice and knowledge at the right time.

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Abstract

The purpose of this research is to determine the feasibility of exporting frozen bread to two international countries, Spain and Peru, considering that the bread is one of the most consumed products of the market in which it is intended to be introduced. This product is characterized by conserving its nutrients until the moment at which the customers have consumed it since, in its production chain, the precooked freezing process is implemented, converting it into a semi-finished product, which the client can finish it in a simple way, perceiving a fresh and appetizing aroma and texture.

In this regard, to comply with the objective of the study, a quantitative and qualitative methodology was implemented, making use of both primary sources and secondary sources. In addition, interviews were conducted with producers of bread and products with frozen flour locally, as well as with different businessmen and associations exporting similar products.

In short, the results obtained reflect effective data, since production is supplied in the destination markets such as Lima and Madrid, which have a population that consumes bread in large quantities. In addition, in the financial analysis, the feasible project, which is defined by a positive value in the NPV; as well as an Internal Rate of Return higher than that expected by the shareholders. Given this, considering the low competitive situation of other companies that export frozen bread to the proposed destination, the project could have a high participation rate, both in Peru and Spain.

Keywords: frozen bread, feasibility, market, Peru, Spain, export

Introduction

Frozen bread involves a delicate process that requires the interruption of the chain to obtain a semi-finished product. This process can affect the quality of the product, since the challenge lies in preserving the nutrients until the moment of consumption. Among the benefits offered by the freezing of bread for commercial purposes, highlights the use of technology that produces the freezing of the dough. On the other hand, as pointed out by Rioja (2013), a long period of freezing can generate reduction in the quality of the final product, quality that mostly depends on the cryo-resistance of the yeast.

The export project starts from the problem that occurs in the local market where households characterized as being family or multipersonal, there is a need to consume foods of high nutritional value, in the shortest possible time and with the desired freshness. Against this, bread represents one of the products of mass consumption, in which, depending on the production process many of its varieties have a large amount of nutrients and benefits for the consumer.

Considering this background, the proposed research pursues as a fundamental objective the determination of the feasibility of exporting frozen bread to Peru and Spain, for which a quantitative and qualitative methodology was developed, focused on different primary and secondary sources, as well as on bibliographic review that allows establishing the viability of the markets to which the final product is intended to be exported.

For the development of the study, three chapters were established; in the first one, an analysis of the frozen bread is made, its different nutritional values, benefits and advantages, as well as the productive process of it. Chapter two consists of the analysis of the market in which it is intended to export the product, in this case Peru and Spain and is the chapter in which the demand and the specific market segment is determined. Finally, in chapter three, the export plan is carried out, characterized by the logistics, costs, production and profitability or feasibility of the research.

CHAPTER 1. PRODUCT AND COMPANY ANALYSIS

1.1 Product analysis

1.1.1 History

Bread has been an important part of our diet for 7,000 or 8,000 years (Bourgeois & Larpent, 1995). History mentions that at first this food did not have the fermentation process and that it was in Egypt, where the first fermented bread appeared (Aleixandre, 1996). In fact, it is the first processed food in the history of humanity and in different towns it is even considered in the rituals of many religions and since its inception it has been a food considered as part of the family tradition; During history this food has had an evolution, from the primitive crushing of cereals to current flour production methods and different techniques of bread production (Yubero, 2011).

1.1.2 Evolution of bread

In a first stage, the production of bread occurs through crushing mixed with water, thus forming a kind of porridge, which then when placed in the heat begin, to form as a kind of granulated, dried and crushed dough (Varela, Carvajal and Beltrán 1998). The story mentions that it was in Egypt, where bakery techniques were consolidated and the first ovens were created, discovering fermentation in the same place (Varela, Monteagudo, Carvajal, & Moreiras, 1991). The commercial relations between Greece and Egypt, caused that the invention of the bread arrived in Greece, where this activity was perfected coming to exist in more than seventy varieties of breads with different masses and several spices added (Varela, Monteagudo, Carvajal, & Moreiras, 1991). Little by little the art of the bakery extended to Rome, whose citizens improved the mills and the ovens, and in this way obtained a better bread (Varela, Monteagudo, Carvajal, & Moreiras, 1991). Subsequently, bakeries came to be located throughout Europe and finally in other parts of the world. In the following years, a significant advance has been made in both production techniques and new machinery, with the aim of achieving better textures, with more pleasant flavors and greater conservation, that is, a bread with the highest quality (Seoane Viqueria, 2009).

1.1.3 Bread and the needs of man

The consumption of bread has remained from its existence to the present an essential part of the human being's diet, therefore, it has gone through different stages over time. However, it is important to mention the main reason why people started producing this food.

In ancient times, human beings were considered nomadic, therefore the main activities they were dedicated to were gathering fruit and hunting. Later, man went from being nomadic to sedentary, that is to say, in this case, people began to find a fixed place to live and at the same time could be farmer-ranchers. Therefore, it was important to solve the problem of choosing what food should be grown, which should serve to obtain sufficient energy to survive and be palatable. In addition, it should be easy for storage and conservation (Varela, Carvajal, & Beltrán, Spanish Nutrition Foundation (FEN), 1998). In reflection to the above, notably, cereals met those requirements, except for being appetizing, which is why they began to do culinary manipulations, through heat and crushing. This helped to obtain easily edible products with a pleasant taste (Varela, Carvajal, & Beltrán, Spanish Nutrition Foundation (FEN), 1998).

It is in this situation where bread originates, emerging as satisfying one of the greatest needs of the human being, which is food. It is evident that the purpose of the bread is to satisfy the hunger of the people. Who begins to produce for self-consumption and with the passage of time it became a commercial product.

Bread has a short life, from the time it leaves the oven to be consumed by the customer. The current problem is the aging of the bread that is reflected in its hardening that is due to the retrogradation of the starch (Ruiz Vacacela, 2015). This hardening factor is one reason why the product has less acceptance in the market. From this problem arises the need to have a fresh and soft bread, at the time desired by the consumer, the solution of which is the production of frozen bread, which thanks to its longer duration can be transferred over long distances (export).

1.1.4 Nutritional value

It has a variety of nutrients that contribute to the development of the organism, the main ones being carbohydrate, proteins, vitamins and minerals from the wheat grain, the most important protein being gluten (Fundación Española de la Nutrición, 2014). Next, a table with the nutritional values is presented.

Table 1: Bread nutritional components

NUTRITIONAL COMPOSITION	PER 100G OF EDIBLE PORTION	NUTRITIONAL COMPOSITION	PER 100G OF EDIBLE PORTION
Energy (kcal)	277	Zinc (mg)	2
Proteins (g)	7.8	Sodium (mg)	540
Total lipids (g)	1	Potassium (mg)	100
Carbohydrates (g)	58	Phosphorus (mg)	91
Fiber (g)		Selenium (ug)	28
Water (g)	2.2	Thiamine (mg)	0.12
Calcium (mg)	31	Riboflavin (mg)	0.05
Iron (mg)	19	Niacin equivalents (mg)	1.7
Iodine (ug)	1.7	Vitamin B6 (MG)	
Magnesium (mg)	1	Vitamin E (mg)	0.04
	26		Tr

Prepared by: Fabián Quezada
Source: (Spanish Nutrition Foundation, 2014)

When knowing the nutritional components that bread provides, undoubtedly, it must be present in the daily diet, from morning to night, since not consuming it would cause an imbalance in the calories necessary for the organism (Spanish Nutrition Foundation, 2014).

The nutritional components mentioned will vary depending on the type, degree of extraction, fortification or enrichment of the flour and the addition of other ingredients (Varela, Carvajal, & Beltrán, Spanish Nutrition Foundation (FEN), 1998).

1.1.5 Supplies needed for bread production

Table 2: Main inputs to produce bread

MAIN INPUTS FOR MAKING BREAD	
FLOUR	The flour that is used in the elaboration of common bread is the one coming from wheat, now in Ecuador the wheat that is used is the Triticum aestivum (Medina, 2016).
WATER	The water is according to Mesas y Alegre (2002), necessary to hydrate the flour facilitating the formation of gluten and facilitating the kneading of the flour, in addition it is the second raw material in greater quantity in the elaboration of common bread.
SALT	The most commonly used salt in bakery is common kitchen salt, or sodium chloride, it is added when kneading the flour, it is a component that determines flavor and regulates the fermentation of the dough (Larrea, 2006)
YEAST	It is a microbial component that drives the dough to ferment and thus produce CO2 which when caught in the dough is inflated and its volume increases (Guinet & Godon, 1996).

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1.1.5.1 Process of making frozen bread

Next, we can observe the process of making frozen bread that is very similar to the production of common bread, but with a couple of other processes (Larrea, 2006).

1. Gathering raw material: with strict quality controls the flour, water, salt and yeasts will be collected.
2. Ingredients ordering: the ingredients are in portions and places estimated for an accurate production.
3. Kneading: with the help of machinery, beating the ingredients until they are joined together and turned into an elastic mass.
4. Cut: the dough is divided into small portions.
5. *Boleado*: the portions are given a spherical shape.
6. Rest: the mass remains in stillness for around 20 minutes to recover its extensibility to shape it.
7. Design: there is an aesthetic form that will be what the consumer observes.
8. Fermentation: for about 150 minutes the formed portions rest for the yeast to act.
9. Precooking: with initial temperature 230 ° C then to 170 ° C until the dough reaches 55 ° C after this the bread is cooked for 13 minutes.
10. Chilled: when leaving the oven, the bread must rest for 30 minutes.
11. Freezing: the bread goes through a freezing tunnel acclimated to -40 ° C until the dough reaches -12 ° C.

12. Packaging: is done in cold rooms immediately after freezing
13. Transportation: transportation is carried out in special vehicles to maintain the temperature of the product.

1.1.6 Varieties of the product

Bread is a perishable food, which is generated after cooking a dough of wheat flour, salt and water, properly fermented. According to the Spanish Food Code there are two varieties of bread: common and special bread.

▪**Common bread - it** is the bread that is consumed in most households, which, in addition to the basic ingredients, includes certain technological adjuvants and authorized additives. This type includes crugado bread or of hard crumb and flame bread made of soft crumbs.

▪**Special bread – its** name is due to its composition, inclusion of some special adjuvant, for not carrying salt, not being fermented, the type of flour or the addition of other ingredients such as eggs, fats, sweets, etc., differentiating it from common bread (Tables) & Alegre, 2002). This group includes integral bread, egg, milk, sweetener, among others.

1.1.7 Current baking techniques

There are four baking techniques currently which have emerged, according to the new needs.

1.1.7.1 Traditional live technique

The whole production process is carried out within the industrial bakery the flour mixture, the rest, the fermentation, the form and the cooking are developed there. Subsequently, it is conveniently cooled and distributed (Seoane Viqueria, 2009). This technique has been used for several years, but lately it has lost prominence due to the lack of freshness and the hardening of the bread.

1.1.7.2 Technique of frozen doughs

In this case, the process has a paralysis in a certain phase where the cold application is made to continue later in the place of sale to the public (Seoane Viqueria, 2009). Depending on the phase where the production process has been interrupted, it is called frozen fermented dough and unfermented frozen dough, each one having advantages and disadvantages.

1.1.7.3 Pre-cooked technique

In this technique a semi-finished product is developed, that is, the same traditional technique is followed, but it is interrupted before the dough takes on color with sufficient rigidity to maintain its shape. This technique is classified into pre-cooked fresh and frozen pre-cooked.

1.1.7.4 Mass transport technique in the process of fermentation

In this productive process the fermentation takes place during the transport of the product, where the masses of dough are placed in mobile fermentation cabinets and easy to mobilize (Seoane, 1997).

1.1.8 Baking techniques in Ecuador

In Ecuador, the most used techniques for breadmaking are the traditional ones, that is, where the entire production process is carried out within the company, even though we find small bakeries scattered throughout all the cities, all of them are dedicated to the production technique traditional. Nowadays, only large bakery companies produce frozen bread. Such as Facundo, Maxipan and Family Food (Municipal Tourism Foundation in Cuenca, 2016).

1.2 Analysis of the company

To carry out a correct analysis of both the internal environment and the external environment of the company, a bibliographic review of the most commonly used methods to evaluate the company's situation will be made, composed of: PEST analysis, analysis of the five forces of Porter; and finally, the SWOT analysis.

1.2.1 PEST analysis

It is an analysis that determines the conditions of the general environment for the strategy proposed by a company, considering the following aspects: Political, Economic, Social and Technological (Nieves & Florentin, 2012).

1.2.1.1 Political Factor

According to Ezquer (2007), the political situation directly affects commercial activities carried out within a country, whether these are at the micro or the macroeconomic level. Through the implementation of public, economic, fiscal or monetary policies, commercial transactions are regulated. The implementation of a commercial policy always causes uncertainty in the population and mainly in the business sector due to the

changes it generates in some of the macroeconomic variables such as inflation, unemployment, production, etc.

In the case of foreign trade, it is also affected by the application of a new policy, which may be beneficial or harmful. Export or import will always be regulated by the commercial policy and the fiscal directly, since, through these, any international commercial transaction is restricted. Trade policy affects trade liberalization, that is, through this policy it is possible to determine free trade agreements or economic unions, while fiscal policy intervenes in foreign trade through the application of tariffs, safeguards, taxes, etc., (Lascurain, 2009).

In recent years the situation of Ecuador has given a perspective of instability with respect to its fiscal situation, all this due to the application of several and different taxes to several sectors, which, at the same time, some of which have been eliminated, and others have remained, according to the report of the National Secretariat of Planning and Development SENPLADES (2017). It is for this reason, that employers are worried, because there is no stability about taxes.

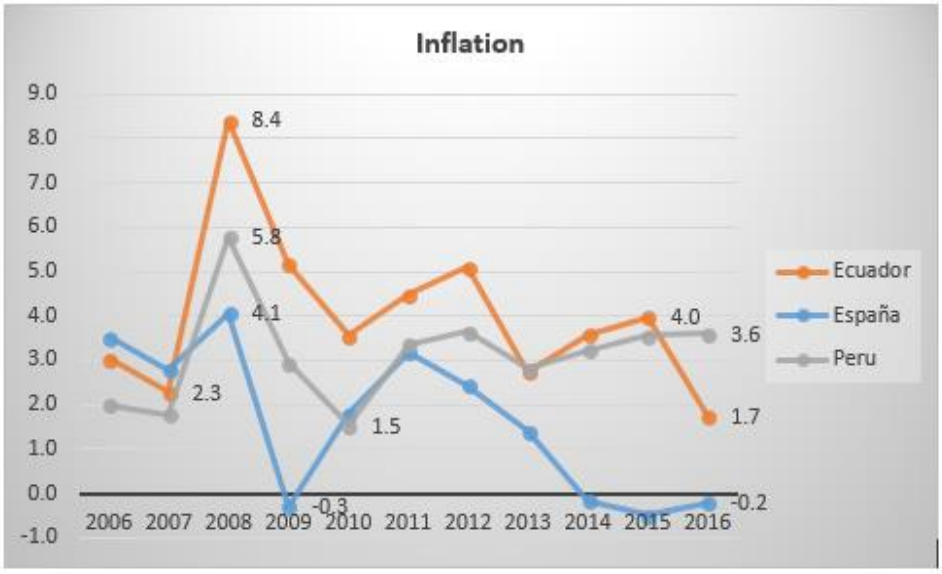
1.2.1.2 Economic Factor

At the time of carrying out foreign trade activities, eminently, is being involved with the entire economic situation of the country of origin and destination to which you want to export or import. Therefore, it is necessary to analyze the main macroeconomic indicators belonging to the countries of interest (Mendoza, Hernández, & Pérez, 2008).

1.2.1.2.1 Inflation

Inflation is an extremely important indicator to assess the economic situation of a country, this indicator measures the level of prices through the Consumer Price Index (CPI). According to the INEC (2017), this is an economic indicator that measures the evolution of the general level of prices corresponding to the set of consumer products, acquired by households in a set period. The CPI is the official measure of inflation.

Graph 1: Inflation rate of Ecuador, Spain and Peru



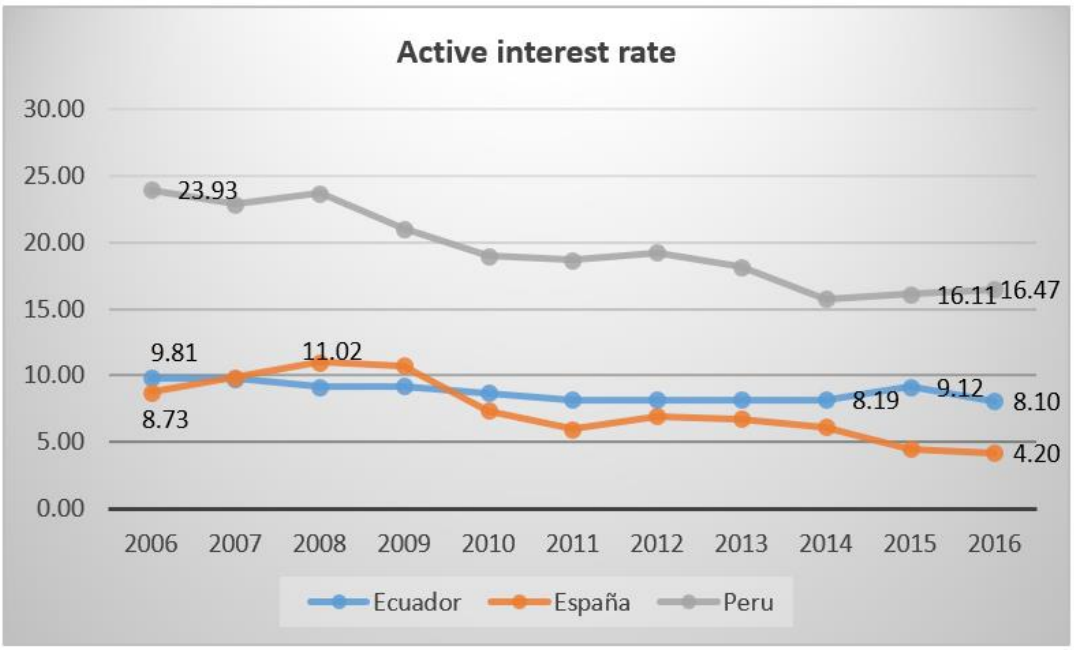
Prepared by: Fabián Quezada
Source: (World Bank (WB), 2017)

Figure 1 shows that there has been high variability in the rate of inflation with respect to the three countries of analysis. Something important to mention is that the rate of inflation in Ecuador on average has been the highest compared to the two countries. However, it has had a downward trend, which places it for 2016, with an inflation rate of 1.7% one level below Peru that is located at a rate of 3.6%, while Spain has a very low inflation rate of -0.2% (deflation).

1.2.1.2.2 Interest rate

According to Elizalde (2015), the interest rate is an indicator that is closely linked to the economic situation of a country and therefore to the activities of production, consumption, savings and investment made by people. It is also related to the rate of inflation, so if a country has a low level of inflation, this gives consumers more purchasing power, and having greater acquisition potential will make different decisions depending on the interest rate. For example, if the active interest rate is low, people will go to obtain credits to make investments. On the other hand, if the passive interest rate is high, the population will prefer to save and obtain benefits through this source.

Graph 2: Active interest rate in Ecuador, Spain and Peru



Prepared by: Fabián Quezada
Source: (World Bank (WB), 2017) (Central Bank of Ecuador, 2017)

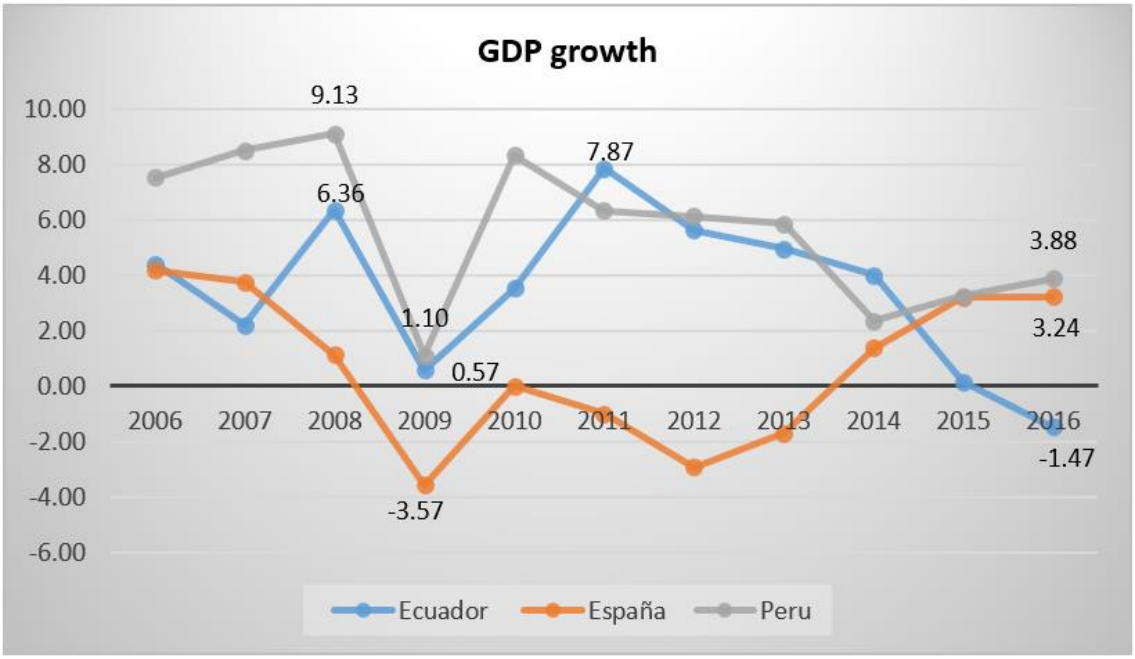
Graph 2 shows that the interest rate for Spain is the lowest on average in the period 2006 - 2016, on the other hand, the interest rate of Ecuador double the rate in Spain, is higher by 4 percentage points, However, Peru's interest rate is much higher, since it is double Ecuador's rate, which is 16.47%. In addition, we can determine that in all countries they have a downward trend, although in the case of Ecuador it has remained somewhat constant.

The exposed situation of the countries can be interpreted as a positive aspect of the population because, if the trend continues, they indicate that the credit opportunities will increase due to a low interest rate. This credit will encourage consumption and there will be more demand. That is where our product can be introduced. In contrast, as mentioned above, when the interest rate is linked to the inflation rate (Orlik, 2012), in this case a low interest rate leads to more loans, this in turn leads to a higher demand, but where problems begin to exist due to higher demand, inflation will increase.

1.2.1.2.3 Gross Domestic Product (GDP)

GDP is the total value of goods and services produced in a country over a period; that is, the total of what is produced with the resources that have been used in the economy, valuing each good or service at the price that is handled in the market (Banco de la República, 2017).

Graph 3: GDP growth in Ecuador, Spain and Peru



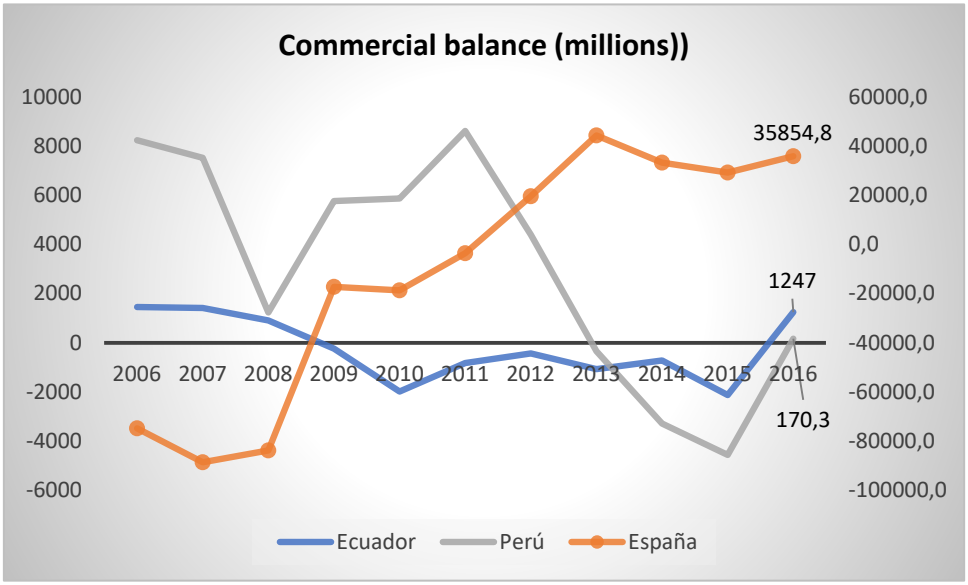
Prepared by: Fabián Quezada
Source: (World Bank (WB), 2017)

In Figure 3 both Peru and Ecuador have tended to lower the level of growth of their production. However, Peru despite its steep declines as in 2009 with a growth of 1.10%, has recovered (3.88% in 2016) without reaching its best level of 9.13% obtained in 2008. Spain has had a crisis with respect to GDP growth, since during the 2009-2013 period, it has had decreased and minimums growth, despite that has managed to recover and for 2016 is a growth of 3.24%, near Peru. On the other hand, Ecuador has not been able to recover from its downward trend since in 2016 it shows a decrease of -1.47%, a negative situation for Ecuador. However, the good situation of the countries in interest gives us an opportunity.

1.2.1.2.4 Commercial Balance

The indicators of the trade balance are directly related to foreign trade, since within its items it has the amount of exports and imports made by a country in a given period. The result that will be generated will reflect, as in the case of the other indicators, the economic situation of the country, that is, there will be a deficit or surplus of the trade balance (Durán & Alvarez, 2013).

Graph 4: Commercial balance of Ecuador, Peru and Spain at current prices with US dollars.



Prepared by: Fabián Quezada
Source: (World Bank (WB), 2017)

The situation of Peru's trade balance reflects a downward trend, which is the result of higher imports or decreased exports from Peru's commercial sector. If the result is due to an increase in the level of imports, this could be a threat to our product as they try to reduce the import quantities and possibly avoid the entry of new products with the application of tariffs.

Spain has shown the opposite to Peru since in recent years they have shown sufficient capacity to maintain a surplus and that it shows an upward trend. This situation determines an opportunity for our purpose. In addition to this, the commercial agreement signed with the European Union presents an enormous opportunity.

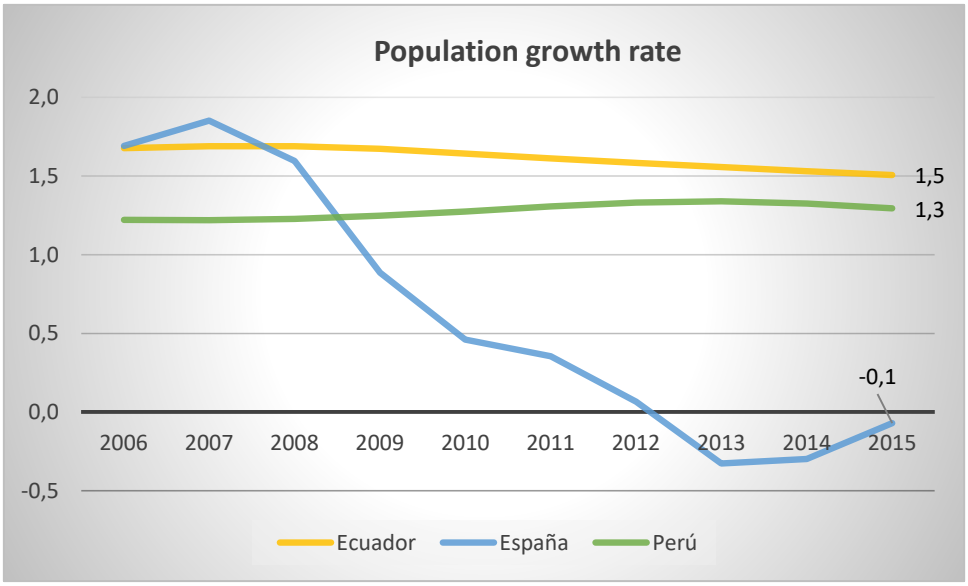
The Central Bank of Ecuador shows a surplus for 2016, after several years of deficit, it begins to recover, despite this, this recovery is not synonymous with higher exports in the country, on the contrary, exports have decreased, and which has helped you obtain a positive balance is the decrease in imports due to the introduction of safeguards. The decrease in exports is due to a slowdown in foreign trade activities. This situation reflects a threat to the production of frozen bread, since if exports are not recovered, there will be no opportunity to introduce frozen bread into the international market.

1.2.1.3 Social Factor

1.2.1.3.1 Demographic population

It is important to observe the growth of the population of the countries to which the frozen bread is going to be imported, since it will help to determine if the possible demand will increase or decrease in the future.

Graph 5: Growth rate of the population of Ecuador, Spain and Peru.



Prepared by: Fabián Quezada
Source: (World Bank (WB), 2017)

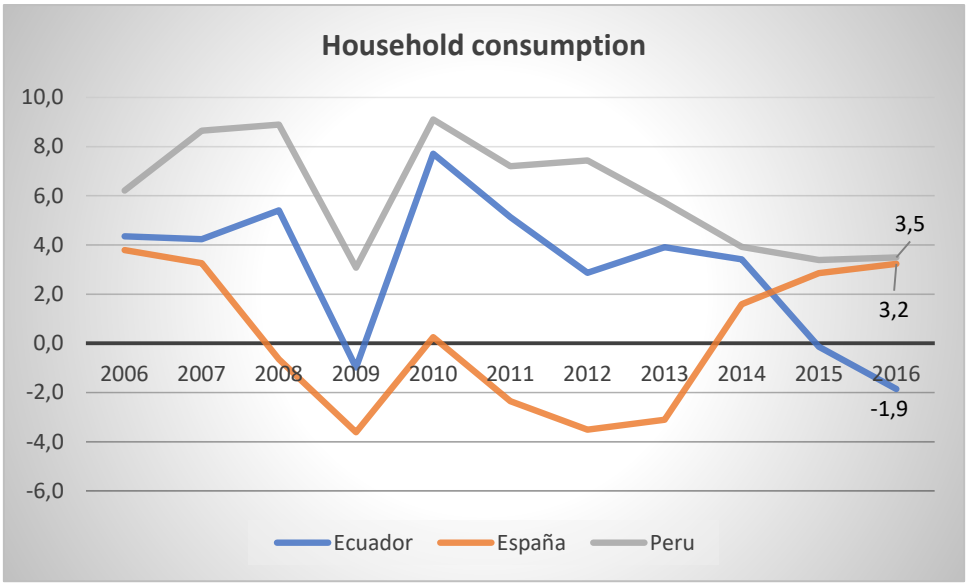
Negative rates in Spain predict a threat to the potential demand for frozen bread, since, if the product were to be accepted in that country, in the following years demand will not increase because the population has an index of population decrease (-0.1% per year).

On the other hand, Peru's population growth rate is 1.5%, which helps interpret, that the growth of demand for frozen bread could increase in subsequent years, once introduced in the Peruvian market due to the growth of the population.

1.2.1.3.2 Household consumption

The consumption that households make each year can determine the acquisition of frozen bread in the countries of analysis. Below is the growth rate of total consumption of households in each country.

Graph 6: Total consumption rate of households in Ecuador, Spain and Peru



Prepared by: Fabián Quezada
Source: (World Bank (WB), 2017)

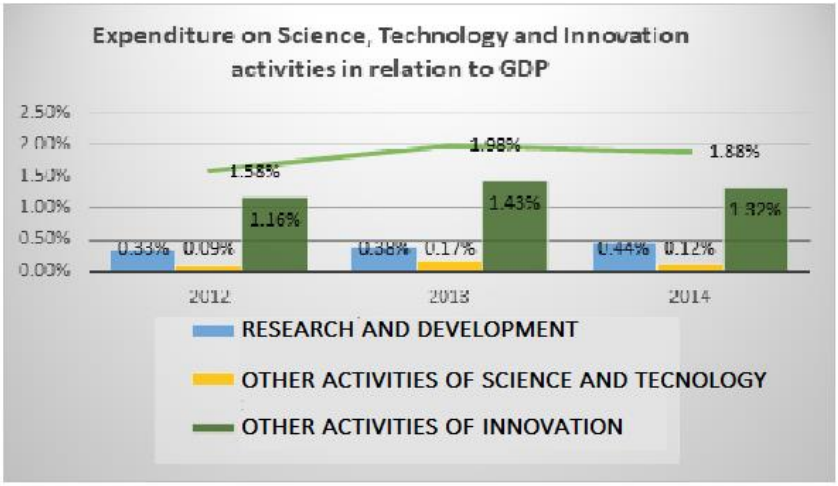
It is observed that the growth rate of consumption of households in Spain has an upward trend. This may favor the introduction of frozen bread in that country, due to the higher consumption of people there would be a greater demand from whom would be introduced to this product.

Peru shows a downward trend in household consumption expenditure, but the growth rate of consumption for the year 2016 was 3.5%, which means that although the rate is decreasing, there is a greater representative consumption each year.

1.2.1.4 Technological Factor

The technological aspects have been incorporated in most of the companies in recent years, which has helped to generate greater productivity by companies, therefore, greater utility, through improvements in product quality and in the production process, which has reduced the times of processes and production costs, and in this way obtaining a more competitive price (Díaz, Pérez, & Florido, 2011).

Graph 7: Expenditure on science, technology and innovation activities as% of GDP in Ecuador



Prepared by: Fabián Quezada
Source: (INEC - National Institute of Statistics and Census, 2014)

It can be observed in Graph 7 that in the years 2012, 13 and 14 Ecuador has had an expenditure of science, technology and innovation of 1.8% on average as a percentage of GDP, on the other hand, it shows that for the year 2014 it is under 0.10 % in terms of comparison with the previous year, it is expected that this downward trend will not be prolonged.

1.2.2 Analysis of Porter's five forces

It is a model of competitiveness for companies, proposed by the economist and professor at Harvard University, Michael Porter, that defines the existence of five forces that directly affect the operation of the company, which affect their strategies and results (Hernández Pérez, 2011).

Illustration 1: The five forces of Porter

Prepared by: Fabián Quezada
Source: (Baena, Sánchez, & Montoya Suárez, 2003)

1.2.2.1 Suppliers' bargaining power

Suppliers are essential for the existence of a company, since they depend on the inputs that are necessary to make the final product, i.e. the production of a company will depend on the delivery times of the raw material by suppliers, as well as prices and quality (Forteza & Espinoza, 2008).

According to Baena, Sánchez, & Montoya (2003), the position of a company in the market is due to the bargaining power of suppliers, which will depend on:

- Market conditions,
- Of the rest of the suppliers and,
- The importance of the product they provide.

In this way, when there is a greater number of suppliers of the same input and the quality is similar among all, the bargaining power of the suppliers will decrease.

1.2.2.2 Threat of entry of new competitors

The threat of entry of possible companies that sell the same product, is very likely, however, as few companies that make frozen bread currently create a barrier to entry as it could obtain more experience and potential customers. On the other hand, they could

enter the market by being more competitive in quality and prices (Guananga, Lowndes, & Guallasamín, 2011).

According to Porter (2008) the threat of new competitors depends on:

- Scale economics
- Differentiation of the product or service
- Identification of brands
- Change cost
- Capital requirement
- Access to distribution channels
- Access to supplies
- Sector growth rate
- Expected reaction
- Government or legal protection

1.2.2.3 Threat of the entry of substitute products

The substitute products come to satisfy the same needs of a client, the difference lies in the technology or process that is applied to make a product like the existing one.

The presence of this threat is permanent, since it will always be possible to substitute a product, and it is even stronger when the substitute product has better characteristics than the existing one (Porter M., 2002).

1.2.2.4 Consumer bargaining power

The influence of clients in a competitive environment depends on their ability to negotiate. Consequently, this may force companies to lower prices, demand better quality or supplementary services, and even promote competition among different actors. In addition, suppliers and buyers can exert a significant influence on the participants of an industry by pressing on prices, quality or quantity demanded or sold (Kluyver, 2001).

According to Porter (2008) the negotiation power of the clients will depend on:

- Number of important customers
- Importance of the cost of the product as a percentage of the client's total costs
- Degree of standardization of the product
- Change costs
- Importance of the product need.

1.2.2.5 Rivalry between competitors

This factor is the most important of the Porter model, because, in this case, the entrepreneurial companies must be able to take possession of the market to be competitive in front of the rival companies (competitors).

According to Baena et al (2003), the factors that make for greater rivalry among competitors are the following:

- Concentration of companies
- Diversity of competitors
- High fixed costs
- Differentiation between products
- Low exchange costs
- Existence of powerful business groups
- Slow growth in demand
- High exit barrier costs

Regarding the situation of frozen bread, it is observed that there are few competitors that produce this product.

1.2.3 SWOT Analysis

The SWOT analysis takes its name due to relevant aspects of a company made up of: Strengths, Opportunities, Weaknesses and Threats.

This analysis consists in making an internal and external diagnosis of an organization, which gives a general perspective of the strategic situation of an organization (Talancon, 2007).

The development of the SWOT is determined considering the external and internal factors as the main variables; for which, relevant information has been identified in the PEST analysis, as well as in the analysis of competitive forces. Under this context, the following is the establishment of the strengths, opportunities, weaknesses and threats encountered, which can occur in the export process of frozen bread to the destination markets.

Table 3: SWOT Analysis

SWOT Analysis		
	Positive	**Negatives**
Internal	**Strengths**	**Weaknesses**
	F-1: The level of existing technology represents an ease for the elaboration of the product. **F-2:** Easy acquisition of supplies, due to the large number of suppliers. **F-3:** Existence of few companies in the sector that have the same product. **F-4:** Diversity of varieties or types with respect to the frozen bread production line. **F-5:** Innovation in the market due to the little or no existence of this product.	**D-1**: Low levels of capital to enter the market strongly. **D-2:** Lack of knowledge of the company with respect to customers. **D-3**: Lack of investment in promotion and advertising. **D-4**: Limited product line, because initially only frozen bread will be offered. **D-5**: Unawareness of the distribution network in the countries of interest.
External	**Opportunities**	**Threats**
	O-1: Low levels of inflation **O-2:** The downward trend of interest rates in the two countries, will lead to higher demand, that increase in demand can be met with the innovation of the "frozen bread" product. **O-3:** The positive economic situation of the countries of interest reflects an opportunity since the product may possibly be accepted and there is enough demand to keep it in the market. **O-4:** Favorable situation of the BC of Spain, including reduction of tariffs to introduce our product in the Spanish market due to the commercial agreement signed with the European Union. **O-5**: The previous situation reflects an opportunity for the product, since demand is expected to grow every year with respect to Peru's population growth rate.	**A-1: Business** Uncertainty due to the fiscal instability of the country. **A-2:** The excessive reduction in the interest rate will cause excessive demand, which would encourage an increase in inflation; that is, reducing the purchasing power of consumers. **A-3:** The deceleration of the economic activity of Ecuador that is reflected in the decrease of GDP, can prevent the commercialization of frozen bread. **A-4:** The situation of the BC of Peru is not beneficial for the introduction of frozen bread in that market. **A-5:** The decline in exports could maintain its trend and prevent the export of frozen bread. **A-6:** The negative growth rate of the population of Spain predicts a decrease in the demand for frozen bread in the future.

O-6: Trend of higher consumption in Spain indicates good signs of demand for frozen bread. In the case of Peru, the growth rate of consumption is favorable. **O-7:** Technology is presented as an opportunity for the company since it allows to obtain better quality products with competitive prices. **O-8:** The number of suppliers in the market to produce frozen bread makes the bargaining power of the suppliers not so strong. **O-9:** Low level of rivalry between competitors due to the existence of few companies that produce frozen bread.	**A-7**: The possible competitors that can enter the frozen bread trade are the companies already positioned that have frozen products except for bread, these companies are strong since their brand is recognized. **A-8:** The threat of substitute products is presented due to the existence of current frozen products such as empanadas, pizzas and ravioli. **A-9:** When there are many people who consume bread daily, they will force to get the most suitable price for them. That is, the lowest possible price.

Prepared by: Fabián

CHAPTER 2. MARKET ANALYSIS PERU - SPAIN

To start this chapter, a global analysis will be carried out on the aspects related to the market, such as the consumer in Peru and subsequently Spain.

2.1 Market analysis Peru

The Republic of Peru is located to the west of South America, borders Ecuador and Colombia to the north, Brazil to the east, and Bolivia and Chile to the southeast. The target market for the export of frozen bread to Peru, are people who indistinctly are men or women residing in Lima. According to the National Institute of Statistics and Informatics (INEI) for the year 2017, its population is 31 million 826 thousand people, of which 50.1% are men and the difference (49.9%) are women. In Lima there are 11,181.7 million inhabitants, of which 48.8% are men and 51.2% are women.

2.1.1 Determination of the market segment

Market segmentation allows a heterogeneous market to be divided into specific homogeneous segments, allowing the segments identified to be targeted as specific products and a distinctive marketing mix (Orjuela & Sandoval, 2002).

▪**Target market segmentation, Peru**

Geography	Country: Peru
	Departament: Lima
Demography	Age Range: 6-56< yrs old
	Gender: Masculine and Femenine
	Household size: 1 +
	Life Cycles: Children, adolescents, youth and adults
Income	Level of education: All
	Religion: All
	Race: All
	Nationality: All
	Socioeconomic class: Medium, medium high and high
Physiography	Character: Consumers with desire for high quality bread and fortified with diverse nutrients
	Lifestyles: Practical and healthy

Figure 1. Target market segmentation

Prepared by: Fabián Quezada

The population group that is from 6-56 onwards is 10,124,100 million inhabitants. Of these, according to information from the APEIM (Peruvian Association of Market Research Companies) 27.5% belong to the high, 40.5% medium high, 24.3% medium stratum. Therefore, the target market is 93,445.44 thousand inhabitants of Lima-Peru, both men and women. Figure 1 shows the target market segmentation.

2.1.2 Market characteristics Peru

2.1.2.1 Product description

The product that is intended to be exported to the Peruvian market, specifically to Lima, is frozen bread, whose tariff heading is 1905.90.90.00. Referring to freeze bread, is to speak of a delicate product, since, the production process to which it is submitted can affect the quality of the final product, which is treated with certain active chemical processes, which modify its structure (Rioja, 2013).

Image 1: Cooked bread, pre-cooked - frozen
Source: http://www.panabad.com/es/catalogo/pan-precocido-congelado/_f:1/

It is characterized by its cooking done in two stages, in the first the dough is elaborated in a traditional way, considering some modifications, once the bread has coagulated and taken structure, it is removed from the oven, cools and then is frozen; during the first stage, the bread is white and its content and density are higher, so that, after cooking for 10 or 15 minutes in a second stage, the product takes on the appearance of a traditional bread (Mesas & Alegre , 2002) .

However, the main objective of this product is to give the consumer the convenience of obtaining it at any time of the day.

2.2.2 Destination market preferences

The consumption of bread in Peru has growth trends, for example, in 2010 per capita consumption was 30 kilos, passing in 2015 to 35 kilos; a high demand is concentrated in the integral loaves and the ciabatta, despite it, an increase of the preferences for the new types of bread is observed, such as: the integral ones and those enriched with quinoa, kiwicha, cañihua and sesame seeds (La República.pe, 2015).

2.2.3 Consumer profile

According to the Inter-American University for Development UNID (2014), the consumer profile represents the series of characteristics that differentiates one consumer from another, either by their lifestyle, socioeconomic level or consumption experience.

The profile of the consumer varies depending on the region and the country, however, we can talk about buyers who know a little more about their health, especially those who live in densely populated urban centers with greater purchasing power (Giraldo, 2007).).

2.2.4 Consumption preferences

The habits of the Peruvians in the consumption of bread have changed, the classic French bread represents 50% of the income, that is, the Peruvians have chosen to try other alternatives.

2.1.3 Analysis of supply and demand Peru

2.1.3.1 Demand

The determination of demand was made based on the analysis of the level of per capita consumption of 2016 and the population corresponding to the department of Lima that year.

Thus, as previously mentioned, the level of consumption of bread is 35 kilos per person, and the department of Lima, according to data from the Peruvian market research and public opinion firm CPI (2017) , has a population of 93,445.44 thousand inhabitants that are in the age range of 6 years to 56 years and up; and in the average socioeconomic level, medium high and high, so the demand for bread is 327,059,040 kilos, in this way, considering the fact that 50% responds to a demand for traditional bread, it is estimated that difference, that is, 163,529,520 kilos of bread refers to a consumption of other types of bread, including frozen.

Therefore, considering the following mathematical expression and the population growth rate of Peru, the future demand for frozen bread in the department of Lima-Peru for a period of 10 years is estimated.

Table 4 shows the estimated demand for frozen bread by Peru.

Table 4: Estimated demand for Ecuadorian frozen bread by Peru

	Population growth rate Peru	Annual demand (kilos)
Year 0		163,529,520
Year 1	1, 30%	165,655,404
Year 2	1, 30%	169,990,440
Year 3	1, 30%	176,706,626
Year 4	1, 30%	186,076,109
Year 5	1, 30%	198,489,639
Year 6	1, 30%	214,483,809
Year 7	1, 30%	234,779,748
Year 8	1, 30%	260,337,179
Year 9	1, 30%	292,429,514
Year 10	1, 30%	332,748,156

Prepared by: Fabián Quezada
Source: INEI Peru

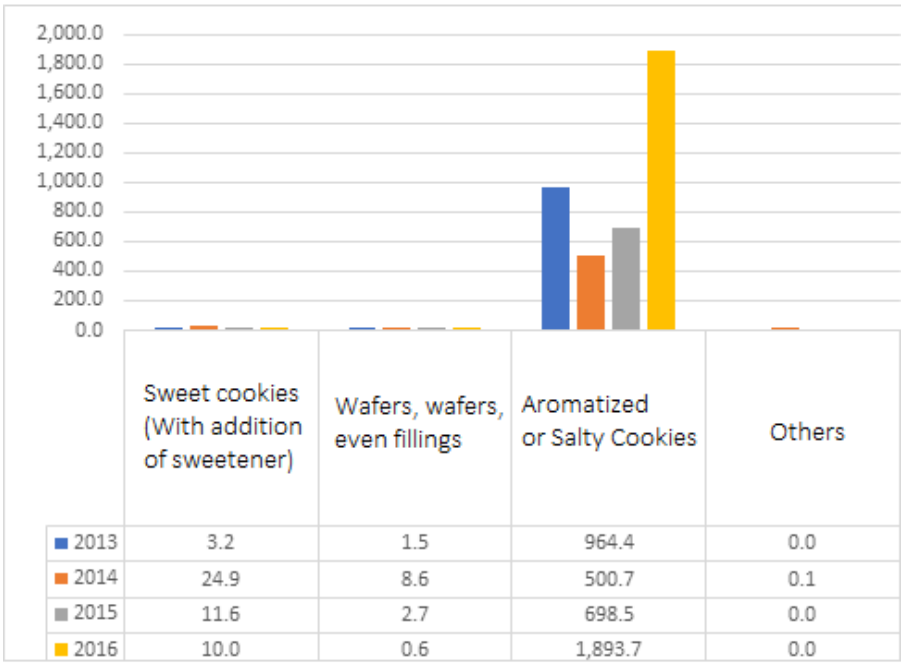
According to Table 4, the demand for frozen bread for year 10 is 332,748,156 kilos.

2.3.2. Offer

After an inquiry it has been possible to identify that in Peru there is only one supplier of frozen bread, which is a bread derivative, that is, a national supplier of this product has not been identified, resulting in this being a competitive advantage to introduce our product to this market.

On the other hand, analyzing exports from Ecuador to Peru, it has been identified that within the group of tariff heading 19.05 that corresponds to the bakery, confectionery or biscuit products, even with the addition of cocoa; wafers, empty seals of the type used for medicaments, sealing wafers, dry flour pastes, starch, in sheets, and similar products, the product mostly exported in metric tons (TM) is salted or flavored biscuits; of the group the others, in which the frozen bread is located, it is identified that its exports are mines (Pro Ecuador, 2013) .

Graph 8: Exports to Peru of confectionery products and their derivatives



	Sweet cookies (With addition of sweetener)	Wafers, wafers, even fillings	Aromatized or Salty Cookies	Others
2013	3.2	1.5	964.4	0.0
2014	24.9	8.6	500.7	0.1
2015	11.6	2.7	698.5	0.0
2016	10.0	0.6	1,893.7	0.0

Prepared by: Fabián Quezada

Source: Central Bank of Ecuador

To conclude, the analysis of the Peruvian market, the data in Figure 8 shows that there is no export of frozen bread from Ecuador, resulting in a competitive advantage to introduce this product in the Lima market.

2.2 Market analysis Spain

Once the previous analysis has been completed, the same procedure will be followed in the analysis of the Spain market, in which the market segment will be determined, main characteristics of the target market and aspects of the consumer profile in Spain.

2.2.1 Determination of the market segment

The Kingdom of Spain is a member country of the European Union, its territory with capital in Madrid, is located southwest of Europe and in North Africa. Spain limits to the west with the Atlantic Ocean and Portugal; to the north by the Cantabrian Sea, to the east by the Mediterranean Sea and to the south with Morocco. The target market for the export of frozen bread to Spain constitutes the male or female inhabitants residing in the country's capital, that is, Madrid (ICEX Spain Exports and Investments, 2017).

According to the statistical information, Madrid is ranked as the 3rd Autonomous Community of Spain in terms of the largest number of inhabitants in Spain. In this regard, by the end of the last quarter of 2016, Madrid reflected a population of 6,475,275 inhabitants, of which the female population is the majority, occupying 52% of the total, compared to 47.99% of men (Instituto Nacional de Statistics, 2017).

Table 5. Target market segmentation, Spain

Geographical	Country	Spain
	Capital	Madrid
Demographic	Age	> 6 < = 56
	Gender	Man Female
	Family size	From one to the other
	Life cycle	Children Adolescents Young Adults
Income	Level of instruction	All
	Religion	All
	Race	All
	Nationality	All
	Socioeconomic class	All
Psychographic	Personality	People who like high quality bread with different nutrients
	Lifestyle	Active Healthy

Prepared by: Fabián Quezada

Source: Own research

With respect to the determination of the target market, it is composed of: male and female inhabitants of the city of Madrid conformed by an age of 6 to 56 years belonging to the medium, medium high and high socio-economic class.

According to the data from the National Institute of Statistics, the population that is stratified by age of 6 to 56 years men and women are 4,353,411 inhabitants of the city of Madrid (National Institute of Statistics, 2017).

2.2.2 Characteristics of the market Spain

Bread represents one of the items with the highest demand by Spanish households, being a food with a high frequency of both purchase and consumption. In the last five years the consumption of bread per Spanish was related to 46 kilos of bread per year per person, spending an equivalent of 116 euros. The existing variety in the presentation of the product is very wide ranging, from fresh and frozen bread to industrial bread (Martín, 2011). At present, the Spanish bread market stands at 1,609 million kilos, the total value of this market is around 3,812 million euros, of which fresh or frozen bread accounts for 83.3% of all that market and volume and 81.3% in value.

The segment that is increased during recent times is frozen dough and frozen bread, where sales of 718,000 tons have a value of 759 million euros (CMR, 2016).

Consumption and expenditure of bread in households, 2015

	CONSUMO		GASTO	
	TOTAL (Million kilos)	PER CAPITA (Kilos)	TOTAL (Million Euros)	PER CAPITA (Euros)
total bread	**1.567,9**	**35,1**	**3.781,8**	**84,8**
fresh and frozen bread	1.290,0	28,9	3.035,9	68,1
fresh whole grain bread	115,8	2,6	285,0	6,4
normal fresh bread	1.272,4	28,5	2.999,1	67,2

Figure 2. Consumption and expenditure of frozen bread, 2015

Source: (CMR, 2016)

Trends in the Spanish bread market represent a segment in which the reception of frozen precooked breads increases.

For its part, in the community of Madrid has registered a per capita food consumption of 1,507 euros, of which bread derivatives represent 4.4%, however, compared to previous periods the

consumption of bread has been affected since its consumption has decreased (-22.3%) (CMR, 2016).

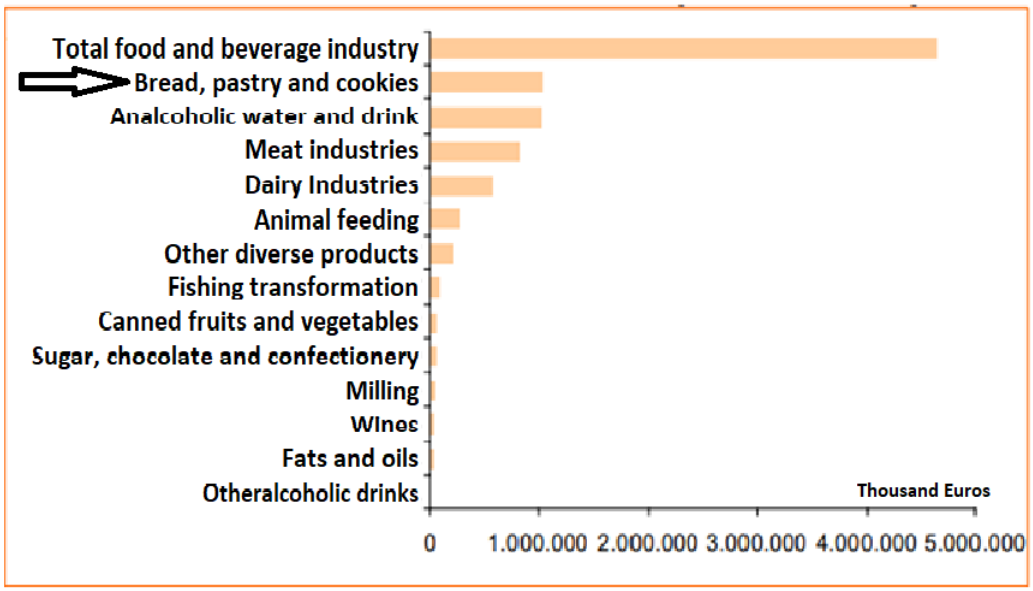
2.2.2.1 Consumer profile Spain

The Spanish consumer can be defined as a user looking for natural and healthy foods, and who seeks the convenience of preparing a freshly made product at home in the traditional way. Basically, it is about big families, more than 4 persons, formed by couples with children of middle and old age, also there are families conformed by adult couples without children (Ministry of Agriculture, Food and Environment, 2013).

2.2.2.2 Consumption preferences Madrid, Spain

In a study conducted in the community of Madrid, by the Directorate General of Health Planning and Inspection Madrid (2010), in order to determine the sector of bakery products. It determined that in Spain, people started to consume more bakery, pastry and biscuit products. Spanish person´s perception, is that this products are healthier than bread, which demonstrated that the market trends is the use of cold and frozen mass technologies in the bread, providing a great advantage of industrial bread growth, as evidenced in the following image.

Figure 3. (SaludMadrid, 2010)



Source: (SaludMadrid, 2010)

Among the main attributes of bread consumption, are characterized: flavor, price and energy content. A 75.1% of 2030 Spaniards, say that they prefer white bread and areas, being the areas

of Madrid and Castilla - Leon, where it is consumed the most. Likewise, the variety of fresh / frozen bread is the most consumed by households in Spain (SaludMadrid, 2010).

2.2.3 Determination of supply and demand for Spain

2.2.3.1 Demand

The demand will be determined based on the level of consumption per capita 2016 and the corresponding population of Madrid - Spain.

In this way, as previously mentioned, the consumption of frozen bread in Madrid is 28.9 kilos per person, the community of Madrid has 4,353,411 inhabitants who are in the age range of 6 to 56 years; and belong to different social strata, so, it is estimated that the demand for frozen bread is 125,813,577.90 kilos of bread.

Table 6 shows the estimated demand for Ecuadorian frozen bread by Madrid.

Table 6: Estimated demand for Ecuadorian frozen bread from Peru

Year	Population growth rate Spain	Annual demand (kilos)
Year 0		125,813,578
Year 1	-0.15%	125,624,858
Year 2	-0.15%	125,248,266
Year 3	-0.15%	124,685,493
Year 4	-0.15%	123,939,062
Year 5	-0.15%	123,012,304
Year 6	-0.15%	121,909,336
Year 7	-0.15%	120,635,034
Year 8	-0.15%	119,194,991
Year 9	-0.15%	117,595,480
Year 10	-0.15%	115,843,406

Prepared by: *Fabián Quezada*
Source: *INE.es*

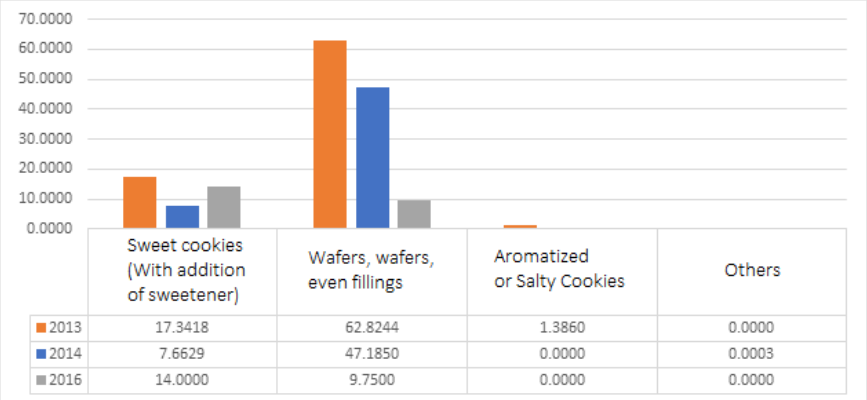
In the market of the community of Madrid there is a decrease in demand since the country is expected to go through a decrease rate of population. To this, the data show that by the year 10 the demand for bread will fall to 115,843,406 kilos.

2.2.3.1 Offer

After a literature review it has been shown that in Spain, the industry of frozen bakery, pastry and pastry doughs tends to grow positively, before it, Asemac, formerly known as the Spanish Association of frozen dough, is now the Association Spanish of the bakery, pastry and pastry industry, has a representativeness of 92% of the total production of frozen masses in the country (Pascual, 2016).

Based on information from the Central Bank, the data in Figure 9 show that, similarly, Ecuador does not export bread to the Spanish market.

Graph 9: Exports to Spain of bakery products and their derivatives



Prepared by: *Fabián Quezada*
Source: *Central Bank of Ecuador*

In the graph above it is observed that Spain imports mainly of the Ecuador of the products of confectionery and bakery, wafers and wafers, even fillings; thus, becoming an advantage in the export of frozen bread.

CHAPTER 3. EXPORT PLAN

3.1 Determination of logistics

Within international logistics there are many more alternatives than in national logistics associated factors being: means of transport, documentation, insurance, packaging, among others, require greater professionalism on the part of those responsible for logistics management; besides considering the import barriers that the destination countries demand (Molins, 2012).

In this sense, the determination of logistics addresses the flow of materials, the finished product and the information associated with them, from the supplier to the client, considering quality, place and precise moment at accessible costs.

Logistics is developed through a series of activities in the chain and interrelated form, so that, when carrying out one of the logistics activities, the others are influenced. For example, the choice of means of transport of the merchandise directly defines the time and the conditions in which the product to be delivered is stored in the destination market (Dorta, 2013).

3.1.1 Duty

According to PROECUADOR (2016), tariff barriers are fixed rates that are charged to importers and exporters in the customs of a country due to the entry or exit of goods, in Ecuador this type of tariff is not charged for products that are exported.

- **Spain**

Ecuador-European Union Trade Agreement, the agreement is established with the purpose of regulating trade in goods and services to and from the European bloc; Therefore, Ecuadorian products exported to the European market enter free of tariffs and obstacles. The regulation also includes other provisions that benefit trade between the parties, such as: technical regulations, standards and conformity assessment procedures (Ministry of Foreign Trade, 2014) .According to (Federal Ministry of Economic Cooperation and Development, 2012) , the EU will eliminate tariffs, upon entry into force of the Agreement, for imported products: toast, crusty bread and similar products; however, the *advalorem* tariff will continue with the collection of specific tariffs for the following products: spice bread, sweet cookies, some types of wafers and wafers.

Tariff Items	Products	Access of products from Central America to the European Union	Access of European products to Central America
190510	Crispy bread called "Knackebrot"	Ad-valorem tariffs will be eliminated upon entry into force of the Agreement; the specific tariffs will be eliminated in 10 annual stages	Elimination of tariffs in 10 annual stages
190520	Spice bread	Ad-valorem tariffs will be eliminated upon entry into force of the Agreement; the specific tariffs will be eliminated in 10 annual stages	Elimination of tariffs in 10 annual stages
190531	Sweet cookies (with addition of sweetener)	Ad-valorem tariffs will be eliminated upon entry into force of the Agreement; the specific tariffs will be eliminated in 10 annual stages	Exclusion of tariff benefits
190532	Wafers and wafers, whether filled	Only the ad-valorem tariff is eliminated, but the specific tariff is maintained, except: The specific tariff will be eliminated in 10 years; Wafers and wafers, even stuffed at 10% by weight (1905 32 05) and the others (1905 32 91)	Exclusion of tariff benefits
190540	Toasted bread and similar products. Toasted	Free of tariffs	Exclusion of tariff benefits
190550	The rest (Includes pretzels)	Free of tariffs, except: Unleavened bread (19059010), the specific tariff will be eliminated in a term	Exclusion of tariff benefits

Figure 4. Access to the European market by tariff classification

Source: (Federal Ministry of Economic Cooperation and Development, 2012)

Likewise, the Commercial Agreement establishes the agreement on the application of Sanitary and Phytosanitary Measures for consumer products to protect the life and health of people, as well as seeking sanitary and phytosanitary quality of the products. before its commercialization or export (Ibid).

- **Peru**

In this case, the Andean Community of Nations (CAN), composed of Bolivia, Colombia, Peru and Ecuador, establishes a zero-tariff agreement, the integration of these countries is aimed at achieving balanced and autonomous development among its members, on the other on the other hand, the safeguards do not affect the exports and imports that Peru has with Ecuador, which is why exporters from the Ecuadorian region benefit from carrying out their activities (Peru 21, 2016).

Next, a flow chart of production processes with respect to the different techniques of bread production is presented; where it consists of the traditional and the new techniques of freezing.

On the other hand, there are other agreements between the region that favor the export conditions of Ecuadorian products to other countries, for example the Latin American regional integration of ALADI among its member countries are: Peru, Venezuela, Paraguay, Uruguay, Mexico, Colombia, Brazil, Chile, Bolivia, Argentina and Ecuador, the purpose of this integration was to determine economic agreements with regional tariff preferences that apply to products originated in member countries (ALADI, 2016) .

3.1.1 Requirements to export

According to data from the Ministry of Foreign Trade (2016), both Ecuadorians and foreigners residing in the country as individuals or legal entities can export. In this regard, the main export requirements are mentioned:

- Have the Unique Taxpayer Registry (RUC)
- Obtain the digital signature certificate or Token
- Register as an exporter in the Ecuapass page (https://ecuapass.aduana.gob.ec/), for this it is necessary to update the information in the database, create a username and password, accept the use policies and register the signature electronics (Ministry of Foreign Trade, 2016) .

With respect to the pre-shipment stage, the export process itself begins with the electronic transmission of an Export Customs Declaration (DAE) in the Ecuapass system, which can be accompanied by the invoice or proforma and documentation with the it is counted previous the shipment, with which, the data that are consigned in the DAE are the following:

- Data of the exporter or declarant
- Description of the merchandise by invoice item
- Consignee information
- Destination of cargo
- Information about the quantity to be exported
- Weight
- Relevant data of the merchandise.

For its part, the DAE must be accompanied by other digital documents such as: original commercial invoice, packing list and prior authorizations (if the case warrants).

3.1.2 Entry form to the selected market

There are several ways to enter an external market; However, all the variables that affect the transport of the product to be exported must be considered, considering the distance of the destination country, among other aspects. In this regard, there are some alternatives about the options that an entity has for profiting from its advantages in the internationalization process:

- Through commercial transactions
- Give up the export of the advantage to a foreign agent
- Transfer productive capacity through investment abroad (Dorta, 2013).

In this sense, it is considered that the export of the product represents the most effective way to approach entry to a foreign market, a form that eliminates the generation of manufacturing costs in the country that intends to establish commercialization.

▪Spain

Considering the geographical situation of Spain, it makes it a strategic country to carry out export activities through maritime transport. To transport the merchandise, it is necessary to establish the type of maritime transport by means of a container that meets the conditions necessary for the proper transportation of the merchandise. The traffic of container-chartered reaches 11 million TEU (Twenty-foot Equivalent Unit for its acronym in English, a unit equivalent to the container of 20 feet); likewise, 78% of imports and 51% of exports from Spain are made effective through ports (Santander Trade Portal, 2017).

The location of the country is very close to the axis of the main sea route, the circum-equatorial promenade that joins North America, Europe and Asia Pacific. Spain has an extensive network of ports, which belong to the Spanish State. Currently, 28 port authorities manage 47 state ports; The main port of the country is the Port of the Bay of Algeciras (TIBA Spain, 2016).

Figure 10. Main ports of Spain

Source: (TIBA Spain, 2016)

- Type of container to be used:

Given the inherent characteristics of frozen bread, it is necessary that its maritime transportation be carried out using a refrigerated container. In this regard, the container that meets these conditions is the so-called "Reefer, container 40 '" with temperature control system (cold or heat), which is usually connected to the ship, terminal and even in the truck.

- Dimensions:

Table 7. Interior dimensions of the 40' Reefer container

Length (m)	11.55
Width (m)	2.55
High (m)	2.21
High door step (m)	58.40
Volume (m^3)	58.40
Maximum net load (Tm)	27.96

Source: (Dorta, 2013).
Prepared by: Fabián Quezada

The container to be used for the transportation of merchandise from the origin country to the destination country Spain, is subject to standardization by the ISO (International Standardization Organization), which is responsible for standardizing those containers in which multimodal transport there is a maritime phase.

▪Peru

Peru and Ecuador share the border limit, in the North of Peru, being the main access point to the border between Huaquillas (Ecuador) and Aguas Verdes (Peru). Through this border connection Ecuador makes a part of its exports, by land to Peru, the most important items being those related to the manufacturing sector, mainly wooden boards, canned tuna and plastic pipes, which represent 78% of total exports by this border point (Carpio, Mayorga, & Camacho, 2015). Foreign trade between Peru and Ecuador can be done both by land and by sea.

For the present study, given the geographical conditions between Ecuador and Peru, the definitive means of exporting bread is through land transportation; In addition, this medium has many advantages highlighting the ease of penetration, i.e. the possibility of delivering product door to door as it is used only a means of transport, on the other hand, this means provides flexibility as there are large amounts of vehicles adapted to different products, as well as less rigidity in terms of days and hours of departure.

In the same way, use should be made of a container that meets the refrigerated characteristics that the frozen bread requires to be transported in suitable conditions; therefore, the type of container for international transport is the 40' Refrigerated (Reefer container), which has the following characteristics.

Table 8. Type of container for Peru

Terrestrial transport of 40' Refrigerated (Reefer container)		
	Sis. Anglo-Saxon	Sits. International Metric
Maximum load weight	56,878 lb.	25,800 kg
Maximum load volume	1906 ft^3	54 m^3
Container width	7.40 ft.	2.24 m
Container length	36.9 ft	11.20 m
Container height	7.20 ft.	2.18 m

Source: (Rodríguez, Cruz, & Lam, 2009)
Prepared by: Fabián Quezada

3.1.3 Analysis of health permits

The Ministry of Public Health, through the National Health Control Regulation and Surveillance Agency ARCSA, is the agency in charge of granting the suspension, cancellation or re-registration of the Sanitary Registration Certificate of processed foods.

According to the Ministry of Public Health (2017) in the Sanitary Technical Regulation Products for Human Use for Exportation is established in accordance with Article 1 that the object of regulating the procedure for obtaining the Sanitary Certificate of Exportation for processed foods, food products processed and medicines in general that are prepared or conditioned in the country exclusively for export.

The Sanitary Export Certificate is a document that certifies that the products for human use and consumption that are manufactured in the country of origin are exclusively for export, ensuring the quality, safety, efficiency and / or safety of the products (Ministry of Public Health, 2017).

For its part, the legal representative of the establishment that requires the Sanitary Export Certificate must conform to the specifications of the exporting country, not conflict with the laws of the country to be exported, be labeled in accordance with the requirements of the destination country and not be sold or promote themselves for sale in national commerce (Ministry of Public Health, 2017).

- Spain

Regarding the sanitary permits in this country, the European Union has overseen defining a global strategy of food security, which has three foundations: a regulation on food safety; a solid scientific advice that provides support to decisions and; the application of the regulations and the control of their compliance (EurLex, 2017).

Regarding the bodies that deal with food security in the EU are:

- General Directorate of Health and Consumer Protection SANCO
- The European EFSA Food Safety Authority
- Standing Committee on the Food Chain and Animal Health
- The OAV Food and Vegetarian Office (EurLex, 2017).

For its part, the labeling of frozen foods considered in Directive 2000/13 / EC, must include the sales denomination, the "ultra frozen" and the identification of the lot. The other mandatory indications of this directive vary according to the recipient of the product: date of minimum duration, storage period, storage temperature, net quantity and identity of the manufacturer, packer or seller (MINCETUR & PROMPERÚ, 2010).

The labeling must be in a language easily understood by consumers; that is, in the official languages of the member countries of the EU, in the case of Spain, the Spanish language. On the other hand, as of July 1, 2007, the regulation on the declaration of nutritional, sanitary, and medicinal properties of food became effective, the regulation 1924/2006 establishes the conditions throughout the EU for the use of the properties. nutritious such as "low in fat" or "high vitamin C" that must be present in the product that enters the community for commercialization and consumption.

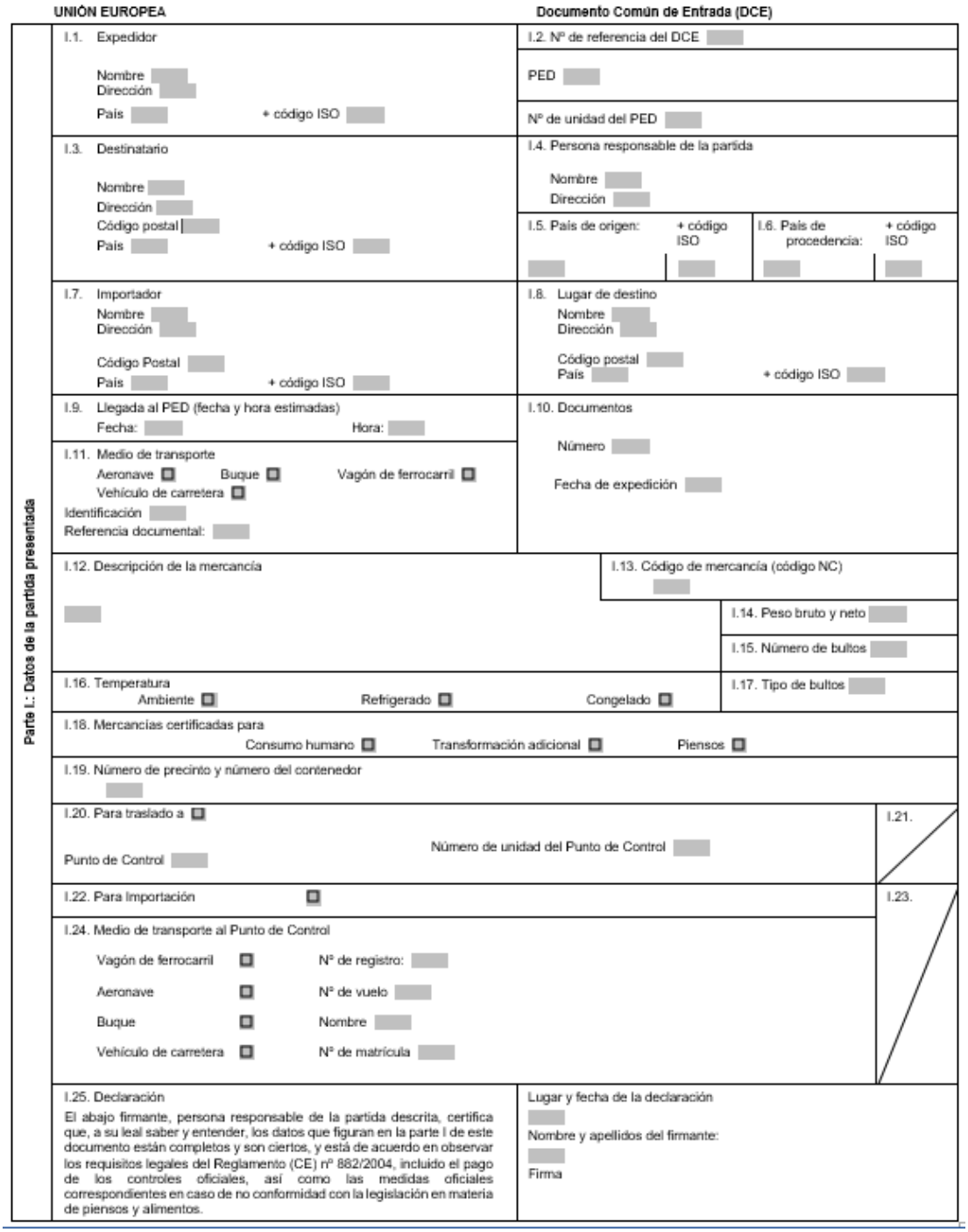
For frozen products, Directive 89/108 / EEC of the Council of the EU establishes the norms related to freezing, packaging, labeling and control of ultra-frozen food products (MINCETUR & PROMPERÚ, 2010).

According to the European Commission (2018), European citizens must have access to safe and healthy foods of the highest level. In this regard, food safety is important so that they do not have an adverse effect on consumption, which is why it is determined in the Regulation of the General Food Law (EC) No. 178/2002, the principles and general requirements of food legislation as well as food safety requirements for import and export in EU members.

According to the Ministry of Health, Social Services and Equality (2011), among the requirements for exporting products of non-animal origin in the national territory of Spain, it is necessary that it complies with the Community legislation on hygiene and health of food products accompanied by the DCE Common Entry Document.

The exporter must prepare the necessary documents to carry out this transaction. Among which is the Certificate of External Health, in defense of the health and physical safety of consumers and users, the issuance of the corresponding certificate of external health for the export of certain products is mandatory (Ministry of Economy, Industry and Competitiveness, 2018).

Figure 5. Common Entry Document DCE



UNIÓN EUROPEA — Documento Común de Entrada (DCE)

Parte I.: Datos de la partida presentada

I.1. Expedidor
Nombre
Dirección
País + código ISO

I.2. Nº de referencia del DCE
PED
Nº de unidad del PED

I.3. Destinatario
Nombre
Dirección
Código postal
País + código ISO

I.4. Persona responsable de la partida
Nombre
Dirección

I.5. País de origen: + código ISO

I.6. País de procedencia: + código ISO

I.7. Importador
Nombre
Dirección
Código Postal
País + código ISO

I.8. Lugar de destino
Nombre
Dirección
Código postal
País + código ISO

I.9. Llegada al PED (fecha y hora estimadas)
Fecha: Hora:

I.10. Documentos
Número
Fecha de expedición

I.11. Medio de transporte
Aeronave ☐ Buque ☐ Vagón de ferrocarril ☐
Vehículo de carretera ☐
Identificación
Referencia documental:

I.12. Descripción de la mercancía

I.13. Código de mercancía (código NC)

I.14. Peso bruto y neto

I.15. Número de bultos

I.16. Temperatura
Ambiente ☐ Refrigerado ☐ Congelado ☐

I.17. Tipo de bultos

I.18. Mercancías certificadas para
Consumo humano ☐ Transformación adicional ☐ Piensos ☐

I.19. Número de precinto y número del contenedor

I.20. Para traslado a ☐
Punto de Control
Número de unidad del Punto de Control

I.21.

I.22. Para importación ☐

I.23.

I.24. Medio de transporte al Punto de Control
Vagón de ferrocarril ☐ Nº de registro:
Aeronave ☐ Nº de vuelo
Buque ☐ Nombre
Vehículo de carretera ☐ Nº de matrícula

I.25. Declaración
El abajo firmante, persona responsable de la partida descrita, certifica que, a su leal saber y entender, los datos que figuran en la parte I de este documento están completos y son ciertos, y está de acuerdo en observar los requisitos legales del Reglamento (CE) nº 882/2004, incluido el pago de los controles oficiales, así como las medidas oficiales correspondientes en caso de no conformidad con la legislación en materia de piensos y alimentos.

Lugar y fecha de la declaración
Nombre y apellidos del firmante:
Firma

Source: (Ministry of Health, Social Services and Equality, 2011)

- Peru

Regarding processed food for export, the provisions contained in the Regulation on Sanitary Registration and Control of Processed Foods (Agreement No. 00004871) must be applied, which establishes the conditions and requirements that must be applied for the issuance of the Health Registration Certificate. (SENAE, 2016).

For the sale or distribution of the product must have the Certificate of Free Sale, a technical analysis document that verifies the authorization of the product for marketing, for this you must request the document through the Ecuadorian Single Window (VUE) and have the Sanitary Registry number issued by the ARCSA, the document has an estimated delivery time of three working days, from the cancellation of the amount defined by the National Health Authority (Regulation Agency, 2014).

Figure 6. Certificate of Free Sale

Certificate of Free Sale	
Expediter	Country of origin
Competent authority	National Agency for Health Regulation, Control and Surveillance
Identification of the company	Name and address of the company
Product identification	Product description Sanitary product registration code
Identification of the manufacture	Name and address of the establishment authorized to market the product
Health certificate	The product must be manufactured according to the sanitary conditions established in D.S 007-98-SA.
Destination of the product	Country of destiny

Source: (Regulation Agency, 2014)**.**

Regarding the food safety authorities in Peru, governed by the "Food Safety Law (Legislative Decree No. 1062)" are:

- Ministry of Health
- Department of agriculture
- Ministry of Production

On the other hand, for the product to be commercialized in the Peruvian territory, it must be registered in the Sanitary Registry of Human Consumption Food, with the following requirements:

1. Registration in the Sanitary Registry of Food for Human Consumption:
   - Unique Foreign Trade Application (SUCE)
   - Certificate of Free Commercialization or Certificate of Use issued by the competent authority of the country of the manufacturer or exporter.
2. Re-registration in the Sanitary Registry of Food for Human Consumption
   - Unique Foreign Trade Application
   - Sworn Statement, stating that the conditions for which the registration was granted remain in force (General Directorate of Environmental Health and Food Safety, 2017).

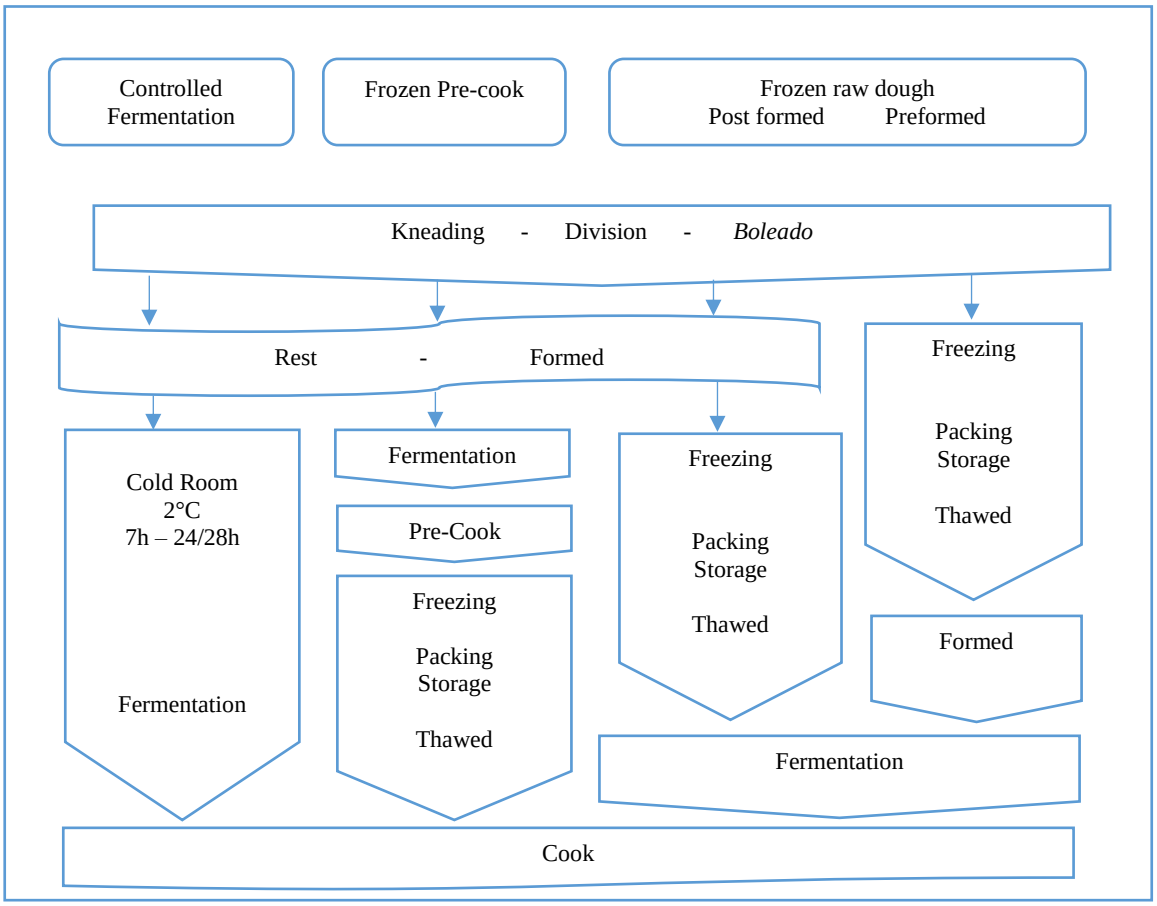
3.2 Analysis of the productive process

The production process refers to the use of resources, inputs or raw materials, which allow the development or transformation of a desired result or finished product; that is, this process includes the design, implementation, operation, as well as the control of personnel, materials, equipment, capital and information to achieve the production goal (Rodríguez Medina, Balestrini Atencio, Balestrini Atencio, Meléan Romero, & Rodríguez Castro, 2002).

The need to be more competitive every day in the national and international market for the business sector requires to perform a correct analysis of their production processes in order to achieve a better quality which are able to meet the needs and expectations of customers In the international area, it is required that a company has a correct management of the productive process being efficient and effective, as well as its financial resources, human resources, etc., to be sustainable over time (Sánchez, Ceballos, & Sánchez Torres, 2015) .

Next, a flow chart of production processes with respect to the different techniques of bread production is presented; where it consists of the traditional and the new techniques of freezing.

Illustration 7: Process of breadmaking in its various techniques



Prepared by: Fabián Quezada
Source: (Mesas & Alegre, 2002)

3.1.1 Determination of production for export

The quantity of goods produced will depend on the size and capacity of the factory, as well as the dynamics of the production process, which includes the use and administration of time. Therefore, this phase requires the incorporation of all the data related to the production process, such as materials, equipment and labor, in such a way that the size of the factory is optimized according to the minimization of costs and maximization of the benefits, increasing the profitability of the business for the company (Baca Urbina, 2010).

- **Installed capacity**

To determine the installed capacity, it is necessary to know the machinery and equipment for the frozen bread production process:

Table 9. Machinery and equipment necessary for the productive process

Production machinery and equipment	Quantity units)
Work table	2
30 lb. kneader	1
Automatic splitter divider	1
Table scale	1
Rollers	5
Pyrex metering rates	3
Industrial mixer	2
Trays and can holders	10
Rotating 40 cans oven	1
Grids for cooling	3
Horizontal Refrigerator Freezer	3
Packing	1
Packaging bags (packages)	2000
Cast plastic cast boxes	100

Prepared by: Fabián Quezada

Table 10. Raw material necessary for the preparation of frozen bread

Direct Raw Material	Unit of measurement	Annual amount
Flour	Quinta	500
Salt	Pounds	500
Yeast	Pounds	1000
Sugar	Quinta	500
Eggs	Units	10000
Fat	Pounds	250

Prepared by: Fabián Quezada

With the machinery and the raw material established for production, the following table shows the installed capacity to produce frozen bread; where, the necessary inputs for its production are taken as a reference.

Table 11. Installed annual capacity

Capacity of Units per can	**10**
40 cans oven	400
Production per day	2
Subtotal	**800**
Production per month	30
Subtotal	24,000
Production per year	12
Total units	**288,000**
Total kg	**2,073,600**

Prepared by: Fabián Quezada

As shown in the Table above, when using an industrial oven with a capacity for 40 cans, where each can carry a maximum of 10 baguettes of pre-cooked bread of approximately 7.2 kg each, a production of 400 baguettes is obtained per unity. In this regard, to meet market expectations, 2 pre-cooked bread productions per day are produced, resulting in 800 baguettes (units) of bread, for subsequent freezing process. On the other hand, the monthly production determines approximately the manufacture of 24,000 units; With this, a year the maximum production capacity is in 288,000 baguettes distributed to the destination markets.

Table 12. Annual amount

Detail	Quantity	Weight
Packages of 7.2 kg	288,000 units	2,073,600

Prepared by: Fabián Quezada

In this regard, the demand to be covered in a favorable scenario is expected to cover 75% in terms of Lima, Peru, which is made up of the consumption of 1´226,471.40 kg of bread. For its part, the destination market Madrid Spain it is expected to cover 65% because the population is larger, which results in a consumer demand of 817,788.26 kg of bread.

As a result, we observe a total of 2´044,259 kg of bread demanded by the destination markets (Lima and Madrid); compared to 2´073,600 kg of installed capacity, which supplies the market that this project is trying to introduce. Even the remaining production could attend to certain unexpected events caused by damage to the production process and sale in the market of origin; that is, Ecuador.

Table 13. Demand supplied

Demand	Kg Amount
Market capture Lima 75%	1,226,471.40
Market capture Madrid 65%	817,788.26
Total demand for kg of bread	2,044,259.66
Total installed capacity in kg	**2,073,600.00**

Prepared by: Fabián Quezada

3.2 Determination of costs

With respect to operating costs, these are those expenses incurred that are involved in obtaining a good; in addition, costs can be classified as fixed and variable, fixed costs are periodic, these costs are incurred over time and are not affected by changes in the production of the good. On the other hand, variable costs are directly involved with the production and sale of the good, which is why they tend to vary with the volume of production (Ibarra, 2014).

To establish prices, either in the national market or in the international market, the factors involved in their valuation must be studied. In the case of export goods, the conformation of the cost is determined by the direct elements that intervene in their production as well as other indirect costs related to export. These costs differ within a country or between countries, because the available technology, production scales, location of the factory and distribution systems, among other factors, change from one place to another (Gavelán, 2014).

For the determination of costs, an information survey has been carried out about the investment process, the respective costs and revenues and the expected profitability. Regarding the investment process, the calculation of the tangible fixed assets (factory, furniture and equipment, computer equipment, vehicle and machinery) and intangibles (trade registry and trademark registration), plus the working capital formed by: direct raw material, indirect raw material, direct labor, manufacturing indirect costs, insurance, administrative expenses and sales expenses, which are determined annually.

Once the previous results are obtained, the total costs of the project are determined, for which total direct costs, total depreciation, total depreciation, administrative expenses and sales expenses are considered. With this, the projected revenues are determined from year 0 to year 5, where its calculation is made through the total production costs for the quantity of frozen bread packages to be produced, which results in the unit cost per package; Subsequently, the sale price is determined by including a percentage of utility at unit cost and finally the income is obtained from the amount of package costs to be produced for the package sale price.

3.2.1 Project investments

In this section, the amounts and financial characteristics to start the project will be explained. The main assets required for bread production are detailed below:

Tangible Fixed Assets

It is necessary to publicize this type of assets since they are essential for the routine operation of the company; that is, they represent the means for the final manufacture of the product. Tangible fixed assets have a specific period of use, which is framed by the depreciation and the useful life thereof.

Table 14. Tangible Fixed Assets Total

Tangible Fixed Assets	
Factory	6,683.40
Furniture and fixtures	683.40
Computer equipment	642.60
Vehicle	25,500.00
Machinery and equipment	11,887.00
Total	45,396.40

Prepared by: Fabián Quezada

As shown in the table above, total assets, represented by the factory, furniture and equipment, computer equipment, vehicles, machinery and equipment have a total value of $ 45,396.40. To better identify, the results of each fixed asset are exposed in detail in the following table:

▪Factory

Table 15. Tangible fixed asset Factory

Factory	**6,000.00**
Unforeseen 3%	683.40
Total	**6,683.40**

Prepared by: Fabián Quezada

It should be noted that in determining the cost of each of the assets, the "unforeseen" factor has been considered. According to Rojas and Bohórquez (2009), these depend on the nature of each project and constitute the possible risks that may occur in the investment. This term is related to unpredictability, defined as the lack of action to arrange what is convenient to meet contingencies or foreseeable needs, which is reasonable because, in the execution of budgets, the contingencies represent a risk that must be considered.

▪Furniture and fixtures

They represent the office supplies that are required for both the administrative and productive departments of the company.

Table 16. Tangible Fixed Assets Furniture and equipment

Desk	$ 200.00
File cabinet	$ 150.00
Executive chair	$ 80.00
Sofa	$ 140.00
Decoration articles	$ 100.00
Your total b	$ 670.00
Incidentals 2%	$ 13.40
Total	**$ 683.40**

Prepared by: Fabián Quezada

▪Computer equipment

These assets are of vital importance and usefulness for the disposition of the administrative departments, as well as for the execution of tasks according to the production operation, since, through these equipments, an adequate control, recording and evaluation of the activities can be carried out.

Table 17. Tangible Fixed Assets Computer Equipment

Desktop computer	$ 430.00
Printer	$ 200.00
Subtotal	$ 630.00
Incidentals 2%	$ 12.60
Total	**$ 642.60**

Prepared by: Fabián Quezada

▪Vehicle

Considering the turn of business, the provision of a vehicle that is responsible for transporting the merchandise, as well as the necessary inputs to produce bread, is essential for the company.

Table 18. Tangible Fixed Asset Value of the Vehicle

Vehicle	$ 30,000.00
Incidentals 2%	$ 600.00
Total	**$ 30,600.00**

Prepared by: Fabián Quezada

▪Machinery

Finally, with respect to tangible fixed assets is the machinery and equipment of the production process, one of the most important parts, because thanks to them the production process of frozen bread can be carried out.

Table 19. Active Fixed Tangible Machinery

Production machinery and equipment	Quantity units)	Unit Value (USD)	Total cost (USD)
Work table	**2**	**200.00**	**400.00**
30 lb. kneader	**1**	**500.00**	**500.00**
Automatic splitter divider	**1**	**590.00**	**590.00**
Table scale	**1**	**175.00**	**175.00**
Rollers	**5**	**7.00**	**35.00**
Pyrex metering rates	**3**	**29.00**	**87.00**
Industrial mixer	**2**	**550.00**	**1,100.00**
Trays and can holders	**10**	**15.00**	**150.00**
Rotating 40 cans oven	**1**	**3,000.00**	**3,000.00**
Grids for cooling	**3**	**150.00**	**450.00**
Horizontal Refrigerator Freezer	**3**	**500.00**	**1,500.00**
Packing	**1**	**3,500.00**	**3,500.00**
Packaging bags	**2000**	**0.20**	**400.00**
Cast plastic cast boxes	**100**	**5.00**	**500.00**
Total			**11,887.00**

Prepared by: Fabián Quezada

Intangible assets

In accordance with the International Accounting Standard -NIC 38, intangible assets are defined as: identifiable assets, non-monetary and without physical appearance (NIC, 2004). That is, they are assets that the company owns and that cannot be physically perceived.

The contingencies established for these assets represent a fund aimed at covering unexpected situations.

Table 20. Intangible assets

Intangible assets	
Commercial Registry	25.00
Brand registration	208.00
Subtotal	233.00
Unforeseen 3%	6.99
Total	239.99

Prepared by: Fabián Quezada

Working capital

The working capital is made up of the different current assets of the company, which allow the company to perform its own and normal operations (Rizzo, 2007).

Table 21. Total Working Capital

Description	Annual Total Value	Value per shipment
Direct Raw Material	40,070.00	10,017.50
Indirect Raw Material	2,150.00	537.50
Direct Labor	21,060.00	5,265.00
Indirect manufacturing costs	1,740.00	435.00
Insurance	1,764.21	441.05
Administration expenses	17,564.40	4,391.10
Selling expenses	14,983.80	3,745.95
Total	99,332.41	24,833.10

Prepared by: Fabián Quezada

The Table above shows that, the total annual value of the working capital necessary to carry out the production and commercialization of frozen bread is $ 99,332.41 value that was determined considering each of the items that make up the working capital as, for example, raw material, labor, costs, insurance, among others. On the other hand, the total value per shipment is 24,833.10, which was calculated considering the total value between the number of exports per year, formed on a quarterly basis; that is, 4 shipments per year, given the production characteristics.

Next, detail of the components of Working Capital is shown:

Table ***22.*** Working Capital, Raw Material

Direct Raw Material	Unit of measurement	Annual amount	Unit Cost (USD)	Annual Cost (USD)	Monthly Cost (USD)
Flour	Quinta	500	36.50	18,250.00	1,520.83
Salt	Pounds	500	0.32	160.00	13.33
Yeast	Pounds	1000	1.25	1,250.00	104.17
Sugar	Quinta	500	38.00	19,000.00	1,583.33
Eggs	Units	10000	0.12	1,200.00	100.00
Fat	Pounds	250	0.84	210.00	17.50
Total				40,070.00	3,339.17

Prepared by: Fabián Quezada

The direct raw material is linked with inputs that intervene in the production process, in this case, to produce bread the necessary inputs are: flour, salt, yeast, sugar, eggs and fats determined based on the annual amount to produce, which, according to the calculation made in installed capacity is 288,000 units per year.

Table 23. Working Capital, Indirect Raw Material

Indirect Raw Material	Annual Amount (Units)	Unit Cost (USD)	Annual Cost (USD)	Monthly Cost (USD)
Packing	1	1,500.00	1,500.00	125.00
Packaging bags	2000	0.20	400.00	33.33
Plastic casting boxes	100	2.50	250.00	20.83
Total			**2,150.00**	**179.17**

Prepared by: Fabián Quezada

Table 24. Working Capital, Direct Labor

Direct Labor	Do not.	Unit Cost (USD)	Total Cost (USD)	Annual Cost (USD)
Master Panifier	1	600.00	600.00	7,200.00
Workers	3	385.00	1,155.00	13,860.00
Total			1,755.00	21,060.00

Prepared by: Fabián Quezada

To be able to carry out the production process in the preparation of bread, it is necessary to hire a bread maker who is responsible for maintaining and verifying hygiene and the correct use of equipment, machinery and utensils; participate in the preparation of the bakery proposal; as well as, receive control and verify the raw material and supervise the preparations of the finished product. In addition, the hiring of three workers in charge of the production process was considered. The respective Payment Role can be evidenced in Annex 1.

Table 25. Working Capital, Indirect Manufacturing Costs

Indirect manufacturing costs	Quantity	Monthly Cost USD	Annual Cost (USD)
Electricity	Monthly	75.00	900.00
Water m3	Monthly	40.00	480.00
Other supplies	Monthly	30.00	360.00
Total		**145.00**	**1,740.00**

Prepared by: Fabián Quezada

Table 26. Working Capital, Insurance

Insurance	Value	%	Monthly value	Total Value
Furniture and fixtures	683.40	10%	5.70	68.34
Computer equipment	642.60	10%	5.36	64.26
Vehicle	25,500.00	5%	106.25	1,275.00
Machinery and equipment	11,887.00	3%	29.72	356.61
Total			147.02	1,764.21

Prepared by: Fabián Quezada

Table 27. Depreciation

Depreciation	Value	Useful life (years)	%	Annual Total Value
Factory	6,683.40	twenty	5%	334.17
Furniture and fixtures	683.40	5	10%	136.68
Computer equipment	642.60	5	40%	128.52
Vehicle	25,500.00	5	twenty%	5,100.00
Machinery and equipment	11,887.00	5	10%	2,377.40
Total depreciation				8,076.77
Amortization				
Deferred assets	239.99	5		48.00
Total Amortization				48.00

Prepared by: Fabián Quezada

Table 28. Administration Expenses

Administration expenses			
Detail	Quantity	Unit value	Total value
Manager	1	700.00	8,400.00
Assistant	1	385.00	4,620.00
Cleaning costs	1	350.00	4,200.00
Subtotal			17,220.00
Incidentals 2%			344.40
Total			17,564.40

Prepared by: Fabián Quezada

Table 29. Selling expenses

Detail	Quantity	Unit value	Total annual value
Customs formalities	4	400.00	1,600.00
Export documents	4	100.00	400.00
Secured agent	1	450.00	450.00
Maritime Transport Spain	4	2,560.00	10,240.00
Land Transport Peru	4	500.00	2,000.00
Subtotal			14,690.00
Incidentals 2%			293.80
Total			14,983.80

Prepared by: Fabián Quezada

As evidenced in the table above, the annual sales expenses are of $ 14,983.80 constituted of the procedures and documents for export of the product, secured agent; that is, an external foreign trade advisor who will be responsible for carrying out all export procedures; and transportation expenses.

Regarding the land transportation expense to export the merchandise to Lima, Peru, it was determined based on an estimated quotation granted by a merchandise transport services page, registering a cost of $ 500 per shipment; because, the container in which it is transported is a shared load, resulting in an annual cost (4 shipments per year) of $ 2,000. For its part, estimated shipping to Madrid, Spain, is at a value of $ 2,560 per shipment, resulting in a cost of $ 10,240 per year (4 shipments per year). This value was determined based on reference prices in the following table:

Table 30. Marine transport

Marine transport	CIF FROM PUERTO GUAYAQUIL TO THE PORT OF MADRID
Refrigerated container 20'	2,500.00
Agrocalidad Seal	50.00
Origin stamp	10.00
Total	**2,560.00**

Prepared by: Fabián Quezada

3.2.2 Project financing

To carry out the production and commercialization of the product, different costs have been determined in terms of assets as well as the necessary working capital; In this context, the possibility of financing the project from both internal and external sources should be considered.

Table 31. Funding structure

Own or shareholder capital	42,281.70
External financing	28,187.80
Total Capital	70,469.49

Prepared by: Fabián Quezada

▪Origin of resources

The following table shows the necessary resources and their financing by own capital and external credit. The capital required is 70,469.49 compounded by 60% financing by the company's partners and 40% by external financing, considering BanEcuador as the financial institution, which provides loans more easily with amounts from $ 5,000 to $ 500,000.00 to small, medium and large companies.

In this regard, for the credit of $ 28,187.80 BanEcuador considers an interest rate of 16% with a term of 3 years.

Table 32. Amortization table

Amortization Table Fixed payments				
No Fee	Value Share	interest	Amortization	Balance
0				28187.80
1	$ 6,049.52	$ 2,181.86	$ 3,867.66	$ 24,320.13
2	$ 6,049.52	$ 1,882.48	$ 4,167.04	$ 20,153.09
3	$ 6,049.52	$ 1,559.94	$ 4,489.58	$ 15,663.51
4	$ 6,049.52	$ 1,212.42	$ 4,837.10	$ 10,826.41
5	$ 6,049.52	$ 838.01	$ 5,211.51	$ 5,614.90
6	$ 6,049.52	$ 434.62	$ 5,614.90	$ 0.00

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Table 33. Destination of resources

Description	Value	Shareholder resources		Credit	
		%		%	
Factory	6,683.40	1.00	6,683.40		
Furniture and fixtures	683.40	1.00	683.40		
Computer equipment	642.60	1.00	642.60		
Vehicle	25,500.00	0.80	20,400.00	0.20	5,100.00
Machinery and equipment	11,887.00	0.60	7,132.20	0.40	4,754.80
Intangible assets	239.99	1.00	239.99		
Working capital	24,833.10	0.60	14,899.86	0.40	9,933.24
Total	**70,469.49**	**0.60**	**42,281.70**	**0.40**	**28,187.80**

Prepared by: Fabián Quezada

As mentioned by Guzmán (2004), in a financial investment the shareholder of the capital resource expects a minimum rate of return to invest; value that is associated with the risk of loss of investment. In the feasibility projects, the Minimum Attractive Rate of Return (TMAR) is generally established. The TMAR is equal to the inflation rate plus the risk rate of the investment; In the following table you can see the calculation of the Minimum Attractive Rate of Return.

According to data from the Central Bank (2017), annual inflation for 2017 is at 5.01%; in terms of investment risk, 5% was determined considering that the competitive situation in the destination markets is low.

Table 34. TMAR

December-31-2017	-0.2
November-30-2017	-0.22
October-31-2017	-0.09
September-30-2017	-0.03
August-31-2017	0.28
July-31-2017	0.1
June-30-2017	0.16
May-31-2017	1.1
April-30-2017	1.09
March-31-2017	0.96
February-28-2017	0.96
January-31-2017	0.9
Annual inflation rate 2017	5.01%
Investment risk	5%
TMAR	**10.01%**

Prepared by: Fabián Quezada

The table shows a TMAR of 10.01%, which represents that the project is paid back, and the investors will be interested in the project.

3.2.3 Total Project Costs

To carry out the total costs, inflation for the 2017 period was considered, made up of 5.01%.

Table 35. Total Costs

Total project costs						
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Direct costs						
Direct Raw Material	40,070.00	42,077.51	44,185.59	46,399.29	48,723.89	51,164.96
Indirect Raw Material	2,150.00	2,257.72	2,370.83	2,489.60	2,614.33	2,745.31
Direct Labor	21,060.00	22,115.11	23,223.07	24,386.55	25.608,31	26,891.29
Indirect manufacturing costs	1,740.00	1,827.17	1,918.72	2,014.84	2,115.79	2,221.79
Insurance	1,764.21	1,852.60	1,945.41	2,042.88	2,145.23	2,252.70
Total depreciation	8,076.77	8.481,42	8,906.34	9,352.54	9,821.10	10,313.14
Total depreciation	48.00	50,40	52.93	55.58	58.36	61.29
Total production **costs**	**74,908.98**	**78,661.92**	**82,602.88**	**86,741.28**	**91,087.02**	**95,650.48**
Administration expenses	17,564.40	18,444.38	19,368.44	20,338.80	21,357.77	22,427.80
Selling expenses	14,983.80	15,734.49	16,522.79	17,350.58	18,219.84	19,132.66
Financial expenses	8,109.33	8,515.60	8,942.24	9,390.24	9,860.69	10,354.71
Total	**115,566.50**	**121,356.39**	**127,436.34**	**133,820.90**	**140,525.33**	**147,565.65**

Prepared by: Fabián Quezada

3.2.4 Total Project Income

The determination of the income was made considering as a starting point the total costs generated to produce frozen bread. Also, the installed capacity was considered to interact with the markets in which the product is intended to be exported.

▪Price of frozen bread sale

The sale price determined for the export of frozen bread, is based on the final cost plus the percentage of established profit, which is 70%, since the marketing costs are considerable. For the calculation, the following formula was used:

Table 36. Projected income

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Total Costs	115,566.50	121,356.39	127,436.34	133,820.90	140,525.33	147,565.65
Packages of 7.2 kg	288,000.00	302,688.00	318,125.09	334,349.47	351.401,29	369,322.76
Unit cost per package	0.40	0.40	0.40	0.40	0.40	0.40
Sale price per package	0.68	0.68	0.68	0.68	0.68	0.68
Annual income	**196,463.06**	**206,305.86**	**216,641.78**	**227,495.53**	**238,893.06**	**250,861.60**

Prepared by: Fabián Quezada

3.3 Determination of profitability

The analysis and determination of the profitability of the project is considered as the study of the economic evaluation, so the possible utility generated by the project is evaluated and compared with the value of money over time, considering that the real value of money it diminishes with the passage of time in comparison with a rate, approximately, like the level of effective inflation (Baca Urbina, 2010).

In general, productive projects are evaluated considering their capacity to recover the investment and generate profits, which together is known as profitability (Canales Salinas, 2015). Among the most used methods in the analysis of the profitability of investment projects are the net present value (NPV) method and the internal rate of return (IRR) method, which are described below (Cruz Chávez, Torres García, Cruz Chávez, & Juárez Mancilla, 2016):

- **Net Present Value (NPV)**: this method allows evaluation ot the investment based on the balance of the costs and benefits that are estimated along the evaluation horizon; the decision is based on the benefits being greater than the costs. It is defined as the sum of all cash flows discounted at an interest rate and from which the initial investment is subtracted; therefore, if the NPV is greater than zero it means that the investment will be profitable.
- **Internal Rate of Return (IRR)**: is the interest rate at which the NPV is equal to zero. If the IRR is greater than the cost of capital, then the project is accepted; This indicates that the benefits generated by the project are greater than the cost of the financing sources.

To establish the feasibility of the project, it is necessary to determine the income statement that allows to identify the net profit considering the income and expenses of the project which begins in the following table with the presentation of the results statement.

3.3.1 Statement of income

Table 37. Statement of income

DETAIL	YEAR 0	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
INCOME	196,463.06	206,305.86	216,641.78	227,495.53	238,893.06	250,861.60
Production cost	115,566.50	121,356.39	127,436.34	133,820.90	140,525.33	147,565.65
GROSS PROFIT	80,896.55	84,949.47	89,205.44	93,674.63	98,367.73	103,295.95
Administrative expenses	17,564.40	18,444.38	19,368.44	20,338.80	21,357.77	22,427.80
Selling expenses	14,983.80	15,734.49	16,522.79	17,350.58	18,219.84	19,132.66
OPERATIONAL UTILITY	48,348.35	50,770.61	53,314.21	55,985.25	58,790.12	61,735.50
Financial Expense	8,109.33	8,515.60	8,942.24	9,390.24	9,860.69	10,354.71
UTILITY BEFORE DELIVERY	40,239.03	42,255.00	44,371.98	46,595.01	48,929.42	51,380.79
15% Worker Cast	6,035.85	6,338.25	6,655.80	6,989.25	7,339.41	7,707.12
UTILITY BEFORE TAXES	34,203.17	35,916.75	37,716.18	39,605.76	41,590.01	43,673.67
22% of income tax	7,524.70	7,901.69	8,297.56	8,713.27	9,149.80	9,608.21
NET PROFIT	26,678.47	28,015.07	29,418.62	30,892.49	32,440.21	34,065.46

Prepared by: Fabián Quezada

3.3.2 Cash flow

Table 38. Cash flow

Year	0	1	2	3	4	5
Investment	-215,198.30					
Working Capital		-99,332.41				99,332.41
Income		206,305.86	216,641.78	227,495.53	238,893.06	250,861.60
Operating costs		-121,356.39	-127,436.34	-133,820.90	-140,525.33	-147,565.65
Taxes on profits		-7,901.69	-8,297.56	-8,713.27	-9,149.80	-9,608.21
Scrap value						8,076.77
Net flow	**-215,198.30**	**-22,284.63**	**80,907.88**	**84,961.36**	**89,217.93**	**201,096.93**

Prepared by: Fabián Quezada

3.3.3 Net Present Value (NPV) and Internal Rate of Return (IRR)

It is a financial indicator that allows measuring the future income and expense flows that a project will have and has the purpose of determining if after the initial investment, the project presents profitability.

When the NPV is equal to zero, it represents that the project has neither gains nor losses; On the other hand, when the NPV is less than zero it means that the income is less than the income, for which reason the project must be rejected. Finally, when the NPV is greater than zero, the cash flow covers the total costs, therefore, the project must be accepted.

In this sense, to obtain the NPV, the following formula has been implemented:

$$VAN = -I_0 + \sum_{t=0}^{n} Ft\left(\frac{P}{F}, i\ n\right)$$

Table 39. Profitability indices

Net Present Value VAN	57,849.27
Project Weighted Rate	10%
Internal Rate of Return TIR =	fifteen%
Investment	215,198.30

Prepared by: Fabián Quezada

In relation to the Table above it is observed that the project is feasible, since, the van presents a value to give back to the initial investment, generating a benefit for the investor. For its part, the indicator that represents the Internal Rate of Return (IRR) measure the performance of the funds that are intended to invest in a project, for which the IRR must be greater than the minimum acceptable rate of return of the project (10%). Which is favorable since the project has an IRR of 15%.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Once the present investigation was completed, the following conclusions have been reached:

- Frozen bread represents an innovation in exports. In addition to having benefits and nutrients for the consumer, this product differs from common bread in the production process, which includes a phase of paralysis where the application of cold, which is continued in the place of sale to the public with the technique of a frozen pre-cooked, technique that develops the semi-finished product, for a greater taste by the final consumer.
- Regarding the markets to which the product is intended to be exported, Peru and Spain, a potential segment has been evidenced, especially in the cities where the product is intended to be made, comprised of Lima and Madrid, places that present a high rate of consumption of both traditional bread and frozen bread.
- It has been shown that the countries analyzed have a high consumption rate of frozen bread, which is favorable for the company that intends to export this product. Peru, due to its geographic conditions, has easier access for the market and at the same time a lower cost. On the other hand, Spain has greater transport complexity due to its high cost. However, considering the results of the project's return, this market represents a power to innovate with the proposed product.
- After analyzing the profitability or feasibility of the project, it has been determined that the export of frozen bread to the destination countries shows feasibility, since the investment is recovered and the NPV has a value greater than zero; however, the internal rate of return does not show a positive behavior since it is 9.47%, less than 10% of the acceptable discount rate.

Recommendations

Given the conclusions presented, the following recommendations stand out:

- Develop strategic promotional and advertising plans highlighting the benefits and nutrients contained in frozen bread, to obtain greater positioning in the destination markets, and thus obtain a greater profit margin of the product.
- Make known through different channels and means, the ease involved in the preparation of frozen bread. It has been shown that a large part of the population that consumes this type of product does not know about its production process.
- It is recommended that the production of products cover different types of bread, focused on the integral bread line, since, if one considers the population of today, it tends to consume healthy products, and fiber is one of the most prominent in the consumption. of light products.

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Annexes

N°	Employees	Salary	Days Worked	Accrued salary	Total remuneration	Personal contribution	Total discounts	Liquid to pay
1	Master Panifier 1	600,00	30	600,00	600,00	56,70	56,70	543,30
2	Worker 1	385,00	30	385,00	385,00	36,38	36,38	348,62
3	Worker 2	385,00	30	385,00	385,00	36,38	36,38	348,62
4	Worker 3	385,00	30	385,00	385,00	36,38	36,38	348,62
	Total direct labor	**1.755,00**		1.755,00	1.755,00	**165,85**	165,85	1.589,15
5	Manager	700,00	30	700,00	700,00	66,15	66,15	633,85
6	Assistant	385,00	30	385,00	385,00	36,38	36,38	348,62
	Total indirect labor	**1.085,00**		1.085,00	1.085,00	**102,53**	102,53	982,47

Annex 1. Payroll

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