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**COCOA EXPORTS TO THE EU.
COMPARISON PERIOD 2018-2019 VS. 2020-
2021 DUE TO COVID-19.**

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DEDICATION

This graduation work is dedicated in the first place to my family, who have trusted me since the University began and have made sacrifices to give me the best education and values. Secondly, I want to thank my girlfriend, since she gave me moral support to never give up and keep going every time, I had neither creativity nor motivation. Thirdly, I want to thank my classmates and friends, all of them were people who guided me and showed me commitment not only inside the University, but also outside of it. And finally, to my teachers and professors both inside and outside the University, all of them provided me with knowledge that was used in this graduation work.

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TABLE OF CONTENTS

DEDICATION	i
ACKNOWLEDGMENTS.....	ii
Abstract	v
1. Introduction.....	1
1.1 Theoretical Framework	1
2. State of Art	3
3. Methodology	4
3.1 Objective	4
4. Results and discussion.....	5
4.1 Exploratory analysis.....	9
5. Conclusion.....	9
6. References	11

List of Figures

Figure 1. Comparative matrix of cocoa exports in the periods 2018-2019 vs. 2020-2021, in kilograms.....	13
Figure 2. Total exports from Ecuador to the EU in the periods from 2018 to 2021 represented in kg and FOB price	14

List of Tables

Table 1. Cocoa export matrix for 2018 -2019 to the European Union.....	11
Table 2. Cocoa export matrix for 2020-2021 to the European Union.....	12

Cocoa Exports to the EU. Comparison Period 2018-2019 Vs. 2020-2021 due to COVID-19.

Abstract

Cocoa is one of the most important raw materials for Ecuador, sharing positions with oil, shrimp, bananas, and tuna. With the Cocoa Boom that took place at the end of the 19th century, Ecuador consolidated its position as one of the best exporters of this product until today. In addition, the Multipartes agreement signed between Ecuador and the European Union, raised cocoa exports much more, breaking records with 315 thousand tons in 2018 and 340 thousand tons in 2019 respectively, but the expectations for the following years were paralyzed due to the global pandemic of COVID-19. With a Goal-Question-Metric methodology, it was analyzed which were the factors that maintained and improved cocoa exports to the European Union block and the exact figures from primary sources, among the findings it is highlighted that despite the closure of the borders and not being able to export for three months, cocoa figures improved in 2020 and 2021 compared to previous years due to demand issues, which are cataloged as an important economic support for Ecuador.

Keywords: international trade, cocoa exports, European union, trade policy, COVID-19

1. Introduction

1.1 Theoretical Framework

The *Theobroma cacao* (scientific name of the cacao plant) is one of the most valued plants in the world. The cocoa has an origin of more than 5000 years ago according to signs of cocoa trees found in the Amazon jungle, along with studies that say the Mayas began to cultivate this fruit more than 2500 years ago. In the 12th century, the Aztecs invaded the Mayan territory and took over their economy, including cocoa among their treasures, so that cocoa use began to expand rapidly (Coe & Coe, 1996).

When the Spaniards arrived in our territories, cocoa was used as currency, as an object of exchange (for bartering) and to create a traditional beverage for the population of that time. The Spaniards became interested in these fruits, and such was their impact, that they took large quantities to Europe for the consumption of the inhabitants of that region. These people used cocoa by mixing it with honey and vanilla, creating new flavors, new ways of consuming it, and an attraction for the whole society (Guerrero, 2013).

At the beginning of the 19th century, the Spanish colonies introduced these beans in African areas, specifically in Ghana, as this would give them cheaper cocoa and greater quantities. The consequence of this would be that, not being experts in cocoa cultivation, the beans produced in Africa were infested with diseases and would be of very poor quality. Around 1830 in Ecuador, wealthy families began with the creation of haciendas specialized in cocoa cultivation and distribution, calling them "Grandes Cacao" (Anecacao, 2015). Ecuadorian families focused and became interested in cocoa cultivation due to two factors: climate and land. The climate provided higher production since there were no abrupt climatic changes throughout the year, and it remained regular most of the time. The soils had a high degree of fertility, which benefited and facilitated the production of these beans.

In the last decades of the XIX century, cocoa underwent several booms. Around the year 1890, cocoa began to consolidate as an important and attractive product for foreign countries, which led Ecuador to be the main exporter of this product at that time and to start the "Cocoa Boom." On average, more than 200 thousand quintals (100 kg/220 lb) of cocoa beans were produced and sold between 1890 and 1899, increasing by an average of 12.3% per year. The trade and sale of these beans was reflected in the GDP of Ecuadorians, which doubled from 489 USD to 909 USD from the year of 1890 to 1920 (López, 2015). What enamored the international markets, especially Europe and the United States, is that Ecuadorian cocoa was a mixture between this endemic bean and Trinidadian imports, which increased its resistance against diseases and gave it a unique flavor and this cocoa was introduced to the market between 1920 and 1930.

Cocoa has evolved not only in Latin America, but worldwide. After using cocoa as a means of exchange, it began to be implemented in gastronomy. When these beans arrived in Spanish lands, they began to be consumed in a liquid and cold form. As time went by, cream and honey were added, and it was heated to make it tastier to drink (Cruz & Pereira, 2009). And as the Cocoa Boom began in Ecuador, Germany and Great Britain started with the first chocolate productions with Ecuadorian cocoa, which increased the importation of these fine beans. And as is already known, in recent years cocoa has been used in unlimited ways: chocolate, cocoa powder, spices, sweeteners, and many others (McCook, 2002).

One of these companies that promoted cocoa and its derivatives is Nestlé. This company began in the mid-nineteenth century with the distribution of condensed milk and others, but over time and expansion from its headquarters in Switzerland, Nestlé created the "Cocoa Plan" to expand their products to the world. With this plan, Nestlé became a potential ally of the cocoa sector, due to Ecuador's cocoa called Cacao Nacional, which is a unique product of excellent quality and unique product. Cacao Nacional has sought and generated greater production, in addition to producing chocolates and other high-quality products at competitive prices (Nestle, 2022). Nestlé's plan has been replicated in several companies and has become known in various parts of the world, having a great global impact on the chocolate market and the cocoa sector.

Currently, the care, production, industrialization, sale, and trade of Ecuadorian cocoa is of great importance. The United States, Malaysia, Canada, Russia, and other countries have been important markets for Ecuador, but Europe cannot be forgotten or left aside. Since 2005, the countries that made up the European Union

have had their own agreements and deals to get Ecuadorian cocoa. These countries feel the need to buy this raw material or derivatives because, with these, they produce chocolates, beverages, and many other products. Until 2016, these multiple agreements with each country gave an important contribution to Ecuador since each passing year the price in FOB as well as the exported tons have grown. In 2016, Ecuador and the European Union decided to sign a multi-party agreement in which both benefits. This agreement has been in force since 2017 and it was feared that the results would not be equal. However, the figures given exceeded previous years, reaching almost 200'000,000 USD FOB. (Mesías, 2019)

In the years before signing the agreement between the European Union and Ecuador, the figures were gradually rising; but in 2017, when this treaty came into force, it exceeded 100,500 USD in 2016 (Sanchez, 2019). The treaty is of mutual benefit because with it the European Union will free 99% of the exportable supply in agricultural products and 100% in industrial products, while the benefit for Ecuador is to free pharmaceutical tariffs and many other products with the objective of obtaining and distributing them much easily throughout the country (EU, 2022). "The entry into force of the Trade Agreement will represent for Ecuador an annual increase of 0.10% of the GDP, 0.15% in consumption and 0.13 % in investment, in addition to a positive effect on the generation of jobs and better income for the population." (Ministry of Production, 2017, p. 45)

The interest of the European Union market for Ecuadorian raw materials is high. Shrimp, fish and fish products, tuna and tuna products, bananas and many others are attractive to these countries. Cocoa is not far behind, thanks to the fact that it has come to be exported in different ways and for different uses and implementations. In the period between 2016 and 2017, the European cocoa market is around 33% of the production of cocoa derivatives worldwide. The Netherlands, France, Belgium, and Germany are the countries that make up the European Union with the greatest need for cocoa beans (ECA, 2022).

With these data we can have an idea of the great exports between Ecuador and the EU, reaching record figures in 2018 both economically and in quantity of exported cocoa. However, in 2019 a disease started in Wuhan, China. While the whole world was going on as normal with exports, imports and so on, this disease was growing and spreading through Asia and then Europe. European countries began to experience COVID 19 gradually spreading first through Italy, then Spain, Germany, and so on. Because of this, COVID spread rapidly, and the general solution worldwide was to paralyze all contacts between countries, whether close or not. By paralyze we mean travel, exports, imports, shipments, and any kind of emission of any object or person in a country.

By closing the borders, many markets, including shrimp, bananas, tuna, and derivatives and, of course, cocoa, were affected, since they depend completely or largely on what is sent to other countries. About 92% of employees who worked in companies or cocoa crops in 2020, explain that the demand for cocoa decreased in that year. In addition, in those months when exports of any raw material were closed, the cocoa sector did not have the necessary support from the government, this leads to specialized cocoa producers having to work and produce regardless of the pandemic that at that time caused health problems and death (Abad, Acuña, & Naranjo, 2019)

The economic problem was that, when business between the European Union and Ecuador for cocoa was closed, this sector did not have great demand and as a result, prices and economies of many producers were precipitated, affecting owners, producers, workers, etc. in a very serious way (Quiroz, 2021).

After many studies and speculations that saw the cocoa sector sinking due to low demand from the European Union (33% of the world market), surprisingly the reopening of borders around the world facilitated the trade of raw materials worldwide. Cocoa was in great demand to such an extent that it broke records and studies show that records will continue to be broken, since the lack of cocoa beans in the European Union sector led them to order them in large quantities to meet their needs (Ekos, 2022). All these data and information lead to so many doubts and, therefore, according to what has been observed, it is necessary to perform an analysis from the period 2018 to 2021 to observe what happened with the pandemic in cocoa exports to the EU.

2. State of Art

For Serrano, Pinta, Ramón, and Chavarría (2020) raw materials have been very relevant for Ecuador. The agricultural sector covers about 95% of the food consumed by the population and generates employment for about 25% of the economically active population. For example, in a large part of Manabí there is an abundant production of coffee beans, which generates employment for a large percentage of the labor force, both directly and indirectly. Bananas are one of the three most important products in Ecuador, not only in the export and commercial sector, but also in terms of consumption and labor, since around 260,000 people work in this sector.

According to Ordoñez (2012), since its independence, Ecuador has always depended on raw material exports for a large part of its economy. In the mid-19th century, the exploitation of gold, coffee, rubber, tagua, tobacco and quinoa were the main raw materials for Ecuador's exports; these were sent to territories such as Chile, Peru, and Bolivia. However, these items were disappearing over the years because neighboring countries began to trade as well or better than Ecuador, showing that since the beginning of Ecuador as a republic, it has depended on exports of raw materials.

According to Villamar and Salazar (2016), Ecuador has come to specialize in the cocoa sector in a relevant way. So much so that cocoa exports grew more than 130'000,000 USD between 2009 and 2011. In addition, Ecuador has had such a fruitful production of cocoa in recent years, that the country went from being the seventh largest exporter worldwide, to being the fourth in 2016, and the first of the countries that export endemic cocoa. These figures reflect the important trade that Ecuador maintains with countries such as Germany, Netherlands, France, Belgium, and Canada which are both, producers, and exporters of chocolate. Additionally per capita consumption of chocolate and any cocoa derivative is growing increasingly, with Belgium, Switzerland, Germany, England, France, and the United States among the largest consumers.

For Rubio and Zhigre (2017), exports will improve and rise thanks to the agreement between Ecuador and the European Union came into force. It all started around January 2009 with a Multiparty agreement between the European Union with Ecuador, Peru, and Colombia. In July of the same year, Ecuador suspended its participation in this agreement, while Peru and Colombia continued in a process of negotiations with this block in March 2010. These negotiations came into force with Peru in March 2013 and Colombia in August 2013. In May of that same year, Ecuador resumed its interest in negotiating with this block again and began negotiations in January 2014. The agreement entered into force in January 2017 and will free 99.7% of the supply of agricultural products and 100% of Ecuador's industrialized products, which will increase 0.10% of the GDP and result in positive data and growth in employment and income of the population.

According to Coronel and Jaramillo (2021), COVID-19 not only abruptly hit the cocoa sector in terms of exports, but also most sectors and companies. COVID 19 slowed down many companies in Ecuador, causing them to close completely between March and early May. In the following months, they would open with limited staff or, in more extreme cases, close due to bankruptcy. The cocoa sector on the production side was not as complicated, since this section did not stop suddenly and continued to operate, but not in the usual way. However, exports in those months did not show good figures because countries closed their borders and, as a result, exports suddenly stopped. Many countries stopped ordering these inputs, thus hurting the cocoa sector and cocoa companies.

For Fernandez and Mora (2022), the year following the appearance of COVID 19, exports improved and recovered what had been lost in the previous year. About 51% of agricultural producers did not stop in 2020 regardless of COVID. Nevertheless, in addition to learning to manage and take better advantage of crops, which produced better cocoa, in 2021 they even managed to take advantage of exports. Data released that 2021 shows an approximate 1.04% annual growth compared to 2020, which is not bad at all because, in the last months of that year, exports grew and gave equally positive data.

3. Methodology

This scientific article aims to analyze and compare Ecuadorian cocoa exports to the European Union block considering two periods: the years 2018-2019 and 2020-2021. These years were considered for the research because during the first period life ran normally, while in the second period there was a world catastrophe (COVID 19). The research questions proposed for the article is:

- What have been the consequences of COVID 19 on cocoa exports to the EU, compared to 2018 and 2019?

3.1 Objective

To answer this question, a specific objective was set: to analyze and describe the consequences of COVID 19 on cocoa exports to the EU, comparing 2018 and 2019.

The methodology used on this article is: Goal-Question-Metric, which seeks to divide each objective into different questions, which are then measured, analyzed, and approved. This approach or methodology was proposed by Victor Basili at the University of Maryland in 1984. The objective of this methodology presented by Basili is to select several goals, derive objectives from each of them and present a framework that interprets the information from these objectives (Rombach, Basili, & Candiera, 1994). This process is based on 3 levels: conceptual, operational, and qualitative.

- Conceptual level: a goal for the research or article is established, from which objectives or questions may be based (metric).
- Operational level: after choosing one or several goals, objectives and questions for the research are based on them. Each one may have derivatives and subtopics, for a more in-depth investigation. (question)
- Qualitative level: objectively or subjectively, data are provided to answer each of the objectives or questions posed (goal). (Rombach, Basili and Candiera, 1994)

Three successful articles and research that have applied the MQG (Metric, Question, Goal) this methodology is adequate to get to answer the questions and objective posed:

According to Zamalloa and Pillaca, (2018) the methodology helped them to find, as an answer, that the application called ITIL v3.0 and the improvement of service management, created a 95% of satisfaction to all the people who used it and optimized the time of incidents and requirements in a $p=0.003$. All this thanks to ANOVA data. This was solved thanks to the application of the aforementioned methodology and was helpful to improve management in transport in Lima, Peru.

Garcia and Moreira, (2016) implemented the same methodology for the evaluation of application security protocols. The conclusion that this methodology helps is that, with protocols for social networks and applications, the security of personal information will be better and there will be less problems when trusting these apps, being the best protocols HTTPS and SMTP and the least effective and with more problems WIRESHARK and CAIN & ABEL. Therefore, the methodology helped to find better protocols and ways to provide security to applications and social networks by students in Manabí, Ecuador.

According to Urbina and Metzner, (2016), the MQG methodology helped them give an evaluation to two integrated approaches and provide a solution to any doubts that may have existed. The conclusion reached with this approach is that, for a software solution, a business plan must first be generated, in addition to seeking a business structure and evaluation.

The way in which the research questions were answered is with data taken from viable and reliable sources such as Customs, Senae, Anecacao, etc. In addition, we have the participation of Jorge Arizaga, a Customs agent, to carry out a perception analysis by semi-structured interview to investigate and go much deeper into the questions and objectives of this research. A semi-structured interview refers to an interview where open-ended questions are asked and can be continued as the interview unfolds. The interviewer makes a list of questions, which do not all have to be asked or answered, and with the interview itself, more questions may arise to eliminate doubts or unknowns.

Matrix

1. Cocoa export matrix for 2018 -2019 to the European Union (non-COVID period)
 - 1.1 cocoa exports 2018 to the European Union
 - 1.1.1 Countries most exported
 - 1.1.2 Total exports in Kg by country
 - 1.1.3 Absolute total exports in 2018
 - 1.1.4 Subheading with most exports
 - 1.2 cocoa exports 2019 to the European Union
 - 1.2.1 Countries most exported
 - 1.2.2 Total exports in Kg by country
 - 1.2.3 Absolute total exports in 2019
 - 1.2.4 Subheading with most exports
 - 1.3 Comparison between 2018 and 2019

2. Cocoa export matrix for 2020-2021 to the European Union (COVID period)
 - 2.1 cocoa exports 2020 to the European Union
 - 2.1.1 Countries most exported
 - 2.1.2 Total exports in Kg by country
 - 2.1.3 Absolute total exports in 2020
 - 2.1.4 subheading with most exports

 - 2.2 Cocoa exports 2021 to the European Union
 - 2.2.1 Countries most exported
 - 2.2.2 Total exports in Kg by country
 - 2.2.3 Absolute total exports in 2021
 - 2.2.4 Subheading with most exports

3. Comparison of cocoa exported in 2018-2019 vs. 2020-2021 periods
 - 3.1 Countries most exported
 - 3.2 Total Net weight per country
 - 3.3 Comparison every year about absolute total exports

4. Results and discussion

To elaborate the matrix, data was acquired from the National Customs Service of Ecuador, with which about 5000 cocoa exports to the European Union bloc between the years of 2018 to 2021 were recorded. To present, observe and compare the differences and similarities of these exports, the data is presented using pivot tables collecting various data and fields, such as the net weight exported, the EU countries with the highest exports made, the district with the most exports made, the subheading and type of cocoa that was exported the most in each year, among other data.

Table 1.

Cocoa export matrix for 2018 -2019 to the European Union (non-COVID period)

2018	Net Weight Kg	FOB USD Price	2019	Net Weight Kg	FOB USD Price
Netherlands	36'424,209.34	84'965,720.7	Netherlands	41'951,009.2	104'129,466.8
Germany	13'978.980.07	32'063,184.98	Germany	13'586,922.1	34'887,235.36
Belgium	10'354,103.67	43'040,707.76	Belgium	8'336,468.32	20'891,445.77
Spain	5'456,888	13'148,743.89	Spain	5'657,787.9	13'879,929.87
Estonian	5'255,481.6	13'975,767.31	Estonian	4'917,216	11'769,209.55
Other Countries	5'059,268.82	12'182,724.9	Other Countries	5'329,339.2	12'859,298.4

Note: SENA E, 2019

In 2018, a world export record was broken, surpassing 2012, reaching exports of around 315 thousand tons and 663 million USD in export revenues. In the European Union, it does not improve very much, as countries such as the Netherlands, Germany, Belgium, and Spain remain in the same positions.

In 2019, cocoa exports improved, having a growth of 57 million USD more than in 2018 worldwide (Alcivar, 2021). In the European Union, Netherlands exceeds its previous figures with more than 5 million kg imported from Ecuador; besides observed how countries maintain a considerable margin with 2018, witnessing the same countries of the previous year, in the same positions.

In other data, the cocoa subheading most used for exports in 2018-2019 is 1801001990, corresponding to other cocoa beans, which contributes with 98% share of total exports in 2018 and 99.2% in 2019; followed by the subheadings of 1801001910 (certified bean), 1801002000 (roasted cocoa bean) and 1801001100 (beans prepared for sowing).

Table 2.

Cocoa export matrix for 2020-2021 to the European Union (COVID period)

2020	Net Weight Kg	FOB USD Price	2021	Net Weight Kg	FOB USD Price
Netherlands	26'097,180.4	69'076,186.39	Netherlands	36'153,123.18	91'058,954.87
Germany	14'467,639.58	37'949,002.57	Belgium	20'590,110.59	52'720,145.15
Belgium	12'186,277.3	32'571,617.7	Germany	16'110,497	43'023,062.73
Estonian	9'630,951	22'438,905.66	Italy	15'965,084.93	39'860,781.1
Italy	9'358,008.5	24'237,768.83	Spain	4'514,572.36	12'207,460.52
Other countries	5'242,342.29	16'630,764.06	Other Countries	5'766,987.24	54'059,320.72
TOTAL	76'982,399.07	202'904,245.2	TOTAL	99'100,375.3	253'068,944

Note: SENA E, 2021

With the emergence of COVID-19, the results and data presented changed, but not in the way people and experts had intended. Looking at the data released by SENA E, the total export of cocoa in 2020 given in kilograms exceeds the 2019 data by more than 5 million. The total foreign exchange income exceeds those of 2019, coming to present around 850 million USD, in addition to presenting these data considering three months of border closures and trade between the European Union block and Ecuador.

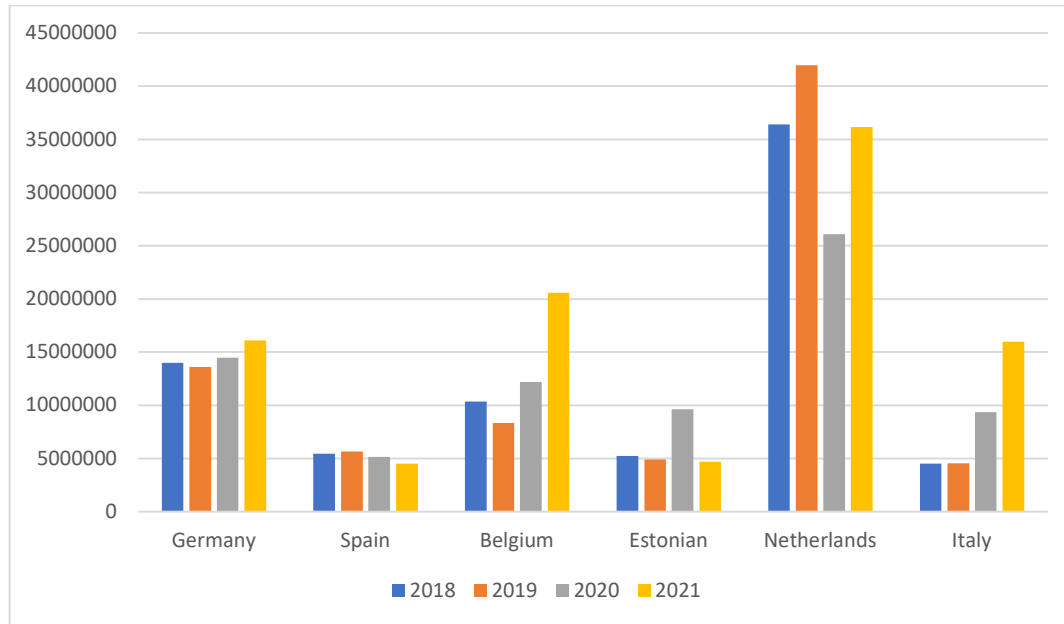
In 2019, experts had great expectations regarding 2020, but without considering the worldwide pandemic that would be harmed large national and international companies. The only way to sustain exports in 2020 and in that period where borders and any type of exports were closed, is to send all that production to Central American and North American territories.

In 2021, cocoa exports continue to rise at a high level. Some countries such as the Netherlands, Belgium, Germany, and Italy have imports that exceed the previous year, having an export in total kilograms to the entire European Union of more than 20 million compared to 2020. In addition, the total income from cocoa exports is USD 940 million, raising the rates of most exports in a year.

The most used subheadings in this period 2020-2021 are: 1801001990 (other beans) with 99.7% in 2020 and 99.6% in 2021; second 1801002000 (roasted cocoa) with about 0.1% in both years and 1801001910 (certified cocoa beans) with less than 0.01% in 2020 and 2021. This shows the importance of these types of beans and their subheadings in the country's exports to other blocks.

Figure 1.

Comparative matrix of cocoa exports in the periods 2018-2019 vs. 2020-2021, in kilograms



Note: SENA, 2021

This graph shows the variation of cocoa exports to major European markets that belong to the European Union.

The Netherlands is the main importer of Ecuadorian cocoa. Its largest import was in 2019, reaching 40 million kilograms imported. This country shows a great need for these beans due to their use in the production of Premium chocolate. Since 2017, there was a 1% increase in production each year, excluding 2020. This is because the inhabitants of this country consume chocolates and cocoa derivatives of the highest quality. The brands Puccini Bomboni, Artichoc, Pompadour Chocolaterie and Salón de Té are recognized chocolates in this territory that require Ecuadorian cocoa to be of good quality (PromPerú, 2018).

Belgium is another country that imports large quantities of cocoa. This region is known worldwide for being the country that exports the most chocolate in the world. Within the country, the average annual per capita consumption of chocolate is 6kg, which positions them as large consumers of this sweet, evidenced by the fact that they have around 2000 producers, including chocolates, cocoa derivatives, chocolate powder, cocoa butter and more (AgroIndustria, 2019). In the year 2021, cocoa exports to Belgium may be observed to increase since this country had to recover losses from the amount of chocolate they did not export because of the COVID-19 pandemic.

Germany is another country that imports the largest amount of cocoa required for the manufacture of chocolates. This market requires quality cocoa with international fair market and social responsibility certifications. In addition, countries both in Europe and around the world are in constant demand for high quality premium dark chocolates that are good for health, so Germany increasingly requires fine and good quality cocoa to produce these dark chocolates (ProColombia, 2016).

Italy is among the countries with more imports of cocoa in these periods due to the extensive culinary culture of this area. In this market, 23 brands of ice cream, popsicles and chocolates use Ecuadorian cocoa, so this product represents a great demand in Italian producers. Brands such as Slitti, Marco Colzani, Venchi,

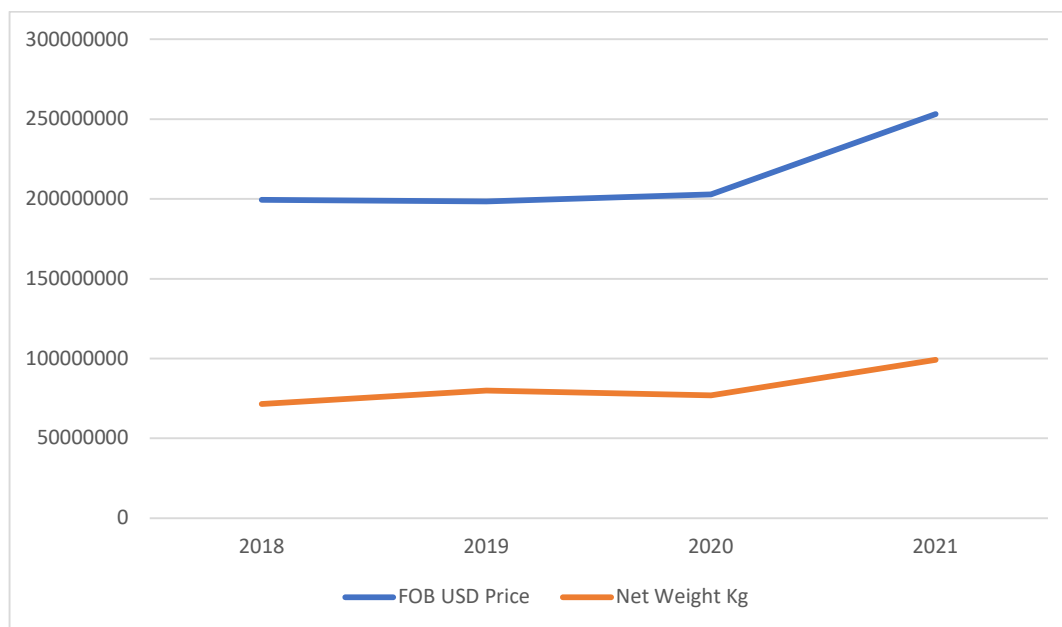
Sabadi, Borgodoro, Sartori, Matú, among others catalog Ecuadorian cocoa as "the best cocoa for production" (Ekos, 2018).

Spain depends on imports of Ecuadorian cocoa as the consumption of chocolates, cocoa derivatives and more, grows over time. The Spanish population consumes in large quantities chocolates in tablets, in bonbons, in pastilles and, the most common, in traditional hot drinks (Miño, 2020). To this is added the new forms of production of these beans, being one of these given by the best young chocolatier in Spain, who is of Ecuadorian origin. With this, many people and companies are more interested in the final products of cocoa, leading this bean to be more used and consumed in this region (Veloz, 2021).

A very small country geographically and demographically as Estonia, is another country that has more demand for the Ecuadorian cocoa bean. Estonia has needed this raw material and derivatives, such as: cocoa beans (raw, roasted, or split), cocoa butter, cocoa powder, and others to produce chocolates, beverages, and liquor (OEC, 2020). The chocolate brand Kalev Chocolate Factory is another reason why Estonia imports a large amount of cocoa from Ecuador, as this chocolate is consumed by a large part of Europe, and they appreciate the high-quality raw material.

Figure 2.

Total exports from Ecuador to the EU in the periods from 2018 to 2021 represented in kg and FOB price.



Note: SENA, 2021

As we can observe in figure 2, exports have a growth. If we compare the pre-pandemic years, 2018 and 2019, they remained stable compared to each other, using as points of comparison the net weight exported each year and the FOB price in dollars. As mentioned, the years 2018 and 2019 broke records with the number of total exports they made in tons and in foreign exchange earnings. The need of countries belonging to the European Union to produce various cocoa derivatives was reflected in the exports and data previously seen from Ecuador.

In the period 2020-2021, it can be seen how the countries of the European Union needed cocoa and, therefore, imports of this raw material increased, since cocoa derivatives were highly sought after the different quarantines. By closing the borders and not allowing exports and imports between European countries, these countries had no way to supply themselves with cocoa and, therefore, did not have enough raw material for production. This led them to buy Ecuadorian cocoa in large quantities, resulting in a trend until 2021.

The graphs show how the net weight represented in kilograms grows every year, reaching a record in 2021 and having high expectations for the following year, 2022. While in monetary amounts it is observed how

between 2018, 2019 and 2020 there is a slight difference. This is because in 2020 cocoa prices had to be lowered for countries to purchase them and thus recover the loss of some months of not being able to sell. In 2021 prices were normalized and, therefore, we can see how another record figure was broken, so we have the same or better expectations for the year 2023.

Cocoa exports between the years 2018 to 2021 make known the importance in Ecuador's economy. The European Union imports around 350 thousand tons per year of Ecuadorian cocoa, and this has a reason. This raw material is considered premium quality for the European market, and this is thanks to several factors. The first is the climate, which is the best for the crop, thanks to the humidity, soil and wind that give a more fruitful result. The variety of Ecuadorian cocoa is another reason for its high quality. The most known and quoted cocoa is the "fine aroma" which is sought after by large companies worldwide, and not counting other types such as the criollo cocoa, the good tasting cocoa paste and the 10 varieties of Ecuadorian Amazonian cocoa. Other secondary reasons would be pest control, care in production, ancestral traditions, good irrigation management, etc. (Gonzalez, 2021).

Another important reason why these exports are relevant is thanks to the Ecuador - European Union trade agreement. One of the advantages of this agreement is the expansion of Ecuadorian markets, such as bananas, oil, tuna, flowers, and cocoa. In addition, this agreement is positive since all these products will be free of tariffs (99% of the Ecuadorian exportable supply), so that there is greater purchase and demand for raw materials at affordable prices (Rodriguez & Lino, 2017). Added to this are many key points and certificates that EU countries require to import cocoa, which are met by Ecuadorian beans. The sanitary and phytosanitary requirements stated in the agreement are:

- Maximum permitted measures of cadmium.
- General hygiene standards in food processing.
- Maximum permitted levels of contaminants in foodstuffs.
- General food safety specifications.

In addition, other requirements are necessary for the export of raw materials, of which those that apply to cocoa are: Food Safety (to safely enter the European Union), Food Hygiene (any food complies with the food sector aspects of sanitation), Acceptable Levels of Contaminants in Food (to ensure that contaminant levels do not harm human health), Maximum Allowable Levels of Cadmium in Cocoa and Cocoa Products (any cocoa derivative must contain less than 0.30% cadmium and in dry cocoa less than 0.50%), General Standards on Food Labeling, among others (Vargas, 2020).

4.1 Exploratory analysis

After conducting semi-structured interviews with experts on the subject, we can analyze that the increase in cocoa exports to the European sector because the time of disembarkation in European ports did not vary. The estimated time of an export by sea in the periods of 2018 and 2019 was between 30 to 35 days. In contrast, in the 2020-2021 periods, this changes to an estimated time of 35 to 40 days. This slight variation is due to the sanitary measures and health controls that raw materials had to pass to leave and enter a country. This shows how the variations are not due to the disease itself, but to the strict controls that cocoa had to pass to enter a European country. This shows how, even during the pandemic period, exports were not adversely affected by the transport issue, and this helped exports to always remain positive.

5. Conclusion

Cocoa is one of the five most important raw materials for Ecuador throughout its history since the Cocoa Boom around 1890. In the twentieth century, Ecuador became the country that exported the most cocoa worldwide and, with this, it became popular and had much more impact. However, other Latin American countries also began to produce and export cocoa locally and worldwide, taking some of that prominence away from Ecuador.

With this, the producers and traders of this Ecuadorian bean began to look for alternatives to highlight their cocoa above the others, mixing different types of beans that were strong against diseases and others with good flavor, thus creating the "Cacao Nacional" and "Fino de Aroma" that caught the attention of many foreign markets.

In addition, the success of Ecuadorian cocoa worldwide is not only thanks to the mixture of different beans mentioned above, but also due to many factors that have improved the quality of cocoa and made it more attractive to the whole world. This has been perfect for the European market, since the countries of this territory have had a need due to the implementation of this product in many chocolates, candies, liquors, medicines, and others.

This improved thanks to the Multipartes agreement between Ecuador and the European Union block, which is giving many benefits to both parties and one of these is: a release of tariffs (99%) on raw materials for any country of the European Union. This agreement came into force in 2017 and the advantages are reflected in the cocoa sector, which in the year after starting this agreement break a record of 2012, reaching a total export of 315 thousand tons of these grains and, in 2019 these figures are raised to 345 thousand tons, having a higher growth compared to 2018 and, with this it is given to understand how this Multipartes agreement benefited the cocoa sector and the commercial economy of Ecuador.

By 2020, there were high expectations for cocoa exports, but the COVID-19 pandemic reduced those expectations to zero. But with the vision that people had about exports worldwide, cocoa companies and producers managed to get ahead regardless of the disease. They first used cultivation strategies for increased production, cultivation, and maintenance of the entire cocoa process. In addition, cocoa prices were lowered to recover losses from cocoa negotiations and to be able to export more cocoa. These strategies were a success and are reflected in the total exports that were achieved in 2020, surpassing with more than 4 million USD in FOB price in 2020.

In 2021, cocoa prices were regularized because foreign trade gradually normalized and with this, the countries resumed the average flows of imports and exports that they handled year after year. This rise in prices did not affect cocoa exports, as European countries sold more cocoa-based products than in previous years. This gave positive figures, reaching exports of more than 20 million kilograms net compared to 2020, with better figures with each passing year.

This shows how cocoa has a stronger market than other raw materials, because it is important for European markets that develop, popular products with this raw material both locally and globally. Some of these are chocolates, cocoa butter, powder, flour, liquors, medicines, etc. As the years go by, the demand for these products has a greater demand and with this, imports of Ecuadorian cocoa by these countries are becoming increasingly large, as seen in the figures above.

Moreover, with all this information, Ecuador took advantage of this trend of cocoa products to start with high quality competitive manufacturing of this grain, having as the best example the Pacari chocolates that are exported to all parts of the world and are consumed by people of power, celebrities, athletes, and others, thanks to its good nutritional and health standards. With this we can conclude that Ecuadorian cocoa is, since historical times, a successful raw material at national and international level. It has high levels of exports and consumption, and for years after 2021, there are great expectations that this premium quality bean will continue to generate large profits for both producers and marketers of cocoa.

6. References

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