

POLITECNICO DI TORINO



MASTER OF SCIENCE DEGREE IN ENGINEERING AND MANAGEMENT

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Management

THE SYSTEMATIC INCREASE OF THE DOLLAR PRICE AFFECTS THE PRODUCTION OF PEANUTS IN THE MARKET OF COLOMBIA

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ABSTRACT

The primary objective of this thesis is to conduct a comprehensive qualitative and quantitative analysis of the peanut market, focusing on how the increment of the dollar price affects the production of peanuts in the market of Colombia. Starting with an exploration of peanuts, their history, their types, production process, and nutritional properties. The study centers its attention on a leader company in Colombia. The document conducts an economic analysis applying supply and demand models and the short-term perfect competition model. Additionally, it assesses the financial performance of the industry and Manitoba S.A.S using global ratios, including productivity ratios, operational ratios, and structural ratios. This analysis is facilitated by data from the Bureau Van Dijk's ORBIS database. With a vision of the company, the document scrutinizes the Colombian market, highlighting the relationship between the dollar and peanut production, establishing peanuts as a complementary asset to the dollar. Finally, the thesis concludes by evaluating the performance of Manitoba S.A.S. in comparison to 251 other companies within the same sector. This research provides a comprehensive overview of the peanut industry, its response to economic dynamics, and the specific performance of Manitoba S.A.S.

SUMMARY

At least since 2012 the price of the dollar has been increasing. For importers of goods and services, a consecutive increase in the dollar implies an increase in the production costs of raw materials that must necessarily be imported due to the non-existence of a supply of substitute inputs. Possibly, peanut companies have seen a reduction in their profits due to the rise in the dollar, an increase in their production costs and the reduction in some of their product. The decrease in profits is also due to the difficulty of transferring dollar price increases, to the market price of peanuts snacks (salted, sweet, coated peanuts, etc.). With this research it is found that systematic increase of the dollar price affects the production of peanuts in the market of Colombia.

This study explores the impact of fluctuating dollar prices on peanut production, extending the analysis to key market players and their financial standing relative to Manitoba S.A.S. Data was sourced from the ORBIS database by Bureau Van Dijk. The research involved a multi-filter approach to refine the dataset, initially focusing on Colombian companies and utilizing the NACE Rev. 2 code 1089 as a sector identifier and other filter that considered very large, large, and medium-sized companies. This rigorous filtration process identified 251 companies, facilitating a comprehensive analysis.

The research examines Manitoba S.A.S key financial metrics, exposing company performance and providing industry comparisons utilizing profitability, operational, and structural ratios over the past decade (2013-2022). Manitoba S.A.S exhibits strengths in terms of ROE and efficient asset utilization

for revenue generation. However, challenges exist in ROA, liquidity, and solvency. The company's strategic focus on plant expansion, has contributed to its ROE but may have implications for ROA. In this analysis, it will further be explore these financial metrics, offering valuable insights into Manitoba S.A.S's financial performance, efficiency, and strategic considerations.

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1. THE PEANUT

1.1. Definition and Etymology

The peanut (*Arachis hypogaea* L.), also known as the groundnut, goober (US), pindar (US) or monkey nut, is an important grain legume crop and is valued as a source of protein and fat for human nutrition. Approximately the seed holds 20–25% protein and 45–55% oil, as others suitable vitamins and minerals [1]. It is the only over 81 species that is cultivated for its seeds for human consumption and it provide a readily accessible and reasonably priced source of protein for many, in particularly to underdeveloped countries. *Arachis hypogaea* is a plant of around a 45–60 cm high and 30 cm wide with a deep taproot. The roots normally contain the nitrogen fixing bacterial nodules of *Rhizobium*, which coexist in a symbiotic relationship providing nitrogen for growth of the plant while deriving sustenance from it. The plants are self-fertilizing and have rare mode of reproduction because the seed are produced underground, that's way in many regions of the world, there are call groundnut [1].

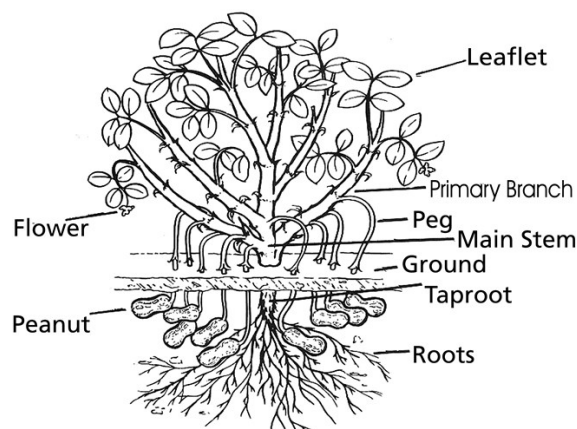


Figure 1: A peanut plant with the parts labeled. Taken from [2]

1.2. Origins: History of the peanut

The peanut is a natural legume of South America. The data indicate that peanuts entered the Zaa Valley in Northern Peru 8500 years ago, apparently from the easter side of the Andes Mountains, but the hulls found there had different characteristics as the modern domestic peanuts. This domesticated species was well-known and widely grown throughout the tropical and subtropical regions of this hemisphere at the time of the American and European exploration of the New World. Early Spanish and Portuguese explorers discovered that Indigenous people started growing the peanut in Mexico, on the northeast and east coasts of Brazil, in Argentina, Paraguay, Bolivia, and the extreme southwest of Brazil, as well as widely in Peru. They also discovered Indians growing the peanut in several West Indian Islands. The peanut spread from these areas to Europe, the Pacific Islands, the shores of Asia, Africa, and southeastern of United States [3].

According to records, peanuts were not grown commercially in the United States until not earlier than the 19th century. They were first grown in Virginia and were used primarily for oil, food, and as a substitute for cocoa. At that time, peanuts were considered livestock feed and for people with limited economic resources, they were difficult to grow and cultivate. Peanut production grew steadily in the first half of the 19th century and peanuts gained popularity after the Civil War, when Union soldiers took them home. Both armies sustained themselves with this protein-rich food. Its attractiveness grew in the late 1800s, when PT Barnum's circus wagons traveled across the United States and sellers shouted, "hot roasted peanuts!" to the crowds. Soon, street vendors began selling roasted peanuts from carts and became popular at baseball games. Although

peanut production increased during this era, but they were still harvested by hand, which left stalks and trash on the peanuts. Poor quality and lack of uniformity caused the demand for peanuts to decline. Around 1900, labor-saving equipment was invented to plant, cultivate, harvest, and pick the peanuts from the plants, as well as to shell and clean the kernels. With these important mechanical aids, the demand for peanuts grew rapidly, especially for oil, roasted and salted nuts, peanut butter, and candy. In the early 1900s, peanuts became an important agricultural crop when the boll weevil threatened the Southern cotton crop. [4].

Today peanuts are cultivated in more than 100 countries and consumed by almost all the humans across the world. Currently, worldwide 4.756.790 tons of peanut are produced per year [5]. Peanut is grown in 29,6 million hectares globally which yields 48 million tons [6], with the productivity rate of 1,62 tons/hectare. The major countries where the peanuts are cultivated are China, India, Nigeria, Sudan, United states of America between other shown in the table below.

Table 1: Top 10 Peanuts Producers around the world

Country	Production (Tons)	Production per person (Kg)	Acreange (Hectare)	Yield (Kg/ Hectare)
China	17.572.798	12,607	4.508.393	3.897,80
India	6.727.180	5,034	4.730.770	1.422
Nigeria	4.450.050	22,544	3.875.267	1.148,30
Sudan	2.828.000	69,319	3.130.260	903,4
United States of America	2.492.980	7,606	563.210	4.426,40
Myanmar	1.615.715	29,997	1.108.664	1457,40

Senegal	1.421.288	90,378	1.110.934	1.279,40
Argentina	1.337.229	30,054	387.014	3.455,20
Guinea	957,662	80.587	911,993	1,050.10
Chad	939,252	61.176	824,198	1,139.60

Source: Adapted by the author based on the Atlas Big database. [5]

With an annual production of 17.572.798 tons, China is the world's greatest producer of peanuts. India is in second place with a yearly production of 6.727.180 tons. Nigeria is the third-largest producer of peanuts with an annual yield of 4.450.050 tons. Together, China, India, and Nigeria generate more than 50% of the world's peanuts. The United States of America is ranked number five with an annual production of 2.492.980 tons.

It is relevant to highlight that United State of American has the highest productivity index, even better than China, while India's productivity is in the average of the world yield index. According to the American Peanut Council, the world's biggest exporter of peanuts is United States. That's because most of the peanuts produced in China and India are consumed domestically as peanut oil [7] . From another angle, if we study the South American market, peanuts were an important crop in Colombia due to the country's longstanding tradition of cultivating them. Also, they were a crucial source of nourishment and healthcare for the native Colombians. Colombia is currently recognized as a leading peanut producer in South America, in fact is ranked seventh with a production of 4.502 tons and 79th in the world, while if we classify it in terms of productivity, it occupies the 45th place (1.693,80 Kg/ Hectare).

1.3. Peanut Types



Figure 2: Types of peanuts (Runner, Virginia, Spanish, Valencia) and characteristics. Taken from [8].

1.3.1. Runner

The prevalence of runners among commercially cultivated peanuts can be attributed to their frequent inclusion in prepackaged snacks, thereby establishing them as a widely popular cultivar. Runners have rapidly gained wide acceptance because of the attractive, uniform kernel size and about 54% of their grown are used for peanut butter because of their facilitation of the processing procedure. This kind of peanuts are primarily obtained from the southeastern region of the United States, although their cultivation is also prevalent in certain areas of the southwest region, especially in Georgia, Alabama, Florida, Texas, and Oklahoma [9].

1.3.2. Virginia

Virginia peanuts are the largest kernels of all the different types, for this reason are also the most popular for roasting. These nuts are commonly marketed for consumption as a snack and are not typically utilized in the context of processing activities, primarily due to their substantial physical dimensions. Virginia peanuts and runner peanuts both require about 130 to 150 days to mature. This variety produces a high yield of large pods. Runner peanuts require more room, around 3.5 feet per plant, as their name suggests. There are two kernels in each little fruit's pod. Both Virginia and runner peanuts are intolerant of cool temperatures and drought [10].

1.3.3. Spanish

Spanish peanuts are utilized in peanut butter production as well as in the creation of various snacks, including crackers and cookies. The nut kernels are consumable in their entirety; however, a portion of the public may express aversion towards the necessity of having to manually extract each individual kernel from the skin that is situated within the peanut shell. Several processing facilities prefer to utilize Spanish peanuts over runners due to their relatively smaller size, a characteristic that proves advantageous for their incorporation into canned mixed nuts. Spanish peanuts are utilized as a source of heart-healthy cooking oils as well as for candy and roasted peanuts [11]. Additionally, the growing process these peanuts take 90 to 120 days to mature [10].

1.3.4. Valencia

Valencia's are the sweetest type of peanuts, and they are most often roasted within their shells. Costumers have the option of procuring shelled

peanuts for domestic roasting or acquiring them precooked and in a consumable state. These peanuts are widely favored for the preparation of boiled peanuts, a culinary method that entails boiling the peanuts in their intact form, along with a brine solution, for several hours [11]. Valencia peanuts are the smallest; however, each shell contains a between three to five relatively small kernels per pod, with red seed coats. These kinds of groundnut are the quickest to mature in 90 to 110 days [10].

1.4. Peanuts production

Peanut production involves planting, harvesting, and processing. The plants grow underground and are harvested when the leaves turn yellow. After the peanuts are harvested, they are dried and then sent to a processing plant where they are roasted, blanched, and packaged.

1.4.1. Agricultural activities and work prior to planting

The environmental factors that must be considered for the cultivation of peanuts are the altitude, temperature, water availability and type of soils. The optimal altitude for the cultivation of peanuts considering in Bolivia a country that produces 20.486 tons of peanuts per year, with an average yield of one thousand 42 kilograms per hectare, According to data from the National Statistics Institute (INE) [12], is about from 350 to 1300 meters above sea level. But in other production areas/countries peanuts are planted at altitudes above 1,300 meters above sea level. Temperature influences the photosynthesis activity of the plant, flowering, and development; peanuts are grown in regions with average temperatures between 20 to 30 ° C. Maintaining these temperatures is especially important during the growth cycle of the plant [13].

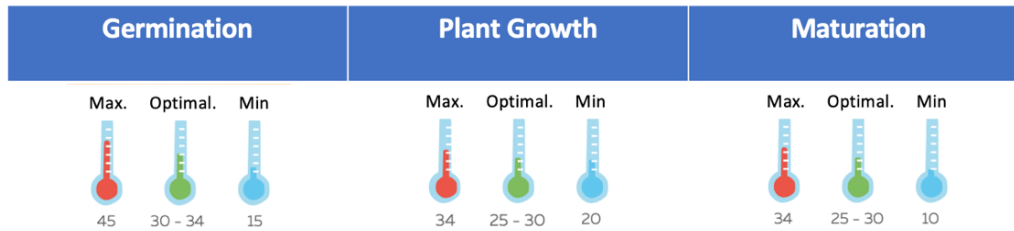


Figure 3: Maximum and minimum temperature in the phases of peanut growth

Peanuts are resistant to drought, but in prolonged droughts the ability of peanuts to fix nitrogen is hindered. At the same way, the optimal water requirement during the vegetative cycle is 500 mm, while the minimum requirements vary between 250 and 300 mm for early varieties. However, it must be emphasized that most of the rain must be taken advantage of during the germination, growth, and flowering phases. At the maturation stage, rainfall may be scarce. Finally, the ideal soils for the cultivation of peanuts are the sandy and franco-vvarenous, as they contain enough lime and organic matter. The use of clay soil is not recommended for cultivation because it limits root development and pods. Peanut develops best in soils with a pH slightly acidic, between 6 and 7 [13].

The selection of a suitable plot of land for cultivating peanuts entails considering the soil conditions that are conducive to their successful growth. Specifically, the plants thrive in environments characterized by deep and well-drained soil with a slightly acidic pH level, which facilitates the development of a robust and extensive root system. Loose soils, characterized by low concentrations of clay particles, are deemed suitable for cultivating peanuts due to the following reasons:

1. The penetration of the nail occurs with effortlessness.
2. It produces pods of good size.
3. It is easily uprooted.
4. Relatively clean pods are harvested.
5. No rubble is formed which is difficult to separate during the threshing.

Very sandy soils have the disadvantage of storing little water and nutrients and therefore the crop will be more susceptible to drought and nutritional deficiencies. As the surface layer of soil becomes desiccated during the grain filling stage, there is a noticeable limitation in the transportation of nutrients, particularly calcium, to the pods [14]. Other fundamental activities prior the planting process are soil fertility, soil tillage and having a crop rotation plan, especially with grasses, such as sorghum, corn, or pastures.

1.4.2.Peanut planting

There are three types of different Peanut planting: Manual and animal traction, Semi-mechanized and Mechanized. The first one consists of a manual depositing of the seeds to the soil, then cover them with soil using a hoe, a yoke or with the foot of a producer. This technique is used in flat plots up to 2 hectares, but also on inclined plots where the mechanical planter cannot work. It consists in releasing 2 to 3 seeds every 25 centimeters approximately. The semi-mechanized planting is a technique used where there are no suitable machined planters for peanuts or on inclined lots larger than 5 hectares. Sowing is done with a groover and tractor for opening grooves and manually throw seed into furrows, then cover them with the foot or stubble. In addition, a suitable mechanical planter is one that ensures the uniform birth of seeds, so it should be able to: disperse equally between 8 to 12 seeds per linear meter, regard the

remove between grooves of 70 cm, sow at a flexible depth between 4 to 7 centimeters and avoiding that seed get damage during the planting [13].

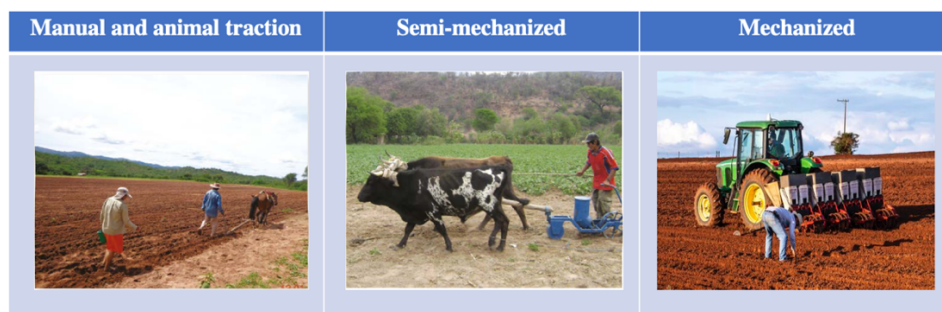


Figure 4: Peanuts planting methods [13].

1.4.3. Peanut harvest

To obtain a good tasting peanut production, it is necessary to harvest as many mature peanuts as possible. Proper grubbing must consider several factors, including crop health, soil humidity, pod maturity, grubber setting and working speed. Timely harvesting means that the greatest number of pods have reached their maximum weight and have not yet begun to detach. If plucking is delayed, mature pods will be lost, reducing the yield and the value of the crop. These methods are based on the color change that occurs on the inside and middle layer of the shell when the peanut is ripe. Environmental conditions with predominantly low temperatures at the end of March and during April delay ripening and color change in the pods. The runner type cultivars are plucked with an inverter plucker. Excessive working speed tends to detach pods from the plant, while with too low speed, the plants do not slide properly towards the grubbing.

The swath made with an inverter harvester should be uniform, with most of the pods up and away from the ground. Soil humidity content affects the quality of the harvested product. In both cases it is advisable to use the "windrow remover" within 24 to 48 hours of pulling. The dehulling can be done when the peanuts have between 18 and 22% moisture content. The synchronization between the forward speed of the dehuller and the picker must be carefully adjusted to reduce losses, not to damage the pods, and mechanical damage is the main threat to the quality of the hand during harvesting and the main cause is excessive working speed.

Peanut drying is one of the most important steps in the process of obtaining high quality peanuts. Natural drying in the field is advisable when climatic conditions permit. A combination of natural and artificial drying is the most efficient and economical way to dry peanuts prior to storage. Artificial drying should begin immediately after the peanuts are harvested to prevent damage. Humidity in the pods must be removed as fast as environmental conditions allow. In Argentina, there are two drying systems in use: "stationary drying", which is carried out in trailers designed for this purpose, and "continuous drying", which is characterized by having the material to be dried in permanent movement. Quality control depends on the management of the grain's humidity. Before storage, pre-cleaning is done to eliminate immature boxes, loose peanuts, roots, sticks, leftover weeds, soil and any other foreign material of vegetable origin. Peanuts should be stored in boxes with a humidity of less than 11%. Humidity may increase during storage in some areas due to moisture migration, condensation and dripping from sheet metal roofs, or biological activity. To keep peanuts in storage, sanitary pest control and good aeration are essential. Pre-cleaning of the peanuts, cleaning of the storage cell,

proper aeration and pest control are factors that contribute to avoid the formation of high humidity and temperature increases. These aspects should be considered when the environmental temperature begins to rise in the spring [14].



Figure 5: Manitoba S.A.S peanut conveyor belt

Manitoba S.A.S. is a company that does not harvest its own peanuts but buys them in their raw state mainly from Nicaragua, United States and Chile in 2022 [15].

Table 2: Countries where Manitoba S.A.S imported their products 2022

Country	USD CIF	Participation (%)
Nicaragua	\$4,612.3 USD	39.48%
Usa	\$3,471.8 USD	29.71%
Chile	\$1,467.8 USD	12.56%
Brazil	\$1,279.4 USD	10.95%
Spain	\$783.8 USD	6.71%
China	\$68.9 USD	0.59%

Source: Adapted by the author based on **Compite 360** [15].

As this company is classified as a manufacturing company; an organization that manages the process of creating products from raw materials. After receiving the raw peanuts, they process them through their different processes and satisfy the great amount of demand they have for their different products. The raw peanut arrives to the company, and they store them in a cold warehouse with an average temperature of 10°C, after checking the entry of the raw material, the peanut is transported by batches through a transporting belt where 4 operators are located to select, clean, and separate the unwanted parts such as defective products, hulls, residues, among others. When the validation of this raw material is given, the peanuts are sent to be weighed and packed in 10kg packages, which are sent to the second floor of the plant where they continue with their elaboration process. Below there are two diagrams that evidence the process from the moment the raw material arrives at the company until the peanut is sent to the private processes of the factory.



Figure 6: Weighing of peanuts in Manitoba S.A.S.

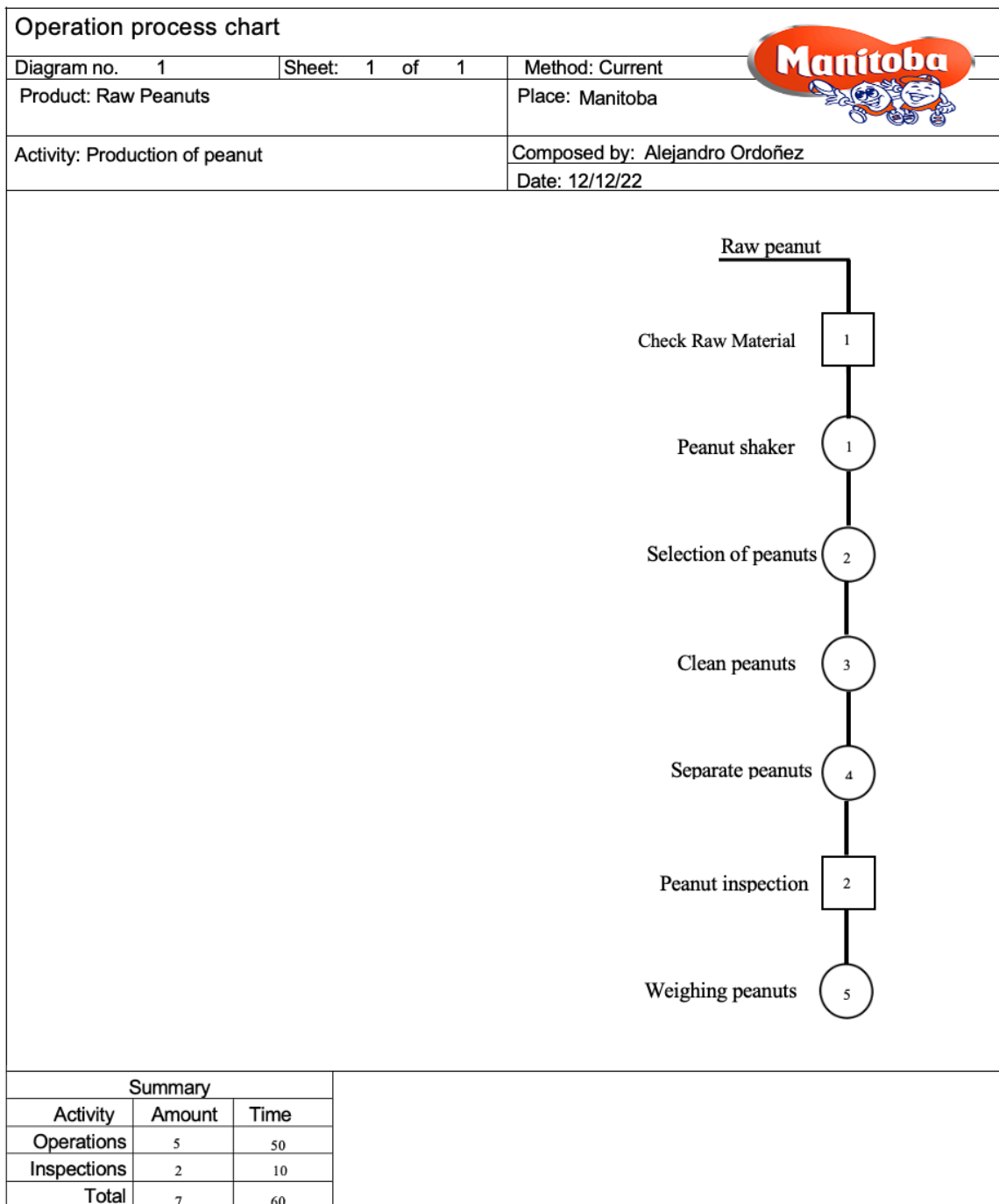


Figure 7: Operation Process chart of Raw Peanuts in Manitoba S.A.S

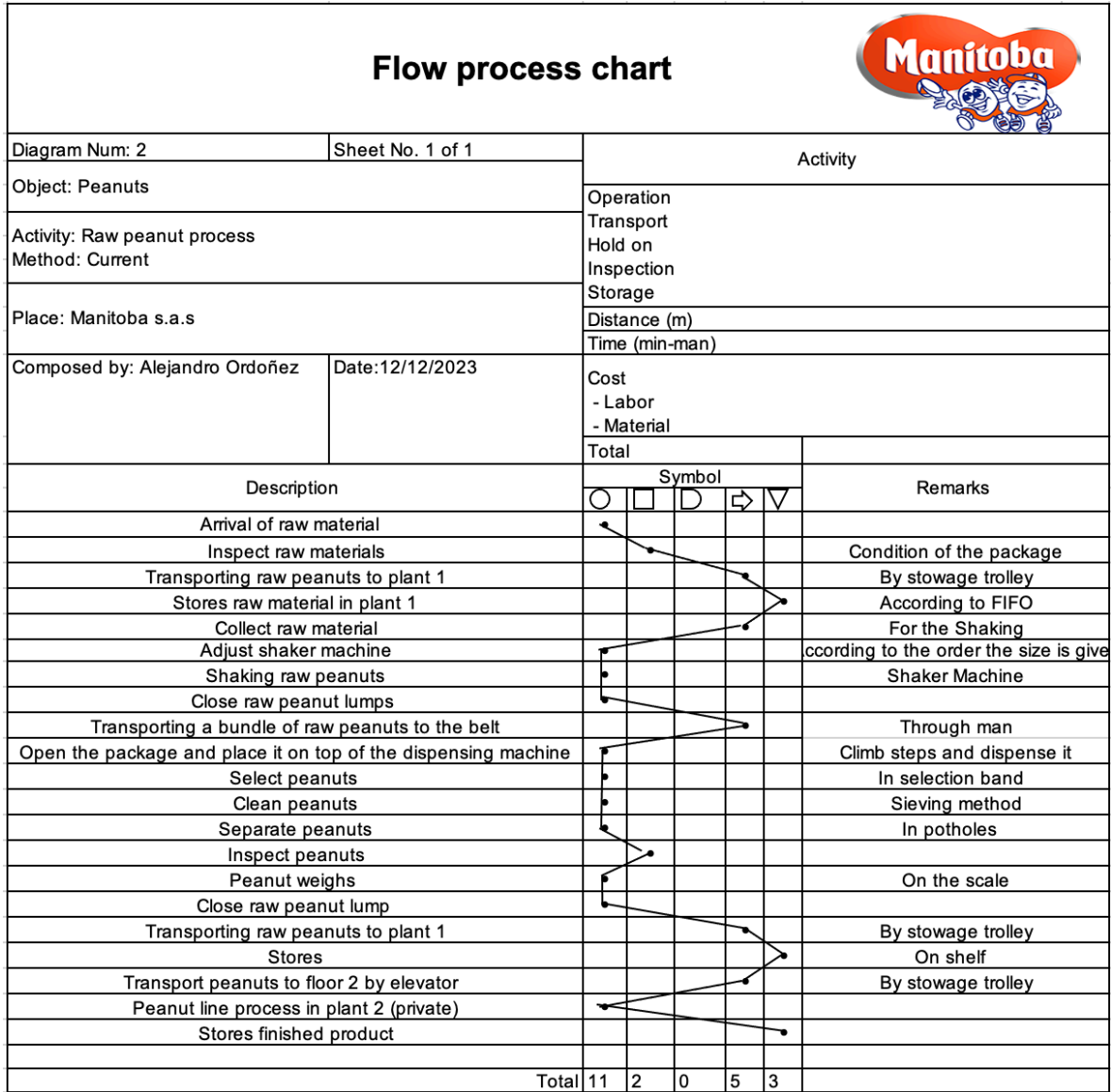


Figure 8: Flow Process chart of Raw Peanuts in Manitoba S.A.S

Exposing the raw peanut process in the company through these flow charts makes the process more understandable and clearer to express, it gives a complete look of the process rather than on the individual steps in the process, also it can be used to identify sources of variation using cause and effect charts

for the complete process. The process flow chart of the raw peanuts process shows the sequence and linkage between production and inspection/control areas and describe, in detail, how the product will move during the process, the remarks columns are observations that where consider important during the process.

1.5. Nutritional properties

Rich in high-quality protein and healthy fats, as well as high in calories peanuts are catalog as a great snack. The nutritional profile of peanuts is excellent. They are a great source of fiber, many essential vitamins, minerals, and plant-based protein. There are numerous ways to prepare peanuts, including roasted, salted, chocolate-covered, and in peanut butter. By these different kinds they have various health advantages and different nutritional profiles. Due to their high-calorie content and balanced nutritional composition, peanuts are most healthful when they are consumed in moderation. Additionally, they are rich in magnesium, B vitamins, potassium, and phosphorus. Peanuts are nutrient-rich and low in carbohydrates despite having a lot of calories. The United States Department of Agriculture (USDA) estimates that 100 grams of raw peanuts Trusted Source contain 567 calories and the following amounts of nutrients [16].

Table 3: Nutrients that contain 100 grams of raw peanuts.

Macronutrients	Protein	25,8 g
	Carbohydrate	16,13 g
	Fiber	8,5 g
	Sugars	4,72 g
Fats	Monounsaturated fats	24,43 g
	Polyunsaturated fats	15,56 g
	Saturated fats	6,28 g
Minerals	Potassium	705 mg
	Phosphorous	376 mg
	Magnesium	168 mg
	Calcium	92 mg
	Sodium	18 mg
	Iron	4,58 mg
	Zinc	3,27 mg
Vitamins	Vitamin b-3 (niacin)	12,07 mg
	Vitamin e (alpha-tocopherol)	8,33 mg
	Vitamin b-1 (thiamine)	0,64 mg
	Vitamin b-6 (pyridoxine)	0,35 mg
	Riboflavin (vitamin b-2)	0,14 mg
	Folate (vitamin b-9)	240 mcg

Source: Adapted by the author based on Medical news report made by L.Burgess [16]

Because peanuts include a balance of protein, fiber, and healthy fats, they are a good source of nutrients and help people feel satiated for longer. Compared to chips, crackers, and other simple carbohydrate items, its makes peanut a desirable, healthy snack [16].

Peanuts have a variety of health benefits, such as aiding blood sugar control, supporting weight loss, reducing risk of heart disease, and reducing risk of gallstones. They are also high in vitamin E and niacin, which have been shown

to reduce the rate of cognitive decline in adults over age 65. Consuming peanuts or peanut butter five times per week is associated with a 25% reduction in gallbladder disease and a 70% reduction in Alzheimer's disease [17].

1.6. History of Manitoba SAS

Manitoba is a company with more than 40 years of experience, located in Colombia. It is distinguished by having a differentiating strategy because it always considers the nutritional needs of customers. As a result, Manitoba SAS products are unique, offer added value, are innovative, and have a large portfolio that allows the delivery of goods of the finest quality and variety. This company also offers peanuts and nuts in the national and international markets.

They started out as a home-based business that two brothers founded when they decided to start selling peanuts to their classmates. Over time, they evolved into a market leader in the peanut sector on both the national and international levels. The success of the growth is attributed to Manitoba's quality policy, which is to provide their consumers with snacks of the highest quality possible that go above and beyond expectations and promote wellbeing and health. Their products contain protein, fiber, vitamins, low-sodium and sugar-free minerals, fewer additives, and more environmentally friendly packaging. There are 240 references from Manitoba available, and they are sold at about 1.500 retail locations throughout the country. In 1999, Manitoba began its international expansion in Ecuador and today is the fourth largest snack exporter in the Valle del Cauca region, behind Colombina, Aldor and Nestlé. They export their products to 12 countries in South America, Central America, some of the Caribbean, as well as Mexico, making them a leader in the national and

worldwide peanut and nut industry. Exports are 20% of total revenues and the idea is to reach the 30% they had when Venezuela was part of the market.

In 2018, they opened a facility with all the criteria and cutting-edge technology in the municipality of Yumbo, Colombia; for an expenditure of \$ 7,5 million dollars and more than 10.000 mts². There they produce 1,200 tons per month, three times more than what they generated at their previous facility, the expansion projected for five years, they are advancing it with an investment between \$ 1.719.529 and \$ 2.063.435 dollars, which was expected to be paid by the middle of 2021. The plant that employs 450 workers in the region, and sold in 2019, \$ 25 million dollars with a growth of 33,7% over the previous year, for 2020 the budget was to grow by 28%, the company has been growing for years at a double-digit rate [18]. Much of its raw material are imported, mainly from Nicaragua, United States and Brazil, but among its objectives is to work more with local growers, as in the case of cashew grown in Vichada, Colombia. On the other hand, products are currently distributed in the major cities of the country and the main chain supermarkets. Also, they export to 12 countries such as Mexico, Guatemala, Salvador, Cuba, Puerto Rico, Curaçao, Panama, Ecuador, Peru, Bolivia, Chile, and Paraguay [19].



Figure 9: Gustavo Llano Commercial Manager and Ignacio Llano General Manager of Manitoba S.A.S. Source [18].

1.7. About the company

Manitoba S.A.S. According to the CIIU code is governed with the # 1089 which classifies it in the manufacturing sector [20], in other words, it is a company that produces something and sells it. This company offers peanuts and dry products of excellent quality in the national and international markets. It is positioned as a leading company in snack-type products that are mainly characterized by being directed towards the idea of offering a healthy product. The company has 7 product lines: Salted, Chocolate, Mixes, Fruit, Spreadable, Sweet/coated, and Bio healthy. Within each line, some products are known, such as Salted Peanuts, Peanuts with chocolate, Light Peanuts, Trail Mix, blueberries, Peanut Butter, among others. The concept of the business is to offer consumers a tasty product that satisfies the need of hunger and the desire to eat something tasty, but at the same time healthy.

Manitoba offers ideal products for those moments when you want to satisfy your craving or satisfy your hunger; that is why it develops products that combine the nutritional value, with the delight of the palate [21]. They are made with selected raw materials, with controlled and standardized processes that allow the nutritional values of nuts and dried fruits to be preserved, transmitting all the nutritional benefits of each one and thus contributing to the well-being of all our consumers.

1.8. Statements

1.8.1.Vision

To be, in the year 2024, a leading company in nutritious, healthy, and innovative snacks in the Colombian market and the countries with current presence, guaranteeing the integral growth of its collaborators, suppliers, clients, and shareholders. Oriented under social responsibility and care for the environment [22].

1.8.2. Mission

To offer high-quality snacks, which contribute to the health and well-being of our customers, through the joint efforts of the active members of the organization, with a permanent emphasis on personal, business, and social growth [22].

1.9. Products

Manitoba has developed a portfolio consisting of over 308 product references, marketed in approximately 2,100 points of sale across the country [23].

Table 4: Manitoba S.A.S main products

Salados (Salty)	Consiente (bio-healthy)	Mezclas (Mix)	Dulces (sweet)	Esparcibles (Spreadable)	Chocolates (Chocolate)	Frutas (fruits)
Maní salado	Crema de maní con chía	Mix original	Maní confitado	Chocolate oscuro	Maní con chocolate	Blueberries
Maní con pasas	Crema de almendra	Mix frutos tropicales	Maní con ajonjolí	Sin azúcar	Almendras con chocolate	Uvas pasas
Maní picante	Crema de marañón	Mix maní & nueces	Maní con sabor a miel	Crema de maní Creamy	Macadamia con chocolate	Frutos rojos
Maní japonés	Semillas de chía	Mix maní & arándanos	Macadamia caramelizada	Crema de maní Crunchy		Arándanos
Crocante limón	Mix garbanzos y quinoa	Súper mix		Chía		
Maíz	Mix premium	Mix Verano				
Marañón	Miz cacao con pretzels					
Macadamia saladita	Almendras con cacao y acai					
Almendra saladita	Almendras naturales					
Pistachos	Topping Macedonia					
Maní sin sal	Topping Toscana					
Maní bajo contenido de sodio						

Source: Adapted by the author based on Manitoba S.A.S web page [22].

2. PEANUT MARKET

2.1. Classification of snack foods

The consumption of snacks has long been an integral aspect of human life and constitutes a significant segment of the food industry worldwide, particularly in developed countries. The snack food industry is constantly progressing and adjusting to the emerging patterns of consumer behavior. Throughout the current century, corporations have progressively conformed to meet the needs and expectations of consumers, and more recently, has required adjustments in response to the impacts of the COVID-19 pandemic. The trend of snacking has been growing, attributed to various factors such as a rise in one-person households, an increase in the number of working parents, greater independence among school-age children in procuring their own meals, a highly mobile population, and the presence of ready-to-eat (RTE) snacks in convenience stores and vending machines [24]. The food industry is consistently engaged in innovative and evolutionary endeavors regarding food processing, primarily aimed at the production of innovative food products packaged in aesthetically appealing and functionally efficient materials, that offer increased longevity in terms of freshness.

The categorization of snacks is commonly based on their origin and method of production. Nearly all food groups contain healthy snack options. These products are manufactured by harnessing the functional properties of gelatinized starch. Numerous additional variations of snack products are derived from a diversity of sources including tree nuts, fruits and vegetables, milk, various types of meats, and marine-derived ingredients. Regardless of the origin of the food resource, most snacks possess a prolonged shelf-life at ambient temperature due to their reduced level of moisture content and activity in water.

The classification of snack food into various types is dependent on multiple factors, resulting in a comprehensive categorization of this food group. In addition to the dichotomy of sweet and savory snacks, snack foods may also be classified based on the food processing techniques employed in their creation [25]. First-generation snacks are characterized by their ease of manufacturing and utilization of natural ingredients such as roasted whole grains, peanuts, nuts, dried fruits and vegetables, popcorn, and conventional potato chips. Most snacks that are currently consumed fall within the ambit of second-generation category. This category consists of uncomplicated products that are predominantly derived through the process of direct extrusion, exemplified by the likes of corn chips, expanded puffs, balls, and curls. The category of snacks that entails the most detailed formulation regarding to components and preparation techniques is the third-generation snacks, because it involves two consecutive extrusion process, namely cooking and forming, which generate pregelatinized dense pellets or semi-finished products. These intermediate products are subsequently subjected to deep-fat frying, baking, or microwave cooking to attain the desired consumer-ready state [24].

2.2. Healthy snacks market in South America - Colombia

Due to geopolitical unpredictability, supply chain interruptions, shifting customer preferences, and increased regulations, the manufacturing market has encountered several difficulties recently. The forecast for manufacturing is still favorable, though, due to several favorable factors like a growing worldwide demand, continued technical breakthroughs, and expanding investments in automation and digitalization. Despite the Covid-19 pandemic's there were severe effects on manufacturers, those who made investments in the digitalization and automation of their operations will be

in the strongest positions for long-term success. Manufacturing companies are more likely to survive the current crisis and emerge stronger in the long run if they can successfully balance cost demands and have a laser-like focus on quality [26].

The Latin America Nuts and Seeds market is fueled by various determinant factors, including the changing preferences of consumers towards nuts and seeds due to their perceived health benefits. However, the expansion of this market is hindered by some factors, such as health problems that can happen because of an extravagant consumption, including unwarranted weight gain and respiratory ailments, as well as the exorbitant cost of nuts and seeds. The Latin American market for nuts and seeds has achieved a value of \$194,79 billion dollars in the year 2021, with an estimated compound annual growth rate (CAGR) of 1,85%. It is projected to reach a market value of \$213,49 billion dollars by the year 2027 [27].

Colombia is another country adopting this trend and growing attraction for healthy snacks, in accordance with a report published by the "Cámara de Comercio de Cali," the COVID-19 pandemic and the widespread adoption of remote work facilitated an increase in the demand for healthy snack options, resulting in a 25% contribution to the overall snack market in Colombia during the previous year. The published report from December of 2021, points out that this segment has grown 2% annually since 2015. It is anticipated that this trend will persist until the year 2023, the year in which is estimated to reach approximately \$2.8 billion dollars, representing a notable portion of the nearly \$10 billion dollars overall value of the snack market.

In a recent publication titled "State of Snacking," co-authored by Mondelez in conjunction with The Harris Poll released in February 2022, found out that a significant portion of global consumers, approximately 64%, substitute one of their daily meals with a snack. Furthermore, a notable majority of individuals, amounting to 80%, are looking for a snack to improve their physical health. Unexpectedly, these

snacks have evolved into an indispensable source of nutrition for individuals who follow physical fitness regimens and diet plans [28].

2.3. Company analysis

Peanuts hold significant agricultural and economic importance in Colombia, having made notable contributions to the country's overall economic growth. The revenue generated from the peanut crop in Colombia for the year 2020 exceeded \$120 million dollars, according to the report released by the Ministry of Agriculture and Rural Development. The production of peanuts in Colombia is widely recognized in Latin America and has a positive effect on rural employment in the country.

Manitoba S.A.S belongs to the food industry, in the category of snacks (first-generation), and is in the segment of peanuts and nuts. The packaged food sector generates a flow of money equivalent to 40,908 trillion COP, approximately \$10.425 million dollars in sales for 2020 and the sector has experienced a yearly growth of 9,9% for 2020. The category of snacks, in 2019, had a total sale of 2,160 trillion COP (\$0.55 million dollars). The segment of peanuts represents 11% of total sales of the category snacks [29].

Packaged foods in Colombia remain broadly dominated by bigger companies with a national presence, strong retail availability, and above all, a large footprint in packaged foods products with high levels of consumption. The country's two leading players are Alpina Productos Alimenticios SA and Cooperativa Lechera Colanta SA, both of which are primarily dairy producers with a combined retail value share of close to half of this large volume category in 2020. The rapidly changing consumer preferences due to the pandemic have compelled several processed food manufacturers to alter their product range and strategic positioning, as per Euromonitor's report. Consequently, the sales of pre-packaged food intended for foodservice consumption are anticipated to decrease significantly in 2020. This is due

to a reduction in demand stemming from the significant number of individuals who were working from home, experiencing unemployment, or contending with limited access to foodservice establishments. Most of the decline in foodservice sales is predicted to be compensated for by retail sales intended for domestic consumption, leading to remarkable expansion in several segments of this category throughout the year. The foodservice industry is expected to experience a slight recuperation in its volumes throughout the year 2021 and beyond.

According to Euromonitor, the industry is forecasted to recover and grow 4,46% of sales by 2022, until achieving a 4,9% by 2025, in the same way, sales of the industry are estimated to grow to 41.710,6 trillion COP by 2022 and getting to 50.216,4 trillion COP by 2025. Currently, the companies that hold most of the market shares in the industry are Apina 6,1%, Colanta 5,2%, and Pepsico 3,6%.

2.4. Industry

The rising demand for eco-friendly and diversity-centered goods has surged in recent times, owing to heightened consumer consciousness and heightened interest in superfoods. Sacha inchi is a prime example of such products. According to the UN, the global bio-trade market has grown from \$40 million dollars in 2003 to \$4,3 billion dollars in 2015 and is set to triple by 2030 [30]. This big market also contains the peanut sector which holds a significant economic importance in Colombia, engaging a considerable number of producers, processors, and traders across the nation. Peanut cultivation is widespread throughout various regions in Colombia, encompassing the Caribbean, Andean, and Pacific regions. The cultivation of peanuts in Colombia has experienced substantial growth over the past few decades, primarily attributed to the implementation of novel technological advancements and farming techniques. The Ministry of Agriculture and Rural Development of Colombia reported that the production of peanuts in the country has witnessed a growth of 9,2% in the year 2020,

culminating in a total production of 180.000 tons. In the Colombian peanut processing industry, a variety of commodities are produced from peanuts, including peanut oil, peanut butter, roasted peanuts, and candied peanuts. The processing of peanuts represents a significant economic activity in Colombia, engaging a substantial workforce across the nation. In Colombia, the marketing of peanuts is executed through both local and national distribution channels. The major consumers of peanuts in Colombia are food companies, such as candy manufacturers and cooking oil producers. The peanut industry in Colombia represents a significant economic activity that has significantly contributed to the national economy, while also providing valuable employment opportunities for rural communities.

The potential for growth in the agricultural sector in Colombia could be further realized through the establishment of robust partnerships with the private sector that prioritize sustainable production methods. The Orinoquia region, is recognized for its abundant biodiversity and ecosystem services, presents a prime opportunity for the development of a nature-based economy [30].

2.5. Competitors

Some of Manitoba S.A.S's main competitors in Colombia may include companies such as Nutresa, Frito-Lay, Colombina, Alpina, and Grupo Éxito. These companies also offer food products and have a significant presence in the Colombian market. However, it should be noted that Manitoba S.A.S focuses on organic and healthy products, which could differentiate it from some of its competitors.

Grupo Nutresa S.A. holds a dominant market position in the food industry, as evidenced by its substantial operating revenues of \$2.666 million dollar (COP 12 trillion) in 2021 [31], making them the leading processed food company in Colombia and one of the most important players in the sector in Latin America.

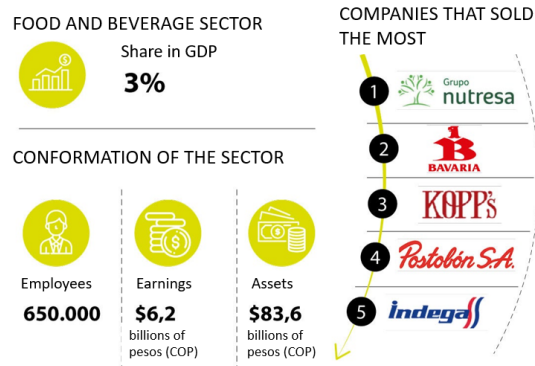


Figure 10: Economic balance summary of Grupo Nutresa [31].

According to report published by EMIS Benchmark, at the end of 2020, the processed food industry in the Colombian market generated sales of \$7.185 million dollars (COP 34,7 trillion). Grupo Nutresa S.A, with domestic sales of \$1.387 million dollars (COP 6,7 trillion), had a 19% share of the sector's total sales [32]. The company, was founded in 1920, currently has about 46.000 employees and operates through eight business units: Meat, Biscuits, Chocolates, Tresmontes Lucchetti - TMLUC-, Coffees, Consumer Foods, Ice Cream and Pasta [33]. The Nutresa group has many companies, but Manitoba's main competitor is La Especial (part of the chocolate Business of Grupo Nutresa) a leading company in the chocolate and snacks market, which has production plants in Costa Rica, Mexico, and Peru [33].



Figure 11: Different peanuts products of La Especial

On the other hand, is Frito Lays, a PepsiCo subsidiary, is a major player in the savory snack market and boasts numerous well-known brands. This company has a presence in more than 42 countries and generate a revenue to \$43,5 billion dollars,

representing 55% of PepsiCo's aggregate revenues amounting to \$79 billion dollars, the remaining balance of which is attributable to Pepsi Cola and other branded beverages within the company's portfolio. The organization in question holds a dominant market position in the category of portable food and savory snacks. With an estimated market share of nearly 60% in the United States' potato chip sector, which represents its most significant market, the company competes against players such as Kellogg (Owner of Pringles), Campbell Soup (Owner of Kettle Chips), as well as private-label manufacturers [34]. The product that competes with Manitoba S.A.S is Maní Moto, a snack that is very similar to the Japanese Manitoba S.A.S peanut. But after conducting several market analyses, the multinational company PepsiCo decided that the brand (Maní Moto) would be leveraged not only for the coated peanut segment in which it is a leader, but it would now also be extended to the traditional salted peanuts which the company promoted under its global brand, Frito Lay [35], which could be a threat to Manitoba S.A.S.



Figure 12: Manitoba S.A.S (Japanese peanut) vs. Frito Lay (Maní Moto)

Nevertheless, 84% of Colombian are concerned about their diet, with a preference for local, natural food and organic alternatives [29]. Healthy food consumption is significantly on the rise among Colombians due to changes in their habits and preferences, according to Legiscomex's research. Moreover, households that belong to the medium-high and high socio-economic strata tend to exhibit greater consumption of food items that provide added nutritional value. It is worth noting that people are buying products from companies that are socio-environmentally responsible and implement proactive corporate environmental strategies [36].

2.6. Analysis of international competition

Main competitors: Mani Moto and Fritolay (From Pepsico), La especial and Tosh (From Nutresa), Del Alba, Nature's Heart, and Hatsu. In terms of international competitiveness, I focused on the company's top export destinations, which are Panama, Peru, Ecuador, and Bolivia. The aim was to see how peanuts are disseminated in different countries, whether they are cultivated and whether the distribution companies import them or not.

In the case of Panama, they are not peanut farmers, meaning that they do not grow peanuts or their derivatives in the country, hence their distribution is entirely imported. This affects the fact that the price of peanuts in Panama is higher than the Colombian price and because of this its commercialization is lower and does not generate a direct threat. However, with the help of IICA Panama, the Ministry of Agricultural Development and firms in the sector are looking into the prospect of introducing peanut crops to motivate and encourage the country's agribusinesses [37].

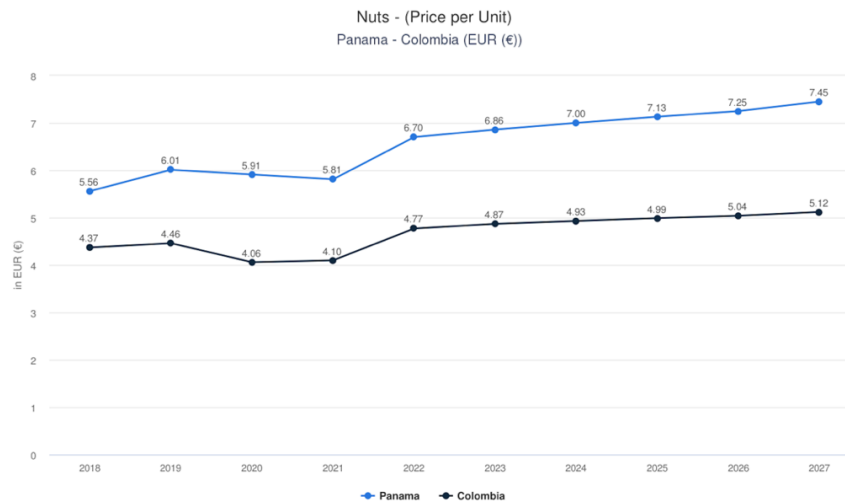


Figure 13: Nuts price per unit comparison between Panama – Colombia [38]

Therefore, if we analyze the volume in kilograms marketed and the revenues between Colombia and Panama, the difference between these two countries is very large because one does not produce its own peanuts and its selling is mostly by imported products, while Colombia may partly import some raw material for the production of peanuts, it is also a country that has its own crops and this difference can be seen in the figure below where the volume of nuts treated in millions of kilograms each year is related. In terms of volume, Panama only traded approximately 20% in relation to Colombia's volume in 2022, which was 43,49 million kilograms and in terms of revenues in 2022 Colombia made € 207,33 million almost more than 4 times the revenues from Panama, which were of € 56,92 million [38].

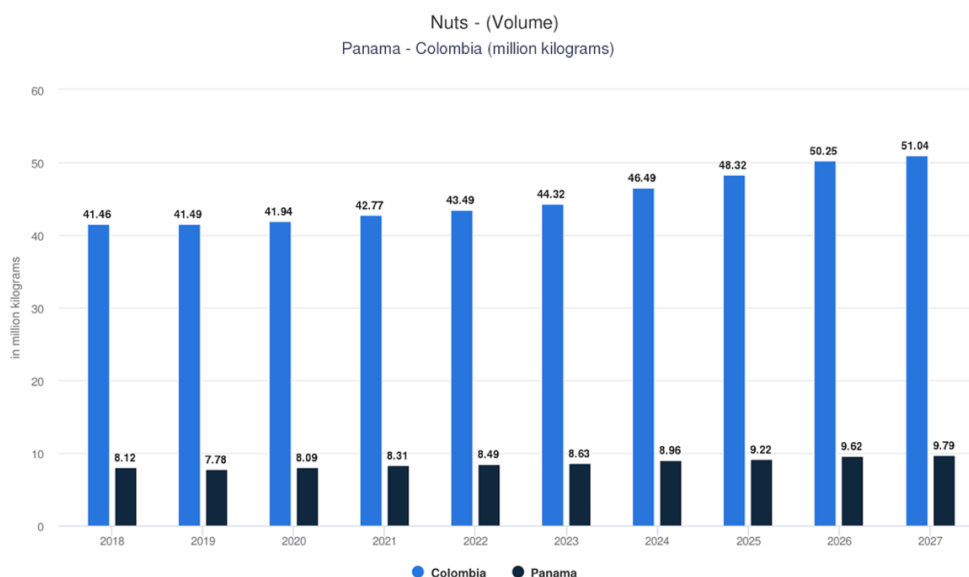


Figure 14: Nuts (Volume) comparison between Panama – Colombia [38].

In the domestic market, Peru has a robust peanut and nut sector, as well as enterprises that export to other countries in the region. For example, Noubi S.A.C and Agroexportaciones Llacta S.A.C, are agricultural firms specializing in the production and export of peanuts and walnuts, with a portfolio that also includes the export of grains and spices. The company MANI PERU S.A.C. reported in 2019 exports for a value of \$1,362 million dollars, experiencing likewise a sharp drop due to the

pandemic in 2020 to a value of \$291.542 dollars. This fall in peanut exports was not only in this company but in general, in fact, profits fell from €237 million in 2019 to € 230 million in 2022, while Colombia had a more vertical decline from €185 million to €170 million. Below is a graph of exports from Peru, which may be a threat because this market continues to grow over the years, in 2021, Peru's exports were 3,64 million metric tons for a value of \$2,86 million dollars [39].



Figure 15: Export value & Export volume in Peru 2021 [39].

Currently, Ecuador produces up to 1500 tons of peanuts annually, with 10–20% of those going to the country's confectionery industry. A newcomer to the Ecuadorian peanut market, Mani Mania Food Company Manihabs S.A, reported a 4,32% decline in net profits in 2019. Total Assets for the business grew by 0,83%. In 2019, Mani Mania Food Company Manihabs S.A.'s net margin increased by 0,28%. It is a small company, but it exports food products manufactured from peanuts.

Finally, Bolivia has a large planting area dedicated to the production of peanuts and other nuts. Bolivia's biggest peanut producer, Productora y Comercializadora Agrinuts S.A, has positioned the country as a specialist peanut exporter and one of the top 20 peanut exporters in the world, with Peru being the largest customer of peanuts from Bolivian harvests with 85% of total exports and a volume of 10,8 million kg \$9,5 million dollars. Then is Colombia, with 641.113 kg \$686.028 dollars, followed by Ecuador 287.950 kg \$326.483 dollars and other countries on a smaller scale. It should

be noted that peanut exports increased by 6,7% comparing the same periods of time between 2021 and 2022 in the first eight month they reached \$ 10,5 million dollars, to reach \$ 11,2 million dollars. According to National Institute of Statistics (INE) data, the number of exports was greater than the 11.077.460 kg reported between January and August 2021 at 12.115.462 kilos, an increase of 9,4% [40].

2.7. Clients

- **Industrial:** They sell B2B products for companies like Colombina, Bimbo among other for them to produce other final products.

Colombina, a company that was established in 1927 in Cali, Colombia and is now a world leader in food production. Centered on the production and marketing of food in several categories (confectionery, biscuits and pastries, sauces and preserves, ice cream, and baby food), with recognizable brands that have a high perceived value and are affordable to everybody. In 2022, net revenues were 2,9 trillion COP and 44% of earnings were from international sales [41].

Grupo Bimbo, S.A.B. de C.V. is a Mexican multinational company with a presence in 34 countries in the Americas, Europe, Asia and Africa and annual sales volume of \$19,8 billion dollars [42].

- **Institutional (Government):** Sale of products with high nutritional content for children with malnutrition in Colombia.
- **Alliances with own brands:** they produce different products with the Supermarkets brand such as D1 (hard discounts stores), Exito, and Carulla.
- **Foreign market:** 12 countries in South America, Central America, and the Caribbean [43].

2.8. The 5 forces of Michael Porter

F1. Bargaining power of buyers or customers: Manitoba S.A.S sells its products mainly to chain stores, around 70% of its production is destined to these large surfaces. Years ago, “El Exito” (is a Colombian chain of supermarkets and hypermarkets belonging to the Exito Group) was the largest buyer of Manitoba, accounting for approximately 50% of its sales.

Nowadays, with the hard discount stores, that are outlet for the sale of foodstuffs on a self-service basis, under a specific ensign, and with a surface area of 400 to 800 m². The product mix on sale is restricted to commodities [44]. Manitoba S.A.S with these supermarkets manages to sell even more and these stores are Manitoba's main source of income since they sell their peanuts under their own name at a lower price. These stores achieved sales potential due to its investment, in 2022 D1; a company with the higher number of points of sale in Colombia, reaching 2.000 stores, covering 87% of the territory, in 28 departments and 450 municipalities [45], which belongs to the Santo Domingo Group, sold COP 13,9 trillion, while the Exito, which is part of the French group Casino, billed COP 10,1 trillion. In new capital, D1 stores try to keep prices low will they make "an investment of about \$125 million dollars in 2023, with this investment, it will open stores in 23 municipalities in the country and will forge close ties with 90% of suppliers who are Colombian" announced Christian Bähler Font, president of D1 [46]. The degree of dependence on the chain stores is a cause of concern, but it has been a successful alliance so far. It should be noted that its buyers trust Manitoba S.A.S because it is a company recognized worldwide and the second largest exporter of peanuts in Colombia. In the first semester of 2020 they export \$148.123 dollars [47]. The graph below shows the 5 Colombian companies that exported the most in the first half of 2020.

Top 5 peanut exporting companies in Colombia in the first half of 2020

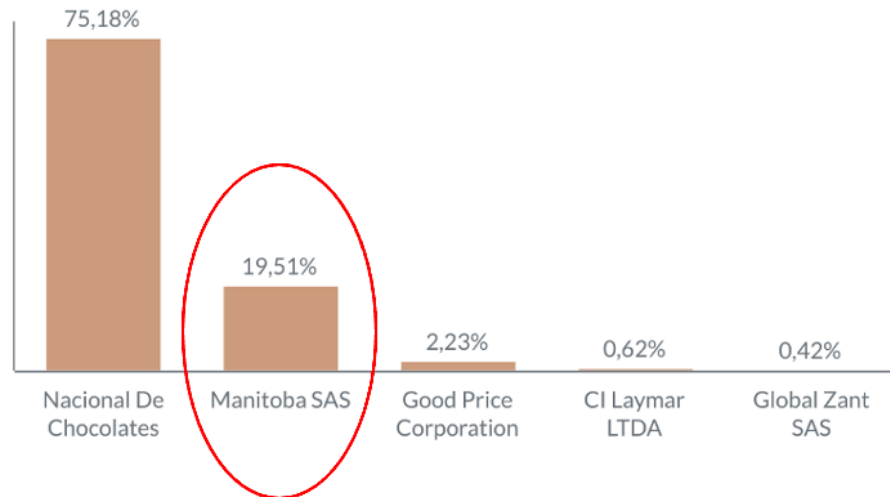


Figure 16: Top 5 peanut exporting companies in Colombia in the first half of 2020 [47]

F2. Bargaining power of suppliers: peanuts and their derivatives are Manitoba's main raw material, representing around 80% of finished products, Manitoba S.A.S has 3 main suppliers from whom it requests the necessary quantities to supply production and any surplus inventory in case there is a shortage for any natural reason. Also, the bargaining power with the supplier is very high because Manitoba S.A.S is one of the companies that imports the most peanuts in Colombia, being ranked second nationally with imports of \$5.928.124 dollars in 2021 [48]. Therefore, by buying so many tons of peanuts can negotiate the price at a lower price. At this point, the purchasing and production departments are very well synchronized to avoid running out of raw materials.

Top 5 peanut importing companies in Colombia in 2021

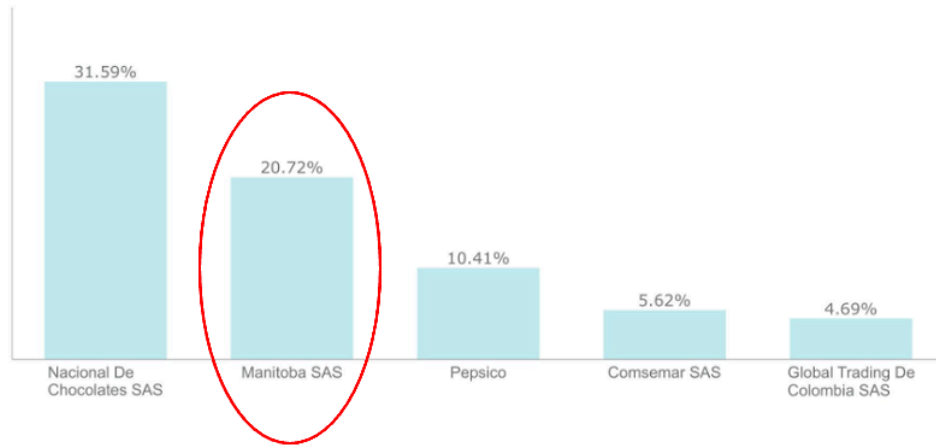


Figure 17: Top 5 peanuts importing companies in Colombia in 2021 [48].

F3. Threat of new competitors: Manitoba does not perceive any new threats that may suddenly emerge; however, competition can be seen in new competitors with the same vision of providing healthy snacks and better understanding of the customer than Manitoba S.A.S, for example “Vector Foods” a premium, gourmet and healthy food company. That have 2 brands ('MonteRojo' and 'UAU!') of snacks in the market. MonteRojo, which may be the possible future competition, has a portfolio of traditional snacks (potato chips, plantain chips, yucas and nachos) with the highest quality ingredients such as Himalayan pink salt or Hawaiian Volcanic Black Salt. UAU offers baked snacks (crispetas, doughnuts and waffles) with the same or less calories than a green apple. With only 6 years in the market, they already have more than 3.000 points of sale in the country and sell in 7 countries besides Colombia [49]. The main threat to the company is La Especial, which is owned by Nutresa Grupo and is a much more established company nationally than in Manitoba S.A.S.



Figure 18: Companies logos of possible threats of new competitors [50] [51].

F4. Threat of substitute products: Manitoba S.A.S few years ago didn't had much direct substitute products but does have indirect competition from snacks such as potato chips, Doritos, popcorn, and other similar products. Nevertheless, over the last years, Manitoba's direct substitutes have grown, as society has become increasingly concerned about healthy diets. In the meantime, new products and brands have emerged, for example Level5Nutrition, that have a sugar-free policy and make use of vegan-friendly ingredients including quinoa, chocolate, and almond milk in addition to gluten-free rice-based flours. One of their most well-known products is Swip, which offers creamy popsicles made with lactose-free, almond and other gluten-free milk. There is also ice cream. Stevia is used to sweeten all foods, and it comes in a range of tastes including cookies, berries, and chocolate. Bitty is another of its products; these baked sweet and savory treats feature crispy mozzarella together with peanut butter and chocolate [52]. Another company is Páramo Snacks, which created the Good Chips brand, inspired by the farming communities in the high mountains of Colombia. Their proposal is to offer baked fruit and vegetable snacks produced by farmers and small traders. It should be noted that all snacks are natural, with no added sugar, made from 100% fruit or vegetables. They sell 25 different items, such as crunchy pineapple, beet and yacon snacks, cauliflower with cheese, crunchy ripe plantain flakes and creole potatoes with no added sugar, as well as potatoes with chili and lemon. Since 2020, they have been exporting to the United States, where

they have a national presence through Amazon and they are distributed in all main stores in Colombia. In 2020, Casa CESA, the company in charge of distributing the Product of The Year seal in Colombia, gave them the prize for Best Product in the Healthy Snacks category. [28].

F5. Rivalry between competitors: as mentioned above, La Especial is Manitoba's main competitor. It can be said that the competition has been "awakened" for about 10 years because previously La Especial did not pay much attention to the sales of its products and did not run such aggressive advertising campaigns, nowadays they buy additional space in chain stores. They have tie-ups with other Nutresa products, so they can give away peanuts in exchange for a packet of "Chocolatinas Jet", and they do all these kinds of promotional strategies so that consumers decide to take their products instead of those of Manitoba's ones. It is also important to highlight the threat that exists with the new owners of the Nutresa group that is Jaime Gilinski that owns 87% of Nutresa [53], who intends to take the company to Africa and then to China, and as for the Colombian domestic market Manitoba does not know to what extent they will become more aggressive in terms of gaining a greater percentage of the market.

About competition, depending on the region, there is a leading company. In the western region of Colombia, principally in "Valle del Cauca" and "Eje Cafetero", Manitoba S.A.S is in the first place, followed by La Especial and Frito Lay in third place. However, at the national level, the leading company is La Especial, then Manitoba S.A.S, and lastly Frito Lay. In terms of price, Manitoba S.A.S uses a parity price system like the competition, but always above, as Manitoba's costs are a little higher and it is impossible to position itself with the same prices. Manitoba S.A.S plays with the grammage of its products to compete via price. As far as products are concerned, Manitoba S.A.S is the leader as it has many product lines and a large variety of products. Finally, in terms of communication, La Especial has a much wider reach as they can advertise on national television and in different media. Manitoba's

strategy consists mainly of point- of-sale promotion with promoters all the year. It also distributes tasting and flyers informing about the benefits of consuming this type of product. It additionally has agreements with chain stores to include them in the weekly leaflets they distribute.

2.9. SWOT Analysis

Table 5: SWOT Analysis of Manitoba S.A.S.

Strengths	Weaknesses
<ul style="list-style-type: none"> • Good sense of belonging of the employees for the organization. • Exporting to 12 countries: Mexico, Guatemala, Salvador, Cuba, Puerto Rico, Curaçao, Panama, Ecuador, Peru, Bolivia, Chile, and Paraguay. • Good image of the Manitoba S.A.S brand. • There is reliability with the banking sector. • Diversity in the portfolio. • One of the most advanced peanut factories in Colombia 	<ul style="list-style-type: none"> • Increase in operating costs, directly affecting the prices of the products. • There is no definition of the selection and hiring structure for operators. • Process flows are not continuous, plant organization is not the ideal, because they waste time.
Opportunities	Threats
<ul style="list-style-type: none"> • Promotion of foreign investment. • Free trade agreements with the United States and other countries. • Growth of the Gross Domestic Product in Colombia. • Citizen's awareness of the need to eat healthier every day. • Greater emphasis on social programs. • Realization of highly qualified personnel contracts. • Good image of the peanut sector. 	<ul style="list-style-type: none"> • The exchange rate is unstable. • Greater migration of peasants to the city. • Slowdown in the growth of the employment rate. • Lack of qualified personnel for new technologies. • Lack of strategic alliances in the peanut sector. • Price war continues. • Continuous increase in informal level competition. • Economic and political instability of the countries.

Source: Adapted by the author based on the company Manitoba S.A.S.

3. ECONOMIC ANALYSIS

Cali is one of the most important cities in Colombia (South America). Currently has 2,28 million inhabitants: 1,22 million women (53,4%) and 1,06 million men (46,6%) [54]. The demand for peanuts is 0,84 kg per capita per year. The Cali market represents 5% of the national demand for this sort of nuts.

3.1. The upward trend of the dollar over the years and its possible causes

Dollar prices have been rising by 172,03%, at least since 2012, with a baseline until December 2022. The dollar in Colombia last year 2022 had reached historic highs, closing the year by reaching 4.810 pesos. Ten years ago, the foreign currency was quoted at an average price of 1.768 pesos, which implies an increase of 3.042 pesos, more than double its value.

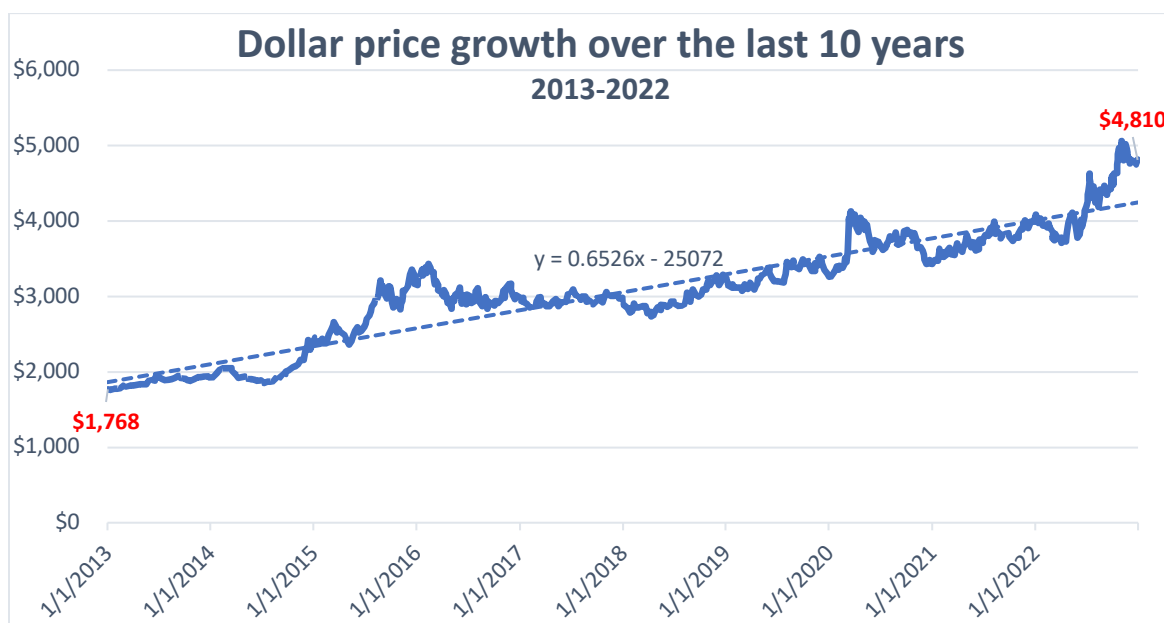


Figure 19: Dollar price growth over the last 10 years (2013 - 2022) [55].

In 2013 the dollar closed the year with a TRM of 1.926,83 pesos, according to data from Banco de la República. According to Dario Rondon, Operations Coordinator of Values AAA, this is explained because the relationship between one currency and another depends on supply and demand. In this manner, the national currency's nominal value relative to foreign currencies decreases because of this macroeconomic phenomenon of devaluation. The government practically never gets involved in interpersonal conflicts in a market where supply and demand are easily available, like the one in Colombia. To preserve their investments, people can freely transfer their money to currencies that are more secure, such as the US dollar and the euro, among others. When this occurs, the price of the dollar increases if there is a limited supply of foreign money [56]. Over the last 10 years, the demand for the dollar against the Colombian peso has been increasing. Nonetheless, this is also impacted by outside variables, such as the political and economic risk of the country.

In the case of Colombia, there is an inversely proportional relationship between the TRM and international oil prices. As Colombia is a net importer of oil and its derivatives, including gasoline. Therefore, the price of gasoline in the country is linked to the value of the U.S. dollar against the local currency, the Colombian peso (COP). When the dollar strengthens against the Colombian peso, the price of gasoline tends to rise, since Colombia needs to pay for these imports in foreign currencies (mainly USD), indicating a higher demand for USD in the Colombian foreign exchange market. As a result, the value of the Colombian peso weakens against the USD, and the TRM depreciates. Notwithstanding this relationship, the dollar in the country has always had a trait of volatility and with an upward trend.

The dollar increases to 2.000 pesos by 2014, with a TRM of \$2.392 at year's end. It kept increasing in 2015 and reached a TRM of \$3.149 on the final day of the year. From that point on, it starts to have a regular margin of volatility that stays within the limitations. In the years 2016, 2017, 2018, and 2019, the dollar fluctuated between

2.000 and 3.000 pesos. In 2020, Iván Duque the ex-president of Colombia resumes a neo-structural economic model added to the covid-19 pandemic, the dollar was positioned at 4.000 pesos. However, the currency fell once again because of the markets' panicked reaction. Until 2021, the dollar reaches 3.800 - 3.900 pesos. It is still not around 4.000 pesos, only until 2022 [57].

During 2022 the dollar has risen 829.04 pesos in Colombia from January 1st to December 31st, which means that the peso was devalued against the dollar by 21,88%, the possible causes of this devaluation were. Firstly, the uncertainty of war that brought Russia's invasion of Ukraine which slow down the economies of the United States and Europe. Due to concerns about a potential global economic slump, this causes the economies of rising countries, like Colombia, to rebound. As consequently, a tendency this year has been the decline in the fluctuation of financial stock markets. As a result, losses have already totaled more than 23,4 trillion dollars in 2022 [56], these could be cause by this factors; The Russia-Ukraine conflict that affect the world economy, a fear of a recession and an inflationary slowdown have caused the US economy to contract and the fear about Colombia's future are heightened by the new left-wing administration.

As mentioned before, a factor affecting the behavior of the price of the dollar in Colombia is a higher inflation outlook in the United States, at the end of June 2022 the inflation reached 9,1%, the highest rate in the last 40 years [58]. As a result, The Federal Reserve (FED) of the United States increased the reference interest rates by more than 75 basis points in June 2022 as an effort to curb this inflationary phenomenon. This was the first increase in reference interest rates in more than 22 years, following a decline associated with the September 11 terrorist attacks. By doing this, the U.S. dollar was strengthened, and the fast rise in demand that was caused by the Covid-19 epidemic in 2020 is attempted to be corrected.

However, the currency is still strengthening, nevertheless, despite a climate of global and local anxiety brought on by high inflation, anticipated central bank rate increases, the possibility of a probable recession, and geopolitical tensions, particularly those related to Russia's invasion of Ukraine [59].

If the price of the dollar continues to rise, importers of goods and services will see an increase in the production costs of inputs that must be imported since there is no domestic market for substitute inputs. Because of the strengthening currency, rising manufacturing costs, and declining supply of some product lines (snacks), peanut companies may have faced a decline in profitability. A 1% price increase by a company in the peanut market would cause the quantity demanded to decrease by more than 1% (assuming that the demand for peanuts is elastic). This decrease in profits is also a result of the difficulty of translating dollar price increases to the market price of snacks (salted, sweet, coated peanuts, etc.).

3.2. The impact of the dollar price on the peanut market

The relationship between the dollar price and peanut production will be examined using the supply and demand model and by the microeconomic effects on the market can be understood using this approach. The supply curve is defined as the quantity that producers of a good are willing to sell and at a given price. In other words, the relationship between the price and the quantity offered. Contrarily, the demand curve shows how much customers are willing to pay for a product as the price changes [60]. It is necessary to position these items as complementary goods, which are described as products that are typically used together, due to their compatibility or ability to increase one another's usage, by this manner it is easier to comprehend the relationship between the dollar price and peanut production. Because these products are combined to meet consumer demands, their relationship (input-output)

is unquestionably close because the dollar is the cash required to purchase the inputs (raw material) for the manufacturing of peanuts. As a result of the growth in manufacturing costs, the supply of peanuts is shifted to the left by the rise in the price of foreign exchange. Therefore, there is a negative cross elasticity. As depicted in the following figures.

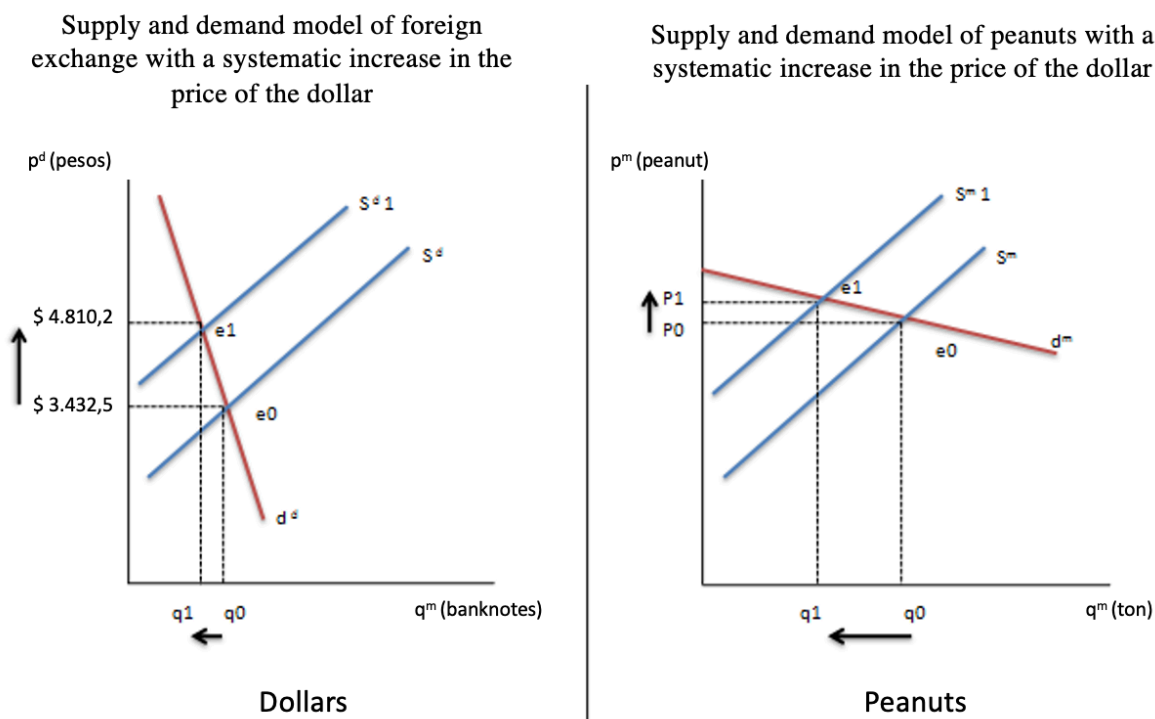


Figure 20: Supply and demand models of foreign exchange & peanut with a systematic increase in the price of the dollar

The graph shows a slightly inelastic demand as there are few substitutes for the dollar. A supply shifted to the left due to the devaluation of the peso causing a new equilibrium at a higher price and slightly less quantities traded.

According to the above graph, a new equilibrium is evident due to the increase in the cost of raw materials because of the systematic increase in the dollar. Foreign exchange and peanuts are complementary; an increase in one affects the supply of the other.

As mentioned, these goods are complementary since when the supply of foreign currency shifts to the left, the amount of dollars traded is lower and the price

of the dollar goes from \$3.432,5 on January 1st, 2021, to \$4.810,2 at the end of 2022. The normative and positive analysis in this economy will be studied as a result of this fluctuation in the price of the dollar. According to the normative analysis, which is the analysis that should take place in a society, the production and supply of peanuts shift to the left whenever the price of the dollar rises steadily because of an increase in manufacturing costs. A new equilibrium is formed with the purchase of products to produce peanuts, such as almonds, cashew nuts, pistachios, and blueberries, whose supply is very scarce in Colombia due to the agroecological conditions that do not allow the production of these goods. As a result, the raw material costs more, which has a significant impact on the production of peanuts. In an interview with the manager of Manitoba S.A.S, he confirms that this rise in the price of the dollar had a significant impact on 2022, making the profit margins very small without allowing for quick reaction due to the continual climb that occurred month after month. Therefore, it is necessary to increase the price of peanuts by approximately 4% but the market does not allow higher increases due to the elasticity of demand; a price increase of 1% would cause the quantity demanded to decrease by more than 1%, affecting the income and profits of producers [61]. Nonetheless, it is necessary in order to partially balance the overall expense of processing peanuts. Therefore, this good will be a little more expensive, which implies that production decreases from q_0 to q_1 as shown in the previous graph (Supply and demand model of peanuts with a systematic increase in the price of the dollar).

This new equilibrium is not entirely favorable for the companies because the prices of foreign currencies are not equalized, which have increased by 70% according to the last year with respect to the new price of peanuts, since the market does not allow an increase of more than 4%, which makes the companies reduce their offer to the left, making the equilibrium quantity much lower.

We must add that the demand for peanuts from nearby nations with internal economic issues, such as Venezuela and Bolivia, has decreased. These countries are important consumers of Colombian peanuts, but since they are currently experiencing economic hardship (lower GDP and household income), demand will be even lower, making it difficult to make the same sales as in prior years.

In Colombia, the following could occur in the long term: a decrease in the demand for labor, a lower use of machinery (K) generating unemployment. As a result, lower income for peanut manufacturers and probably lower profits are expected.

The new equilibrium caused by the systematic increase in the price of the dollar has both positive and negative effects on economic agents. For the peanuts manufacturers, this increase in foreign currency has been negative since these companies import their raw materials like Peanuts, Raisins, Almonds, Cashews, Cranberries, Corn/maize, Blueberries, Pistachios and others, which makes the total average cost of the product increment, making it increasingly difficult to market the good. In the image below, you can see the products that Manitoba S.A.S imported in 2022 and their countries of origin along with their percentage of participation.



Figure 21: Products that Manitoba S.A.S imported in 2022 and their countries of origin along with their percentage of participation [15].

The prices of these raw materials vary according to their harvests each year and change according to the cost of the dollar. In 2022 Cali companies as well as the country had a strong change in the price of the dollar causing prices to change significantly. It also happens, when there are droughts or there are changes in

consumption worldwide. Closing 2022 after its driest three-year stretch on record, California braces for another year with below-average snow and rain [62], which influenced the price of raw materials for almonds, pistachios, and walnuts. In another particular year, corn/maize was used to make biodiesel (substitute raw materials) due to the exaggerated prices of oil; a 1% increase in the price of oil it will increase the demand for corn/maize by perhaps more than 1% to replace this energy source and increase the supply of fuels in the world, this caused less oil to be produced for human consumption, which caused the supply of corn/maize for human consumption to decrease and therefore the price increased.

Table 6: Raw material prices on the international market in 2022

Raw materials	Price in dollars (\$/kg)
Peanut	1,67
Almonds (depend on the type)	3,86 – 8,83
Cashew	6 – 7
Blueberries	5 – 7
White corn / maize	0,75
Pistachio	8 – 14,35
Raisins	1,5

Source: Adapted by the author based on [63] [64] [65] [66] [67] [68] [69].

On the other hand, the positive analysis understood as the analysis that describes the reality allows us to see according to the data in table below (Income statement of Manitoba S.A.S from 2013-2022 in thousand dollars) that the systematic increase in the price of the dollar did not decrease the production of the company even though its costs were higher for example in 2021 the cost of goods sold was \$ 20,21 million dollars and in 2022 it was \$ 25,22 million dollars an increase of 24,79% explained by the increase in the dollar among other factors. The company decide to continue producing because in 2018 they expand to a facility that cost \$ 7,5 million dollars which the expansion projected was for five years, they expected to be paid in

full by 2021 [18] also in 2019 - 2020, they expanded its plant once again to introduce a new product line called “Consciente”, offering value-added healthy products [70]. Additionally, the contracted capital stock is higher than before, that is why they will try to distribute the cost increase due to the increase in the price of the dollar among a higher level of production by diversifying the peanut, like a monopolistic competition type, for an average variable cost and an average fixed cost lower.

Average variable cost:

$$\text{Average variable cost (AVC)} = \frac{\text{Variable cost}}{Q}$$

Equation 1: Average variable cost

Average fixed cost:

$$\text{Average fixed cost (AFC)} = \frac{\text{Total fixed cost}}{Q}$$

Equation 2: Average fixed cost

While it is true that they will be higher, they would be even higher if they decide to close some peanut production lines or reduce peanut production (minimizing losses). In other words, what they are trying to do is to increase the level of production in order to sell them at the market price and thus try not to reduce their profits. This company expects that in the medium term the price of the dollar will tend to decrease, in other words that the exchange rate will be revalued and therefore its profits will return to normal with the level of plant that they have, with the workers that they continue hiring and the costs that they have. In short words, with the exchange rate as it is, Manitoba S.A.S will have to continue producing assuming that at some point the exchange rate will go down. Consequently, profits are sacrificed in 2022 for the sake of having the best profits in 2023 onwards, more or less as it happen in 2015-2016.

Table 7: Income statement of Manitoba S.A.S from 2013-2022 in thousand dollars

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Operating revenue (Turnover)	33,723	28,702	25,372	21,742	16,988	17,252	13,449	11,410	12,535	12,773
Sales	33,610	28,664	25,312	21,625	16,661	17,131	13,449	11,410	12,535	12,773
Costs of goods sold	25,218	20,208	17,640	13,548	9,989	10,199	7,736	6,657	6,530	6,590
Gross profit	8,506	8,494	7,731	8,194	6,999	7,052	5,713	4,753	6,005	6,183
Other operating expense (income)	8,475	7,085	6,601	7,081	6,405	5,602	3,768	3,470	4,384	4,611
Operating profit (loss) [EBIT]	30	1,409	1,131	1,113	593	1,450	1,944	1,282	1,621	1,573
Financial profit (loss)	905	340	652	411	255	-360	-1,239	0	0	0
Financial revenue	905	340	652	411	255	207	n.a.	n.a.	n.a.	n.a.
Financial expenses	n.a.	n.a.	n.a.	n.a.	n.a.	566	1,239	n.a.	n.a.	n.a.
Profit (loss) before tax [PBT]	935	1,749	1,783	1,524	848	1,091	706	1,282	1,621	1,573
Income tax expenses (benefit)	407	586	716	589	305	634	321	225	365	346
Profit (loss) after tax [PAT]	528	1,163	1,068	934	543	457	385	1,058	1,256	1,227
Net extraordinary revenues (expenses)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-699	-575	-666
Extraordinary revenues	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	459	361	211
Extraordinary expenses	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1,158	936	877
Profit for the period [Net income]	528	1,163	1,068	934	543	457	385	359	680	560

Source: Adapted by the author based on Orbis database [71].

As shown in Table above, these increases in production occur because the average total cost is decreasing, which indicates that additional quantities must be produced to compensate the costs of the increase in the price of the dollar. In effect the data seems to give us the reason since in 2021, 7.535.000kg were produced and sold and in 2022 it happened to be 9.842.000kg transacted. In 2020 and 2021 profits remained continue to grow steadily and because of the increase in the dollar price these profits were reduced in 2022 to \$5.280.000 dollars a reduction of 45,4% and the peso (COP) was devalued against the dollar by 21,88%. Through the strategy mentioned before in 2023 they could see some recovering with a devalued peso.

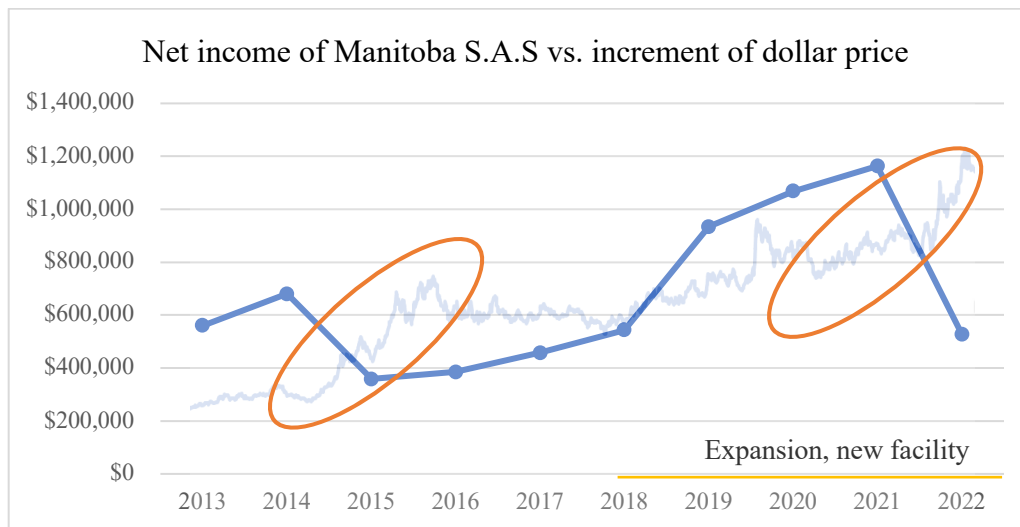


Figure 22: Net income of Manitoba S.A.S vs. increment of dollar price (2013-2022)

According to the above graph, we can see a very similar pattern that the company suffered in the period from 2014 to 2016, where the dollar was appreciating with respect to the Colombian peso, one of the causes was due to the scarcity of dollars in the world because if there are many dollars in circulation, demand won't be as high and price will drop; conversely, if there are few dollars available, demand increases and price will rise. Since the dollar is the most often traded currency in the world, there was a large shortage, which leads to a spike in demand. Another reason was due to the oil crisis, where the oil price reference for the New York market fell to levels of \$75 per barrel [72]. As a result, Colombia received fewer dollars for its crude oil exports and the finances of the oil companies operating in the country were affected. Despite this decrease in profits, the company expanded its portfolio and diversified its products to compensate the profits of some products such as peanut butter and salty peanut, which were the one that brought the most profits due to exports, with the losses of other products that needed to be imported since they were not produced in Colombia.

Simultaneously, this increase in the price of the dollar has also some positive aspects for exporting manufacturing companies because when the currency of the exporting country is devalued against the currency of the importing country, the purchasing power increases. Therefore, there is a reduction in the relative cost of products since the exchange rate allows to buy more currency with which to pay the supplier in its country of origin [73]. In other words, the increase in the price of the dollar represents more profits for exporting companies, which could benefit the generation of jobs. This positive effect is seen in peanut butter since it is a domestic product and exports are growing, thus production as well.

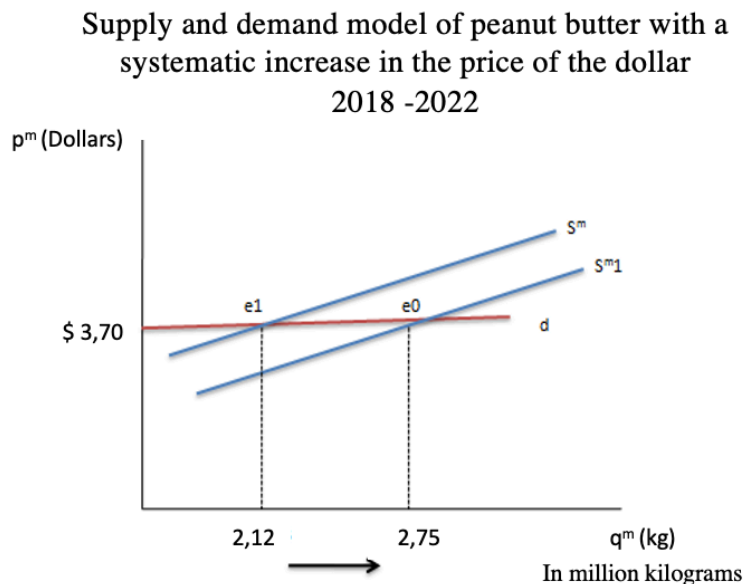


Figure 23: Supply and demand model of peanut butter with a systematic increase in the price of the dollar (2018-2022) [74].

The graph shows a very or totally elastic demand because there are many substitutes for peanut butter in America. An elastic supply since it is easy to produce one more kg of peanut butter, shifted to the right because of the increase in the price of the dollar, encouraging domestic production.

Although the average yearly consumption of peanut butter in Colombia is only 5 grams per person, the country leads the area in terms of exports and Peru is its biggest customer. If peanut butter is analyzed globally, Argentina is the top producer of this food in Latin America, and China and the United States are the top producers globally. According to an analysis of Colombian peanut butter which studied exports in the first 8 months of 2022. The amount reached was \$366,214 dollars, and the top 5 exporting companies were: in first place, Compañía Nacional De Chocolates SAS with \$198,869 dollars (FOB). In second place, Manitoba SAS with \$159,194 dollars (FOB). Followed by Up Nutricional Food SAS by \$7,726 dollars (FOB), CI Logistica Sofimar with \$317 dollars (FOB) and La Equitativa Fair Trade Company SAS by \$105 dollars (FOB) [75].

3.3. The advantages of devaluation

Recently, domestic markets are increasing the supply of imported substitute goods thanks to the protection of devaluation. For example, products such as peanuts or nuts because their cultivation can be planted in cold or warm lands, but first certain protocols must be followed for the efficiency of this planting as you may have read in section 1.4, peanut production in chapter 1. On the other hand, raw materials that are not produced in Colombia and need to be imported are those of cold temperate which Colombia does not have such as blueberries, raisins, cashew among others, which were more affected by the rise in the price of the dollar and therefore its production in certain lines of peanuts. The high price of peanuts has become an incentive for some national entrepreneurs to start offering these products. For example, peanut cultivation companies in the department of Meta have now planted 350 hectares which produce a yield of approximately 3 tons per hectare of peanuts. Beginning to offer these peanuts in exchange for imported peanuts from other countries due to the increase in the price of the dollar. Also, Manitoba S.A.S want to emphasize that they want to work with ancestral products sourced from small or medium-sized companies

that cultivate them [70]. An example is cashew nuts that are being cultivated in Vichada, Colombia. They are actively exploring options in that direction.

This can be analyzed through the comparative advantage model of David Ricardo and it is evident that although Colombia is a country with comparative disadvantage with respect to China which is the main producer of peanuts in the world with 35,7% and is followed by India, Nigeria and the United States with 13,3%, 9,4% and 5,7%.

If the global market is analyzed, the INC projects a 50 million metric ton (mt) worldwide output, a minimal 1.5% decrease from the 51 million mt produced in 2020–2021. Due to smaller carryover stocks at the beginning of the season, the total amount of goods available has also decreased. In India, production increased by 0.9% to 6.76 million mt, in Nigeria by 9.1% to 4.80 million mt, and in China by 4.0% to 18.2 million mt. US production increased by 4.2% as well. China is under pressure since local demand has decreased while imports have increased over the past year. Peanut oil has been produced in large quantities. Between January and November 2021, China purchased 983,000 mt of peanut kernels, and prices are not anticipated to go down anytime soon. High yields led to a boost in production in India even though the area seeded shrank by 3%. Gujarat which is the fifth-largest Indian state by area is responsible for up to 37% of the nation's production. The INC also expects a very strong US production in terms of quantity and quality. Even while local demand is still high, due to the fall in Chinese demand, residual inventories are thought to be just around 3 million mt. Despite the rise in freight costs, prices are predicted to stay stable. Domestic shipping costs have even doubled. Lack of truck drivers and port congestion are also doing little to assist the issue. Argentina experienced exceptionally dry and warm weather in January, and Cordoba, the nation's peanut production center, is still assessing the effects of the drought. The INC also projects that the area seeded

will be 395,000 hectares, down 4% from last year, and that the yield will be 3.7% lower [76].

Table 8: Inshell peanut production, in 1,000 mt (2020/21 - 2021/22)

Country	2020/21	2021/22	Diff.
China	17,500	18,200	4.00%
India	6,700	6,760	0.90%
Nigeria	4,400	4,800	9.10%
USA	2,782	2,898	4.20%
Senegal	1,600	1,700	6.30%
Argentina	1,350	1,300	-3.70%
Indonesia	970	960	-1.00%
Brazil	640	700	9.40%
Ghana	450	450	0.00%
Vietnam	413	400	-3.10%
Côte d'Ivoire	210	210	0.00%
Nicaragua	180	205	13.90%
Mexico	102	92	-9.80%
South Africa	80	80	0.00%
Others	12,960	11,270	-13.00%
Total	50,776	50,010	-1.50%

Source: Adapted by the author based on [76].

Having analyzed the global market, Colombia should continue producing peanuts because now with the rise in the price of the dollar the other variables with respect to the relatively low cost in these countries becomes more expensive because it is more expensive to transport and even produce peanuts and the opportunity cost of this good especially in the United States is high because they prefer to produce other goods; for this reason, a country does not produced what has a lower cost, but the one with lower comparative costs, and as Colombia has some land available for the production of peanuts, it could specialize in this type of good where it now has a greater comparative advantage over its neighboring countries and can increase its participation in the international market, given by the devaluation of the exchange rate.

3.4. Devaluation and production costs

The peanut companies in Cali Colombia, operate in a perfectly competitive market, due to the existence of many sellers and buyers, almost all the companies sell the same goods or very similar, market share has no bearing on pricing, businesses can enter or quit the market without any obstacles, consumers have full or perfect information, and companies are unable to set prices. It is a market that is solely influenced by market forces, in other words. That's way these companies rely on choosing production factors that minimize the cost of production, some of these costs vary when production varies while others remain stable if the company produces something. The follow table shows the price of salted peanuts x200gr from different companies, there was not found a supermarket that distributed all these brands so there may be variation in prices.

Table 9: Price of salted peanuts x200gr from different companies

	Manitoba S.A.S	La Especial	Frescampo	Frito lay
Price in COP	\$ 3,579	\$ 3,800	\$ 4,200	\$ 4,840
Price in Dollars	\$ 0.89	\$ 0.95	\$ 1.05	\$ 1.21

Source: Adapted by the author based on [77] [78] [79].

In this business to produce 1kg of salty peanuts costs \$ 4 dollars in 2022 but the market price is approximately \$5 dollars between companies in the same year. The Cali market at this price is willing to pay that amount of money, for these reason they are called price takers, (companies that must accept prevailing prices in a market, lacking the market share to influence market price on its own) [80], as they determine that the price per kilo per peanut is rational so that it is within the reach of income of the society. As peanuts are a homogeneous product, their goods are almost identical, they cannot charge a price higher than the market price; therefore, these companies consider the price agreed. If a peanut company desired to raise the price of peanuts

because of the increment of dollar price, sales might decrease because people would not be willing to pay much for this product. In other words, the demand faced by each company is totally elastic; a 1% increase in the market price attempted by an individual company would cause its own sales to be zero.

Hence, the variable cost understood as an expense for the firm that varies according on how much is produced or sold. Variable costs grow when production increases and fall when production lowers, depending on the volume of a company's sales [81]. If the company produces nothing (zero output), there are no variable costs incurred because there is no production activity. In this instance, the fixed cost alone would represent the total cost. This occurred because there is no manufacturing, therefore there are no variable costs that adds to the total cost. It's crucial to remember that even when a company doesn't produce anything, it could still have continuous fixed costs to pay. These fixed costs are the expenditures necessary to keep the infrastructure and commercial activities running even when there is no production. For this reason, it is an option that the company could not take, therefore it must continue producing and in greater quantities with the products that generate greater profitability to try to amortize the costs. In this market, if you look closely, both buyers and sellers are satisfied because the buyers are buying exactly the number of peanuts they are satisfied with, and the sellers are selling exactly the amount of peanuts they want to sell.

Manitoba S.A.S, like the other peanut companies in Cali, tends to maximize its profits, despite the constant rise of the dollar, therefore they must look for the best strategy to obtain the best possible results in face of such variation of the exchange rate. For this reason, gross profits will be analyzed, which is the difference between total revenue and total cost. The cost of goods sold in 2022 was of \$25.218.000 dollars, this cost depends on the level of production which in was 9.842.000kg and when this production is sold the revenues is obtain \$33.723.000, it depends on the

quantity sold and the price charged. With these two factors the gross profit of the company is found, which is the difference between the total revenue and the total cost. As is shown in the following graph. The horizontal axis shows the quantity of peanuts produced in kilograms per year. The total revenue and total costs are both displayed on the vertical axis in dollars. The total cost curve intersects with the vertical axis at a value that indicate the level of fixed costs, and after slopes upward.

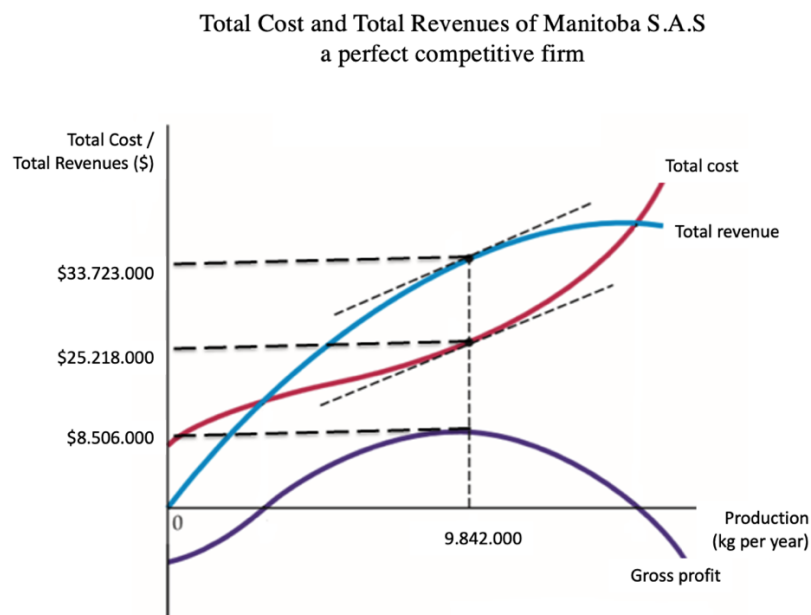


Figure 24: Total cost and Total Revenue of Manitoba S.A.S a perfect competitive firm

As shown in the Figure (Total cost and Total Revenue of Manitoba S.A.S a perfect competitive firm), profits are negative at low production levels, this is because income is not enough to cover variable and fixed costs, which are even positive when the company produces 0kg of peanuts. Even though in 2022 the costs are higher, what peanut manufacturing companies should do is to use the profit maximization criterion, considering the variation of the exchange rate: the marginal revenue given by the market price is equal to the marginal cost involving the change in the price of the dollar. The maximum profit will occur at the quantity of production where total revenues exceed total costs by the greatest amount. In the graph this production is q_0 which in the case of Manitoba is approximately

9.842.000 kg. If the company would decide to produce a higher level of production, total cost will begin to slope upward more sharply because of diminishing marginal returns.

As an alternative, profits will be highest when marginal revenue (price for a perfectly competitive firm) equals marginal cost. A company is in the profit-maximizing range of output if the market price it faces is higher than average cost. When the market price is less than the average cost at the production quantity that maximizes profit, the company is making losses. The company is not making any money if the market price is equal to the average cost at the level of production when profits are maximized. At the lowest of the average cost curve, where the marginal cost curve crosses, economists refer to this location as the "zero profit point." A perfect competitive company should cease operations right away if the market price it encounters is less than the average variable cost at the profit-maximizing production level. But if a firm market price is above its average variable cost but below its average cost, the firm should keep producing in the short run but exit the market in the long run [82]. These cases are shown in the figure below.

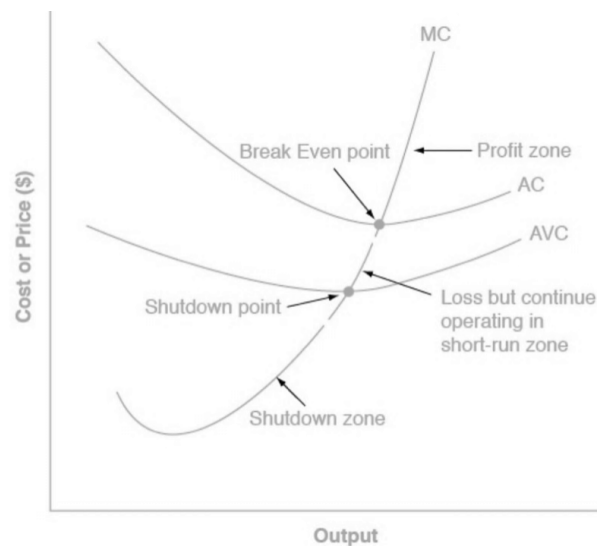


Figure 25: Short-Run Outcomes for Perfectly Competitive Firms [82]

3.4.1. Affected Peanut lines.

In favor of maximize profits, the company was forced to reallocate resources within the company; the sweet lines (coated peanuts) had a decrease in the last two years of 9%, while the salty line had an increase of 41% and the spreadable products had an increase of 73%. Manitoba S.A.S. had to reevaluate which products to produce in smaller or larger quantities to maximize its profits and reduce its costs as consequence of the increase in this foreign exchange rate.

Table 10: Percentage growth in dollars and in kg for the different types of peanut lines

PEANUTS LINES	Percentage growth in KG				Percentage growth in dollars			
	2019	2020	2021	2022	2019	2020	2021	2022
Salty	9%	7%	23%	18%	10%	7%	23%	20%
Premium	105%	79%	37%	-23%	73%	63%	29%	-22%
Mixes	7%	2%	30%	11%	7%	11%	21%	10%
Sweets/Coated	-4%	20%	-1%	-8%	0%	20%	7%	-8%
Fruit	3%	-4%	-11%	-6%	5%	-2%	7%	-2%
Spreadable	-25%	37%	34%	39%	1%	38%	33%	49%
Raw Products	4%	-15%	59%	80%	-3%	-15%	65%	283%

Source: Manitoba S.A.S. growth report in kg and (\$) (2022).

As for the production of the 7 peanut lines, the most affected was the sweet/coated peanuts because its chocolate, Japanese, sesame and honey snacks reduced their production after the impact of the dollar price in 2022; however, the sweet peanut was the only one in this line which increased, which meant that the deficit of this line were not greater because the total production of the coated peanuts line in 2020 from 1.381.764kg and in 2021 went to 1.370.812kg and in 2022 to 1.259.860kg, it must be that the production of this peanut product is in low demand due to imported raw material. This did not bring them greater benefits and they were dedicated to sell more quantity in the lines where it brought them greater benefits,

even though there remained snacks where the cost was very high like the mixtures (nuts) and Premium (macadamia, cashew, pistachios, and corn) because they have as raw material imported products. The spreadable, salted, and raw products lines increased their production because these lines were the ones that were able to compensate intended for the systematic rise in the price of the dollar because these goods required less imported raw materials and could be produced with domestic commodities. In short, the peanut line that should always last and maintain with great care are the salted ones; in fact because it is the most produced and the one that brings more income for the company, and it is less affected by the variation of the exchange rate, in order to seek the profit maximizing solution for the company, reallocating the production in the different peanut lines to compensate the deficit that brought the rise in the price of the dollar in 2022 in Cali, Colombia.

4. FINANCIAL ANALYSIS

The financial analysis is used to examine economic trends, formulate financial policy, develop long-term company goals, and find potential investment projects or firms. This is accomplished by combining financial numbers and data. A financial analyst will look at a company's financial accounts, including the income statement, balance sheet, and cash flow statement, and will be analyzed the profitable ratios, operational ratios, and structural ratios.

4.1. Financial statements

The financial statements of an organization are a structured financial presentation of the transactions that have been made, in accordance with the Accounting Standards. The accounting uses the main financial statements as a tool for gathering, analyzing, and presenting economic data. Financial statements serve as a crucial starting point for managerial decision-making by presenting information on the status of the economy and financial developments. The purpose of financial statements is to give information that may be used by a variety of users to make economic choices regarding the financial situation, financial performance, and changes in an entity's financial position [83].

The process of financial/economic analysis often involves reviewing and evaluating a variety of formal or informal data for their applicability to the study's intended objective which provide information:

- Income and expenditures
- Cash flows
- Assets
- Liabilities
- Equity

“Financial statements reflect the cumulative effects of all of management’s past decisions. However, they involve considerable ambiguity” [84]. The business records known as financial statements are used by organizations to present the outcomes of their operations to a range of user groups, such as managers, creditors, investors, and regulatory bodies. These parties then make various decisions based on the given facts, such as whether to invest in or lend money to the firm.

4.1.1. Income and Expenditure Statements

The income statement provides insights, into how the decisions made by management impacted the company’s performance within a timeframe. It also outlines the profit or loss experienced by the owners of the company. The balance sheet reflects any increases or decreases, in owners’ equity based on the profit or loss indicated in the income statement. Therefore, the income statement is a tool that complements the balance sheet as it helps describe this factor of change in owners’ equity by offering various performance evaluation data points. It is also known as the operating statement, earnings statement, or profit and loss statement, lists the revenues recorded for a given period along with the costs and expenses incurred to generate those revenues, including taxes and write-offs (such as the depreciation and amortization of various assets) [84]. In other words, the income statement reports the revenues minus the expenses of the accounting period, which represent the net income or net profit.

4.1.2. Balance sheet

A financial statement that lists a company's assets, liabilities, and shareholder equity at a particular point in time is referred to as a balance sheet. The foundation for calculating investor return rates and assessing the capital structure of a firm is provided by balance sheets [85]. The balance sheet follows the accounting formula

below, where assets are on one side and liabilities + shareholder equity are on the other:

$$\text{Assets} = \text{Liabilities} + \text{Shareholders' Equity}$$

Equation 3: Balance sheet

Cash and its equivalents, often known as liquid assets, such as Treasury bills and certificates of deposit, are examples of assets. A company's liabilities are its outstanding obligations and the expenses it must cover to stay afloat. Whether it is a long-term loan or a payment that must be paid, debt is a liability. The money that may be attributed to a company's owners or shareholders is known as shareholder equity. Since it is equal to a company's total assets less its liabilities, or the debt it owes to non-shareholders, it can also be referred to as net assets [86].

4.1.3.Cash Flow statement

A financial document called the cash flow statement (CFS) outlines the inflow and outflow of cash and cash equivalents (CCE) of a company. The CFS measures how well a firm manages its cash position, or how well it generates cash to cover its debt payments and support its operational costs. The balance sheet and the income statement are two of the three primary financial statements, and the CFS is the third.

- Direct method: The direct method is the sums of all the cash payments and receipts, including cash paid to suppliers, cash receipts from consumers, and cash given out in salary.
- Indirect method: Beginning with net income, adjustments are made for deferred items, ascertained, non-cash items like depreciation and amortization, as well as non-operating factors like profits or losses on asset sales.

The main components of the cash flow statement are [87]:

- Operational activities: Reflects how much cash is generated from a company's products or services.
- Investing activities: Are the changes in equipment, assets, or investments not included in cash equivalents.
- Financial activities: Are activities that result in changes in the size and composition of the equity capital and borrowings of the enterprise.

4.2. Market indicators of most important companies in manufacture of food products sector in Colombia

After analyzing the impact of the rise in the price of the dollar on the production of peanuts, it is also important to analyze the most important companies in the market, which involves what is their financial performance and what's their situation compared with Manitoba S.A.S.

The data was gathered via the ORBIS database offered by Bureau Van Dijk. The plan was to first assess the market's performance, and then contrast Manitoba S.A.S with the market average. To do this, the study was conducted using several filters. The first filter involved choosing only Colombian companies. The second filter used the NACE Rev. 2 code 1089, which is the sector manufacture of other food products (Elaboración de otros productos alimenticios n.c.p.) as a main identifier. Due to the abundance of food product producers in Colombia, only very large, large, and medium-sized companies were considered in the search. According to Bureau van Dijk a company is consider as very large if at least one of the following criteria is met: more than 1000 employees, total assets are valued at more than 280 million dollars, revenues exceed 140 million dollars, and the company is listed. Regarding the classification for a large company, it should achieve at least one of the following conditions: more than 150 workers, total assets are valued at more than 28 million

dollars, revenues exceed 14 million dollars, and the company does not fall under the "very large" category. Lastly, medium-sized companies, should match at least one of the following conditions: more than 15 employees, total assets are valued at more than 2.8 million dollars, revenues exceed 1.4 million dollars, and the company is not under the criteria of a "very large" of "large" category [88].

These filters enabled the identification of 251 companies, for which the analysis was carried out. Establishing the market's average performance will allow for a fair comparison when examining Manitoba S.A.S.'s financial performance. Profitability ratios, operational ratios, and structural ratios were the variables used. In this instance, the period analyzed is the last ten years, from 2013 to 2022.

Table 11: Profitability ratios

		2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
ROE using Net income (%)	Standard deviation	76.19	110.29	61.37	40.32	102.94	84.20	74.34	89.82	51.96	27.63
	Median	12.10	16.12	14.26	13.81	15.38	13.45	14.73	12.27	14.45	13.90
	Average	12.78	22.77	13.16	20.89	18.96	17.66	11.34	7.37	19.87	20.60
ROA using Net income (%)	Standard deviation	13.70	10.96	17.72	13.97	15.86	14.10	14.66	15.16	14.69	11.48
	Median	4.53	5.68	5.83	5.69	5.70	5.87	6.02	5.39	6.26	5.96
	Average	5.55	6.12	5.17	6.78	5.09	6.54	6.12	5.73	7.60	8.34
Profit margin (%)	Standard deviation	20.63	26.91	23.62	21.59	23.79	19.34	12.07	13.76	10.63	11.06
	Median	4.79	7.23	6.29	6.71	6.10	6.15	5.54	7.48	7.98	8.34
	Average	6.67	10.93	9.24	11.49	10.74	9.03	6.36	7.88	7.73	9.71
Gross margin (%)	Standard deviation	21.48	24.16	23.12	20.33	25.18	22.15	17.93	15.61	15.29	15.07
	Median	27.30	32.36	34.60	33.61	36.29	37.77	34.31	35.04	35.10	34.91
	Average	29.81	37.29	36.71	35.87	42.37	40.71	33.31	35.75	36.61	36.40
EBIT margin (%)	Standard deviation	18.70	25.44	25.15	21.76	22.60	19.05	9.86	13.78	10.56	11.08
	Median	5.86	8.19	7.37	7.65	6.74	7.21	7.56	7.84	7.98	8.34
	Average	8.36	13.03	10.63	12.50	11.90	10.25	8.36	8.20	7.83	9.77
Cash flow / Operating revenue (%)	Standard deviation	28.53	39.94	33.89	27.32	25.90	9.64	10.34	12.07	14.92	8.75
	Median	1.89	5.45	4.26	3.03	-1.20	1.68	3.84	6.29	4.90	3.82
	Average	11.00	20.32	10.28	10.05	-0.66	4.19	7.57	11.33	5.83	6.16

Source: Adapted by the author based on Orbis database [71].

Table 12: Operational ratios

		2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Net assets turnover	Standard deviation	32.89	67.77	29.87	4.83	3.47	14.38	11.29	27.75	17.16	25.24
	Median	3.11	2.53	2.70	2.82	2.95	3.00	3.55	3.22	3.08	2.91
	Average	8.89	10.46	7.69	4.37	3.86	5.92	5.81	7.58	6.84	6.94
Stock turnover	Standard deviation	23.63	17.20	39.37	54.39	20.20	23.82	25.36	25.76	28.80	29.24
	Median	7.46	8.34	9.09	10.18	9.04	10.12	9.91	9.22	10.50	10.48
	Average	14.94	14.38	18.75	22.27	14.33	17.70	18.03	18.04	18.61	20.68
Collection period (D)	Standard deviation	87	97	98	75	70	51	40	50	54	66
	Median	37	38	32	36	52	65	57	56	54	73
	Average	49	52	52	49	55	63	50	55	55	70
Credit period (D)	Standard deviation	85	73	85	42	51	62	45	53	53	39
	Median	51	53	54	57	59	53	48	33	20	26
	Average	69	73	74	64	66	69	58	42	37	31

Source: Adapted by the author based on Orbis database [71].

Table 13: Structural ratios

		2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Current ratio	Standard deviation	2.56	3.22	3.38	9.52	3.18	5.90	1.53	6.74	6.96	4.69
	Median	1.53	1.59	1.79	1.53	1.57	1.51	1.39	1.45	1.50	1.54
	Average	2.24	2.50	2.73	3.14	2.24	2.30	1.76	2.64	2.62	2.43
Quick ratio	Standard deviation	2.01	3.24	3.15	7.19	1.90	0.75	0.79	2.05	7.60	2.21
	Median	1.17	1.30	1.38	1.25	1.16	1.16	1.11	1.09	1.17	1.28
	Average	1.71	2.11	2.29	2.08	1.62	1.31	1.30	1.70	2.41	1.77
Shareholders liquidity ratio	Standard deviation	51.25	93.22	66.83	19.46	46.08	27.43	84.23	38.50	35.55	104.26
	Median	1.82	1.85	1.91	2.39	2.49	2.18	2.17	2.20	3.62	3.53
	Average	9.36	24.67	18.70	7.57	12.51	11.68	19.22	13.64	10.79	23.52
Solvency ratio (Asset based) (%)	Standard deviation	28.03	29.42	28.19	27.31	29.31	26.73	27.87	26.15	27.43	23.89
	Median	40.46	42.15	45.46	47.15	47.15	44.87	46.63	46.03	46.73	46.87
	Average	42.22	43.31	46.30	47.09	47.55	48.57	47.86	48.87	50.46	47.99
Solvency ratio (Liability based) (%)	Standard deviation	24.49	26.30	27.00	24.47	27.73	24.42	26.92	25.07	26.81	24.98
	Median	50.31	47.01	48.96	51.13	57.49	54.68	55.90	47.72	55.24	56.90
	Average	50.70	48.56	51.50	53.09	55.28	53.84	53.20	49.63	53.53	54.73

Source: Adapted by the author based on Orbis database [71].

4.3. Profitability ratios

Every business's primary goal is to make a profit. These reports demonstrate how effective the company's investment decisions have been. Reports on profitability detail exactly what the organization wins over its sales, assets, or capital.

Table 14: Profitability ratios of Manitoba S.A.S

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
ROE using Net income (%)	12.07	21.30	19.94	20.44	19.09	17.31	17.02	20.97	38.24	32.37
ROA using Net income (%)	3.05	6.52	6.96	6.63	4.76	4.66	5.67	6.92	13.12	11.23
Profit margin (%)	2.77	6.10	7.03	7.01	4.99	6.32	5.25	11.24	12.93	12.31
Gross margin (%)	25.22	29.59	30.47	37.69	41.20	40.88	42.48	41.65	47.91	48.41
EBIT margin (%)	0.09	4.91	4.46	5.12	3.49	8.41	14.46	11.24	12.93	12.31

Source: Adapted by the author based on Orbis database [71].

4.3.1. Return on equity

Return on equity (ROE) is a financial metric that assesses a company's efficiency in utilizing the capital invested by its shareholders to generate earnings. It considers both the funds contributed by shareholders and the retained earnings of the company, which are then employed to generate profits. A higher ROE indicates that the company is effectively utilizing its investments to generate a profit [89]. In simpler terms, it quantifies the return on the ordinary shares invested by the owners of the business.

$$\text{Return on Equity (ROE)} = \frac{\text{Net income}}{\text{Average shareholders Equity}}$$

Equation 4: Return on Equity

The Return on equity of Manitoba S.A.S and the average ROE of Colombian companies of this sector (1089 Manufacture of other food products) are relatively close in most years. There are a few exceptions, such as in 2015 and 2016 when Manitoba S.A.S had higher ROE compared to the average of Colombian companies, maybe that's way the company decide to take the decision to expand the plant and invested a total of \$10 million dollar for the infrastructure and adaptation of a plant that is projected to become one of the most modern in Latin America [90], and at the end of 2018 it was inaugurated. The investment includes the acquisition of a new toaster oven, with a capacity of one ton per hour, which doubles production and even it can be expanded to three times. In an overall view, the company generally maintains a consistent ROE performance, with figures ranging from 12.07% to 38.24%. Instead of the market that shows more variability, ranging from 7.37% to 22.77%, this is because the comparison is made against the average ROE of Colombian companies, which represents a broader industry performance which have a high standard deviation because one filter selects very large, large, and medium size companies.

4.3.2.Return on Total Assets

Return on Total Assets (ROA) is a financial measure that evaluates how effectively a company utilizes its assets to generate profits. It indicates the percentage of profit generated from each unit of total assets employed by the company. A higher ROA signifies that the company is generating more profit from its asset utilization. This suggests that the company is effectively using its assets to generate income. Ultimately, ROA helps assess the company's ability to maximize profitability through its asset base.

$$\text{Return on Total Assets (ROA)} = \frac{\text{Net income}}{\text{Average Total Assets}}$$

Equation 5: Return on Total Assets

The ROA of Manitoba S.A.S fluctuates over the years, ranging from as low as 3.05% to as high as 13.12%. There's no consistent trend, but it's notable that the ROA is generally lower in recent years compared to the earlier years. Meanwhile, the sector of Manufacture of other food products companies ROA tends to be higher than Manitoba S.A.S's ROA in most years, which means that the sector as a whole is more efficient making profits from its assets. This is mainly due to the following factors, principally economic factors for example the fluctuations in exchange rates which is constantly increasing the price of the dollar throw the years which does not allow offsetting production costs /inability to control costs, causing inefficient cost management as a result higher expenses, which can eat into the profits generated from the assets. In addition to inflation which have grown, this corresponds to an average depreciation of 54.45 pesos per year.

- The Purchasing power at the beginning of 2023: 630.95 pesos
- Rise in prices in 10 years: 54.45%
- Decrease in value in 10 years: 36.91% [91].

Another factor may be the inefficiency of processes, by changing the plant in 2018 no exhaustive plant layout planning has been done as workflows and supply chain management have some delays, thus increasing costs. This inefficiency can impact the overall profitability of the company. For future research, it can be considered to make a plant distribution plan to optimize its processes and maximized profitability.

4.3.3.Profit Margin, Gross Margin, and EBIT Margin

The profit margin is a key financial metric that indicates how efficiently a company generates profit from its revenue. The correlation between reported net profit after taxes (net income) and sales reflects how well the management is able to

efficiently run the business. In this context, success entails not only covering the expenses related to merchandise or services, operational costs (including depreciation), and borrowed funds, but also providing a reasonable compensation margin to the owners for assuming the risk associated with their capital investment. The ratio of net profit (income) to sales (total revenue) essentially indicates the overall cost-effectiveness and pricing efficiency of the business operation [84]. It's calculated as:

$$\text{Profit Margin} = \frac{\text{Net income}}{\text{sales}}$$

Equation 6: Profit Margin

The sector's average Gross Margin, EBIT Margin, and Profit Margin are consistently higher compared to Manitoba S.A.S. Analyzing the profit margin Manitoba S.A.S also fluctuates over the years, but it's generally lower than the average profit margin of Colombian sector companies. In 2016 till 2018 the profit was reduced because during this period, the Colombian Peso experienced a depreciation compared to the dollar in response to a variety of factors, including changes in global oil prices, shifts in investor sentiment, geopolitical events, and US monetary policy decisions. These fluctuations had implications for various sectors of the Colombian economy, including importers, exporters, and companies sensitive to currency movements. For example, Manitoba S.A.S was affected because is sensitive to currency movements, these exchange rate fluctuations had influenced their profitability by impacting import costs for products that are necessary to be imported because there is no significant productions of this good in the local market, export competitiveness, and overall market conditions, and this was also experienced in 2022 where the profit margins went from 6.10 in 2021 to 2.77 in 2022, it was not only this company, but the market in general because peanut producers rely on some imported inputs, and a stronger dollar with respect with the COP (Colombian Peso) can increase the costs of these inputs. which lead to higher production costs and potentially lower profit margins.

On other hand, analysts use a financial indicator known as gross profit margin to evaluate a company's financial health. After deducting the cost of goods sold (COGS), the profit is referred to as the gross profit margin or the amount of money a corporation makes after deducting its operating expenses. The gross margin ratio may also be used to refer to this indicator, which is often reported as a percentage of sales [92], and is calculated using the following formula:

$$\text{Gross Profit Margin} = \frac{\text{Net Sales} - \text{COGS}}{\text{Net Sales}}$$

Equation 7: Gross Profit Margin

“According to industry benchmarks, a healthy gross profit margin for food manufacturing businesses typically ranges between 25% and 35%” [93]. In the years of 2019 till 2022 this ratio had a decrease, this must be by the investments and expansion they made when they inaugurated the plant at the end of 2018, Manitoba S.A.S invested a total of \$10 million dollars, earmarked for infrastructure and machinery as was mentioned before.

For Ignacio Llano Domínguez, General Manager of Manitoba, "the new plant is a source of pride that we present today not only to the Valle del Cauca region, but to Colombia as a whole. Manitoba will be strengthened in the development of innovative products to meet the needs of the national and international market, with healthy and pleasant snacks for the consumer, and will empower us with the launching of new references every year" [94].

As the company had been investing heavily in expansion, research and development, and marketing efforts, it could temporarily impact the profit margin. While these investments are intended to drive future growth, they can initially lead to lower margins. Other reason for this decrease gross profit margin is the rising costs of

raw materials (Almonds, cashew, blueberries, maize, pistachio, raisins between others). The cost of raw materials, such as peanuts and the ones mentioned before, has been increasing over the years principally because of the increment of the dollar price among other economic factors which lead to a decrease in gross profit margin, and it was more notable in 2022 when the dollar increases 40% in comparison to 2021. As the cost of production rises, the company's ability to generate profits from its products decrease. Also, in that year they were accelerating a new expansion of the plant with new equipment they have acquired since 2021. They are currently in the process of finding suitable spaces for their installation. These equipment additions encompass various areas, including baking, coating, chocolate, and confectionery. This expansion is set to nearly double their current production capacity, leaving them with 2.5 times more capacity than before [43].

By January 2023, they expect to have completed the planned plant investment. The installation process has been much slower than anticipated, largely due to the increase in interest rates and some uncertainty. However, practically all the equipment has been acquired, and they are working on getting them ready to meet the growing demand. The idea behind this expansion is to provide peace of mind to their business partners, assuring them that they can meet their needs in the immediate future, in 2023. In a time when imports have become increasingly complex, having a local supplier is a guarantee for their partners. They aim to convey the message that they have both the equipment and the capacity to fulfill customer requirements.

Moreover, the inclusion of various operational and non-operating expenses in the net profit margin calculation is the primary cause of the gap between the gross profit margin and the net profit margin. The net profit margin offers a more thorough assessment of a company's entire profitability after considering all costs and financial aspects, whereas the gross profit margin offers insights into the effectiveness of the manufacturing process.

In an overall conclusion for the profitability ratios, Manitoba S.A.S faces challenges such as currency volatility, cost management, and the need for process optimization. Despite these challenges, the company is investing in expansion to meet growing demand and assure business partners of its capacity to fulfill requirements. The inclusion of various expenses in the net profit margin calculation highlights the importance of considering all costs and financial aspects for a comprehensive assessment of profitability.

4.4. Operational ratios

Operational ratios which are a crucial component of financial health, demonstrate how effectively a firm uses and controls its assets. The management of sales, accounts receivable, and inventories are crucial areas of efficiency. Most of the time, a successful business can use the assets it has purchased to produce revenues right away [89]. In this section will be evaluated some operational ratios such as net assets turnover, stock turnover, collection period and credit period with the median of the sector.

Table 15: Operational ratios of Manitoba S.A.S

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Net assets turnover (x)	4.10	3.04	2.64	2.59	2.10	3.42	3.72	6.67	5.66	6.44
Stock turnover (x)	5.63	5.81	8.41	7.95	10.16	9.08	8.44	8.15	8.72	8.54
Collection period (days)	40	36	40	54	59	71	67	75	70	77
Credit period (days)	75	82	51	59	55	66	62	63	64	54

Source: Adapted by the author based on Orbis database [71].

4.4.1. Net Assets Turnover

“Net asset turnover measures the ability of a company to use its assets to generate revenues” [89]. To maximize net sales, a business would desire to employ

the fewest assets possible. Therefore, a greater total asset turnover indicates that the firm is utilizing its assets to generate net sales very effectively. The formula of the total asset turnover is the following.

$$\text{Net Asset Turnover} = \frac{\text{Net Sales}}{\text{Average Total Assets}}$$

Equation 8: Net Assets Turnover

It is possible to confuse the terms Return on Total Assets and Net Assets Turnover because both use Average Total Assets as denominator. Instead, they are clearly different. The net asset turnover ratio is used to evaluate how efficiently a firm uses its raw materials to produce final products. To manufacture its finished product, any corporation does certainly require its raw materials. The Net Asset Turnover Ratio is the ratio between the net profit from selling finished goods and the difference in the cost of the raw materials utilized. On the other hand, Return on Total Asset (ROA) is used to examine the entire revenue produced from all the company's assets. Evidently, this also covers ongoing expenses like the price of equipment and other investments in expanding the firm [95].

By observing the table; Operational ratios of Manitoba S.A.S, it can be seen that net assets turnover is growing from 2021 to 2022 but the reason the ROA is lower in 2022 is that the net profit was lower than the year before but the total assets for this year was the second biggest of 17.326 million dollar, as can be seen in the table below, indicating that the company had an effective ability to use its assets to create sales.

Table 16: Average Total Assets of Manitoba S.A.S

Year	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Total assets in th USD	17,326	17,848	15,348	14,088	11,430	9,793	6,791	5,179	5,186	4,989

Source: Adapted by the author based on Orbis database [71].

In 2013, Manitoba S.A.S had a net assets turnover of 6.44. This ratio fluctuated over the years but generally remained relatively high compared to the median of the Colombian sector, indicating better efficiency in utilizing its net assets to generate revenue. In 2018, it was at its lowest point at 2.1 but showed a significant increase in 2019 to 2.59. In 2022, the ratio stood at 4.1, which is still higher than most years but lower than the peak in 2015. Instead of the net assets turnover for the Colombian sector which in 2013, it was of 2.91 and increased gradually to 3.08 in 2014. There was a dip in 2015, but it started to increase again and reached 3.55 in 2017. The ratio fluctuated in the range of 2.53 to 3.55 from 2014 to 2017, and after 2017, it showed a declining trend and reached 2.53 in 2021.

4.4.2. Stock turnover

Stock turnover or inventory turnover counts the number of times a firm sells and replaces inventory each year. This might reveal a company's inventory management efficiency. Although a greater ratio is ideal, a very high turnover might indicate that the business does not have enough inventory to fulfill demand. A low turnover might indicate that the organization has an excessive amount of inventory on hand [89]. In other words, measures how quickly the company sells its inventory. This is how inventory turnover is calculated:

$$\text{Stock turnover} = \frac{\text{Cost of Good Sold}}{\text{Average Inventory}}$$

Equation 9: Stock turnover

In 2013, the median stock turnover for Colombian sector companies was 10.48, indicating that they sold and replaced their inventory 10.48 times during the year. The ratio fluctuated over the years but remained relatively high. It reached its lowest point

in 2018 at 9.04 and peaked in 2019 at 10.18. In 2021, there was a significant decrease in stock turnover to 8.34, and in 2022 to 7.46.

If Manitoba S.A.S is analyzed individually it had a lower stock turnover compared to the median and average of Colombian sector companies in most years. In 2013, the stock turnover for Manitoba S.A.S was 8.54, and it increased to its highest point in 2018 at 10.16, which was higher the median but lower than the average. The ratio fluctuated over the years, with some variations. In 2020, it showed a substantial increase to 8.41 perhaps because of the opening and expansion of the new line of peanut products call "Consciente". Whose portfolio includes products such as chickpea and quinoa mix, blueberries with Greek yogurt, hazelnut and walnut mix and cocoa and pretzel mix. There are also spreads that accompany fruit, bread, smoothies and cookies and are used to prepare recipes, with cashew, peanut and almond creams. Finally, there are the toppings, a novelty that enriches the experience of eating salads and other foods. They contain a mixture of nuts, dried fruits, seeds, and spices. The presentations are called Macedonia and Toscana [70]. Nevertheless, in 2021 it decreased to 5.81 and a further decrease in 2022 of 5.63, the lower one in these 10 years evaluated, by having a lower stock turnover means that the Manitoba S.A.S is holding inventory which can be costly due to storage expenses, insurance, refrigeration, and the risk of spoilage. A higher inventory turnover minimizes the duration for which inventory is held, reducing these associated costs.

Regarding raw materials, the sector has faced some issues, especially concerning prices because they have increased significantly. Furthermore, they have had to increase raw material inventories to ensure product availability for customers continuously, and maintaining these higher inventories has a financial cost for the company. Additionally, they have aimed not to transfer these costs to customers. Depending on the raw material, they estimate that costs have risen by more than 20% [43].

The median of Colombian sector companies generally had a higher stock turnover compared to Manitoba S.A.S throughout the years, indicating more efficient inventory management on average. Both Colombian sector companies and Manitoba S.A.S experienced fluctuations in their stock turnover ratios over the years, perhaps because of the economic uncertainties that had pass Colombia over these years and the effect of the systematic increase in the price of the dollar. Colombian average sector companies saw a recent decline in stock turnover, with a significant decrease in 2021 followed by a slight increase in 2022.

4.4.3.Collection period & Credit period

The average collection period is the period of time it takes for a company to obtain accounts receivable (AR) payments that are due by its customers. Commonly the collection period is used by businesses to determine if they have enough cash on hand to cover their obligations. For companies that heavily depend on receivables for their cash flows, the average collection period is an important indicator since it shows how well a company manages its accounts receivable.

The term "accounts receivable" (AR) in business refers to the sum of money companies owe a firm after making a purchase of products or services. These sales are typically made by companies on credit to their clients. AR assesses the liquidity of organizations by being listed as current assets on their balance sheets. As a result, they demonstrate their capacity to settle their short-term liabilities without the need for extra cash flows [96].

The normal number of days between the date of a credit sale and the day that the buyer submits payment is displayed using an accounting indicator called the average collection period [97]. The success of a company's AR management strategies

may be determined by looking at its average collection period. For operations to run successfully, companies must be able to control their typical collecting period.

To do the computation, it must first be calculated the average credit sales per day and the average accounts receivable per day (average accounts receivable divided by 365) [98].

$$\text{Average Collecting Period} = \frac{\text{Average Accounts Receivables per day}}{\text{Average Credit Sales per day}}$$

Equation 10: Average Collecting Period

Manitoba S.A.S had a collection period of 40 days in 2022, which increased from 36 days in 2021. The collection period fluctuated over the years, with the highest value of 77 days in 2013 and the lowest value of 36 days in 2021. In general, there is a decreasing trend in the collection period from 2017 to 2022, indicating that it takes shorter time for Manitoba S.A.S to collect payments from customers and according to a study by bdc Canada, it is assumed that “a shorter average collection period (60 days or less) is generally preferable and means a business has higher liquidity” [99]. Which provides financial stability, operational flexibility, and the ability to seize opportunities. It safeguards the business against unexpected challenges and positions it for long-term success. For example, with more liquidity the company could weather economic downturns such as in 2020 with the Covid-19 and in 2022 with the increase in the price of the dollar and with higher liquidity business are better equipped to withstand the impact of an economic downturns [100]. On the other hand, the median Collection Period in Days of the sector in Colombia was about 37 days in 2022, which is relatively stable compared to previous years. There is some fluctuation in the median collection period for Colombian sector companies, with the lowest value of 32 days in 2020 and the highest value of 73 days in 2013. Based on this information

it can be said that Manitoba S.A.S has a collecting period equal/similar to the median but better than the sector average.

Alternatively, the credit period is the number of days a customer must wait before paying an invoice. It's crucial to understand this concept since it shows how much working capital a company is ready to put into its accounts receivable to increase sales. A longer credit period therefore results in a higher investment in receivables. To determine whether other businesses are providing their consumers with different conditions, the metric may also be compared to the credit period of rival businesses.

In the case of Manitoba S.A.S, they had a credit period of 75 days in 2022, which decreased from 82 days in 2021. Likewise, the collection period, the credit period also fluctuated over the years, with the highest value of 82 days in 2021 and the lowest value of 51 days in 2020. There is no consistent trend in the credit period, but it generally increased from 2013 to 2021, indicating that Manitoba S.A.S extended credit to customers for a longer duration during these years. Meanwhile the median credit period for Colombian sector companies was 51 days in 2022, which is relatively stable compared to previous years, with the lowest value of 20 days in 2014 and the highest value of 59 days in 2017.

Manitoba S.A.S generally has a longer collection period compared to the median of the Colombian companies of the sector. This suggests that Manitoba S.A.S takes a relatively longer time to collect payments from its customers compared to the industry average. The credit period of Manitoba S.A.S has fluctuated over the years, but there is no consistent trend. In 2022, it decreased, indicating a shorter credit period for suppliers compared to 2021 because of the systematic increase in the price of the dollar. The median credit period of Colombian sector companies is relatively stable, and Manitoba S.A.S has occasionally had a longer credit period than the industry

median. It may be suggested for Manitoba S.A.S to focus on improving its collection period and maintaining a consistent credit policy to align better with industry sector and improve its cash flow management. These metrics can vary by industry and company-specific circumstances, so it's important to consider the context in which these values are analyzed.

In summary for the operational ratios, Manitoba S.A.S demonstrates efficient asset utilization, but it could work on improving its collection period to better align with industry sector and enhance cash flow management. Additionally, the company has occasionally extended longer credit periods to suppliers compared to industry averages, which may require careful monitoring to optimize working capital management. These financial metrics are crucial for assessing Manitoba S.A.S's financial health and operational efficiency in managing its assets and working capital.

4.5. Structural ratios

“The liquidity ratio is an essential financial indicator used to determine the debtor’s ability to repay current debt without raising external capital” [101]. The liquidity ratio measures the company’s ability to repay debt and its margin of safety by calculating indicators such as the current ratio, quick ratio between other. While the solvency ratio is a key indicator of a company’s ability to repay long-term debt and is often used by potential commercial lenders [102]. The solvency ratio indicates whether the company’s cash flow is sufficient to repay its long-term liabilities and is, therefore, an indicator of its financial condition. An unfavorable ratio can indicate the likelihood of a company defaulting.

Table 17: Structural ratios of Manitoba S.A.S

Structure ratios	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Current ratio (x)	1.15	1.16	1.25	1.13	1.41	1.23	1.44	1.38	1.58	1.50
Quick ratio (x)	0.49	0.58	0.73	0.65	0.91	0.83	0.93	0.98	1.10	1.00
Shareholders liquidity ratio (x)	1.14	1.37	1.26	1.20	0.54	1.10	1.67	n.s.	4.09	6.87
Solvency ratio (Asset based) (%)	25.26	30.59	34.88	32.46	24.90	26.95	33.30	33.01	34.30	34.70
Solvency ratio (Liability based) (%)	33.80	44.07	53.55	48.05	33.16	36.89	49.92	49.28	52.20	53.14

Source: Adapted by the author based on Orbis database [71].

4.5.1.Current ratio

The current ratio, which shows the current assets divided by the current liabilities, is closely connected to working capital. Current assets and current liabilities are used in the same proportions as working capital; however, the current ratio displays the amount as a ratio rather than a dollar number. Therefore, current assets divided current liabilities is the measurement of the current ratio. Working capital and the current ratio are interpreted similarly. The capacity to cover shorter-term obligations with a buffer is indicated by a ratio more than 1 (company has more current assets than current liabilities), but a ratio less than 1 suggests that the company should be more aware of the composition of its current assets and the timing of its current liabilities.

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Equation 11: Current Ratio

Observing the table above, it can be noted that Manitoba S.A.S had a current ratio of 1.15 in 2022, which is slightly lower than the previous year (1.16 in 2021). The current ratio for Manitoba S.A.S has fluctuated over the years, with the highest value of 1.58 in 2014 and the lowest value of 1.13 in 2019. In general, Manitoba S.A.S

has maintained a current ratio above 1, indicating that it had sufficient current assets to cover its short-term liabilities during these years. But if it is evaluated with the market the average current ratio for Colombian sector companies was 2.24 in 2022, which is significantly higher than Manitoba S.A.S. It reached its highest value of 3.14 in 2019 and its lowest value of 1.76 in 2016, even the lowest year is even higher than Manitoba S.A.S over the past ten years.

Manitoba S.A.S consistently had a lower current ratio compared to the average current ratio of Colombian sector companies throughout the years. This suggests that Manitoba S.A.S had a relatively weaker short-term liquidity position compared to the sector average. The fluctuations in Manitoba's current ratio indicate varying levels of short-term liquidity risk. While the company generally had a current ratio above 1, indicating short-term solvency, it had periods where the ratio close to 1 (e.g., 2019 and 2022), which could raise concerns about its ability to meet short-term obligations, these two cases were one when changing plants and the other when the Colombian peso devalued 21,88% with respect to the dollar. The average current ratio of Colombian sector companies also showed fluctuations, but it remained consistently higher than Manitoba S.A.S. This suggests that, on average, companies in the Colombian sector were better positioned to cover their short-term liabilities with their short-term assets. It's important to note that the ideal current ratio can vary by industry and company circumstances. For the manufacturing industry a good current ratio is when the company has anything over 1.0 would be a great indicator. Generally, for the manufacturing industry, if the company sells inventory quickly, the current ratio can be lower (than 1.0) because there is a lot of available cash [103], but still the sector sells its inventory faster than Manitoba. In summary, Manitoba S.A.S may need to assess its short-term liquidity management to align it more closely with industry sector and ensure its ability to meet its short-term obligations consistently.

4.5.2.Quick ratio

The quick ratio, which is often referred to as the acid-test ratio, has similarities to the current ratio except that current assets are more specifically defined as the most liquid assets, excluding inventories and prepayments of expenses. Sometimes it takes longer to liquidate inventory and prepaid expenses than it does to liquidate other current assets. If an imminent obligation is due, a company will want to know what it has on hand and can use right away [89]. A greater quickly ratio denotes a stronger capacity to meet short-term obligations. The quick ratio's formula is:

$$\text{Quick Ratio} = \frac{\text{Cash} + \text{ShortTerm Investment} + \text{Accounts Receivable}}{\text{Current Liabilities}}$$

Equation 12: Quick Ratio

By observing the table of structure ratios, it is seen that Manitoba S.A.S had a quick ratio below 1 throughout the years from 2013 to 2022. In 2022, the quick ratio was 0.49, indicating that the company had only 49 cents in highly liquid assets to cover every dollar of its short-term liabilities. The quick ratio fluctuated over the years but consistently remained below 1, suggesting that Manitoba S.A.S relied on less liquid assets to meet its short-term obligations. Contrary to the average quick ratio of the Colombian sector companies that was 1.71 in 2022. It has also fluctuated over the years but generally remained above 1, indicating that, on average, companies in the sector had a better ability to cover short-term liabilities with their liquid assets. In 2019 the company had made substantial commitments to capital expenditures, since it was the year where they imported more because of their new facility in 2018 and constant expansion which tie up cash and reduce the quick ratio. These commitments limited the company's ability to quickly convert assets into cash, especially if a significant portion of available funds was allocated to long-term projects.

MANITOBA S.A.S.

Imports as of MAY 2023

(Amounts in thousands of dollars)

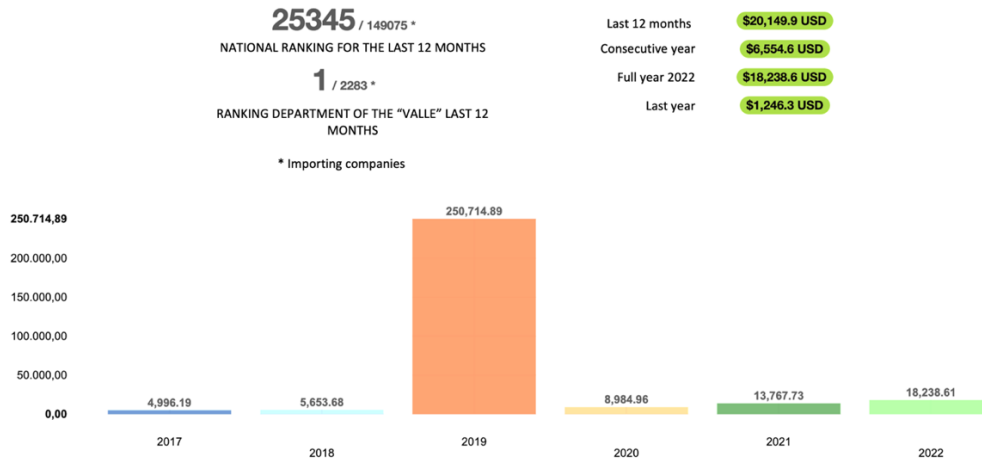


Figure 26: Manitoba S.A.S Imports [104]

As said before Manitoba S.A.S consistently had a lower quick ratio compared to the sector. This indicates a potential liquidity concern for Manitoba S.A.S as it struggled to meet short-term obligations using readily available liquid assets. The fluctuations in Manitoba S.A.S's quick ratio over the years suggest variations in its ability to convert assets into cash quickly. The company should focus on improving its liquidity management strategies. Manitoba S.A.S should consider implementing measures to enhance its liquidity, such as reducing inventory levels, increasing cash reserves, or negotiating better credit terms with suppliers. The company should also closely monitor its liquidity trends and consider the potential consequences of its low quick ratio on its financial stability and competitiveness in the market.

The consequences of such a low quick ratio include difficulties in meeting short-term obligations promptly. Relying on less liquid assets, like inventory, to cover short-term liabilities can result in inefficiencies and may require the company to sell off assets quickly in case of financial stress. The decreasing trend in the quick ratio from 1.1 in 2014 to 0.49 in 2022 indicates a worsening liquidity position, which could raise concerns among investors, creditors, and stakeholder.

Comparing its performance to industry averages underscores the need for Manitoba S.A.S to improve its liquidity management to align with or surpass sector standards. Impartial because the average quick ratio for Colombian sector companies is above 1, which reflects a more favorable liquidity position. Companies with higher quick ratios typically have greater financial flexibility and can more readily meet their short-term obligations without resorting to less liquid assets. This can enhance their ability to weather economic downturns as is the case with the increase in the price of the dollar, which increase in the production costs of inputs that must necessarily be imported due to the non-existence of a supply of substitute inputs.

4.5.3.Solvency ratio

Solvency implies a company's ability to pay its long-term debts and likelihood of continued operations. The capacity to pay any interest incurred on long-term debt is a need for fulfilling long-term obligations [89]. Both asset-based and liability-based, provides insights into a company's ability to meet its long-term obligations and its financial stability.

The asset-based solvency ratio of Manitoba S.A.S has fluctuated over the years, ranging from a low of 24.90% in 2018 to a high of 34.88% in 2020. In 2022, it was 25.26%. While the sector ranged from 42.22% to 50.46% over the years. The liability-based solvency ratio of Manitoba S.A.S has also fluctuated, with a low of 33.16% in 2018 and a high of 53.55% in 2020. In 2022, it was 33.80% and the company sector ranged from 48.56% to 55.28% over the years. Both ratios generally remained below the average solvency ratios of the company sector throughout the 10 years evaluated.

The fluctuating solvency ratios of Manitoba S.A.S indicate variability in the company's ability to cover its long-term obligations. The asset-based solvency ratios

have generally been lower than the sector average, indicating a lower level of equity to support its assets. But this is because as it was said before that Manitoba S.A.S in 2018 undergone a period of rapid expansion and acquisitions, which the assembly of the plant was about \$7,5 million dollar [18], and in 2019-2020, Manitoba S.A.S expanded its plant once again to introduce a new product line called “Consciente”, offering value-added healthy products. The launch was carried out simultaneously with their original line, Manitoba. However, with the onset of the COVID-19 pandemic, they observed a transformation in global trends and a significant shift towards healthy eating habits [70]. As a result, they believe that they are on the right track with their new products, which offer added value by containing fewer additives, reduced sugar and salt content, and environmentally friendly packaging, which cost about 1 to 2 million dollars. This increased the company’s total assets without a corresponding increase in equity, leading to lower solvency ratios. The liability-based solvency ratios also remained below the sector average, suggesting a higher reliance on external debt.

The company sector, on average, had higher solvency ratios compared to Manitoba S.A.S, indicating a more stable and financially secure position. Higher solvency ratios suggest that companies in the sector have a stronger equity base to support their assets and are less reliant on external debt.

Manitoba S.A.S should pay close attention to its solvency ratios, as they are crucial indicators of its long-term financial stability. The company may consider strategies to increase its equity base, such as retaining earnings, to improve its asset-based solvency ratio. Reducing reliance on external debt and managing debt levels effectively can help improve the liability-based solvency ratio. Continuously monitoring these ratios and comparing them to industry averages will provide valuable insights into the company’s financial health and stability.

In conclusion for the structural ratios, Manitoba S.A.S needs to address its liquidity and solvency challenges to enhance its financial stability. The company consistently remained behind the sector average in both liquidity and solvency ratios. Strategies to improve liquidity include reducing inventory levels, increasing cash reserves, and optimizing credit terms with suppliers. Additionally, efforts to increase equity through retained earnings can enhance asset-based solvency ratios, while effective debt management can improve liability-based solvency ratios. Continuous monitoring of these ratios and alignment with industry sector is essential for Manitoba S.A.S's financial health and competitiveness in the market.

CONCLUSION

The conclusion reached by this research is that the systematic increase in the price of the dollar affects more the sweet/coated peanut line, which has a 14.4% market share. This impacts consumers who demand this type of peanut snack, and for Manitoba S.A.S will see a reduction in their profits due to a lower consumption of this snack between other factors.

To maximize profits, the company focused on selling higher quantities in product lines that generated greater benefits, despite the high costs associated with imported raw materials in some snacks. The spreadable, salted, and raw product lines increased production as they relied less on imports and could be produced using domestic commodities. The salted peanut line, being the most produced and profitable, should be prioritized and carefully maintained as it is less affected by exchange rate fluctuations. By reallocating production across different peanut lines, the company can compensate the deficit caused by the increase in the dollar price in 2022, in Colombia.

Furthermore, the company has been making significant investments in expansion, research, and development, as well as in marketing. While these investments are aimed at future growth, they have temporarily impacted the profits of the company. Additionally, the rising costs of raw materials, driven by systematic increase in the dollar price, have further contributed to a decrease in the gross profit margin, particularly in 2022 when the dollar increases by 40% compared to the previous year, but through this expansion the company can diversify more their products and produce more to offset some extra costs causes by the devaluation of the peso. Moreover, the company is in the process of expanding its plant and acquiring new equipment, which is expected to nearly double its production capacity in the near future. Although the process has been slower than expected owed by rising interest rates and some uncertainty. The goal of this expansion is to reassure their business partners that they can meet their needs locally, especially in a time when imports have become more complex. The company wants to convey that they have both the equipment and capacity to fulfill customer requirements in 2023.

Currently the financial health of Manitoba S.A.S is the following: it consistently achieves a return on equity (ROE) often surpassing sector averages by investing in plant expansion. However, its return on assets (ROA) is lower than the average industry sector, in 2022 Manitoba was 3,05 and the sector 5,55. The company excels in utilizing its assets with a high net asset turnover rate. Nevertheless, stock turnover rates tend to be lower due to economic uncertainties. While the current ratio indicates liquidity for meeting short term obligations it falls below sector peers raising concerns about liquidity. Additionally, the quick ratio remains below 1 suggesting challenges in covering liabilities with liquid assets, and both asset-based and liability-based solvency ratios have remained consistently below industry averages.

This research work did not consider the impact on the hiring of labor and the use of capital after the devaluation of the exchange rate. In other words, it is possible

that the devaluation generates short-term technical inefficiencies as companies reallocate resources to minimize their economic costs. Another factor to consider in future research is the distribution of the new plant because there are inefficiencies in some of its processes which may affect the profits of the company.

It is recommended to continue developing research works that allow to continue understanding the repercussions of exchange rate fluctuations on peanut production and market dynamics in Colombia. This research could be pivotal for the sector, as it can provide vital insights into the intricate relationship between currency fluctuations and the local peanuts industry in Colombia. By expanding this knowledge base, stakeholders can make informed decisions, formulate effective strategies, and fortify the resilience of the peanut sector in Colombia, ensuring its sustained growth and competitiveness within the global market.

BIBLIOGRAPHY

- [1] M. K. P. N. P. Rajeev K. Varshney, *The Peanut Genome*, Springer, 2017, p. 169.
- [2] J. Carter, "The Mighty Peanut," 18 January 2021. [Online]. Available: <https://www.nps.gov/jica/planyourvisit/the-mighty-peanut.htm>. [Accessed 20 January 2023].
- [3] R. O. Hammons, "Peanut Science and Technology," in *Chapter 1: Origin and Early History of the Peanut*, Academic Press and AOCS Press, 18 January 2016, pp. 1-20.
- [4] G. W. Carver, "History of Peanuts & Peanut Butter," National Peanut Board, 2023. [Online]. Available: <https://www.nationalpeanutboard.org/peanut-info/history-peanuts-peanut-butter.htm>. [Accessed 24 February 2023].
- [5] "World Peanut Production by Country," Atlas Big, 2022. [Online]. Available: <https://www.atlasbig.com/en-us/countries-peanut-production>. [Accessed 27 02 2023].
- [6] D. S. D. K. Haile Desmae, H. Desmae, D. Sako and D. Konate, "Optimum Plant Density for Increased Groundnut Pod Yield and Economic Benefits in the Semi-Arid Tropics of West Africa," *Agronomy*, 19 June 2022. [Online]. Available: <https://www.mdpi.com/2073-4395/12/6/1474#B1-agronomy-12-01474>. [Accessed 27 February 2023].
- [7] T. Oder, "How Peanuts Changed the World," *Treehugger*, 05 June 2017. [Online]. [Accessed 09 November 2022].
- [8] "Whitley's Peanut Factory," 2023. [Online]. Available: <https://www.whitleyspeanut.com/funfacts#top>. [Accessed 26 04 2023].

- [9] M. Catalano, "Types of Peanuts," Virginias Carolinas Peanuts, 2022. [Online]. Available: <https://www.aboutpeanuts.com/all-about-peanuts/95-types-of-peanuts>. [Accessed 26 04 2023].
- [10] N. Hassani, "How to Grow and Care for Peanut Plants," The spruce , 31 08 2022. [Online]. Available: <https://www.thespruce.com/peanut-plant-profile-4797389>. [Accessed 26 04 2023].
- [11] K. Moore, "What Are the Different Types of Peanuts?," Delighted Cooking, 20 03 2023. [Online]. Available: <https://www.delightedcooking.com/what-are-the-different-types-of-peanuts.htm>. [Accessed 26 04 2023].
- [12] J. Áñez, "Bolivia registra récord de exportación de maní en seis meses ¿Encontraste un error? Avisanos," 29 08 2021. [Online]. Available: <https://portalportuario.cl/bolivia-registra-record-de-exportacion-de-mani-en-seis-meses/#:~:text=Seg%C3%BAn%20datos%20del%20Instituto%20Nacional,mil%2042%20kilogramos%20por%20hect%C3%A1rea..> [Accessed 03 05 2023].
- [13] K. G. Marvin Pérez, "Manual del cultivo de maní con criterios de sustentabilidad," 12 2015. [Online]. Available: <https://www.bivica.org/files/mani-cultivo.pdf>. [Accessed 02 05 2023].
- [14] R. Pedelini, "Maní guia practica para su cultivo," 03 2021. [Online]. Available: <http://www.ciacabrera.com.ar/docs/Mani,%20Guia%20practica%20para%20su%20cultivo%20segunda%20edicion.pdf>. [Accessed 03 05 2023].
- [15] Compite360, "Compite360 Manitoba S.A.S," 07 2022. [Online]. Available: <http://www.compite360.com/webtrade/?mat=208934&cam=8>. [Accessed 09 09 2023].
- [16] L. Burgess, "What are the nutritional benefits of peanuts?," MEDICAL NEW TODAY, 18 April 18, 2019 2019. [Online]. Available: <https://www.medicalnewstoday.com/articles/325003>. [Accessed 13 November 2022].
- [17] S. Lehman, "Peanut Nutrition Facts and Health Benefits," Verywell, 03 March 2022. [Online]. Available: <https://www.verywellfit.com/peanuts-and-peanut-butter-are-good-for-your-diet-2506569>. [Accessed 20 November 2022].
- [18] A. Arcila, "Una proeza empresarial llamada Manitoba," 14 February 2021. [Online]. Available: <https://www.las2orillas.co/una-proeza-empresarial-llamada-manitoba/>. [Accessed 28 February 2023].
- [19] D. Llano, "Manitoba internacional," 2023. [Online]. Available: <https://manitoba.com.co/manitoba-internacional/>. [Accessed 28 February 2023].
- [20] "Reporte Empresarial Manitoba S.A.S.," Camara de Comercio Cali, Cali, 2023.
- [21] I. Llano, *Manitoba Products*, Cali, 2017.
- [22] I. Llano, "Manitoba SAS," Himalaya digital, [Online]. Available: <https://manitoba.com.co/nosotros/>. [Accessed 10 November 2022].
- [23] M. C. G. NIEBLES, "Manitoba se enfoca en el fortalecer su portafolio de productos de la línea Consciente," 09 11 2022. [Online]. Available: <https://www.larepublica.co/empresas/manitoba-se-enfoca-en-el-fortalecer-su-portafolio-de-productos-de-la-linea-consciente-3486272>. [Accessed 10 09 2023].
- [24] S. O. Serna-Saldivar, *Snack foods processing, innovation and nutritional aspects*, Monterrey: CRC Press, 2022.
- [25] K. Seidel, "What Are the Different Kinds of Snack Foods?," Cablevey, 17 11 2020. [Online]. Available: <https://cablevey.com/what-are-the-different-kinds-of-snack->

- foods/#:~:text=The%20first%20generation%20includes%20products,second%20generation%20of%20snack%20products.. [Accessed 21 05 2023].
- [26] S. M. Insights, "statista," 05 2023. [Online]. Available: <https://www-statista-com.ezproxy.biblio.polito.it/outlook/io/manufacturing/consumer-goods/food/colombia>. [Accessed 25 07 2023].
- [27] "Latin America Nuts And Seeds Market," Market Data Forecast, 03 2023. [Online]. Available: <https://www.marketdataforecast.com/market-reports/latin-america-nuts-and-seeds-market>. [Accessed 21 05 2023].
- [28] S. Martínez, "Snacks saludables quieren el 40% del mercado colombiano de botanas en 2025," GOULA, 17 06 2022. [Online]. Available: <https://goula.lat/snacks-saludables-quieren-el-40-del-mercado-colombiano-de-botanas-en-2025/>. [Accessed 22 05 2023].
- [29] Nielsen, "4 de cada 10 colombianos están cambiando a la versión saludable de su producto preferido," NIQ, 2018. [Online]. Available: <https://nielseniq.com/global/es/insights/analysis/2018/4-de-cada-10-colombianos->. [Accessed 25 05 2023].
- [30] F. BRAUN, "Unlocking nature-based economies: how to crack the nut in Colombia," 09 11 2019. [Online]. Available: <https://blogs.worldbank.org/latinamerica/unlocking-nature-based-economies-how-crack-nut-colombia>. [Accessed 28 05 2023].
- [31] M. S. S. GONZÁLEZ, "Nutresa se consolida como la líder en el sector de alimentos y bebidas," 28 06 2022. [Online]. Available: <https://www.larepublica.co/especiales/las-1-000-empresas-el-ano-de-la-sostenibilidad/grupo-nutresa-se-consolida-como-la-lider-nacional-en-sector-de-alimentos-y-bebidas-3390952>. [Accessed 28 05 2023].
- [32] C. A. M. Giraldo, "Reporte Burkenroad Grupo Nutresa S.A.," 19 11 2021. [Online]. Available: https://repository.eafit.edu.co/xmlui/bitstream/handle/10784/30805/CesarAugusto_MoralesGiraldo_2021.pdf?sequence=2&isAllowed=y. [Accessed 28 05 2023].
- [33] Nutresa, "¿Quiénes somos? - Grupo Nutresa," 2023. [Online]. Available: <https://chocolates.com.co/quienes-somos/>. [Accessed 28 05 2023].
- [34] Beersheba, "PepsiCo's Frito Lay Vs. Mondelez: Which Offers Better Growth?," 06 05 2022. [Online]. Available: <https://seekingalpha.com/article/4508157-pepsicos-frito-lay-vs-mondelez-savory-or-sweet-which-offers-better-growth>. [Accessed 29 05 2023].
- [35] "Ahora Maní Moto se 'desnuda' e incorpora nuevos sabores," 16 06 2021. [Online]. Available: <https://www.portafolio.co/negocios/empresas/mani-moto-naked-nueva-linea-de-la-marca-con-mani-no-recubierto-552987>. [Accessed 10 09 2023].
- [36] J. B. Ukeje Jacob Agwu, "Sustainable Business Models: A Systematic Review of Approaches and Challenges in Manufacturing," 25 03 2021. [Online]. Available: <https://www.scielo.br/j/rac/a/GjL4ZBkL4zxGhwvbZ9Q65cc/?lang=en>. [Accessed 29 05 2023].
- [37] IICA, "PANAMÁ EXPLORA LA POSIBILIDAD DE LA INTRODUCCIÓN DEL CULTIVO DE MANÍ (ARACHIS HYPOGAEA) COMO ALTERNATIVA PRODUCTIVA PARA LOS AGRO EMPRESARIOS DEL PAÍS," 2023. [Online]. Available: <https://www.iica.int/es/prensa/noticias/panama-explora-la-posibilidad-de-la-introduccion-del-cultivo-de-mani-arachis>. [Accessed 25 05 2023].
- [38] M. Campillo, "Statista Market Insights," 2023. [Online]. Available: https://es-statista-com.ezproxy.biblio.polito.it/outlook/cmo/food/fruits-nuts/nuts/custom?currency=eur&locale=en&token=rQISiCoOnEE_HUUNXL3wCh_r

- UmjuHd6i5Vn30EbECzjt4veQD9C6N7iWyyCwVuLQiAhB6Hs4-pb4A8pIHRhkFpOlpy-R9tU%3D. [Accessed 5 07 2023].
- [39] Tridge, "Peanut Kernel," 2023. [Online]. Available: <https://www.tridge.com/intelligences/peanut/PE/production>. [Accessed 05 07 2023].
- [40] B. GÓNGORA, "Exportación de maní: Ventas externas crecen un 6,7% en ocho meses," *la razon*, 24 10 2022. [Online]. Available: <https://www.la-razon.com/economia/2022/10/24/exportacion-de-mani-ventas-externas-crecen-un-67-en-ocho-meses/>. [Accessed 06 07 2023].
- [41] F. Staff, "Colombina se fortalece en el exterior: 37 % de sus ganancias corresponden a ventas internacionales," 21 06 2021. [Online]. Available: <https://forbes.co/2021/06/24/empresas/colombina-se-fortalece-en-el-exterior-37-de-sus-ganancias-corresponden-a-ventas-internacionales>. [Accessed 13 06 2023].
- [42] G. Bimbo, "informes anuales 2022," 09 06 2023. [Online]. Available: https://grupobimbo-com-assets.s3.amazonaws.com/s3fs-public/reportes-2023/GB-INFORME%20ANUAL_19.pdf?VersionId=s7tT5vpzeZxLrAqlGqOwBsAswAToCvb1. [Accessed 14 06 2023].
- [43] C. G. GUASCA, "Manitoba amplía su capacidad instalada para el año entrante," 22 08 2022. [Online]. Available: <https://www.portafolio.co/negocios/empresas/manitoba-amplia-su-capacidad-instalada-para-el-ano-entrante-569912>. [Accessed 06 09 2023].
- [44] Insee, "Hard discount store," 14 05 2020. [Online]. Available: <https://www.insee.fr/en/metadonnees/definition/c1699#:~:text=A%20hard%20discount%20store%20is,sale%20is%20restricted%20to%20commodities..> [Accessed 23 07 2023].
- [45] "Tiendas D1," 2023. [Online]. Available: <https://d1.com.co/historia/>. [Accessed 14 07 2023].
- [46] S. A. CABAS, "Las tiendas de hard discount ampliaron a 23% participación dentro del mercado local," 31 05 2023. [Online]. Available: <https://www.larepublica.co/empresas/las-tiendas-de-descuento-duro-ampliaron-23-su-participacion-dentro-del-mercado-3626427>. [Accessed 14 07 2023].
- [47] Treid, "Importaciones y exportaciones colombianas de maní," 12 06 2020. [Online]. Available: <https://www.treid.co/post/importaciones-y-exportaciones-colombianas-de-mani>. [Accessed 14 07 2023].
- [48] Treid, "Así se comportaron las importaciones de maní en 2021," 21 04 2022. [Online]. Available: <https://www.treid.co/post/asi-se-comportaron-las-importaciones-de-mani-en-2021>. [Accessed 14 07 2023].
- [49] J. R. B. Calle, "Los jóvenes que crearon una marca de snacks premium y ya venden en siete países," 24 11 2021. [Online]. Available: <https://www.elespectador.com/economia/emprendimiento-y-liderazgo/vector-foods-los-jovenes-que-crearon-una-marca-de-snacks-premium-y-ya-venden-en-siete-paises/>. [Accessed 23 07 2023].
- [50] PROCOLOMBIA, "Vector Foods SAS," 2023. [Online]. Available: <https://b2bmarketplace.procolombia.co/es/vector-foods-sas-8672>. [Accessed 20 07 2023].
- [51] J. M. Correa, "El grupo Nutresa recibió una nueva OPA que busca quedarse con el 31% de las acciones," 21 09 2022. [Online]. Available:

- <https://caracol.com.co/2022/09/21/el-grupo-nutresa-recibio-una-nueva-opa-que-busca-quedarse-con-el-31-de-las-acciones/>. [Accessed 20 07 2023].
- [52] S. Martínez, "Snacks saludables quieren el 40% del mercado colombiano de botanas en 2025," 27 06 2022. [Online]. Available: <https://goula.lat/snacks-saludables-quieren-el-40-del-mercado-colombiano-de-botanas-en-2025/>. [Accessed 30 06 2022].
- [53] E. Colombiano, "Nuevos dueños de Nutresa llevarán la compañía a África y luego a China," 18 06 2023. [Online]. Available: <https://www.elcolombiano.com/inicio/nuevos-duenos-de-nutresa-llevaran-la-compania-a-africa-y-luego-a-china-LD21773967>. [Accessed 30 06 2023].
- [54] G. Escobar, "Cuántos habitantes tiene Cali, Valle del Cauca en 2023," 2023. [Online]. Available: <https://telencuestas.com/censos-de-poblacion/colombia/2023/valle-del-cauca/cali>. [Accessed 24 07 2023].
- [55] "CAPITALCOLOMBIA.COM," 25 07 2023. [Online]. Available: https://www.capitalcolombia.com/index.php?sec=trm_precio_dolar_en_colombia&pag=ano&consulta=2022. [Accessed 25 07 2023].
- [56] M. Advisors, "What is Happening? – USD vs COP Exchange Rate and Inflation in Colombia," Medellín Advisors, Medellín, 2021.
- [57] M. G. ÁLVAREZ, "Dólar pasó de \$1.700 a \$5.000 en 10 años ¿qué generó su cambio?," 19 11 2022. [Online]. Available: <https://www.portafolio.co/economia/finanzas/precio-del-dolar-en-colombia-de-1-700-pesos-a-5-000-pesos-en-10-anos-574251>. [Accessed 25 07 2023].
- [58] "US inflation at 40-year high," 13 07 2022. [Online]. Available: <https://www.dw.com/en/us-inflation-at-40-year-high-with-91/a-62459127>. [Accessed 29 07 2022].
- [59] PORTAFOLIO, "Precio del dólar en Colombia ha subido \$762 durante 2022," 18 10 2022. [Online]. Available: <https://www.portafolio.co/economia/finanzas/precio-del-dolar-en-colombia-ha-subido-762-durante-2022-572788>. [Accessed 25 07 2023].
- [60] R. S. Pindyck and D. L. Rubinfeld, Microeconomía, Madrid: PEARSON PRENTICE HALL, 2009.
- [61] I. Llano, Interviewee, *How the rise in the price of the dollar affects peanut production*. [Interview]. 10 01 2023.
- [62] R. BECKER, "Four in a row: California drought likely to continue," 28 09 2022. [Online]. Available: <https://calmatters.org/environment/2022/09/california-drought-likely-to-continue/>. [Accessed 30 07 2023].
- [63] "Index mundi," 06 2023. [Online]. Available: <https://www.indexmundi.com/es/precios-de-mercado/?mercancia=mani&meses=60>. [Accessed 30 07 2023].
- [64] "Synergy Nuts," 2023. [Online]. Available: <https://synergynuts.upct.es/precio-almendra/#:~:text=Los%20precios%20cotizados%20en%20este%202022%20posicionan%20a%20la%20comuna,almendra%202020%20-%20Foto%20Mario%20Glez>. [Accessed 30 07 2023].
- [65] S. Wamucii, "US Cashew Nuts 2023 Retail Prices," 2023. [Online]. Available: <https://www.selinawamucii.com/insights/prices/united-states-of-america/cashew-nuts/>. [Accessed 30 07 2023].

- [66] "Fresh plaza," 16 06 2022. [Online]. Available: <https://www.freshplaza.com/europe/article/9436657/georgian-blueberry-prices-for-the-2022-season-high-and-comparable-to-2021/>. [Accessed 30 07 2023].
- [67] Z. Flores, "Maíz blanco toca precio más alto en 24 años mientras AMLO desaira el maíz amarillo," 23 11 2022. [Online]. Available: <https://www.bloomberglinea.com/2022/11/23/maiz-blanco-toca-precio-mas-alto-en-24-anos-mientras-amlo-desaira-el-maiz-amarillo/#:~:text=el%20T%2DMEC-,El%20ma%C3%ADz%20blanco%20registra%20un%20precio%20promedio%20de%20MXN%2412,de%20distribuci%C3%B3n%20en%20e>. [Accessed 30 07 2023].
- [68] Agroclm, "¿Cuál es el precio del pistacho en lonja?," 17 11 2022. [Online]. Available: <https://www.agroclm.com/2022/11/17/cual-es-el-precio-del-pistacho-en-lonja/>. [Accessed 30 07 2023].
- [69] INC, "Raisins, Sultanas and Currants Global Statistical Review," 09 11 2022. [Online]. Available: <https://inc.nutfruit.org/raisins-sultanas-and-currants-global-statistical-review/>. [Accessed 30 07 2023].
- [70] G. Llano, "Manitoba anticipa ampliación de su planta de producción," 20 09 2020. [Online]. Available: <https://www.portafolio.co/negocios/empresas/en-colombia-manitoba-anticipa-ampliacion-de-su-planta-de-produccion-544815>. [Accessed 05 09 2023].
- [71] B. V. Dijk, "Orbis," 2023. [Online]. Available: https://orbis-r1.bvdinfo.com/version-20230621-7-3/Orbis/1/Companies/report/Index?backLabel=Back%20to%20Segment%20data%20-%20Business%20lines&format=_standard&BookSection=KEYFINANCIALS&seq=0&sl=1694339819350. [Accessed 20 07 2023].
- [72] R. ÁVILA, "El tiempo," 14 03 2015. [Online]. Available: <https://www.eltiempo.com/archivo/documento/CMS-15400175>. [Accessed 03 08 2023].
- [73] Solucion, "Cómo afecta el cambio de divisas a las exportaciones," 07 02 2023. [Online]. Available: <https://www.solunion.es/blog/como-afecta-el-cambio-de-divisas-a-las-exportaciones/>. [Accessed 04 08 2023].
- [74] Statista, "Peanut Butter," 2023. [Online]. Available: <https://es-statista-com.ezproxy.biblio.polito.it/outlook/cmo/food/spreads-sweeteners/spreads/peanut-butter/colombia?currency=USD#key-market-indicators>. [Accessed 04 08 2023].
- [75] Treid, "Exportaciones colombianas de mantequilla de maní entre enero y agosto de 2022," 10 11 2022. [Online]. Available: [https://www.treid.co/post/exportaciones-colombianas-de-mantequilla-de-mani-entre-enero-y-agosto-de-2022#:~:text=Desde%20nuestra%20plataforma%20de%20comercio,Con%20%24198.869%20d%C3%B3lares%20\(FOB\)..](https://www.treid.co/post/exportaciones-colombianas-de-mantequilla-de-mani-entre-enero-y-agosto-de-2022#:~:text=Desde%20nuestra%20plataforma%20de%20comercio,Con%20%24198.869%20d%C3%B3lares%20(FOB)..) [Accessed 05 08 2023].
- [76] Auditor, "Peanuts: dent in global production," 14 03 2022. [Online]. Available: <https://www.mundus-agri.eu/news/peanuts-dent-global-production.n28168.html#:~:text=The%20INC%20estimates%20global%20production,mt%20produced%20in%202020%2F2021..> [Accessed 05 08 2023].
- [77] "Manitoba," 2023. [Online]. Available: https://tiendamanitoba.com/search?type=product&options%5Bunavailable_products%5D=show&options%5Bprefix%5D=last&q=mani+salado. [Accessed 06 08 2023].

- [78] "Exito," 2023. [Online]. Available: https://www.exito.com/mani%20salado?_q=mani%20salado&map=ft. [Accessed 06 08 2023].
- [79] "La Especial," 2023. [Online]. Available: https://losprecios.co/la-especial_m. [Accessed 06 08 2023].
- [80] A. Hayes, "Price-Taker: Definition, Perfect Competition, and Examples," 08 12 2020. [Online]. Available: <https://www.investopedia.com/terms/p/pricetaker.asp>. [Accessed 06 08 2023].
- [81] . W. KENTON, "Variable Cost: What It Is and How to Calculate It," 26 04 2023. [Online]. Available: <https://www.investopedia.com/terms/v/variablecost.asp>. [Accessed 07 08 2023].
- [82] S. A. Greenlaw, Principles of Microeconomics 2e, XanEdu Publishing Inc, 2017.
- [83] R. Lewis and D. Pendrill, Advanced Financial Accounting, Edinburgh Gate: Pearson Education, Seventh edition published 2004.
- [84] E. Helfert, Financial analysis tools and techniques, United States: McGraw-Hill, 2001.
- [85] J. FERNANDO, "Balance Sheet: Explanation, Components, and Examples," 04 05 2023. [Online]. Available: <https://www.investopedia.com/terms/b/balancesheet.asp#:~:text=A%20balance%20sheet%20is%20a,used%20to%20evaluate%20a%20business..> [Accessed 15 08 2023].
- [86] J. Fernando, "What Is the Accounting Equation, and How Do You Calculate It?," 04 05 2023. [Online]. Available: <https://www.investopedia.com/terms/a/accounting-equation.asp>. [Accessed 15 08 2023].
- [87] C. B. MURPHY, "Cash Flow Statement: What It Is and Examples," 09 03 2023. [Online]. Available: <https://www.investopedia.com/investing/what-is-a-cash-flow-statement/>. [Accessed 15 08 2023].
- [88] I. Savin and M. Novitskaya , "Data-driven definitions of gazelle companies that rule out chance: application for Russia and Spain," 10 04 2023. [Online]. Available: <https://link.springer.com/article/10.1007/s40821-023-00239-2>. [Accessed 21 08 2023].
- [89] J. DAHLQUIST and R. KNIGHT, Principles of Finance, Houston: OpenStax, 2022.
- [90] E. País , "Manitoba se moderniza e inaugura planta en Acopi," 12 12 2018. [Online]. Available: <https://www.elpais.com.co/economia/manitoba-se-moderniza-e-inaugura-planta-en-acopi.html>. [Accessed 22 08 2023].
- [91] WorldData.info, "Inflation rates in Colombia," <https://www.worlddata.info/america/colombia/inflation-rates.php>, 2023. [Online]. Available: <https://www.worlddata.info/america/colombia/inflation-rates.php>. [Accessed 22 08 2023].
- [92] A. Bloomenthal, "Gross Profit Margin: Formula and What It Tells You," 12 06 2023. [Online]. Available: https://www.investopedia.com/terms/g/gross_profit_margin.asp. [Accessed 24 08 2023].
- [93] FINMODELSLAB, "How much food manufacturing business owner make?," 2023 08 19. [Online]. Available: <https://finmodelslab.com/blogs/how-much-makes/how-much-business-owner-makes-food-manufacturing#:~:text=According%20to%20industry%20benchmarks%2C%20a,may%20achieve%20even%20higher%20margins..> [Accessed 24 08 2023].

- [94] I. L. Dominguez, "Manitoba pone en funcionamiento nueva planta de producción," 12 11 2018. [Online]. Available: <https://caracol.com.co/2023/08/24/en-cali-predominaron-las-listas-abiertas-para-el-concejo/>. [Accessed 24 08 2023].
- [95] A. Lolienkar, "What Is The Difference Between Asset Turnover Ratio And ROA," 2023. [Online]. Available: <https://atishlolienkar.com/difference-between-asset-turnover-ratio-and-roa/>. [Accessed 27 08 2023].
- [96] W. Kenton, "Average Collection Period Formula, How It Works, Example," 03 09 2022. [Online]. Available: https://www.investopedia.com/terms/a/average_collection_period.asp. [Accessed 28 08 2023].
- [97] E. Team, "Financial Ratio Analysis," 15 12 2019. [Online]. Available: <https://edu4sure.com/financial-ratio-analysis>. [Accessed 25 08 2023].
- [98] D. Vaidya, "Average Collection Period," 2023. [Online]. Available: <https://www.wallstreetmojo.com/average-collection-period/>. [Accessed 28 08 2023].
- [99] bdc, "Average collection period (receivables turnover)," 2023. [Online]. Available: <https://www.bdc.ca/en/articles-tools/entrepreneur-toolkit/templates-business-guides/glossary/average-collection-period#:~:text=A%20shorter%20average%20collection%20period,measure%2C%20the%20receivables%20turnover%20ratio..> [Accessed 02 09 2023].
- [100] J. Maverick, "Should Companies Always Have High Liquidity?," 21 06 2021. [Online]. Available: <https://www.investopedia.com/ask/answers/011215/it-important-company-always-have-high-liquidity-ratio.asp>. [Accessed 02 09 2023].
- [101] A. Hayes, "Understanding Liquidity Ratios: Types and Their Importance," 2023 03 19. [Online]. Available: <https://www.investopedia.com/terms/l/liquidityratios.asp#:~:text=Key%20Takeaways-,Liquidity%20ratios%20are%20an%20important%20class%20of%20financial%20metrics%20used,ratio%2C%20and%20days%20sales%20outstanding..> [Accessed 03 09 2023].
- [102] A. Hayes, "What Is a Solvency Ratio, and How Is It Calculated?," 30 05 2023. [Online]. Available: <https://www.investopedia.com/terms/s/solvencyratio.asp>. [Accessed 03 09 2023].
- [103] Strategicmarketingpartner, "CURRENT RATIO FOR THE MANUFACTURING INDUSTRY," 2022. [Online]. Available: <https://strategicmarketingpartner.com/current-ratio-for-the-manufacturing-industry-examples/#:~:text=A%20good%20current%20ratio%20for%20the%20manufacturing%20industry%20is%20when,could%20be%20a%20potential%20concern..> [Accessed 03 09 2023].
- [104] DANE, "Compite 360," 06 2022. [Online]. Available: <http://www.compitem360.com/webtrade/?mat=208934&cam=8>. [Accessed 05 08 2023].
- [105] D. Gawlak, "Quality management systems Requirements," Geneva, Switzerland, ISO, 2015, p. 6.
- [106] H. Desmae, "Optimum Plant Density for Increased Groundnut Pod Yield and Economic Benefits in the Semi-Arid Tropics of West Africa," [Online]. Available: <https://www.mdpi.com/2073-4395/12/6/1474#B1-agronomy-12-01474>.
- [107] D. A. V. Riaño, "Manitoba inaugura planta de producción en Yumbo," El Tiempo, 05 December 2018. [Online]. Available:

- <https://www.eltiempo.com/economia/empresas/la-nueva-fabrica-de-manitoba-en-yumbo-301802>. [Accessed 01 March 2023].
- [108] S. s. impulso, "Cómo afecta el cambio de divisas a las exportaciones," 07 02 2023. [Online]. Available: <https://www.solunion.es/blog/como-afecta-el-cambio-de-divisas-a-las-exportaciones/>. [Accessed 04 08 2023].
 - [109] Statista, "Annual average price of peanuts in Spain from 2013 to 2018, by type," 21 04 2022. [Online]. Available: <https://www-statista-com.ezproxy.biblio.polito.it/statistics/776788/price-medium-from-the-peanuts-by-kind-spain/>. [Accessed 28 08 2023].
 - [110] S. R. Department, "Annual average price of nut assortments in Spain from 2013 to 2018," 21 04 2022. [Online]. Available: <https://www-statista-com.ezproxy.biblio.polito.it/statistics/774343/price-medium-of-the-assortment-from-fruits-dry-spain/>. [Accessed 28 08 2023].
 - [111] E. Tenda, "Annual average price of pistachios in Spain from 2013 to 2022," 07 08 2023. [Online]. Available: <https://www-statista-com.ezproxy.biblio.polito.it/statistics/765201/price-medium-pistachios-spain/>. [Accessed 28 08 2023].
 - [112] E. Tenda, "Annual average price of hazelnuts in Spain from 2013 to 2021," 05 09 2022. [Online]. Available: <https://www-statista-com.ezproxy.biblio.polito.it/statistics/786205/average-price-of-hazelnuts-in-spain/>. [Accessed 28 08 2023].
 - [113] E. Tenda, "Average price of walnuts in Spain from 2013 to 2021," 05 09 2022. [Online]. Available: <https://www-statista-com.ezproxy.biblio.polito.it/statistics/778373/average-walnut-price-in-spain/>. [Accessed 28 08 2023].
 - [114] E. Tenda, "Annual average price of nuts in Spain from 2013 to 2021," 01 09 2022. [Online]. Available: <https://www-statista-com.ezproxy.biblio.polito.it/statistics/771799/average-price-of-nuts-spain/>. [Accessed 28 08 2023].
 - [115] E. Tenda, "Annual average price of almonds in Spain between 2013 and 2021, by type," 05 09 2022. [Online]. Available: <https://www-statista-com.ezproxy.biblio.polito.it/statistics/775759/price-medium-from-almonds-by-kind-spain/>. [Accessed 28 08 2023].