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"Analysis of the impact of Covid-19 on Ecuadorian imports in 2020 - Proposal of alternatives in the face of a possible decrease in imported products needed to respond to a pandemic."

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DEDICATION

To my parents, Juan, and Gina, for always supporting me, helping me build my dreams and for their infinite love in every stage of my life.

To my siblings , Gibelly and Diego, for being the ones who fill my days with joy and for being my constant motivation.

To my grandparents, uncles, aunts, and cousins, for their advice and words of encouragement that they have given me along the way.

To Esteban David, for his unconditional love and support.

Josselyn Lisseth González Valarezo.

DEDICATION

To my father and my brother, because there will always be three of us.

Camila Belén Montesdeoca Saldaña.

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ABSTRACT

This research focuses on the analysis of the impact of the Covid-19 pandemic on the education, cultural, labor, and health sectors, but especially on Ecuador's international trade.

Considering the current situation of the Covid-19 pandemic it is evident that the world in general is going through a very severe economic crisis. As a result, the impact of the pandemic on Ecuador's foreign trade, specifically on imports, will be analyzed to determine the effects produced and create alternatives viable that will encourage trade within the country. In this way, the country will be less dependent on imports of products necessary to face a pandemic or similar situations.

The problem of this situation lies in establishing a plan that generates situations for the maintenance of trade and the supply of essential products during the presence of the pandemic and at the same time, the stimulation of the supply and demand of the main products of Ecuador towards the domestic market. In addition to this, it is necessary to analyze the short, medium, and long-term effects that will occur because of this crisis caused by the pandemic. In this way, it is possible to evaluate the feasibility of relying to a lesser degree on imports of essential products. With the problem identified and the study conducted, strategies were identified that by having them in a contingency plan, the country will be able to act effectively and with greater security in some type of comparable situation that may arise in the future.

Keywords: health crisis, foreign trade, strategies, coronavirus.

CHAPTER I

In this chapter we will focus on the topics related to trade and imports in Ecuador, starting with the conceptual part where related terms are defined, followed by the development of theoretical bases from the classical to the New Trade theories currently used by many advanced countries to guide industrial policy and trade.

The importance of analyzing trade is essential for this research work, due to the knowledge it provides on the main needs or demands of nations to choose to acquire products or services that are not produced in the national territory, but in other countries. As previously stated, the well-known term "import" is used to refer to one of the economic activities conducted by different countries to complement their production with goods and services that certain places have, but others do not.

The following are the foreign trade and import terms, respectively:

Foreign trade:

It is the exchange of goods and services across international borders or territories; in other words, it is a basic economic term involving the buying and selling of goods and services, with compensation paid by a buyer to a seller, or the exchange of goods or services between parties, this can take place within an economy between producers and consumers (Resico, 2018).

International trade between different countries is a key factor in raising living standards, providing employment, and allowing consumers to enjoy a greater variety of goods. This has been the case since the first civilizations began to trade, but in recent years international trade has become increasingly important with a greater share of GDP coming from exports and imports, giving greater importance to international trade.

Imports:

Imports are defined as goods produced outside a country's borders, which are then purchased by that country. Imports, together with exports, represent the cornerstone of foreign trade, since a country buys goods from abroad because it cannot produce them itself or because there are comparative advantages to buying them abroad; on the other hand, imports generally subtract growth from the national gross product, although they contribute to welfare, which means that a higher proportion of imports in relation to the Gross Domestic Product (GDP) of a country indicates the degree of dependence of a country on foreign purchases, then the higher the degree, the more imports will displace domestic production so the demand for imports depends on the economic conditions of the purchasing country, as well as the exchange rate and relative prices (Focus Economics, 2018).

According to Ebrahimi (2017), one of the main factors of economic growth in all countries are imports because their importance lies in the formation of the economic structure of nations, which is why governments should focus more on them. As a result, imports are essential for the economy, so they must be analyzed thoroughly and as well as determining their behavior over time to identify their trends, main advantages, and disadvantages as well as how to improve their contribution to generate great benefits.

Considering the definitions and concepts of foreign trade as well as imports, the main theories related to this topic are detailed below:

Classical theory: the principles of a theory of free trade

The evolution of what is now recognized as the standard theory of international trade goes back to the years between 1776 and 1826, which respectively mark the publications of Adam Smith's "The Wealth of Nations" and the "Principles of Economics," the very ones that presage the formulation of a theory of free trade based on

England's unprecedented success in the respective fields of industry and commerce. For Smith, on the other hand, the division of labor in the nascent large-scale industries of his homeland, England, provided the basis for reducing labor costs, which ensured effective competition between countries. Potential dilemmas in terms of the need for monetary adjustments for countries with a continuous trade surplus (with absolute advantage in all traded goods) could be set aside by relying on automatic adjustment, in terms of the price-species flow mechanism (Martinez, 2018).

In resolving the basic premises of a theory of free trade, which Smith had initiated, industrial capitalism in David Ricardo's England was at an advanced stage compared to Smith's time, with both rapid growth of large-scale industries and attractive markets, imports of wage goods played a special role in making them cheaper, thus the cost of labor to industry also declined. Free trade, as opposed to the mercantilist policies of protection, was then advocated by both Smith and David Ricardo as a route to achieving efficiency of production on a global scale, David Ricardo's cost calculations, despite his concern for the introduction of large-scale machinery, were based on labor hours, which were treated as a single homogeneous input with production (in a two-commodity world) subject to constant costs, that was seen as a comparative and not absolute advantage, which was considered necessary and sufficient to ensure mutually lucrative trade between nations, that ensured complete specialization in the specific commodity with a comparative advantage in terms of labor hours used per unit of production (Martinez, 2018).

Analyzing the theoretical contributions by these authors, it can be mentioned that the classical theory of trade sees little basis for trade between similar economies, since it indicates that countries trade to take advantage of their differences, taking into account that the basic idea, which goes back to David Ricardo in 1817, is that each country has a

comparative advantage in the production of different goods, some goods can be produced more cheaply in different countries and this gives rise to profitable opportunities for trade. According to David Ricardo's theory, each country will specialize and export those goods in which it has a comparative advantage derived from differences in technologies. The theory does not explain why countries have access to different technologies since it is assumed that they do. Instead, comparative advantage arises from different relative factor endowments, so that capital-abundant countries specialize in and export capital-intensive goods and labor-abundant countries specialize in and export labor-intensive goods.

Resourcing as a basis for free trade doctrines

According to Alvarez (2015), the balancing act between the forces of supply and demand was conducted by the Austrian school with its notion of opportunity cost, defined in terms of the utility of foregone consumption. This provided the basis for the free trade doctrine, in conjunction with the use of marginal rates. Simultaneously, the foundation was laid for the advocacy of free trade as Pareto's optimal, rather than based solely on comparative supply costs, thus ensuring optimum rates of production, consumption, and exchange (trade) for the two trading nations in equilibrium.

This version of the neoclassical theory of trade has continued to have a special appeal to economists who make the case for free trade on the basis of global optimization of productive efficiency, consumption, welfare and the automatic utilization of factors of production at full capacity, the returns to the two factors of production including labor and capital were at levels proportional to their respective material contribution valued at market prices; unlike the Ricardian paradigm, where the cost of supply measured in labor hours was the determinant of trade advantage, consumer preferences for goods were as important as supply factors in determining the price competitiveness of goods for trading nations (Alvarez, 2015).

In turn, it can be mentioned that the theorems derived from this theory of free trade doctrine include, in addition to factor price equalization, a corollary that relates protection and real wages; that is, in terms of the above, the scarce factor in the trading nations will be lost under free trade under factor price equalization, thus labor, considered as the scarce factor of production, was considered to benefit from protection and not from free trade.

Theory of overlapping demand: new role of demand in trade theory.

Deviating from supply-side explanations of the pattern of trade in the literature, in 1964 a Swedish economist, Staffan Linder, offered an alternative explanation of the pattern of trade in terms of "overlapping demand"; representative demand in trading nations for a variety of goods normally demanded at the respective per capita income determines, according to Linder, the viability of trade between nations (Ibarra, 2016).

To produce and trade, representative demand in the respective countries must overlap the range of goods that are produced and consumed in common. In terms of the above interpretation of trade, it is demand and not supply that takes center stage as an explanation of trade. Linder's notion of trade overrides the previous emphasis on supply-based explanations of trade in terms of comparative cost or factor endowments, rich in potential to explain intra-industry trade, product differentiation (or "sophistication," as Linder puts it), or even South-South trade in recent years, the theory, however, was neglected in the literature (Ibarra, 2016).

New trade theory restructures free trade doctrine

Due to the limiting assumptions of the old trade theory, the rigid framework of trade theory began to be questioned from different perspectives. In contrast from the old trade theories, the new trade theory attempted to introduce economies of scale in production. An important aspect raised in these modifications included the impact of

increasing returns to scale on the pattern as well as on the mutual benefits of international trade, a related point concerned firm size and market structure, which were intricately linked to economies of scale (Jimenez & Lahura, 2019).

To appreciate the implications of economies of scale as mentioned above, it is necessary to note the related problem of imperfect markets. Products, especially under monopolistic competition, are likely to differentiate, generating further deviations from a competitive model. In total, the three deviations (consisting of economies of scale, imperfect markets, and product differentiation) that differentiate these from the old trade models that completely negate the model's ability as a predictor of the pattern of trade across nations based on commodity and factor prices prior to trading (Jimenez & Lahura, 2019).

As mentioned above, increasing returns, if related to internal firm economies of scale, were found to be incompatible with competitive equilibrium. This is because producers that work with internal economies of scale can influence the market by exercising control over prices and market share. This could result in monopolistic, oligopoly or monopoly competition.

History of Ecuador's imports

Beginnings of imports

Ecuador began importing in the 1960s, representing 11.32% of its GDP, which is approximately US$114 million. According to information provided by Falconí in his work "La Economía ecuatoriana", 2004, the import process began at the end of the 1960s, when a group of entrepreneurs began to take advantage of the opportunities offered by obtaining the resources that they could not obtain in the national territory in another country in exchange for inputs such as materials for the manufacture of clothing or

ingredients to make food that they would not obtain in the country, but which were used to start working with the raw materials provided by Ecuadorian soil (Falconí & Oleas, 2004), which is why this activity became very successful and turned into a highly profitable business.

Like many other developing countries in Latin America, Ecuador followed an outward-oriented growth model, i.e., marketing began to occur between countries and not only within their territories. This pattern prevailed from the second half of the nineteenth century until the mid-1960s where foreign trade had a meaningful change when industrialization by import substitution began to be pursued; that is, to decrease acquisitions from other countries and start manufacturing their own with the implementation of industries and factories (Madrid, 2018). With this, it could be determined that in the following decades there was a moderate growth of the economy and the inclusion of new inputs such as the production of goods that were previously imported and were now manufactured in the country and at the same time the expansion of the domestic market was achieved.

As stated by Madrid (2018), after the well-known situation where oil prices shot up there were both positive and negative consequences. In the case of the positive changes a greater dynamism was generated in the economy just as the interaction increased with the foreign market. On the negative side important side effects were generated such as a debt crisis in 1982 linked to the decline of industrialization by import substitution and external shocks such as economic affectations to the main countries from which it is imported; a boost in population growth, and an increase in demographics means an effect on the economy causing it to be divided for more inhabitants. The combined result of these two side effects was a period characterized by the recession and impoverishment of the 1980s for both the public and private sectors; then, in the early 1990s, the relatively

favorable condition of the international financial system and the export boom, as the economy was boosted by international trade, especially in flowers and tropical fruits, activities that generated a stability in poverty levels. However, this period of relative prosperity ended with a new depression caused by the recent fiscal crisis because of the global pandemic known as COVID-19.

Main products imported

It is important to determine the country's main imported products to be able to distinguish the country's economic behavior and whether these have been constant during the periods analyzed. This is important to learn about the country's economic development and predict its behavior in future projections.

Ecuador has made many imports as well as exports, but the difference between Ecuadorian imports and exports lies in the type of products that are imported, which are mostly used to work the raw material produced in national territory or for the use of these goods for final consumption. According to the OEC- Conformity Assessment Body, in 2018, Ecuador imported a total of $23.1 million dollars, being the 72nd importer worldwide. The main products that are imported during the period corresponding to 2017 and 2018 are mentioned below.

Ecuadorian imports from 2018 and 2019 were led by Petroleum or Bituminous Mineral Oils ($2.89MM), Oils and Other Products of the Distillation of Coal Tars… ($1.31MM), Automobiles and Other Vehicles, Automobiles designed principally for the transport of persons ($1.15MM), Medicine consisting of mixed or unmixed products, preparations for uses ($554M), and Petroleum Gas ($514M). Ecuador's main import partners are the United States ($5.31MM), China ($4.11MM), Colombia ($1.86MM), Panama ($1.06MM), and Brazil ($920M) (OEC, 2018).

According to INEC (2020), the structure of imports to Ecuador in 2019 were represented by the following main groups of commodities: those corresponding to mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes represent the most purchased goods or inputs by the Ecuadorian territory, representing a total of 21% of the imports made, which in monetary terms would correspond an approximate of 4.37 billion dollars. The imports that follow are nuclear reactors, boilers, machinery, and mechanical devices, which represent 10.7% of imports or 2.17 million dollars in monetary terms, respectively.

The next most imported goods are vehicles other than railroad or tramway rolling stock, their parts, and accessories, as well as machinery and electrical equipment and their parts; sound recorders and reproducers, image and sound recorders and reproducers, and parts and accessories of such items, representing 7.1% and 6.19%, respectively. Moreover, plastics represent 4.95% of imported goods and pharmaceutical products represent 4.77% (INEC, 2020).

As for residues and wastes from the food industries; prepared animal feed, these comprise approximately US$824 million, which in percentage terms represents 4.06%. The rest of imported products include iron and steel, miscellaneous chemical products and iron or steel manufactures, which represent a contribution of 3.34%, 2.44% and 2.06% respectively (OEC, 2018).

Main trading partners

According to the OEC (2018), the three main trading partners of Ecuador in terms of imports are the United States, followed by China and finally Colombia. Below the top trading partners or main sources of imports from Ecuador in 2019 are detailed: the United States represents the biggest percentage with a share of 21% which in monetary units represents approximately 4.39 million dollars, followed by China with a participation of

18.9% representing 3.83 million dollars; the next country in the list of imports is Colombia with 7.87% participation representing a total of 1.59 million dollars. After these countries are those with a percentage of less than 5% of import representation which are comprised by Panama, Brazil, Peru, Mexico, Japan, Spain, and Korea.

Trade restrictions

Trade restrictions are classified as obstacles or barriers that a country places on imports of goods or services from other countries, with the purpose of protecting the domestic market from competition in international markets or boosting exports to control inflationary levels that may arise in the domestic economy.

Ecuadorian imports have faced several restrictions or barriers that have been imposed on goods or services coming into the Ecuadorian territory according to the World Trade Organization (2019). According to the OTC each of these restrictions originated because of a decrease in imports for the year that they came into force; that is, during 2013 imports represented 28.54% of the GDP conformation, for 2014 this decreased to 27.26% demonstrating the effects that restrictions have on international markets.

- **Resolution 116 - Product certificate**

  Ecuador's Foreign Trade Committee (COMEX) issued Resolution 116 on December 4, 2013. This resolution restricts U.S. imports of a variety of products by requiring commercial entities to obtain certificates of recognition to demonstrate that their products meet the criteria of Ecuador's technical regulations. Stakeholders expressed concern that Resolution 116 and the various technical regulations may be intended to address Ecuador's trade balance rather than address legitimate health or safety concerns.

According to the World Trade Organization (2017), it has been reported that some Ecuadorian government officials claim that these measures are part of Ecuador's import substitution policy. Resolution 116 was not notified to the WTO before it entered into force, and as a result it had not been approved to be imposed as a restrictive measure on imports. As a result of Resolution 116, exports to Ecuador of certain products decreased drastically in 2014.

On June 3, 2014, the Minister of Industry and Productivity (MIPRO) signed the MIPRO Agreement 14241 creating an exception to Ecuador's technical regulations under Resolution 116 for products of EU origin. Agreement 14241 establishes that products of EU origin may be imported with only a sworn statement from the importer that the product complies with Ecuadorian technical regulations and, therefore, waives the requirement for a certificate of recognition. At the time this agreement was issued, Ecuador was negotiating with the EU to join the Multiparty Trade Agreement between the EU, Colombia, and Peru.

On November 7, 2014, the General Secretariat of the Andean Community issued Ruling 003-2014 against Ecuador alleging that it was in partial breach of the Cartagena Agreement because MIPRO Agreement 14241 granted more favorable treatment to products of Community origin, those that are jointly requested by members of a community than to those from Andean Community countries. The ruling requests that Ecuador immediately extend preferential treatment to products imported from Bolivia, Colombia, and Peru.

- **Processed foods - Nutrition labeling requirements.**

As of November 29, 2014, all processed food products were required to comply with Executive Decree No. 4522, which was issued in November 2013 by the

National Agency for Regulation, Control and Health Surveillance (ARCSA), an agency of the Ministry of Health. The decree requires processed and packaged food products to include a label as established in the technical regulation RTE-INEN-022.

The Executive Order establishes several new labeling provisions. Labels must include a set of colored bars, commonly known as traffic light symbols that reflect low, medium, or high salt, sugar, and fat content. For food packages smaller than 14.4 cm, the icon is not mandatory, but a warning message stating, "For your health, reduce consumption of this product" is required. A warning statement is also required for foods containing less than 50 percent of "natural" content. Ecuador defines a "natural food" as "a food as it exists in nature that has not been transformed." Despite concerns raised by many trading partners both bilaterally and within the OTC Committee of the WTO, the Executive Decree entered into force in August 2014.

- **Mandatory labeling of biotechnology-derived foods.**

As of August 29, 2014, products containing at least 0.9 percent GMOs must display a label with the statement "contains GMOs" according to technical regulation RTE-INEN-022. The United States has engaged bilaterally with Ecuador on this issue, including on the margins of the OTC Committee of the WTC meeting in October 2013. The United States requested clarification on how the "access to compliance testing" and "demonstration of compliance" will be conducted with respect to mandatory labeling of transgenics. The United States will continue to engage Ecuador to address biotechnology-related concerns.

- **Sanitary and phytosanitary barriers.**

All agricultural imports require an SPS certificate issued by Ecuador's animal and plant health service (AGROCALIDAD). Importers complain that the certification

process is lengthy and difficult. They also complain that the certification process lacks a scientific basis and is at odds with the World Animal Health Organization, Health Commission, and Codex Alimentarius standards, and is used to block imports that compete with domestic production of meat, dairy, and vegetable products.

COMEX Resolution 019, issued on September 10, 2014, mandates that AGROCALIDAD require an SPS certificate for processed agricultural products, including low-risk (cooked) products. Ecuadorian customs officials began enforcing Resolution 019 on October 9, 2014. Importers of U.S. products, especially U.S. fast food franchisees, reported delays in import processing caused by confusion among government agencies on how to enforce the resolution and by officials intentionally delaying the entry of imported products as part of Ecuador's import substitution policy.

Conclusion

With the information presented in this chapter the theoretical basis and relevant data to the study of this research has been established, which allows a better understanding of the issues that will be addressed in the following chapters. Likewise, this information will allow for the proposal of a strategy that will help the country to better prepare for a situation such as the one caused by the Covid-19 pandemic.

CHAPTER II

IMPACT OF THE PANDEMIC ON IMPORTS

Border closures

The rapid spread of COVID-19 and the measures taken by governments to contain it have had profound consequences on the world's major economies. Many productive activities have been disrupted, first in Asia and then in Europe, North America and the rest of the world, and there have been widespread border closures. This has led to a sharp increase in unemployment, especially in the United States, since keeping the borders closed has resulted in a reduction of international demand for goods and services and therefore economic income decreases, forcing entities such as small, medium, or large businesses to reduce operating personnel to continue their activities or otherwise close and leave their employees unemployed (Servicio Ecuatoriano de Normalización, 2020).

In this context, it was expected for the world GDP in 2020 to record its steepest contraction since World War II. In this context, the volume of world merchandise trade fell by 17.7% in May 2020 compared to the same month in 2019. The drop in the first five months of the year was widespread, although it particularly affected exports from the United States, Japan, and the European Union. The economic contraction in China was less than the global average since it managed to control the virus and quickly reopened its economy. Latin America and the Caribbean is the most affected region.

On Saturday, March 14, 2020, the Ecuadorian government announced the closure of its borders to all foreign travelers due to the spread of Covid, after local authorities confirmed a second death due to this virus. Vice President Otto Sonnenholzner, in a televised statement, said that all air, land and sea travel to the Andean country will be banned. He stated that all Ecuadorian citizens and foreigners with Ecuadorian residency

would have until the end of Monday, March 16, 2020, to return (Servicio Nacional de Aduana del Ecuador, 2021).

In addition, other preventive measures were taken early in the pandemic during March and April 2020, such as those detailed below:

- The prohibition of mass events with more than thirty people in cinemas, parks, and gyms, as well as religious ceremonies due to the oncoming Easter holidays.
- Partial closure of border crossings, except for the Huaquillas, Macará and Zapotillo crossings from the south and the San Miguel and Puerto el Carmen crossings on the northern side.
- The protocol for handling dead bodies was expanded, making cremation mandatory for the bodies of victims who perished because of COVID - 19.
- For public transportation units nationwide, a disinfection process was implemented every three hours, which was established under the stipulation of a manual.
- Visits to geriatric centers were completely prohibited nationwide.
- A 14-day isolation period was established for foreigners and Ecuadorians who traveled to the Galapagos Islands.
- Domestic transportation of products and national production was uninterrupted, which guaranteed the country's supply.
- A mandatory 14-day quarantine for travelers from China (Guangdong and Hubei), South Korea, Spain, France, Italy and Iran, United States was imposed
- Mandatory preventive quarantine for all Ecuadorian or foreign travelers upon entering the territory (Inter-ministerial Agreements No. 001 and No. 002 signed

by the Minister of Government and the Minister of Foreign Affairs and Human Mobility).

- Closure of border crossings (March 14, 2020).
- Total suspension, as of 12:00 noon on March 17, 2020, of commercial passenger flights from international destinations to Ecuador (Inter-ministerial Agreement No. 003).
- Mandatory 14-day quarantine and presentation of negative COVID-19 test from an accredited laboratory within a maximum of 48 hours prior to entering the Galapagos Islands as of March 17. Restriction of visitor access to the Galapagos National Park and Marine Reserve (Resolution No. CGREG-ST-2020-0465-R).

Like Ecuador, in the presence of the pandemic, many others closed their borders, significantly affecting the world economy, some of these countries and their first restrictions in the presence of the pandemic are detailed below:

- Estonia: since April 2020, indoor events, and facilities where training of any kind was held were completely banned. In the case of outdoor events, they could be held with a maximum of ten people. The establishments authorized to attend were closed at 18:00 hours and the entry of foreigners into the country by any means was completely closed.
- Georgia: as of May 12, 2020, the state closed its borders for those countries whose population were considered as highly contagious. The country also ordered total isolation for confirmed or suspected Covid-19 cases. Social distancing was also requested and a hotline was activated for notifying those who were infected or who have been in contact with others with a confirmed Covid diagnosis.

- Guatemala: despite being one of the countries with the least number of cases at the beginning of the pandemic, as of March 13, 2020, when the first case of infection occurred, the entry of citizens from European countries as well as from China, Iran and South Korea was prohibited. Also, all types of gatherings and public events were canceled, and public schools and universities were also closed. As a preventive measure, a 12-hour curfew was applied starting at four o'clock in the afternoon.

- Iceland: in Iceland, the measures were not so rigorous since the situation was controlled from the beginning, only meetings involving more than twenty people were suspended and there was a partial closure of educational institutions.

- Lebanon: Considering the refugee situation in the country, imposing measures to act against the coronavirus was not an easy task since it was complicated to deal with social distancing and the acquisition of medical supplies because of the strong economic crisis that the country was going through since before the pandemic. Its preventive measures included confinement and closure of educational establishments.

- Lithuania: as of April 13, 2020, Lithuanians were prohibited from leaving their homes, except for exceptions such as for the purchase of necessities, all establishments that were not considered essential were also closed, and meetings between people from different households were prohibited.

- Madeira: On August 1, 2020, the use of masks in both public and private spaces, social distancing of two meters between people, and hygiene protocols were established as mandatory measures.

- Moldova: since April 17, 2020, when the first cases were reported, the country closed its borders as an immediate measure to stop the spread of the disease and partially confined the most affected sectors.
- Montenegro: On May 11, 2020, in this state the free circulation of vehicles was limited and educational institutions and nonessential centers were closed, in addition to requesting the mandatory use of masks.
- Nepal: after the first two reported deaths due to the virus, as of May 18, 2020, the country established confinement for citizens and total isolation of those places where the first victims had been reported.
- Poland: the impact in this country was so severe that as of April 29, 2020, a quarantine was established until the end of May of the same year, which included the total closure of borders and strict control of outbreaks.
- Romania: as of April 2020, with the first cases identified, this country decided to close its borders to travelers coming from infected countries and adopted internal restrictions that prevented events of any kind and a partial confinement during the first weeks of exposure.

With the creation of tests and vaccines designed to act against COVID-19, the restrictions established both by Ecuador and by the rest of the world changed completely, which are:

- In Ecuador, measures changed gradually after a year of the pandemic, these consist of presenting RT - PCR tests as a requirement to enter the country from anywhere, there is also the implementation of pilot plans for the return to in person classes. However, maritime and land borders remain closed as well as

entertainment centers and regarding safety measures, social distancing and protective rules are established, especially at beaches and meeting places.

- Estonia: Travelers may enter with a valid vaccination certificate or a vaccination passport presented in English, Russian or Estonian. It must include details of the origins of the vaccinations and other details, including when and where they were issued.
- Georgia: Visitors may enter by air with proof of having completed any COVID-19 vaccine. Unvaccinated travelers may enter if they present a travel history in advance by presenting a negative PCR test taken within 72 hours prior to travel and performing an additional PCR test at their own expense on their third day in Georgia.
- Guatemala: Travelers may enter with one of the following: a COVID-19 vaccination certificate showing that the vaccine was administered at least two weeks prior to arrival, a negative COVID-19 test taken within 72 hours of arrival, or proof of having tested positive for COVID - 19 and recovered within three months of arrival.
- Iceland: Fully vaccinated travelers (including those from the U.S.) may enter Iceland without the need to be tested or quarantined. However, travelers from outside the European Economic Area and Switzerland are not allowed in if they have not been vaccinated and must pre-register and undergo two tests after arrival, as well as quarantine for five days between the two tests.
- Lebanon: vaccinated travelers may enter Lebanon but must still present a COVID-19 PCR test taken within 96 hours prior to travel, as well as a second test upon arrival, however, they will be exempt from quarantine. Beginning Thursday,

January 7, 2021, travelers arriving in Lebanon must take a PCR test at Beirut International Airport upon arrival prior to a one-week quarantine. The first 72 hours of quarantine must be spent in a hotel approved by the Government of Lebanon. Only when the traveler receives a negative test result can they move to their accommodation where they must continue in quarantine before another PCR test (to be arranged by the traveler) one week after your arrival. When both tests are negative, you may be released from quarantine. Depending on where you are traveling from, requirements may differ. Check with your airline for the most up-to-date information.

- Lithuania: Travelers with proof for bring fully vaccinated against COVID-19 may enter without testing or self-isolation. This form must be completed upon arrival.
- Madeira: Travelers may enter if they can prove they have recovered from COVID-19 within the last 90 days or have proof of vaccination. Documentation in English must be sent to madeirasafe.com before travelers visit the island.
- Moldova: travelers arriving with a COVID - 19 vaccination certificate can avoid the 14-day quarantine. Those that arrive from countries on the red list (which is updated every two weeks) are still prohibited from visiting this country.
- Montenegro: fully vaccinated travelers can now skip testing and quarantine arrangements in Montenegro. The second dose of the vaccine must have been received at least seven days prior to arrival. Entry to Montenegro is subject to restrictions depending on your country of residence and where you are traveling. To see which countries are on the green or yellow list, the government of Montenegro periodically updates this page.

- Nepal: All tourists entering Nepal must present the following documents: 1) Negative PCR report taken within 72 hours of boarding OR a document showing full COVID-19 vaccination; 2) Visa for Nepal OR letter of recommendation from the Department of Tourism or Nepal Tourism Board to engage in tourism activities within Nepal; 3) hotel booking confirmation or accommodation guarantee; 4) Proof of travel insurance covering emergency search, rescue, treatment, among others, for the duration of their trip; and 5) Barcode generated from the online International Travel Arrival Form online application.
- Poland: Travelers who are fully vaccinated can enter without quarantine for 10 days and quarantine can also be avoided if a negative COVID-19 test is presented. From March 27 through April 9, there are tighter restrictions nationwide. Facemasks are mandatory in open public spaces and in all enclosed spaces and on public transportation. Public gatherings are restricted to five people. Restaurants, cafes, and pubs are closed and can only provide a pick-up/ home-delivery service. As of December 28, all travelers entering Poland by public transportation must self-isolate for 10 days unless they can present a negative COVID-19 test certificate issued within 48 hours before crossing the Polish border.
- Romania: There are less restrictions for travelers with proof of bring fully vaccinated if both doses were received more than 10 days prior to arrival, thus avoiding the need for self-isolation. Arrivals from countries with a high rate of COVID-19 infection should self-isolate at home or quarantine for 14 days. Travelers from countries with a lower or equal rate of COVID-19 transmission in comparison to Romania in the past 14 days may enter without any issues.

Considering the COVID-19 measures implemented to counteract the spread of virus, the following shows the main effects that Ecuador has had during the presence of

the pandemic in different sectors according to the Technical Secretariat Planifica Ecuador (2020), which are detailed as follows:

Education

The information provided by the National Education System includes preschool, elementary and high school, and higher education. Government institutions were responsible for collecting, processing, and analyzing the information, as well as reflecting on the results, findings, needs and strategies. Between March and May 2020, a loss of $264.40 million was estimated for the entire Ecuadorian education system, of which 93.3% corresponds to the private sector. The cause of these losses was that private entities did not receive income because of the suspension of educational activities with the closing their institutions, and in the case of public institutions, since their facilities are not equipped, they will not receive funds issued by the government for their operation.

53.3% of households in Ecuador (4.7 million) have at least one member under the age of eighteen in need of educational services. Ecuador has 4,337,414 students enrolled in the school systems of the Andean and Coastal region (MINEDUC, May 31, 2020). Coverage of basic education (from kindergarten through tenth grade) is almost universal, with slight setbacks in the last four years. In the three years of the secondary cycle, the situation has improved since 2008 and has maintained rates close to 70% during the last four years.

- From March to May 2020, 114 people in education sector died, including students, teachers, and professionals of the Student Guidance Departments. The pandemic required approximately 4.5 million minors to switch to the distance learning (53% of the households in the country). This form of schooling drastically alters the teacher-student-home interaction.

- Four out of ten children have access to the Internet and exclusive availability of a computer or tablet. The Ministry's educational offer decreased in the early childhood family care service, especially in the Coast region (from 9,660 children in 2019-2020 to 676 in the 2020-2021 cycle) due to the separation of teachers.

Tourism

Prior to the COVID-19 pandemic, the tourism sector was growing in Ecuador and the world. The World Tourism Organization (UNWTO) estimated growth between 3% and 4% worldwide in 2020, and growth was also expected in Ecuador. In 2019, the tourism sector generated almost $ 2.3 billion (2.24% of Ecuador's GDP that year), including $956 million from March to May. According to information from the Ministry of Tourism's "Registry of Tourism Establishments", as of December 2019 there were a total of 24,257 registered establishments, of which more than 98% were MSMEs.

The quarantine imposed on March 16, 2020, reduced the mobility and concentration of people to a minimum, thus paralyzing tourism throughout the country. The Ministry of Tourism issued five protocols for the management of suspected cases of COVID-19 in tourism businesses, three protocols for the reactivation of the sector (tourist transport, travel agencies, mountain guides) and a guide for tourism establishments in rural areas, along with the implementation of a virtual channel for attention to tourism businesses.

- ● Between March and May 2020, net sales in the main branches of the tourism sector decreased by 62.85%. The net impact would reach $584.98 million, of which 36% corresponds to food and beverage services and 34% to passenger

transportation (Government of Ecuador, 2020). It should be noted that this information is summarized in Appendix A.

- With the closure of tourism activities in the country, the Ministry of Tourism provided free lodging to returned Ecuadorian citizens in quarantine hotels in compliance with the Mandatory Preventive Isolation measure at a cost of $20,596.95 in addition to the lodging and food service expenses covered for approximately 4,257 people during the period from March to May 2020.

Transportation

The Ministry of Transportation and Public Works (MTOP), as the governing body of transportation in the country, is responsible for issuing guidelines for land, air, maritime and river transportation. Between March and June 2019, international air traffic recorded 726,491 arrivals and 738,217 departures; maritime transportation recorded 3,335,088 MT in imports and 4,064,242 MT in exports; and land border traffic recorded 17,099 tractors and 817 trucks. During the first two months of 2020, the domestic transportation sector recorded a 2% growth and the international sector a 10% growth. Approximately 90% of the population uses public and commercial land transportation.

With the declaration of the state of emergency, free transit was suspended except for public transportation, transportation of essential health, risk and emergency workers, police and military security transportation, and vehicles determined by the COE-N. The MTOP restricted circulation according to the last digit of vehicle license plates and established the driving pass mechanism to authorize the circulation of vehicles of specific branches of production and services. The GADs suspended the intra-cantonal urban public transportation service. The cantons of Cuenca, Ibarra and Cayambe established bicycle lanes as a transportation alternative.

- Between March and May 2020, losses in the transportation sector are estimated at $714.22 million, of which 90% corresponds to the private sector. The largest losses are concentrated in land and air transportation.
- From March 20 to May 25, 2020, the suspension of all toll operations generated economic losses of $33.45 million, with repercussions on planned maintenance, expansion, and rehabilitation repairs. The suspension of commercial transportation service generated losses of $562.39 million.
- The closure of passenger air transportation service resulted in losses of $114.09 million. The cancellation of cruises and the reduction of cargo shipping generated losses of $4.30 million.

Commercial restrictions

Regarding the trade restrictions implemented in Ecuador in the presence of the sanitary crisis, measures were established for the domestic trade sector as well as for foreign trade with the main supplier markets (ECLAC, 2020).

- Opening of businesses only for established times and with limited capacity, in other words, with a maximum number of customers in their establishments.
- Complete closure of borders preventing external commercialization as of March 2020 and by September of the same year, access began to be regulated little by little, however, these have not been fully enabled.
- Closure of all establishments whose economic activities are not considered essential, such as those not related to health, food, or transportation. As of August 26, 2020, these measures began to gradually cease.
- Inter-cantonal and inter-provincial transportation was suspended, preventing commercial communication with other establishments or external cities; by

June 2020, transportation between cantons and provinces resumed with certain limitations.

- Total restriction of imports from high-risk countries, these measures began to be lifted as of October and November 2020.
- Closure of land border crossings and cancellation of orders requested from the international market; starting in September, the borders were gradually opened.

With the measures implemented on both domestic and international trade, the flow of trade decreased, significantly affecting the economic stability of the country, and putting the continuity of commercial activity in the national territory at risk, specifically those industries that depend to a substantial extent on imported raw materials, such as petroleum derivatives or the use of imported steel for the manufacture of various products.

It is concluded that the events caused by COVID-19 affected Ecuador due to the reduction of international trade flows with its main trading partners, in addition to the considerable drop in oil prices, which makes Ecuador vulnerable.

Changes in the products and quantities sold

The following are the main changes in terms of the products traded by the country both internally and externally (ECLAC, 2020).

- As presented in the Oil Sector Report by the Central Bank of Ecuador (2020), the Ecuadorian oil production for the first quarter of 2020 totaled 48.90 million barrels, which on a daily average represents 537.31 thousand barrels, remaining above the recent result of the fourth quarter corresponding to 2019 by 3.7%; exports in this quarter stood at a total amount of 34.92 million barrels which in monetary terms represents an amount of $1. 327.35 million at an

average price of $38.01 per barrel. This information is summarized in *Appendix D.*

Following this, in the second quarter oil production decreased by 34.3%, resulting in 32.12 million barrels produced, as well as exports which dropped to a total of 26.84 million barrels with a total of $724.71 million at an average price of $27 per barrel. Finally, for the third quarter of 2020 oil production rose again, standing at a value of 47.49 million barrels with a daily production of approximately 516.20 thousand barrels, increasing percentagewise by 46.2% to the previous quarter, while exports rose to an amount of 35.35 million barrels with a total value of $1,297.59 million at an average price of $36.71 per barrel.

The fall in oil prices seriously compromises the country, leaving it in an overly complex situation, since it is heavily indebted to the International Monetary Fund and at the same time is exposed to the risk of political instability if subsidies or social programs are cut.

- Ecuador's non-oil exports has remained the same during the crisis despite the reduction in orders in April. The main exported items are bananas and shrimp and at the beginning of the COVID19 crisis these sectors managed to put their products in international markets, although in April it was a bit complicated and there has been a reduction in some products of approximately 8.2%, but these are the ones with the highest performance.

  The data presented are summarized in *Appendix E.*

- The demand for tuna and canned goods has risen to more than before the pandemic, especially in Europe because there is a product shortage, in addition to cocoa, despite the international fall in prices, the export volume maintained.

- Fresh cut flowers: The flower market at the national level remained stable during January and the first days of March 2020, yet, with the sanitary emergency, the flower market collapsed. Since May there have been some shipments for Mother's Day but the sector still operates at a 10% or a 20% capacity. Exports of this product are around 60 and 70 million dollars per month under normal conditions, but now between the second half of March and the first half of April 2020 they have decreased to about ten million dollars. The data presented are summarized in *Appendix F*.
- Ecuadorian banana exports increased in the first quarter: During the first quarter of 2020, Ecuador's banana exports grew 9.92% compared to the same period in 2019, a total of 104,731,409 boxes were shipped according to figures provided by the Ecuadorian Banana Exporters Association. Its main destination for exports was the Middle East, with an increase of 30.04% in 2020. Meanwhile, Turkey experienced a 50% increase in its banana imports in February 2020 versus 2019 in the same month. The data presented is summarized in *Appendix G*.
- Shipments of fruit towards the European Union increased during 2020, by 13.23% compared to 2019, shipments corresponded to almost five million boxes. The data presented is summarized in *Appendix G*.
- On the other hand, the United States and China decreased their total imports during 2020 by 5.51% and 6% correspondingly compared to 2019. This drop is estimated to be a consequence of the effects of the coronavirus in both countries. The data presented is summarized in *Appendix G.*
- Another point to analyze was the concern generated in egg producers by imports of agricultural inputs, since micronutrients are essential elements for

poultry nutrition that help prevent diseases. The import of this raw material is of concern to the Association of Egg Producers of Ecuador, currently producers are working with the stock that suppliers had before the pandemic since imports are taking longer than expected, they hope that there will be no shortage of this raw material.

- One of the major producers of iron and vitamins as raw material for micronutrients is China, delays are now beginning to have an impact in Ecuador. It is expected that prices in imports of these micronutrients in the country will increase when the inconveniences that generate delays are overcome.
- There have also been delays in exports from Ecuador of other goods such as soybeans and corn, but since the corn harvest began in April, the country must wait to know how many tons will be harvested in the warehouses.
- In the case of imports of medical products in 2020, during the first quarter 8% represented total non-oil imports which is more than 1400 million dollars, of which approximately 750 million dollars correspond to medicines. Meanwhile, the participation of medical supplies was 21%, and the remaining 29% corresponds to personal protection products and medical equipment. These figures when compared with the 2019 results that represented 5.7% of total imports. It should be noted that for the following year the demand for these inputs increased, giving way to the increase in imports. The data presented are summarized in *Appendix H*.

The impact on the local and international trade sector has been so strong that the economic situation of the country is completely destabilized and although certain prevention measures are still in place because of the pandemic, certain commercial

sectors have been enabled to contribute to the process of boosting the economy, although this is developing slowly.

Impact on health care

According to the World Health Organization (2020), the pandemic has had a significant impact on health care, such as the saturation of medical units with an uncontrolled number of patients because of the elevated level of infection of the virus, as well as the loss of lives of doctors and other members of the frontline team to address the precarious health of patients.

On the other hand, the demand for medicines and other pharmaceutical products increased so much that there were shortages of these products in stores, leaving many citizens without access to protective means or supplies such as masks, surgical gloves, rubbing alcohol, and others in the face of the pandemic.

Additionally, imports of medical supplies are also considered as an economic activity that was in constant growth in Ecuador. This activity consists of the acquisition of any instrument, device, utensil, implant, or reagent that contributes to the functioning of medical equipment or complements the health protocol. This import activity increased significantly from May 2020 with the presence of the Covid-19 pandemic increasing by 24% compared to the figures presented in May 2019. This applied to the public sector, since for the private sector the sanitary crisis caused companies that imports medical supplies to face obstacles because of the transportation limitations due to the restrictions of free circulation throughout the country, as well as the new provisions imposed on the main international suppliers of this type of products such as the closing of borders and cancellation of orders, thus hindering sales.

Impact of remote work and education

Considering the pandemic's effects in all areas of society, it has especially impacted aspects related to education. Confinement has generated a strong and direct impact on student academic performance, teaching performance, life satisfaction, resilience to act in the face of events with unknown causes and unpredictable effects, both in the emotional and physical state, as well as in social interaction.

Considering that the measures of access to education currently depend on the main streaming platforms for virtual classes, it has resulted in a decrease in the levels of knowledge and in the same proportion of physical activity, which in turn, have increased sedentary lifestyle, anxiety, stress, impatience, intolerance, aggressiveness, among others. When teachers and students were able to practice different routines outdoors, positive events were triggered such as the preservation of physical and mental health, increased self-esteem, and social relations (Vásquez & Figueroa, 2020).

It should be noted that the situation of studying or working from home through technological devices connected to the Internet was not an easy situation for the entire population, since more than 14% of the citizenship belongs to the situation of extreme poverty, which completely prevented them from accessing an Internet connection and, by default, from acquiring a technological device.

On the other hand, imports of technological equipment such as computers, smartphones and tablets were regulated by the pandemic protection measures established both locally and globally, presenting serious supply problems for the main suppliers in the local market and therefore generating dissatisfaction of the demand presented. However, the severity of the restrictions decreased proportionally and this allowed to increase imports of these devices and facilitate access for citizens.

By 2020, cell phone imports went from $387 million in 2019 to $407 million in 2020; that is, an increase of 5%, in the case of computers and tablets the increase was 23%, going from $178 million to $219 million. The data presented is summarized in *Appendix I*.

In addition to this, under the ministerial agreement, public institutions can incorporate 20% of their officials in the telework modality, this practice is increasingly common in the private sector, which occupies the largest number of teleworkers and currently most of the commercial and labor activities are performed under this modality (Ecuador Times, 2020),

After the growing impact of the pandemic, the entities that had the availability and carried out activities that could be performed mostly by remote working chose to maintain up to 100% of its employees under this modality, so that much of the commercial sector in Ecuador worked without any physical presence, from the month of September the activities were partially returning to in-person work; however, most of the entities chose to maintain their operations in lines or in a mixed way; that is, by remote working and face-to-face.

Conclusion

The development of this chapter includes information regarding the impact generated by the presence of the COVID-19 pandemic both in Ecuador and in several countries around the world, since the measures implemented have helped stop the spread of the virus. However, other aspects, especially economic issues, have been affected, which is why it is necessary to know the first measures implemented in comparison with those in force and study how these have intervened in imports and facilitate the identification of the most demanded products as well as the shortages during the health crisis caused by the COVID-19 virus.

With the background described in the paragraphs above, according to the Government of Ecuador (2020), the following describe the main social impacts because of the pandemic:

- Changes in work modalities and implementation of biosafety practices.
- Between March and June 2020, sales in the sector fell by more than 50% ($73.04 million) compared to the same period of the previous year, accentuating the downward trend since 2014 and since the descending trend continued until the end of the year, the cultural GDP lagged by more than a decade.
- In the period analyzed, there have been 39,098 people infected and 5,512 deaths, including 3,358 confirmed cases and 2,154 probable deaths by COVID-19. Infection and case fatality rates per million population are 2,216 and 190.3, respectively.
- The average increase is 443 new cases per day.
- Of those infected, 40% are recovering at home, more than 50% have overcome the disease, 1.2% are hospitalized, 0.6% are in intensive care, and 8.6% have died.
- The spread of infections ranged between 2.7 and 3.28 per patient.
- Losses in the heritage area are concentrated in the Intangible Cultural Heritage dimension ($ 9.70 million), which represents 11% of total losses in the sector and affects community economic chains that operate as a mechanism for economic redistribution in the territory.

- According to the SIIC, the category "museums and management of historic spaces" suffered a loss of $ 0.38 million during the last 15 days of March, April, and May 2020.
- Activities in the Cultural Industries dimension account for almost 84% of total losses and correspond to private sales and exports.

The information presented shows the great dependence that Ecuador has on international trade, since it is an activity that contributes greatly to the dynamism of the national economy, on the one hand, exports that generate large monetary income for the country and on the other hand, imports that allow the entry of products necessary for national production and of indispensable use for daily activities in important sectors such as health and education.

Considering how dependent Ecuador is on international trade, it highlights the disadvantage that the country has on this level of dependence, since in the absence of foreign trade the economic situation within the Ecuadorian territory would be seriously compromised according to the percentage representations that correspond to the exports and imports made. For this reason, it is important for the country to increase its focus on local or national trade to improve its economic bases in the commercial activities carried out within the country so that the circular economy increases while avoiding the outflow of foreign currency.

In addition to the above, it should be noted that in the long term the Ecuadorian economy can stabilize and not resort to debts that alter the country's situation, giving way to a better lifestyle and creating better opportunities for the citizens who are part of this nation.

CHAPTER III

ALTERNATIVES FOR STRENGTHENING DOMESTIC PRODUCTION AS A WAY OF REDUCING DEPENDENCE ON IMPORTED PRODUCTS AND AS A PROTECTION MEASURE IN THE FACE OF A GLOBAL CRISIS

Context of the country's current economic and social situation due to the pandemic.

Considering the presence of the health crisis that occurred in Ecuador since March 2020, the economic and social impact occurred because of the implementation of sanitary measures and social distancing to contain the spread of the virus. This led to the total or partial closure of some economic activities, affecting the economy and the daily life of Ecuadorians. The country's commerce, industry, tourism, transportation, and health sectors have been the most affected, and the loss of jobs and income could increase the number of families living in poverty and extreme poverty.

According to the Ecuadorian Government (2020), the main economic impacts are detailed as follows:

- The International Monetary Fund (IMF) and the Ecuadorian authorities announced on August 28, 2020 that they had reached an agreement at the

public staff level to support Ecuador's economic policies with a 27-month Extended Fund Facility (EFF) loan of approximately US $6.5 billion, which is intended to address the damages caused by the health crisis generated by the COVID 19 pandemic, such as economic losses from both internal and external trade paralysis.

- More flexible administrative and financial processes, which include the activities employed in different commercial sectors of the country. Measures were established that facilitated the work performed by the collaborators and in the case of clients, extended payment terms or granted different forms of debt cancellation to contribute to the improvement of the situation the country was going through.
- Reduction of tariffs for goods used for the sanitary emergency, payment of foreign trade services by bank transfer, equipment of various port services through technological resources.

Regarding the social sphere, it is known that while the national economy was working to overcome a set of structural challenges, there was an unprecedented crisis caused by the COVID-19 health emergency, the magnitude of which resulted in a series of fiscal restrictions and an uncertain scope of action for the management of public projects. The emergency severely affected the income and the development of the creative processes of cultural workers, that is, those who conduct artistic activities and earn their income through exposure to the public, especially those working in the informal sector.

Comparative analysis of strategies adopted by countries in the region

The recognition of COVID-19 as a global pandemic by the World Health Organization (WHO) on March 11, 2020, removed any doubt about the threat posed by

the virus to all countries of the world. By the time, the virus had been declared as a global pandemic, it had already been detected in 152 countries, with more than 180,000 infected and more than 7,000 deaths (OEC, 2018).

To control the virus, WHO established the following statements as steps to be followed:

- Contain the spread of the virus
- Rapidly treat identified cases.
- Protect the economy from the effects of the pandemic.

In addition, each country established its own strategies to counteract the negative effects of the virus, therefore, each of these strategies in the different related areas such as medicine, technology, education, and innovation are detailed below. It is important to note that this comparative analysis is based on Ecuador and Latin American countries due to the similarities found in terms of economic, social, political, and cultural aspects.

Medical aspect

The medical aspect was the most relevant during the presence of the health crisis. In this area all the countries of the world have conducted varying strategies to conduct an adequate medical treatment regarding the pandemic. These strategies are detailed as follows:

Among the strategies implemented by Ecuador are the rescheduling of medical care and surgeries so that the emergency and intensive care areas were available to provide care to people infected with the COVID-19 virus and in the same way, 27 hospitals were assigned to only treat COVID-19 cases which resulted in an increase in the availability of space to care for people who contracted the virus. However, with the

increase of cases, the medical facilities were completely saturated from the months of March and April 2020.

Agreements were also signed with the private ambulance system to oversee the transfer of possible suspected cases to the respective hospital, as a result it was known that this procedure significantly reduced the spread of the virus. With time and the creation of vaccines, the government in office in 2021 through the Ministry of Public Health (MSP) has ensured equal access for all the population and nationalities of the country to the 9/100 Vaccination Plan, which by August 6, 2021, reached its goal vaccinating more than nine million people.

a. Strategies used by other countries

In the case of Brazil, strategies included training health institutions to improve patient flow, COVID-19 protocols, health promotion messages and mental health among staff. Similarly, they designated mobile clinics that provide medical care close to homes and aimed to increase the number of high-quality services for the community and have specialized teams that perform rapid antigen testing for COVID-19. They also provided at-home follow-ups of COVID-19 patients with life-threatening health issues, mental health services, support for the COVID-19 vaccination registration program, and promotion of health safety measures (Abdalla, 2021).

98.78% of the total number of health professionals that were trained were ready to address issues of biosecurity, intensive care, medical ventilation, and the respective applications of COVID-19 tests, thus improving the pandemic response protocols and reducing the number of cases of infection.

As in Brazil, in Colombia there is constant training to provide the appropriate health services for infected patients, vaccination programs, and rapid tests are conducted to counteract the number of infections. However, it is known that cases are increasing and medical facilities are saturated, requiring external assistance to act appropriately in such a situation (Franco, 2020).

This strategy allowed the country to provide more information and improve training of health personnel to manage outbreaks of infection due to the pandemic, thus avoiding congestion in medical units.

b. Productive strengthening

Measures taken by Ecuador and results obtained

Regarding productive strengthening, in October 2020, President Lenin Moreno mentioned that as a strategy to contribute to the productive strengthening of the country, multilateral agreements were established to acquire funds from the World Bank and the International Monetary Fund. These funds were destined to sectors of primary need such as health and education for the provision of supplies and personnel to ensure the quality of services provided by these sectors. However, the resources received were not sufficient to solve the health situation, so new debts contracted as bonds with China were chosen.

Measures taken by other countries and results obtained

A senior United Nations official warned on March 25, 2020, that most countries in the Latin American region have deficient preventive measures and those gaps persist in hospital systems, with insufficient critical care beds and trained personnel. He pointed out that in the region, on average, there are two beds per 1,000 inhabitants, in contrast to the average of 4.8 beds in the countries of the Organization for

Economic Cooperation and Development (OECD); and there are twenty doctors per 10,000 inhabitants, compared to thirty-five doctors in the OECD countries.

For this reason, several countries such as Cuba, Brazil and Mexico opted to establish strategies to face the sanitary crisis with the development of their own vaccines, together with the production agreements reached by Argentina, Brazil, Mexico, and Venezuela. In the case of Brazil, this has allowed the production of forty million doses of vaccines, although the vaccination campaign developed slowly, in the case of Mexico the vaccine is still not for sale; however, commercial activity with respect to this activity has been boosted by obtaining funds from different entities such as the WHO and private medical centers in the sector.

c. Commercial strengthening

Measures taken by Ecuador and results obtained

The measures taken by Ecuador include international trade agreements for the acquisition of pharmaceutical products and other medical supplies necessary to face the situation that the health crisis has left in the country. As a result, the nation has established bilateral trade with the Asian market such as North Korea to acquire such products while offering bananas, shrimp, crude oil, etc., to these markets. With this it has been possible to supply the medical units and attend patients without any inconvenience.

Measures taken by other countries and results obtained

The crisis has affected the productive sector and weakened the business structure and there is a risk of regressive structural change, generating millions of losses which is why the regions countries have made efforts to make the best of the situation.

To compensate for the effects of the crisis on employment and income, countries such as Colombia and Peru have implemented exceptional measures such as subsidies, reductions in working hours, the possibility of suspending employment contracts with the right to benefits, and leave of absence aimed at specific populations, among others. Some of these measures have incorporated a gender focus in their design, including pregnant women, mothers, or main income earners in the household.

Colombia obtained immediate liquidity by implementing subsidies. In addition, working hours were reduced to optimize resources and allocate them to indispensable activities, thus meeting short-term obligations such as the demands of the public sector in charge of attending COVID-19 cases, although this seriously affected the population in terms of income and availability to acquire resources, since social benefits were reduced as well as working hours, which was not well-received. In the case of Peru, the situation was similar, although it managed to guarantee a livelihood through a voucher granted to poor families affected by the virus, so that society was maintained with an adequate lifestyle while managing the health crisis. This measure was maintained until September 2020.

Technological aspect

Measures taken by Ecuador and results obtained

In terms of technology, Ecuador applied strategies to conduct disinfections among its population to guarantee safety in the day-to-day basis and to allow a prompt return to normality. Disinfection arcs were designed that had a great positive impact in their first presentations, after which they ceased to be important and became obsolete.

Measures taken by other countries and results obtained

In the technological field, the strategies were directed to the availability of viable resources to control and counteract the effects of the pandemic such as the substantial number of infections. For example, in many Latin American countries such as Peru, Chile and Mexico, rapid technological advances such as VPN networks we implemented to maintain the connection of companies and their workers or the various educational platforms to facilitate learning for students have profoundly changed societies and labor markets in Latin America. The COVID-19 pandemic has accelerated these changes and this has led to the promotion of productive digital jobs such as the creation of businesses without physical presence and with home delivery or the execution of business activities from home, since remote work was one of the measures established by said nations.

In the same way, technological means are also used to keep citizens informed, which is why Peru together with other nations took charge of artificial intelligence approaches, such as a deep convolutional neural network (FNDNet), for the automatic detection of false information about COVID-19, which showed an accuracy of 98% (Risco, 2020).

In Latin American countries such as Peru, Mexico, and Chile the main result was an increase in the average speed of fixed broadband, in other words, having faster internet access, in the case of Peru this increased to 27.35 Mbps, Mexico to 36.55 Mbps and Chile to 92.96 Mbps. All these results pointed to a gradual increase in the quality of the service provided by both public and private internet companies, which is why all these nations obtained a satisfactory performance in connections without major problems.

a. Productive strengthening

Ecuador and its results

For the productive strengthening, the acquisition of environmentally friendly machinery was established as a strategy that allowed to reduce tax for the taxpayers and this made it so that the companies' payment of taxes would not affect their liquid assets, maintaining important economic resources for economic activities while the productive level of the sectors improved and the country's economy became more dynamic.

In addition, this strategy helped to keep the food industries 100% operational, since these were key to keeping the population in a balanced situation while in quarantine.

Measures taken by other countries and results obtained

According to the report, in 2020 Latin America and the Caribbean was the developing region most affected by the COVID-19 pandemic, while structural gaps in inequality, limited fiscal space, low productivity, informality and fragmentation of social protection and health systems intensified. To face the social and economic effects of the pandemic, the countries of the region adopted expanded fiscal policies, in which there was an increase in public spending. The fiscal efforts announced in 2020 represented 4.6% of GDP on average for the countries of the region. These efforts were aimed at strengthening public health systems, supporting families through family subsidies or vouchers, and protecting the productive structure. The main instruments used to mitigate the social and economic impacts of the pandemic were subsidies and current transfers. In other words, the distribution of goods or services without incurring an economic value in return.

b. Commercial strengthening

Measures taken by Ecuador and results obtained

The use of disinfectant arches was one of the initiatives proposed to strengthen commercial activities in what includes the internal economy of the country, since, by guaranteeing a safe movement of the population, they were able to maintain the economic flow and as a result there was a steady rise in activities that had come to a standstill due to the pandemic.

Another strategy from the technological point of view was the improvement of internet broadband since improving the quality of the service was necessary for virtual jobs so that there was a constant contribution of income in the country and, as a result, a successful development of these tasks was key in the recovery of the Ecuadorian economy.

Measures taken by other countries and results obtained

Within the commercial strengthening in the technological area, certain countries in the region have established different parameters to follow, such as those shown below:

- In the case of Mexico, a provision of technical infrastructure was made, such as the promotion of standards and quality tests, which ensured the appropriate certification and conformity to the business infrastructure. This innovative service allowed for the acquisition of the necessary financial resources to facilitate the study of the virus. In addition to this, they also employed research and development consultancies, research centers and organizations under contract to provide protection to intellectual property and thereby obtain funding for research and development. Thanks to this, studies on the pandemic

and the virus were increasing and important findings were made to counteract the effects of the spread of the virus and the creation of a vaccine.

- In the case of Colombia, a technology and management consulting service were conducted that allowed the dissemination of technology and knowledge, demonstrating the technological extension as well as the benefits in which it contributes and giving way to trade in the corresponding market. With the evaluation of technology, it was decided to publish technological and commercial magazines focused on dissemination, evaluation, and technical journalism to boost the economy while granting access to scarce or specialized equipment through payment for use. These businesses were marketed through technology or production technology fairs and exhibitions, in which prototyping, simulation and design services were provided.

Educational aspect

a. Strategies used by other countries

Measures taken by Ecuador and results obtained

Like most Latin American countries, the strategy implemented by Ecuador to avoid the increase in infections in school and education programs was the closure of the institutions at all levels and a change in the modality of teaching from face-to-face to virtual. Although this produced positive results in terms of slowing down the spread of the virus, the negative consequences included the results of the students, since this modality represented a higher level of complexity for them and for a large part of the population, virtual education was inaccessible since their economic condition did not allow the acquisition of the necessary resources for virtual learning.

Measures taken by other countries and results obtained

In most of the countries the educational strategies implemented focused on the closure of educational institutions at all levels and the change of going from face-to-face learning to virtual classes, which is the reception of educational activities at home or other points through electronic devices with an internet connection. Although for Nicaragua this situation was not similar, since for public education they had no other option than to receive face-to-face classes. In the case of Nicaragua, only private institutions were able to change to virtual learning. Yet, for the public sector face-to-face classes continued to be provided and among the strategies to implemented to continue with the education smoothly, biosecurity protocols were applied daily as well as they provided universal food; However, the results obtained indicated that an elevated level of absences was obtained due to infections.

Uruguay proved to be one of the most prepared countries to face this crisis about the education sector, since it had the appropriate digital platforms to provide classes. Thanks to this, the country managed to switch to virtual learning without any inconvenience and comply with the school schedule, in addition to implementing a monitoring of learning by teachers towards students, obtaining assertive results.

In countries like Peru and Bolivia, the strategies implemented included virtual classes, but a follow-up analysis by teachers confirms that students are acquiring the expected knowledge.

b. Productive strengthening

Measures taken by Ecuador and results obtained

There was a lack of productivity with the virtual teaching strategy due to the limitations of a large part of the population considered to be in a state of poverty or

extreme poverty, seriously delaying their abilities to contribute to the development of the country.

However, within the productive strategies, the management of some municipalities and sectors took interest in these cases and as a result, these entities provided financial aid or granted resources that allowed students to participate in the new modality of education and not fall behind.

Measures taken by other countries and results obtained

One of the many lessons of the pandemic is the need to incorporate technology into education systems, closing the gaps in access to connectivity and devices for the most vulnerable students, and empowering teachers to take full advantage of these tools. In fact, the use of technology must be present in both in online and face-to-face education.

The opportunities, therefore, require the reengineering of the teaching and learning processes in which the relationship between students and teachers is not determined solely by the presence in a classroom, but by the creation of flexible and enriched educational environments. This implies, among other things, the use of interactive and online resources, and requires additional efforts from countries to strengthen the capacities of teachers and schools.

Many countries in the region have implemented strategies that seek to minimize learning difficulties when applying remote learning, as in the case of Colombia, which closed educational institutions at all levels and chose to implement virtual education, resulting in 100% of students in online classes. Thus, it is important to highlight that the acquisition of technological devices and other supplies was a

great challenge for families, however, with effort students were able to obtain the materials needed.

The situation was similar in Peru, except that the extremely poor population did not have access to these technological tools for education, which is why a large part of the student population has postponed their studies until the health crisis improves.

c. Commercial strengthening

Measures taken by Ecuador and results obtained

To strengthen business, the strategy of changing the education modality represented a terrific opportunity for technology and electronic businesses, since most of their products were fully demanded in the market and this helped to improve the country's economy.

As a result, businesses began to take a large interest in technologies since thanks to these, they managed to continue with their economic activities even though their establishments were physically closed.

Measures taken by other countries and results obtained

One of the strategies adopted for commercial strengthening in education was the redesigning the school-community relationship which granted schools greater autonomy based on the provision of the necessary tools to help principals exercise their pedagogical leadership. At the same time, it should be noted that Latin American governments should invest more efficiently in improving the quality of education systems. The latest PISA (Program for International Student Assessment) report places the nine Latin American countries evaluated below the average for OECD

countries, including Chile, Uruguay, Costa Rica, Brazil, Mexico, Colombia, Peru, Argentina, Panama, and the Dominican Republic.

Research strategies and measures

a. Strategies implemented by other countries

Measures taken by Ecuador and results obtained

The research strategies designed by Ecuador included the study of the virus and its main effects as well as the creation of measures to prevent said effects. Currently many agencies in the country are working on medical procedures to counteract the effects of the virus and to reduce the death toll of the pandemic.

The main results of these investigations have not yet been evidenced because they are still ongoing, yet there has been evidence that the use of masks and constant hand washing reduces the spread of the virus. Thanks to this, it has been possible to reduce the number of cases of COVID-19.

Measures taken by other countries and results obtained

Several nations such as Peru and Colombia applied drugs that counteract the effects of the coronavirus until reaching the invention of a vaccine against the virus, such is the case of the Abdala vaccine, developed by the Cuban Genetic Engineering Center (CIGB). It is one of the five candidate vaccines that are being tested on the island. A second phase 3 trial of another vaccine, called Soberana (or Sovereign) 02, showed an efficacy rate of 62% with two doses, although a third will be administered to volunteers to see if this increases even more (Vicent, 2021).

The country announced that the developed vaccine is 92.28% effective against Covid-19 after three doses, like the effectiveness of the Pfizer-BioNTech and

Moderna drugs, according to the results obtained from the phase 3 trial in the 48,000 volunteers that participated (Vicent, 2021).

Regarding technological studies, it was known that Peru conducted the study of coinfection by viral respiratory pathogens from patients hospitalized for COVID-19 to measure the impact on the mortality rate of the virus. With this it was possible to identify that the rate is barely 5% and it was evident that the diagnostic methods used have helped to identify assertive prevention teams.

In the case of Colombia, a study was conducted to implement treatments on macrolides that are a type of antibiotic to counteract the effects of the virus. The results showed that indeed the effects produced by the pandemic decreased, although they were not completely effective and needed the application of the vaccine to do a successful job.

b. Productive strengthening

Measures taken by Ecuador and results obtained

The investigative strategies and even the efforts aimed at the manufacture of a possible vaccine against the virus have been the factors that have contributed the most to the productive strengthening of the country, in this way a constant activism is maintained to counter the main threats against citizens, obtaining as a result, a slowdown in the growth curve of the number of people infected by coronavirus.

Measures taken by other countries and results obtained

Good jobs are not only important for people's well-being, but they can also increase productivity. Despite improvements in recent decades, many jobs in Latin American countries are still characterized by low wages, strenuous or dangerous

working conditions, and long working hours. This is particularly true for the large part of the workforce employed in the informal sector that are not regulated and do not have access to social benefits.

Within the productive strengthening through research, it is possible to focus exclusively on how many jobs an economy generates, since with the pandemic only a partial image of the situation is visible and the sources of employment have reduced considerably. Since the well-being of workers also depends fundamentally on the quality of their jobs, in addition to better access to skills development opportunities, better health outcomes and more commitment of workers, better quality jobs can also contribute to a higher productivity. This observation seems more important in the context of emerging markets, where the main problem is not the lack of employment as such, but the shortage of quality jobs.

The productive strategies established policies that modified the productive matrix in Peru. In other words, investments were made to commercialize what was not previously considered by the industries of the sector, all with the aim of improving the economy that was seriously affected by the pandemic and thanks to this it was possible to stabilize the economic level of Peruvian households.

In the case of Chile, production chains were presented as productive strategies, which were based on the study of complementary products or goods that could be produced and marketed at the same time, which like Peru, their main objective was to improve the country's economy after the impact of the pandemic, achieving a prompt improvement in the trade balance and expected stability.

c. Commercial strengthening

Measures taken by Ecuador and results obtained

The commercial strengthening in the research area is linked to strategies for the commercialization of medical supplies that contribute to protection against the virus, so much so that within the country many of the entities dedicated to stimulating the country's economy are currently commercializing this type of products. On the other hand, international trade has been rehabilitated and medical supplies such as masks, gloves and others implemented that comply with a higher protection index are the most purchased by the national market. This results in economic dynamism and an improvement in the lifestyle of the inhabitants.

Measures taken by other countries and results obtained

Regarding the commercial strengthening in this area, the exports of new inputs and vaccines especially stand out, since according to the reports provided by the Inter-American Development Bank, the value of Latin American exports grew 8.9 percent in the first quarter of 2021 compared to the same period the previous year, consolidating a change in trend after the contraction caused by the COVID-19 pandemic, according to a report by the Inter-American Development Bank. The drop in the value of external sales in 2020 was 9.0 percent.

For the next few months, it is estimated that exports will continue to grow, according to the latest edition of the Estimates of Trade Trends in Latin America and the Caribbean series, which in this edition analyzes the trade performance of eighteen countries in the region. However, the recovery is still fragile as it has been driven exclusively by higher export prices.

In the case of commercial strategies, the industrial and technological policies of Argentina are considered with which it unveiled more intensive projects that generated sources of employment and with this improved the quality of life of its

inhabitants. The result was the strengthening of small and medium-sized companies as well as economic stability more in line with the situation of the people of Argentina.

On the other hand, Chile restructured the health and education systems which guaranteed the quality of these services for its inhabitants. For this they implemented bonds against hunger and satisfied the needs of those affected. This resulted in a fully active population and although certain restrictions due to the health crisis are still in force, it has created a dynamic economy that allows the population to obtain what is necessary for a good lifestyle.

Conclusion

Taking this information into account, it is noted that among the main strategies provided by both Ecuador and the rest of the Latin American countries mentioned the most viable are those that include a series of training to maintain health personnel at a high operational level since the treatment of sick patients depends on the care they provide, as well as the regulatory measures established to reduce the spread of the virus. Technological innovation is also highlighted as a means of obtaining economic income and allocating these resources to research on the virus and its variants.

FINAL CONCLUSIONS

Considering the data obtained and the information provided by this research, the conclusions obtained are presented below.

- Ecuador has applied strategies that have made it possible to stabilize the economic and commercial situations of the country in the face of the health crisis, such as the improvement in the speed and connectivity of the internet so that users such as workers and students can access, who in the face of the health crisis must resort to remote working and online classes. This allowed for a quality development of both work activities conducted at home as well as the performance and learning of the students.

  In addition, those advances in connectivity were considered as a key recovery of the Ecuadorian economy since it ensured the continuity of income generation for the country. As a result, the dynamization of the commercial strategies that had been conducted normally in Ecuador could be regularized with alternative measures such as remote work and applying the proper biosafety protocols. Import activities were stabilized despite being paralyzed during over an extended period, especially with products that were previously purchased daily and gradually with foreign products.

- Regarding the imports during the health crisis, the Ecuadorian state established several strategies to maintain foreign trade activity during the COVID-19 situation, which implemented the flexibility in the administrative and financial processes to facilitate the fulfillment of those commercial activities with other countries as well as having a reduction of tariffs on imported supplies or products that were destined for the sanitary emergency. With these measures established by the Ecuadorian government, a slow but

safe process of foreign trade was achieved, highlighting the products and medical supplies that presented a high demand during the health crisis.

Funds were also acquired by the World Bank and the International Monetary Fund through multilateral agreements to strengthen the health and education sectors with the appropriate resources that guarantee the continuity of their activities. The objective was met and as a result basic-necessities products and those in high demand to treat COVID-19 cases were still imported.

- On the other hand, although certain measures were implemented as permanent, they became transitory and stopped working shortly after being implemented. For example, even though it was demonstrated that disinfectant arches were effective, after a couple of months they were put away or were kept but not used and many companies did not even give maintenance to the arches to avoid the loss of the investment made.

  As a result, it was demonstrated that there is an unsuccessful administration or coordination of activities by both public and private entities that enforced certain measures to fight off the pandemic or keep it under control, such as the equipment mentioned before. These entities should have kept the arches in operation and avoid their accelerated deterioration when they are stored or abandoned.

- Since the health crisis generated a negative effect on the productive sector as well as weakened the business structure both in Ecuadorian territory and globally, which resulted in millions of losses, a variety of strategies were identified that were like those established in Ecuador and others that are completely different. For example, Nicaragua did not close its educational institutions, but maintained their face-to-face classes or from the technological

point of view, countries such as Peru and Colombia implemented studies to counteract the effects of the virus and at the same time increase the knowledge to design drugs to control or reduce the effect of the virus in the human body as well as generating ways of protecting the body such as vaccines.

For the strategies established by other countries and Ecuador, the international trade agreements were maintained and for the procurement of pharmaceutical products and other medical supplies, specific measures were established to counteract the effects caused by the pandemic, such as the international aid established with South Korea. In this way the necessary resources were obtained to provide supplies to medical units and facilities to treat to the main cases of infection.

RECOMMENDATIONS

Based on the conclusions and other information identified, the following recommendations are as follows.

- It is recommended that the country apply strategies for better health preparation, such as keeping staff trained and conducting drills of adverse situations so that everyone is prepared for similar situations to avoid the unimaginable number of deaths and people infected that left millions of people without families or hospitalized.

  In addition to the strategies that the country has with regard to the health sector, it is recommended that it have general contingency plans taking the current health crisis as a starting point, which despite being something totally unexpected served as motivation for the design of effective actions and measures both in national and international territory, highlighting mainly

imports since the country does not have the necessary resources to face some type of specific situation and will usually require the use of inputs that are available in abroad, for which the dynamization of foreign trade is essential in such situations.

- It is mentioned that, like the strategies established by Ecuador, it is also advisable to implement measures such as those applied in Colombia and Peru, countries that to generate immediate liquidity in their economies reduced working hours and faced short-term obligations to prioritize imports of necessary resources to counteract the effects of the pandemic.
- Considering that the online class strategies are not yielding the expected results, it is recommended that Ecuador implement strategies like those of Uruguay, which developed a learning monitoring system that consisted of a daily review of students by teachers. The material teachers offered improved their educational performance and they were able to determine whether the established objectives were achieved, so that the limitations could be identified in time to design strategies and to obtain positive results.

  By taking the actions implemented in the education sector as a strategic measure, it is recommended that to strengthen this sector in Ecuador it is necessary to establish measures such as the implementation or improvement of VPN networks to maintain the connectivity of the various educational platforms to facilitate the students' learning process.
- Among the strategic technological measures, it is recommended that Ecuador apply industrial and technological policies like Argentina did, with which it announced more intensive projects such as incentives granted for the strengthening of small and medium-sized companies that generated sources of

employment. and with this they improved the quality of life of its inhabitants, in addition to contributing in a substantial proportion to the business development of small and medium-sized enterprises.

This incentive strategy may be viable in Ecuador and not only during the pandemic, but in any type of situation that may arises since thanks to the application of these actions, which strengthen the small and medium-sized enterprises, it contributes to the bettering of trade and the local economy.

To improve the country's productive matrix, academic studies should be promoted that focus on technological development that allow us to implement and create industries whose main objective is to develop new technological advances in relevant areas, such as health, pharmaceuticals, education and technologies, information, and communication.

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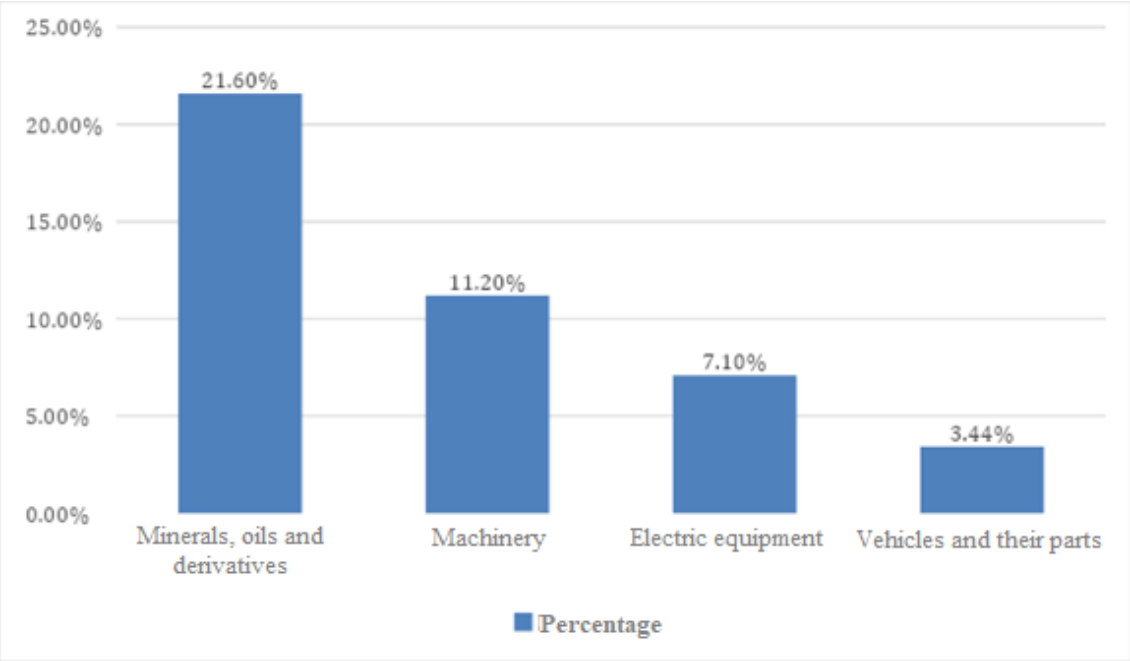
APPENDICES

Appendix A

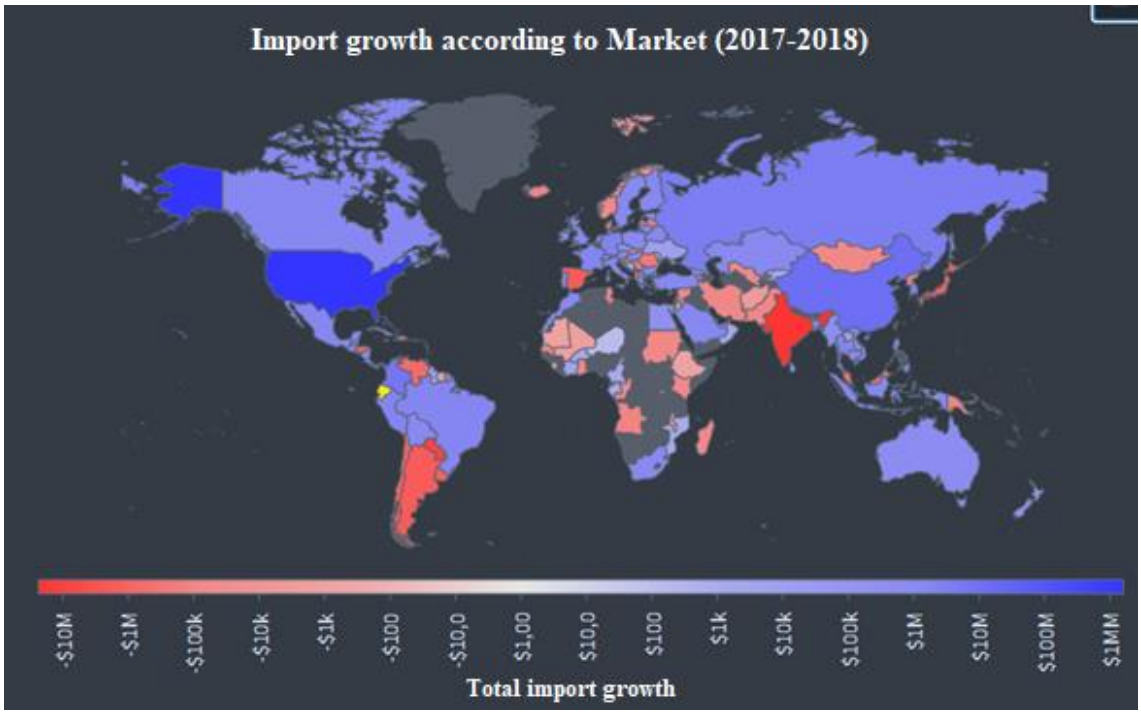
Figure 1: *Main products imported by Ecuador*



Source: OEC - The Observatory of Economic Complexity (2018)

Appendix B

Countries from which Ecuador imports

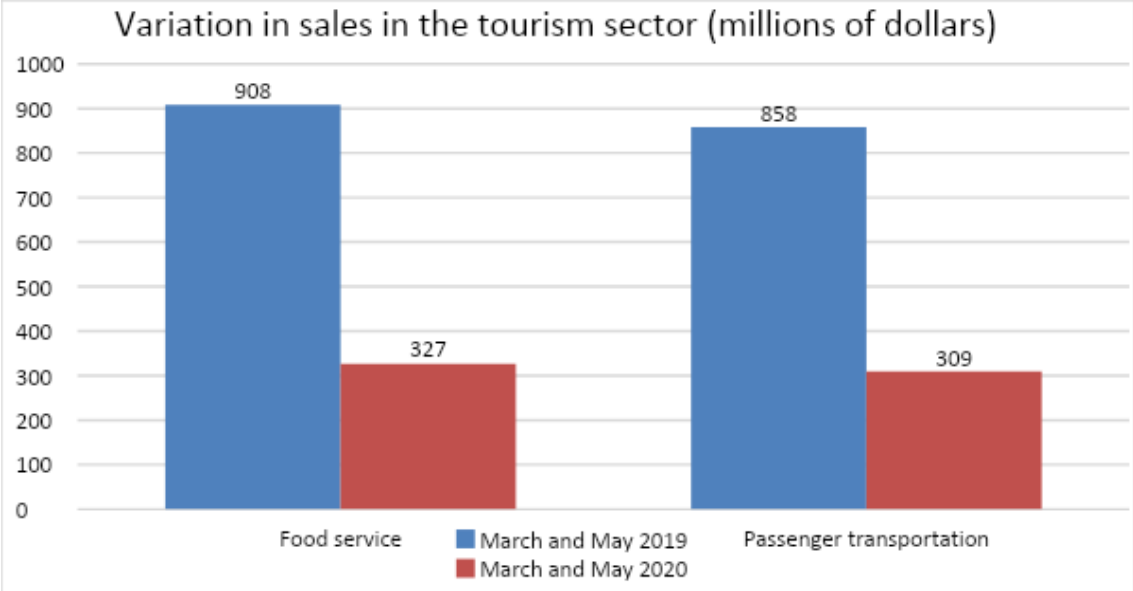


Source: OEC - The Observatory of Economic Complexity (2018)

Appendix C

Table 1: Statistical changes in the tourism sector

Period	Effect	Distribution
March and May 2020.	62.85% decrease in sales.	36% food service.
		34% passenger transportation

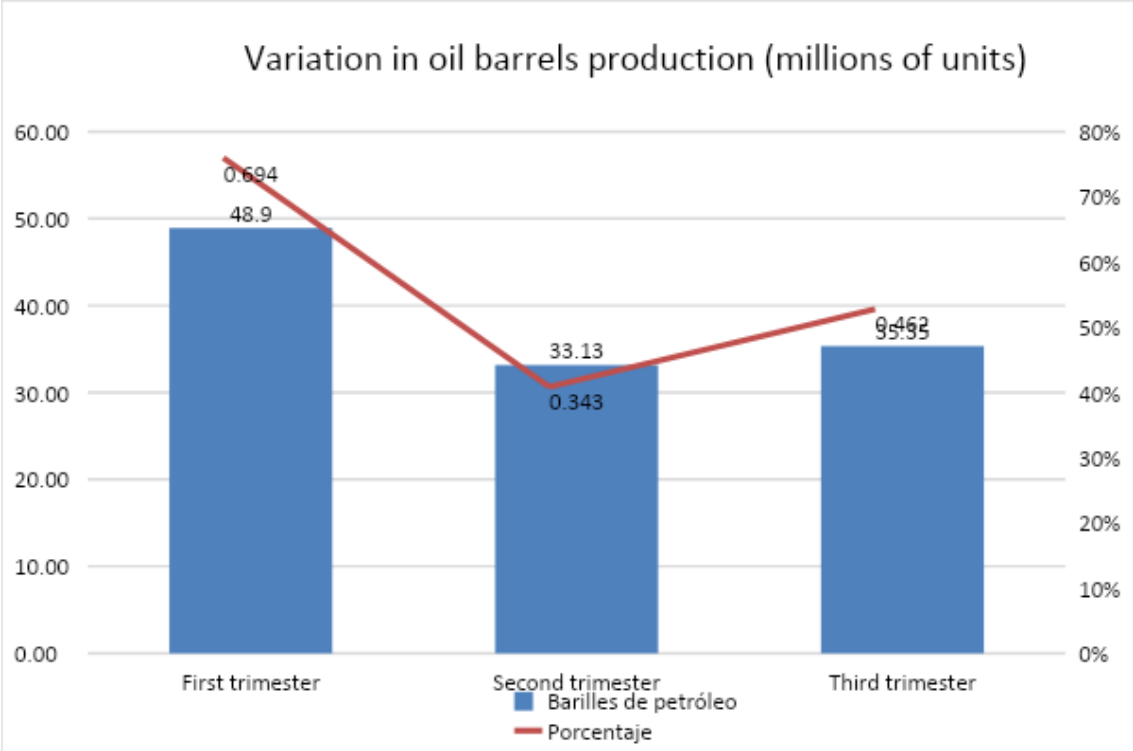


Created by: González Josselyn – Montesdeoca Camila

Appendix D

Table 2: Statistical changes in the commercial sector

Period	Effect	Quantity
January to September 2020.	Increase in the first quarter by 3.7% in 2020 versus the fourth quarter of 2019.	48.90 million barrels of oil produced.
	Increase in exports in the first quarter.	43.92 million barrels of oil exported.
	Decrease in the second quarter by 34.3%.	33.13 million barrels of oil.
	Increase in the third quarter by 46.2%	35.35 million barrels of oil produced.



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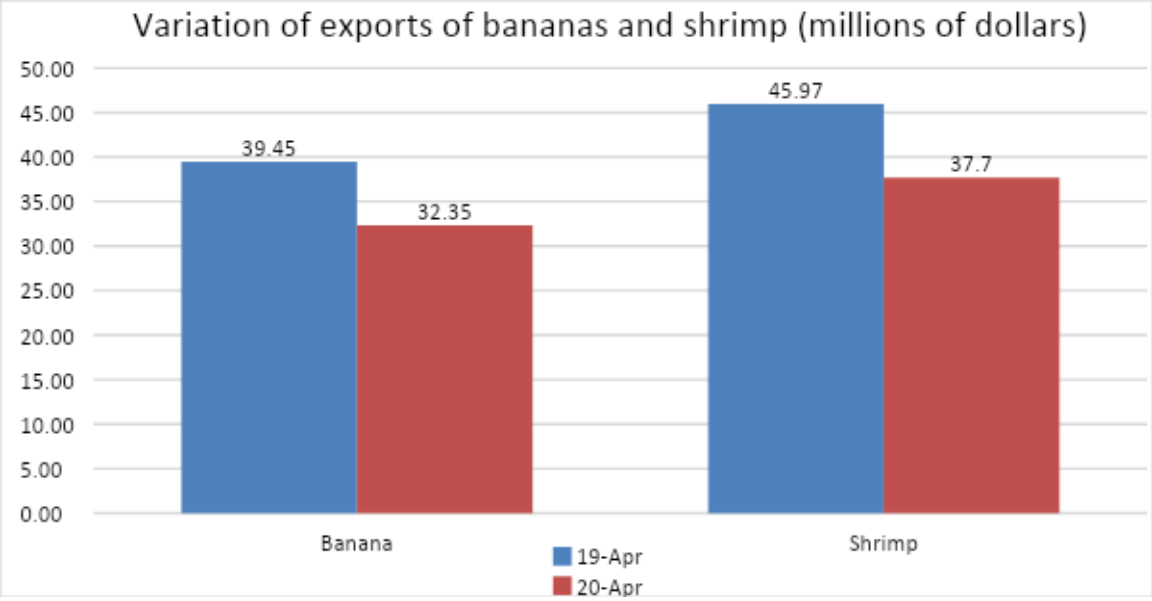
Appendix E

Table 3: Statistical changes in the commercial sector: non-oil exports

Period	Effect	Most affected categories
April 2020.	8.2% decrease in exports of non-oil products.	Banana
		Shrimp



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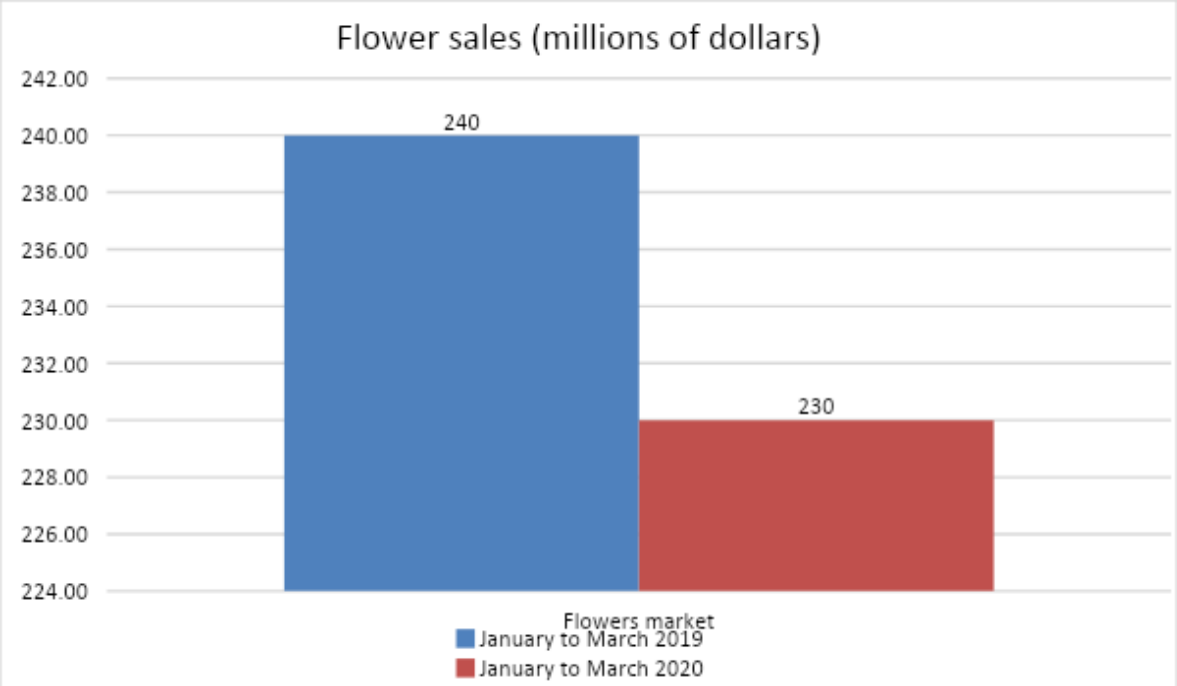
Appendix F

Table 4: Statistical changes in the commercial sector: non-oil exports (flowers)

Period	Effect	Activities
January to March 2020.	Decrease of approximately ten million dollars in the commercialization of fresh cut flowers.	Closing of establishments during the first months.
		For the month of May, the operation of the sector went to 10% or 20% of its capacity.



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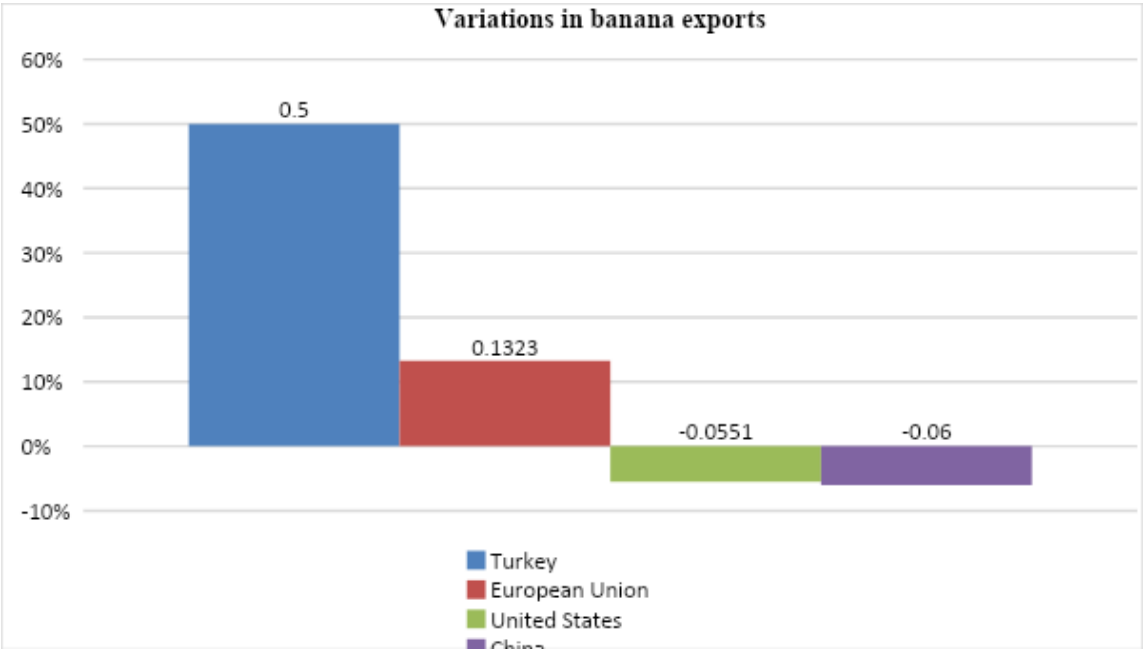
Appendix G

Table 5: Statistical changes in the commercial sector: non-oil exports (banana)

Period	Effect	Quantity
January to March 2020.	Increase in banana exports by 9.92%.	Marketing of 104,731,409 boxes of bananas.
	Increase in banana imports in Turkey of 50%.	Increased trade in the banana sector.
	13.23% increase in banana shipments to the European Union.	Five million boxes.
	Decrease in imports in the United States by 5.51%.	Business losses.
	Decrease in imports in China of 6%.	Business losses.



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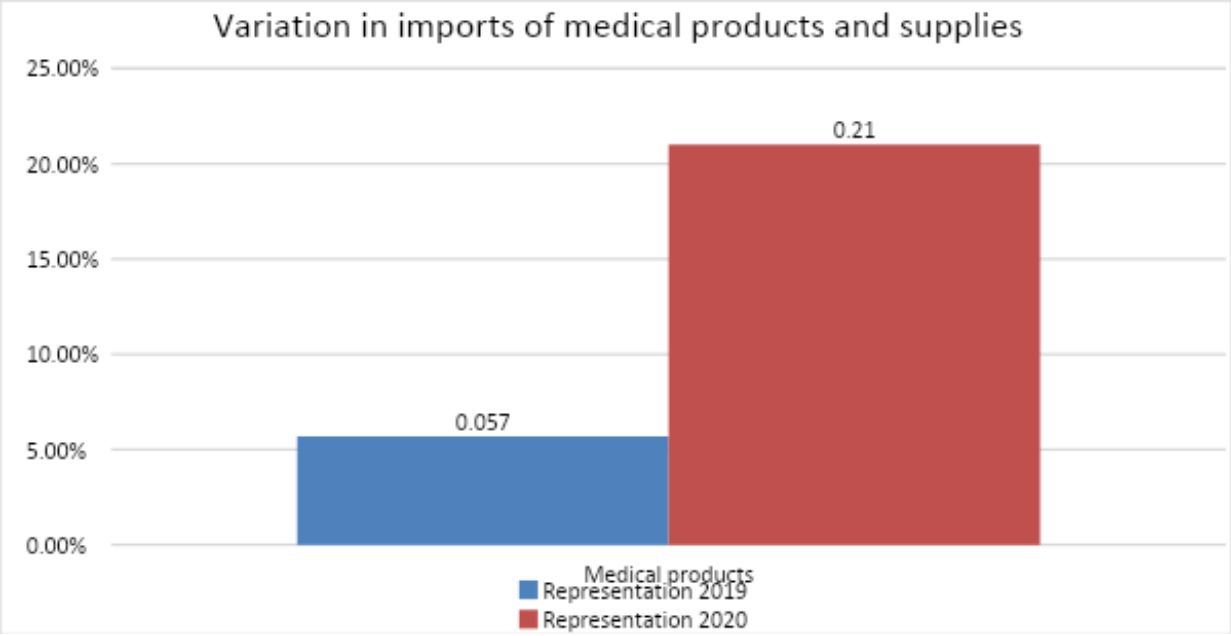
Appendix H

Table 6: Statistical changes in the commercial sector: imports of medical products and supplies

Period	Effect	Quantity
January to March 2020.	Representing 8% of total non-oil imports.	It represents more than 1.4 billion dollars.
	2.3% increase in representation over total imports versus 2019.	21% for medical supplies and 29% for personal protection products and medical equipment.



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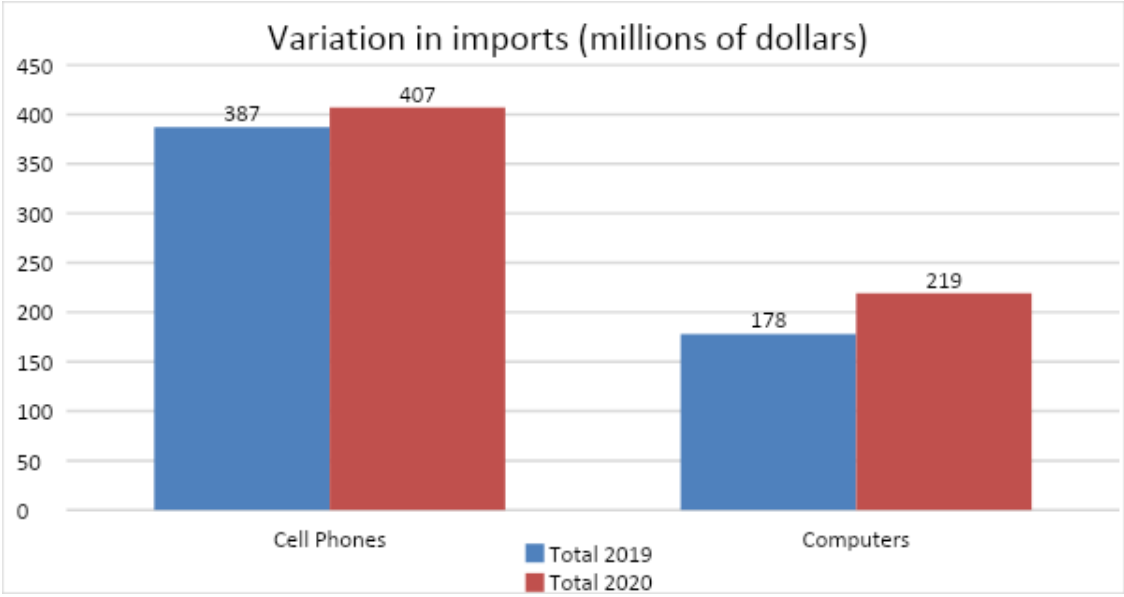
Appendix I

Table 7: Statistical changes in the commercial sector: imports of technological equipment.

Period	Effect	Quantity
January to December 2020.	5% increase in cell phone imports.	407 million dollars.



	23% increase in imports of computers and tablets.	219 million dollars.

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